

The Piankatank River Oyster Sanctuaries

The Piankatank River is one of the more unique rivers on the Chesapeake Bay. It is fed by the Dragon Run, Virginia's second largest swamp, a watershed of mostly forested and agricultural land. The Piankatank has been managed by the Virginia Marine Resources Commission (VMRC) for more than 50 years as a state oyster seed replenishment area.

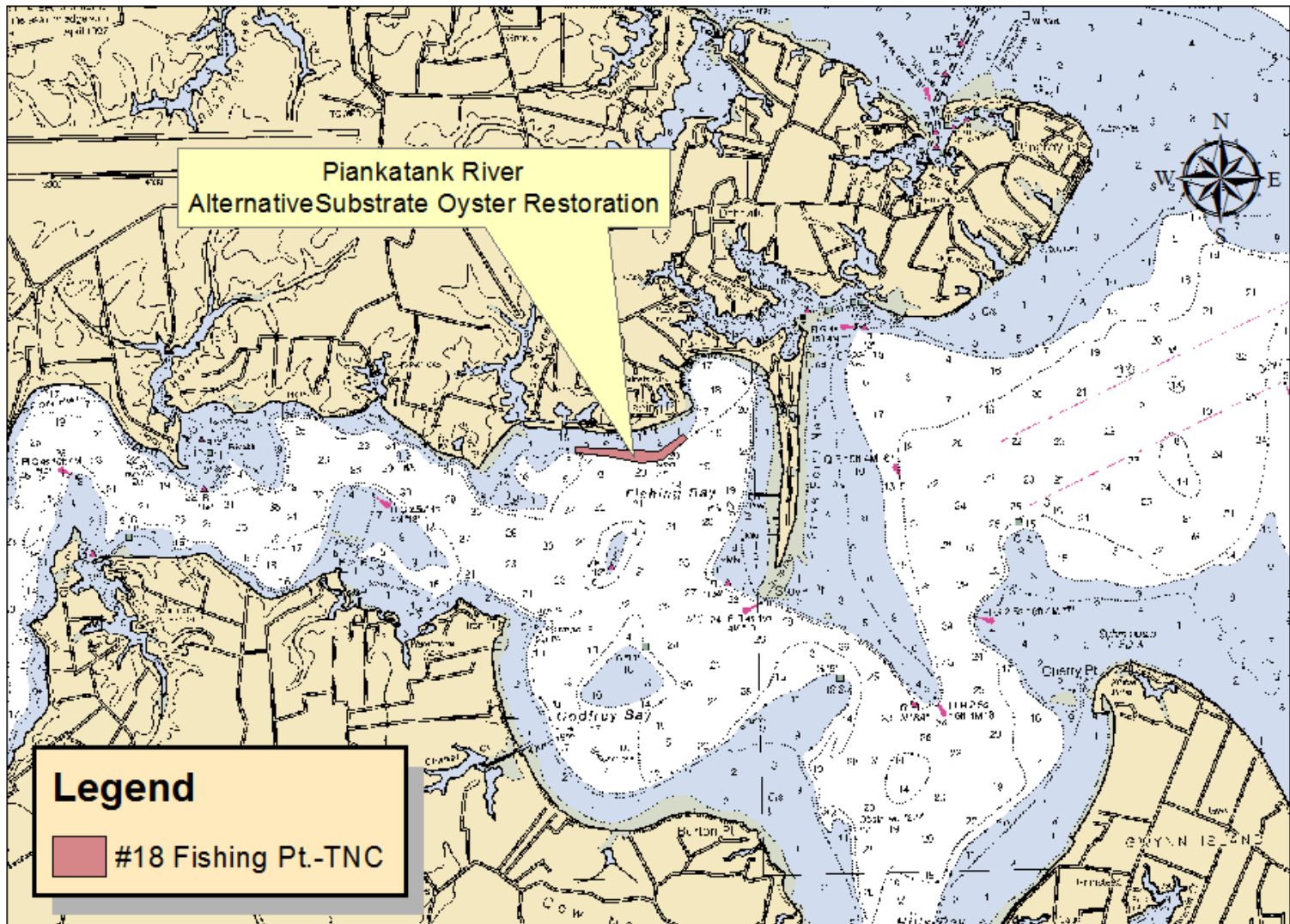
What makes the Piankatank River important to VMRC's oyster management program is the unique flow of the river. It is considered a "trap estuary" due to the distinct hydrography and water circulation from two or more gyres, upriver of Stove Point. These gyres result in circulatory patterns that hold many of the free-floating oyster larvae within the river. When shells or other types of substrate are placed on reefs within this system, recruitment of young oysters (spatset) is much more concentrated than in many other rivers in the bay. VMRC and the private oyster industry have capitalized on the natural conditions of this river to plant shells, capture small oysters (seed oysters) and transplant these seed to other rivers that get less natural spatset and usually where disease pressure is less than in the Piankatank.

The Piankatank is currently managed by VMRC in a system of sanctuary areas intermixed with areas where seed is removed. All reefs in the Piankatank are monitored quantitatively each year to determine oyster standing stocks and shell condition. A harvest quota is set for the amount of seed that can be removed from the harvest areas. This quantity is advertised to watermen and private industry, and to participate, two bushels of shells must be returned to the state for each bushel of seed that they harvest. After harvest, shell is replaced on the reefs that were harvested. Additional shell is also added to the remaining reefs in the Piankatank that were found to be low in cultch by the annual survey. Following this strategy, standing stocks have increased in the Piankatank for the past decade.

The first three-dimensional oyster sanctuary constructed in the Chesapeake Bay was built at Palaces bar in the Piankatank River in 1993. Three other three-dimensional sanctuaries were constructed in the Piankatank River in the 1990's. The VMRC has constructed more than 100 three-dimensional oyster sanctuaries throughout the Chesapeake Bay and on the seaside of the Eastern Shore. These reefs have been monitored by VMRC, Virginia Institute of Marine Science (VIMS) and others since their construction and they have provided a large amount of long term information on oyster sanctuaries. Within the Piankatank there are currently 70 acres of low relief oyster sanctuaries, and 118 acres of seed harvest reef that are rotated and opened for harvest based on the current standing stocks. The seed harvest in the spring of 2014 was about 20,000 bushels, and 40,000 bushels of new shells have already been replanted on the harvested bars. The new Nature Conservancy reef will add an additional 20.7 acres to the oyster sanctuary total.

VMRC has long-standing, valued and important partnerships with The Nature Conservancy, the Chesapeake Bay Foundation, the U.S. Army Corps of Engineers, the National Oceanographic and Atmospheric Administration to preserve and grow Virginia's marine resources. Lynnhaven River NOW, the River Keepers, Tidewater Oyster Gardeners Association, countless schools, boy scouts and girl scouts organizations and so many other organizations, large and small, contribute to the tremendous success the Commonwealth has had in restoring its famous native oyster population.

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COMMONWEALTH of VIRGINIA

*Marine Resources Commission
2600 Washington Avenue
Third Floor
Newport News, Virginia 23607*

Molly Joseph Ward

Secretary of Natural Resources

John M.R. Bull
Commissioner

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Contact: ----- Governor's Press Office

Contact: Laurie Naismith
Virginia Marine Resources Commission
(757)247-2265 (office)
(757) 508-1804 (mobile)

Contact: Lindsay Renick Mayer
The Nature Conservancy
202-422-4671 (mobile)

Governor McAuliffe Announces \$500,000 Grant From The Nature Conservancy For Large-scale Oyster Sanctuary in the Piankatank River

NEWPORT NEWS, VA.--Governor Terry McAuliffe today announced a \$500,000 grant from The Nature Conservancy to support the construction of a large-scale oyster sanctuary in the Piankatank River near Fishing Bay in Middlesex County, a project aimed at bolstering oyster stocks throughout the river.

Construction on the \$3.8 million project -- a joint venture between the Virginia Marine Resources Commission, The Nature Conservancy, the Army Corps of Engineers and the National Oceanic and Atmospheric Administration—began on May 26, 2014. Additional sanctuary reefs at the location will be constructed next year. The sanctuary is situated in a part of the river that will provide optimal oyster larvae distribution through the river, increasing the chances the larvae will produce oysters far beyond the sanctuary's boundaries.

"This oyster sanctuary will help clean the water, provide habitat for crabs and fish, and will be a prime source of larvae to create future generations of oysters in the Piankatank River," said Governor McAuliffe. "I am deeply

grateful for The Nature Conservancy's generous grant to help make all this happen. This is an exciting initiative."

The project is part of the Corps' goal to restore 10 Virginia tributaries for native oysters by 2025. The \$500,000 grant, given to the Virginia Marine Resources Commission (VMRC), will be the state's funding match for the first phase of the project. The reef will be off-limits to oyster harvesting.

"Through the support of our donors, we are pleased to provide the essential funding to move this large-scale oyster project forward," said Michael Lipford, Virginia Director of The Nature Conservancy. "This represents a great public-and-private partnership that will benefit recreational fisheries, the oyster industry and the health of the Chesapeake Bay."

The Conservancy's grant to VMRC for the non-federal match component of this project was made possible by two grants from The Mary Morton Parsons Foundation and the Virginia Environmental Endowment that were matched by private donors and public funds.

A single adult oyster can purge as much as 50 gallons of water a day. Large-scale reefs are necessary to achieve a self-sustaining oyster population in a water body. Focusing ecological restoration efforts on a large-scale is the strategy most likely to ensure that large populations of oysters persist in the face of oyster diseases and other environmental factors.

"Over my past two and a half years, I have been continually amazed by the ingenuity I find among the various groups with whom we serve," said Colonel Paul Olsen. "The use of recycled concrete, in lieu of valuable oyster shell, for our Nation's sanctuary reefs is just one example of how this ingenuity directly translates into affordable, effective, and sustainable projects for the region."

The reef project will experiment with the use of clean ground concrete as substrate. Ground concrete is less expensive than building the entire reef out of oyster shells. Building the reef foundation with clean ground concrete will allow the state to conserve oyster shells for oyster aquaculture operations and for VMRC's annual oyster replenishment program, where empty oyster shells serve their most productive uses.

"We need a less costly, equally safe and effective substrate for our oyster sanctuary reefs so we can continue the tremendous progress we have made in restoring Virginia's oyster harvests through replenishment shell plantings and to continue to surge in the production of oyster aquaculture products," said John M.R. Bull, Virginia Marine Resources Commissioner.

The clean ground concrete, the size of an oyster shell, will be transported by truck to a mobilization site and loaded onto boats by a loader and conveyor and then deployed within the sanctuary boundaries.

The four partners in this project, VMRC, TNC, the Corps, and NOAA will monitor the sanctuary to determine if this type of substrate can be used successfully and safely in future oyster reef sanctuaries. The Virginia Marine Police will work to ensure the sanctuary remains off limits to all oyster harvesters.

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