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ENVIRONMENT

Our Bay: Lack of fossilized oysters puts crimp on bay restoration

By PAMELA WOOD, Staff Writer

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For decades, the state hired contractors to drop dredges deep into the muddy floor of the Chesapeake Bay, to haul up oyster shells that were thousands of years old.



The shells were used in a program called "repletion," which gave a boost to struggling watermen by increasing the oyster population in harvest areas.

The shells also were used to rebuild long-vanished oyster reefs that could be planted with baby oysters for environmental restoration.



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Both types of projects were aimed at rejuvenating the oyster population, which has been decimated by disease, pollution and past overharvesting.

But the dredging was halted in 2006, and now the effects are becoming visible: There's just not enough shell to go around for the various oyster projects.

"Everybody agrees we need more shell," said Stephan Abel, director of the Oyster Recovery Partnership, a nonprofit coalition that coordinates many oyster projects.

To cope, watermen are pushing to have the shell dredging revived and state scientists are looking at smaller-scale dredging in other areas. There's talk of starting a shell-recycling program for restaurants and other reef materials are being tested, too.

A hit to watermen

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The dredging was halted for several reasons. A chief question was whether the money spent on dredging was paying enough dividends to make it worthwhile. And recreational fishing groups complained the dredging activity was doing more harm to the environment than good.

But watermen say the decision to stop dredging did them the most harm.

For decades, the shell from the fossilized deposits in the Upper Bay was moved to saltier areas in the south where there's natural oyster reproduction.

Then, once baby oysters settled on the dredged shells, they were hauled back north to grow on public oyster bars where they could be harvested.

George Luongo, a Kent Island waterman active in industry issues, said the demise of the repletion program could be the death knell for oystermen, who already are struggling.

"Without the repletion program, the oyster industry will die," he said.

Mr. Luongo is part of a group called the Maryland Oystermen's Association that aims to get the dredging and repletion program restarted.

They've been plotting strategy and lobbying lawmakers to help their cause. They hope to get enough momentum to get the dredging permit restored.

"You stay quiet and nothing's going to happen," Mr. Luongo said.

Tom O'Connell, an assistant fisheries director at the Department of Natural Resources, said the state doesn't have any immediate plans to seek approval for Upper Bay shell dredging.

But, he added: "It's not off the table for the future."

Testing options

Watermen aren't the only ones suffering without the dredged shells. Environmental restoration efforts are taking a hit, too.

The Chesapeake Bay Foundation used the shell to build up a base for three-dimensional, reef-like structures on the bay bottom. The built-up reefs are then covered with baby oysters.

Without dredged shell available, CBF has turned to reef balls and marine limestone as new ways of building reefs, said Stephanie Reynolds, a fisheries scientist for the nonprofit group.

Reef balls are dome-shaped concrete structures, about 2 or 3 feet tall. CBF puts the reef balls into giant tanks with free-swimming oyster larvae in them. The larvae attach to the reef balls, which are then planted in the bay.

"They are a great volunteer and outreach project," Ms. Reynolds said. "The oysters also seem to do really well on them."

Marine limestone, also called marl, is seeded in the same manner as reef balls.

CBF is experimenting with putting chunks of marl covered in oyster seed into the nooks and crannies of seawalls, jetties and breakwaters, including a project at the Naval Academy.

As the supply of dredged shell dwindles, CBF is relying more on the alternative materials.

In 2007, CBF planted 5 million baby oysters on 23 sites in Maryland. About half of the projects involved dredged shell, the rest used new materials. In the future, Ms. Reynolds expects nearly all projects to use the new materials.

While Ms. Reynolds said CBF is happy so far with the new materials, the group would like to see the shell dredging resumed.

"Having the full suite of options - particularly an inexpensive natural material - is something we would like to see again," she said.

Shell is best

The Maryland Department of Natural Resources is trying alternative materials, too.

The DNR has focused on using processed concrete and slag (a byproduct of steel) to build up reefs.

The effort hasn't always gone well - last summer, the Magothy River's Sillery Bay was fouled with debris from a concrete planting project gone awry. The reef eventually had to be removed because it was planted in water that was too shallow.

Problems like that aside, the concrete and slag have worked well, Mr. O'Connell said.

"Oysters prefer hard substrate," he said. "Oyster shell is best, but they perform well on concrete and slag."

While Mr. O'Connell said alternative materials are here to stay, the DNR hasn't given up on dredging oyster shell.

The DNR has a proposal pending to do smaller-scale dredging of oyster shell in various spots around the bay.

It wouldn't be the deep-bottom dredging that was halted in the Upper Bay. Rather, the dredging would go about one foot deep to reclaim shells to be used for restoration efforts.

The DNR also is working on a plan to expand the use of concrete and slag, which accounted for about 10 acres' worth of restoration in 2007.

Not any better?

And the new materials aren't a cure-all replacement for natural shell, said Dr. Don "Mutt" Meritt, who runs the University of Maryland's oyster hatchery.

The hatchery uses shells from shucking houses as a surface for the thumbnail-sized baby oysters it breeds to attach to. The product is called "spat-on-shell."

Still, Dr. Meritt questions the use of concrete and other non-shell materials as a base for rebuilding oyster reefs.

The dredged shell is readily available and cheaper than the other materials, he said.

And he wonders whether the fact that oysters attach on many kinds of materials has been used as an excuse "to throw trash into the bay."

"They've used all kinds of materials but all of it is more expensive than those dredged shells and they're not any better," he said.

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