Living reefs work along the Maurice River

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MAURICE RIVER TWP. - The living reef project begun three years ago along the Maurice River by the Delaware Estuary Program has evolved each year.

Real progress is in evidence this year.

Still a work in progress, several changes have been made since The News published a story in 2009 about a part of the project farther downriver.

As ways to improve the concept are tried, the project becomes more successful each year.

It uses native shellfish and grasses to reclaim eroding riverbank better and at far less cost than more mechanical methods which have been traditionally tried.

During a recent day on the river, scientists Danielle Kreeger and Dave Bushek, with several crew members, spent a rainy gray day at Matts Landing working on a stretch of river in front of the Anchor Marina.

"The bank had been eroding and the owners just kept dumping rocks to try to stop the erosion," Kreeger said. "When we started, there was nothing but rocks here. We've taken a rock slide and made a vegetative shoreline."

There still are rocks on the downslope, but the intertidal area of the river has clumps of spartina grass, ribbed mussels and mesh bags of oysters.

The river is too polluted for the oysters to be edible, but both they and the mussels filter the water and make it cleaner and the mussels quickly anchor themselves to the bank and expand their little colonies.

The clumps of spartina are held in place by two rows of logs made of coco fiber, staked and tied in place, in 60-foot rows.

Kreeger said a gently undulating shoreline works better than a straight line

"The logs are held in place now by stakes that have holes drilled in them and ropes run through the holes. It works much better than when they were laced in place and if one place gave way the whole thing unraveled," she said.

The project also was started earlier this year, which gave the spartina more time to get established.

"See those little plants?" she said, pointing to tiny new shoots coming up around the established clumps. "They are coming up from the roots."
She said that eventually the grass will fill in and further stabilize the shore. The clumps of grass and the mussels were collected locally, where erosion had broken them off from larger clumps.

And as the shoreline benefits, so does the river itself.

Bishek found that small traps along an adjacent bulkhead yield nothing except some tiny grass shrimp. Similar traps among the spartina contain killifish, spot, juvenile striped bass, eels, anchovies, silversides and black drum, proof of the importance of marshes and intertidal areas as nurseries for bait fish and the juvenile young of larger bay species.

"This is one-tenth the cost of a bulkhead," Kreeger said of the experimental project.

That's good, because money for research of any kind is becoming harder and harder to find. And the cost of bulkheads is becoming prohibitively high.

Over the three years of the project, grants have come from the National Fish and Wildlife Foundation, the EPA and this year the U.S. Fish and Wildlife Service.

Kreeger said she had spent two hours earlier in the day snorkeling in the river.

The water is even murkier here than farther upriver, where there is less silt.

Asked how she could see anything underwater, she said, "You can't; you just have to feel your way."

At 6 p.m., in a steady rain, she said the crew still had about two hours of work checking seine nets along the shoreline which provide an inventory of what can be found and where, which is part of the focus of this entire project.

It already has proved that there are less costly and more successful ways of combating erosion than the traditional bulkheads and rocks.

The benefits include more favorable habitat for marine species.

As the program continues, the benefits probably will multiply, thanks to the hard work of people willing to toil during the most sweltering days of summer and the cold wet days of autumn to find new answers to how to do more with less, save the shoreline and slow or prevent the erosion that has done so much damage to the river in recent years.

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