

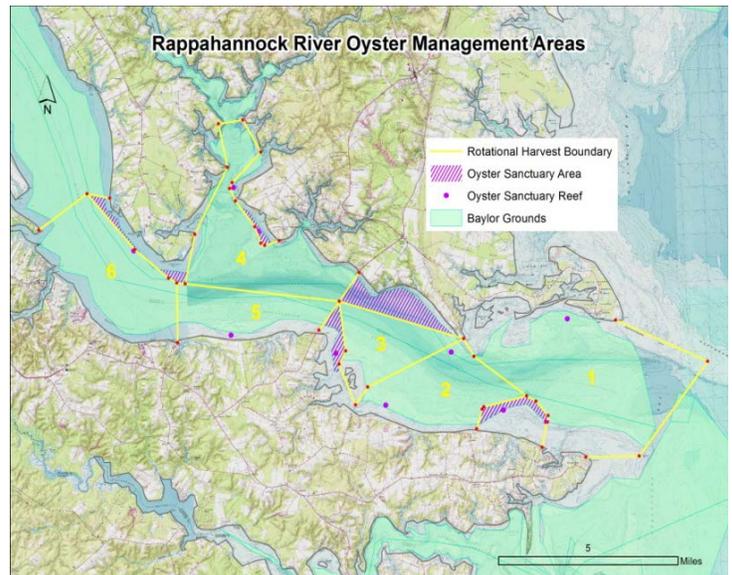


Semi-Annual Success Story (“Section C”)  
*submitted to the*  
Office of Ocean and Coastal Resource Management/NOAA  
October 2011 – March 2012

## Oyster Restoration in Virginia: Successes Achieved through the Virginia Oyster Heritage Program Partnership and Rotational Harvest

**CZMA Performance Measure Area:** Coastal Habitat Protection, Government Coordination & Decision-Making, Coastal Dependent Uses & Community Development

**Identification & Description of Issue:** In July 1999, the Virginia CZM Program established the Virginia Oyster Heritage Program (VOHP) to increase Virginia’s wild oyster population through restoration of natural 3-dimensional reef habitat. Up to that point, many nutrient reduction efforts had focused on land-based solutions, and it seemed timely for a concerted focus on a water-based solution – specifically nature’s water filter, Virginia’s native oyster, *Crassostrea virginica*. Virginia’s oyster populations had been in a decline for well over a century, and the harvest that year was the lowest ever recorded. Today, oyster reef restoration efforts jump-started under the VOHP, combined with a new rotational harvest approach developed under the leadership of the Virginia CZM Program, shows there is great promise in achieving a restored population and a sustainable fishery. Oysters are beginning to take hold once again as demonstrated by a ten-fold increase in harvest in the fall of 2011.



**Geographic Location:** The tidal rivers of Virginia and Virginia portion of the Chesapeake Bay. Congressional Districts 1, 2, 3 & 4.

**How the Virginia CZM Program Was Involved:** In 1999 the Virginia CZM Program initiated large-scale oyster reef restoration efforts through the Virginia Oyster Heritage Program - state, federal and non-governmental organizations, and private oyster industry partners brought together under a common goal and coordinated by the Virginia CZM Program. Virginia CZM invested over \$1.5 million in CZMA funding to its member agency the Virginia Marine Resources Commission, and leveraged millions of dollars in additional private and public oyster restoration funds, resulting in restoration of more than 80 brood stock sanctuary reefs and 1000 acres of harvest area in Virginia. CZMA funding was focused on restoration efforts in the Rappahannock, where 14 one-acre 3-dimensional oyster sanctuary reefs and 500 acres of adjacent 2-dimensional harvest areas were restored. Some of the CZM funding each year was spent by VMRC and the Virginia Institute of Marine Science on oyster and eelgrass restoration on the seaside of Virginia’s Eastern Shore.

In 2006, the Virginia CZM Program reconvened the Oyster Heritage Program partners to evaluate the environmental and economic results of their efforts and respond to mounting pressure to open sanctuary areas

to harvest on the Rappahannock River. Together the partners developed an innovative strategy that combines harvest rotation with preservation of brood-stock sanctuaries. The strategy applies a three year rotational harvest protocol using 6 geographic areas in the lower section of the river. Two of the six areas are open each year to harvest with an area lying fallow for two years following harvest. The strategy also set a maximum oyster harvest size limit and provided for large oysters to be put back on sanctuaries. This rotational harvest protocol also was applied in Pocomoke Sound near Tangier Island.

**Qualitative Summary of Accomplishments and Outcomes:** Recent testimonies from the field convey the success of the rotational harvest approach, and the positive impact of Virginia CZM's problem-solving role – in this case how to restore a dwindling coastal resource while simultaneously maintaining a sustainable coastal industry dependent on that resource:

“Last year was about the best I’ve seen it, the rotational system has helped for sure. There’s more oysters out there, and bigger ones too.” William Parks, waterman for 36 years.

“We’re protecting the resource, giving people work and keeping this industry viable, this is how things should be done.” Tommy Kellum, owner Kellum Seafood.

“The rotational system is about the best thing we have right now to create a sustainable fishery.” Tommy Leggett, scientist and oyster farmer with the Chesapeake Bay Foundation.

*(As printed in the Virginian-Pilot in October 2011)*

“Virginia CZM’s coordinative role and investment in oyster restoration through the Virginia Oyster Heritage Program has helped bring back a stable, managed oyster fishery to the Rappahannock River,” states Jim Wesson, Virginia Marine Resources Commission.

The VOHP also helped raise public awareness of the value of oysters. Efforts included aquaria exhibits demonstrating oyster reef habitat and filtration and a t-shirt, temporary tattoo, and costume character, Omar of the Reef, all of which carried the message of “amazing oyster” to the public. “Omar of the Reef” starred in an elementary school play, “Lynnhaven Soup,” in Virginia Beach and was the star of the Urbanna Oyster Festival several years running. He traveled as far as Japan when he was officially invited to assist with public relations at the 2007 U.S.-Japan Oyster Reef Symposium in Chiba Prefecture. Organizers were excited to discover wild oysters in Tokyo Bay, and so taken with Omar that they created a female mate for him, “Kakihime,” or “princess oyster,” to promote wild oyster restoration in Tokyo Bay. Omar attracted attention and helped educate the public about the value of restoring oysters, but the next step was making it easier for people to take an active role in oyster restoration. Working with its partners, the Virginia CZM Program produced a “how to guide” for oyster gardening—the [Virginia Oyster Gardening Guide](#)--complete with a simplified, tear out permit application. As a result of the guide, permits for oyster gardening have steadily increased. The guide has been so popular that it is about to be revised with input from oyster gardeners and printed a third time.

In 2002, the Virginia CZM Program was selected as a semi-finalist for the prestigious Innovation in American Government Award, given by Harvard’s Kennedy School of Government, for creating the Virginia Oyster Heritage Program. The Innovations Awards recognize outstanding examples of creative problem solving in the public sector.

**Quantitative Summary of Accomplishment and Outcomes:** Although improvements in reporting are needed, estimates show up to a 14-fold increase in harvest on the Rappahannock since the rotational harvest system began in 2007, from just over 1,600 bushels that year to over 23,800 bushels in 2010. In 1999, Virginia’s total oyster harvest was the lowest ever recorded--23,000 bushels, valued at \$575,000. The total 2011 Virginia harvest (wild and aquaculture) was 236,000 bushels--a 10 fold increase with a corresponding dockside value of \$8.6 million. This impressive oyster recovery, jump-started by the Virginia CZM Program’s

leadership and investment in the VOHP, was announced in a press release issued in February 2012 by Virginia Governor Robert F. McDonnell.

**CZM Funds Expended & Other Funds Leveraged:** As a result of its coordination and funding of the VOHP, the Virginia CZM Program leveraged its \$1.5 million to raise millions more in private and public dollars, and successfully joined together many partners under a common oyster restoration goal. The Virginia Oyster Reef Heritage Foundation was set-up to receive private donations, and raised over \$200,000, which in turn served as match for a \$140,000 grant made to the VOHP by the Virginia Environmental Endowment. Efforts by state agencies, private conservation organizations, and the private and public oyster industry to attain more federal funding for oyster restoration resulted in \$2.5 million to the Corps of Engineers to implement oyster restoration projects in Virginia following the VOHP model.