Facts about…

Lafayette River Oyster Restoration

Since 1999, the Chesapeake Bay Foundation (CBF), Rotary Club of Norfolk, Virginia Marine Resources Commission (VMRC), National Oceanic and Atmospheric Administration (NOAA), Elizabeth River Project (ERP), oyster gardeners, restoration partners and volunteers have built and stocked two Lafayette River sanctuary reefs with 1.5 million oysters and several shoreline reefs. Although much has been accomplished, our goals to improve water quality and increase the oyster population demand additional efforts.

The Amazing Oyster
Oysters feed by filtering organisms from the water. One single oyster can filter up to 50 gallons of water daily, cleansing nearby waters of pollution and sediment. There was a time when oysters were plentiful enough to completely filter the entire Chesapeake Bay in just a few days. Sadly, their numbers have dwindled due to disease, poor water quality, and past over-fishing. Water quality problems caused by pollution from a variety of sources have made it harder for the Lafayette River to sustain healthy populations of fish and shellfish, resulting in a ban on shellfish consumption which has been in place for many years. The Chesapeake Bay and its rivers and streams simply cannot be restored without oysters. Scientists hold great hope in the restoration efforts of recent years.

COMMUNITY RESTORATION PROGRAMS

Oyster Gardening
Since 1998, CBF has trained volunteers to be volunteer **oyster gardeners** and grow oysters in floats and cages from their docks. Each year, volunteers receive 500-1,000 baby oysters (spat), returning them to CBF to plant on a nearby sanctuary reef. Currently 80 volunteer families now grow oysters throughout the Lafayette River system. CBF would like to continue to grow this program and recruit new volunteers to assist with this effort. CBF offers annual Oyster Gardening seminars for new volunteers each summer.

Spat Catching
Volunteers are also helping revive the Lafayette by catching and growing oysters for recruitment and restoration. In 2010, CBF launched this new program and trained more than 60 volunteer Lafayette waterfront families to catch and count baby oysters using "**spat catchers"** suspended from their docks. These small cages are filled with oyster shell upon which oyster larvae will settle and attach. Efforts by these volunteers will help identify where oysters recruit (settle), thus helping CBF and partners determine locations for new restoration efforts.

Shell Recycling
Oyster shells are the best surface for oyster larvae, but obtaining shells for restoration projects is increasingly more challenging. In Norfolk, CBF partners with Keep Norfolk Beautiful to manage a successful shell recycling program with restaurants and community oyster roasts, but many more shell are needed for oyster restoration projects. Citizens can help spread the word about this easy and free program that makes a positive impact to water quality.

LARGE-SCALE RESTORATION PROGRAMS

Reef Balls
CBF has launched a multi-faceted approach to native oyster restoration programs with the construction and placement of concrete reef balls in the Lafayette River. This new project by CBF provides a much needed boost in the Lafayette, and showcases the first time concrete reef balls have been used by CBF in Virginia waters.

Reef balls are molded from marine-safe cement and mimic natural oyster reefs. Each reef ball is a hollow sphere, 18" tall and 24" wide, with several openings on the surface. Baby oysters, called spat, will naturally "set" (attach) to the ball's hard surface, creating a skin of living oysters on each ball. Reef balls have been used from Florida to Maryland with impressive success. Oysters typically will completely cover reef balls when water conditions are right and where other reproducing oysters live. In waters where reef balls are placed, vibrant, fully functioning oyster reefs frequently result in less than a year.

After oysters spawn, their larvae must find a solid, stationary surface on which to attach within two weeks, or they will not survive. The concrete surface of reef balls attracts oyster larvae. The reef balls placed in the Lafayette River in June 2010 were first placed in large setting tanks at CBF's Virginia Oyster Restoration Center at the Virginia Institute of Marine Science (VIMS) at Gloucester Point and flooded with water containing oyster larvae, which set as spat and permanently adhered to the reef balls prior to their placement in the Lafayette River.

Oyster Surveying
In 2010, CBF's oyster restoration staff partnered with Virginia Institute of Marine Science (VIMS) to survey the Lafayette River and benchmark the current oyster population. Results show limited oysters in the Lafayette, mostly due to an overall lack of natural areas for oyster larvae to set on. As a result of disease, runoff pollution, and sediment, few natural oyster bars remain in the Lafayette. Oysters are present in relatively high abundance along the shoreline from the mouth of the river to the Granby Street Bridge, and less abundant to the Tidewater Drive Bridge. CBF will continue to monitor oyster populations and educate homeowners about ways to increase substrate to encourage oysters.

Sanctuary Reefs
CBF continually seeks additional opportunities to build shoreline and intertidal reefs throughout the Lafayette River system to help increase much-needed oyster habitat, thereby helping to improve water quality.

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