

# Chesapeake Beach Oyster Cultivation Society:

## Cultivating Oysters and Environmental Awareness

**Summary:** Founded in 2011, the Chesapeake Beach Oyster Cultivation Society (CBOCS) implemented an oyster cultivation program that has raised more than 400,000 juvenile oysters. Using the Town's Chesapeake Beach Railway Trail as its central platform, CBOCS has taken the total impact of this facility well beyond oysters into complete environmental awareness. The Trail provides a venue for elementary school educational programs and is the location for an "Oysterquarium" Exhibit. Adjacent to the Trail are Wetland Signs, Osprey Nesting Platforms, Bat Boxes, a Purple Martin House, a Pollinator Garden and Hotel, and a Mosquito Repellent Garden. Educational materials produced include the *Treasures of a Tidal Creek* brochure and workbook, and a *Field Guide to the Flora of the Town of Chesapeake Beach, MD*.

### Questions and Answers

*Why was the program needed? How is the program set up?*

- The CBOCS program was created "to provide the opportunity to improve local water quality and help restore the Bay through oyster cultivation and oyster reef restoration." Supported both by the Town and over 100 volunteers, CBOCS cultivates annually a "crop" of juvenile oysters. These are placed in 30 cages in Fishing Creek alongside the Trail until they mature. At this point they are relocated to the Old Rock Reef, a designated research area in the Bay. Forty-two concrete reef balls were made and deposited to outline and enhance the Reef.
- In the environmental education and awareness module, all the County's 5<sup>th</sup> graders complete an oyster habitat requirements study program with 12 hours of classroom instruction. This course culminates in a day-long field trip on the Trail with hands-on components including taking measurements and identifying critical factors in the life and habitat of oysters. The "Oysterquarium" at the first Trail observation deck features a continuously circulating tank of Bay water, housing groups of oysters at various stages of

development. The Trail also features nine educational displays along its length to provide information to members of the community. CBOCS members also provide educational outreach programs and have presented to local, civic, youth, church and museum groups as well as at Town festivals.

*What does it cost?*

- Start-up costs of approximately \$15,000 from mostly private donations were used to purchase CBOCS oyster cages. Town residents individually purchased cages to place along the Trail or off their own piers.
- The Town provides an annual operating budget of between \$5,000 to \$7,000 which is used to implement new exhibits/initiatives and to produce educational materials and brochures. CBOCS has received both national and state grants as well as citizen donations.

*Who benefits?*

- The students of Calvert County benefit through their participation in the annual environmental programs. In addition to the educational value, the students each decorate an oyster shell in advance of the holidays. That shell is hung on the Town's CBOCS oyster tree, which is featured during the Town's annual light up night. The students are so excited to find their own shell to show friends and family, and following the ceremony they take home their shell to place on their own tree. In years to come when students hang their decorated oyster shells, they will remember how oysters help clean the Bay.
- The residents of and visitors to the Town benefit from the educational materials and from the exercise they acquire by hiking the Trail.
- Local water quality improvements are shown by one of the demonstrations CBOCS members routinely use during presentations. At the start of each talk, we place a handful of oysters in a fish tank full of Creek water. Forty-five minutes later when the presentation concludes, the water in the tank is clear.
- Local businesses benefit from the increased activity resulting from the various exhibits and enhanced educational activities surrounding the Trail.

*Is the program innovative?*

- Yes, one example of CBOCS' innovation is the creation of the reef balls used on the Reef in the Bay. Reef balls are common in oyster culture and CBOCS worked in partnership with the Town's Public Works Department to form reef balls in molds around balloons. The Town's Public Works Department also created a patent pending harness for their backhoe which lifts full oyster cages out of the Creek for harvesting.
- Another example of CBOCS' innovation is demonstrated by the equipment used in their educational sessions. For example, empty, weighted plastic bottles are used to measure the flow rate of the Creek. Instead of purchasing a Secchi meter to measure water turbidity, the Chairman of CBOCS built his own out of surplus wood and rope.

*Can you demonstrate tangible results?*

- In 2015, 27 classes of 859 students, teachers and chaperones participated in educational programs.
- 400,000 oysters were added to the Bay in the past four years.
- Over 3,200 participants visited Chesapeake Beach Railway Trail in the past four years.
- Approximately 15 presentations per year have been made to groups of all ages.

*Can it be replicated?*

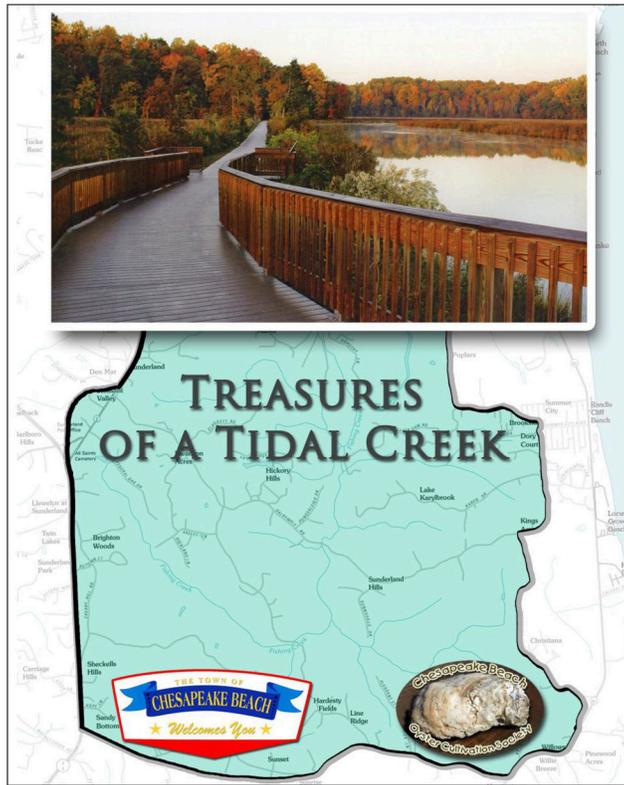
There are other oyster cultivation societies in Maryland. However, they have not focused their efforts on the education program and the other aspects of environmental awareness as CBOCS has done. Other communities certainly can replicate what CBOCS has created and, in fact, CBOCS has worked with various other communities in Maryland to help them with their programs.

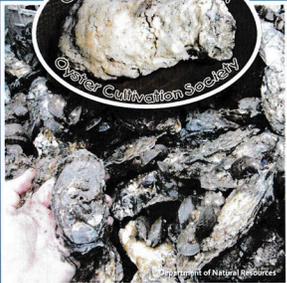


# Brochures

## Amazing Oysters

By: Kaitlyn Straub





**Chesapeake Beach Oyster Cultivation Society (CBOCS)**

Providing the opportunity to improve local water quality and help restore the Bay through oyster cultivation and oyster reef restoration.



## Field Guide To the Flora Of the Town of Chesapeake Beach, Maryland

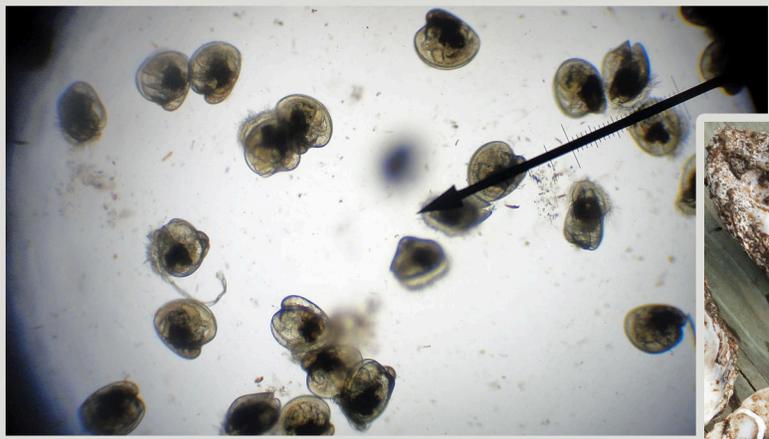


## MOSQUITO REPELLENT PLANTS



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# Oyster Cultivation



Oyster larvae under 40x microscope



Oyster spat on shells



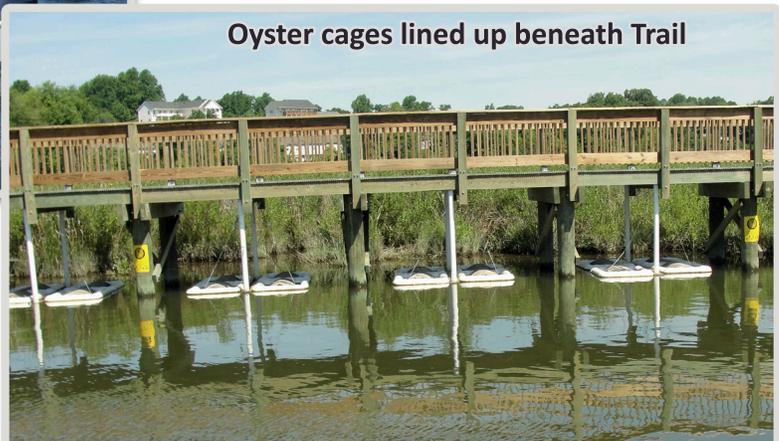
Depositing juvenile oysters into cages to mature



Harvesting mature oysters to relocate to reef  
using patent pending harness developed  
by Town Public Works personnel

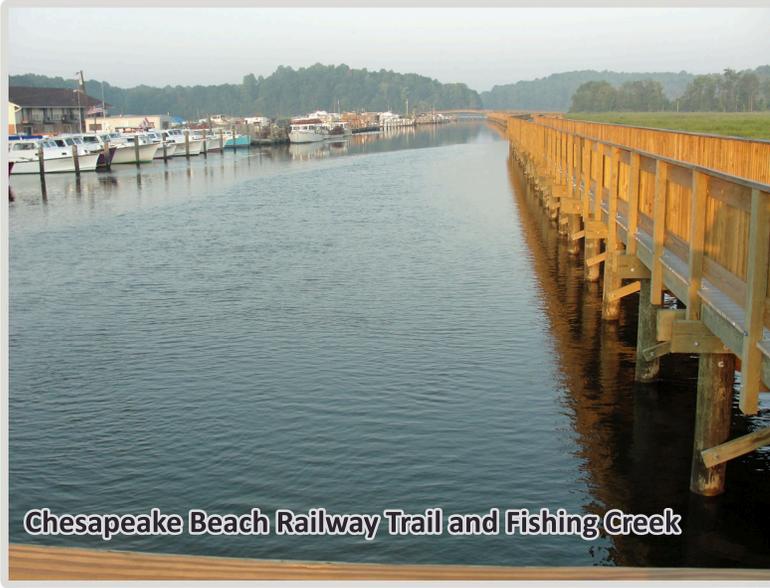


Moving mature oysters out to Old Rock Reef



Oyster cages lined up beneath Trail





Chesapeake Beach Railway Trail and Fishing Creek



Wide angle view of educational display on Trail



Buoy marking Old Rock Reef

## WETLAND PLANTS & INSECTS

**Switchgrass**, a native plant species, has a growing season which occurs from late spring to early fall. During the colder months it becomes dormant. Switchgrass is abundant throughout the United States east of the Rocky Mountains, and into Canada.

**Bay Grasses** or submerged aquatic vegetation (SAV), live underwater and are located throughout the Chesapeake Bay Watershed. Bay grasses are important for the health of the Chesapeake Bay because they help improve the water quality and help stabilize sediment on the bottom.

**Invasive Plant Species:** Invasive species are non-native plants that are introduced into the environment. These types of plants cause harm to native plants, changing the structure of the food cycle. Phragmites Grass is an invasive species.

The Monarch butterfly is made noticeable by its orange color. Monarch butterflies are born in Florida, Texas, or Mexico. They migrate north during the spring, and then they migrate south for the winter.

**Monarch Butterfly**

**EARLY MAP OF THE CHESAPEAKE BEACH RAILWAY TRAIL**  
RIGHT OF WAY FROM WASHINGTON, D.C., TO CHESAPEAKE BEACH  
Traveling from Washington, D.C., passengers could board the train at many points. The entire trip was slightly more than 28 miles from the District line Station on the southeast corner of Washington, D.C., to Chesapeake Beach. The journey on the local train, stopping at all the stations along the way, took about 90 minutes. On the weekends, an express train, making about an hour, regularly scheduled from the District line Station to the Beach from Baltimore. The rail lines connecting the Eastern Shore, but these routes never became a reality. For more historical information, please visit the Chesapeake Beach Railway Museum.

One of 9 educational displays along the Trail

## CHESAPEAKE BEACH RAILWAY TRAIL

The Chesapeake Beach Railway Trail takes you through a wetland area in the Fishing Creek Watershed. Wetlands are home to many species of plants and animals. Along the trail, you may see bald eagles, ospreys, red-winged blackbirds, great blue heron, painted turtles, river otters and white-tailed deer.

### LEAVE NO TRACE

- Travel on durable surfaces. Stay on the trail at all times.
- Dispose of waste properly. Do not leave trash along the trail.
- Leave what you find. Do not remove plants, animals, or other natural elements along the trail.
- Respect wildlife. Do not feed or approach the animals that you see along the trail.
- Be considerate of other visitors. Avoid making loud noises, which disturb wildlife and your fellow hikers and bikers.
- Discard cigarette butts in ash cans. Do not throw in marshes.
- Drugs and alcohol are prohibited.
- This is open from dawn till dusk.
- No motorized vehicles.

**You Are Here**

**CAUTION**

**CHESAPEAKE BEACH RAILWAY TRAIL**

**D.C.**



# Beyond Oysters

Osprey sitting on new platform



"Oysterquarium" on the Trail



Reef balls ready to be taken out to Old Rock Reef



Purple Martin House alongside Trail



Bat House



**Bay Wise**

Landscape Practices for a Healthy Chesapeake Bay

The Chesapeake Beach Railway Trail and conservation gardens were Bay-Wise certified October 2015 By Calvert County Master Gardeners University of Maryland Extension

Bay-Wise certified landscapes are maintained to have a positive impact on the Chesapeake Bay. Learn how YOU can plant and maintain a Bay friendly landscape.

[www.extension.umd.edu/baywise](http://www.extension.umd.edu/baywise)



Mosquito Repellent Garden adjacent to Trail

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First Trail in Calvert County to be certified as Bay Wise



# CBOCS in the News

## The Calvert County Times Fishing Creek Trail An Educational Opportunity for All

By Sarah Miller  
Staff Writer

Have you ever wondered what plants you can put in your garden to repel mosquitoes? Or maybe what oysters look like before they hit the table? Have you been looking for a new jogging trail? Fishing Creek Trail in Chesapeake Beach can offer all that and more.

The Chesapeake Beach Oyster Cultivation Society (CBOCS) has been making efforts to clean up Fishing Creek for the past five years, said CBOCS President John Bacon.

During these years, the CBOCS volunteers have taken part in a massive program to plant oysters in cages in the creek to be transferred to an artificial reef in the Chesapeake Bay. A group of volunteers gathered to plant oyster spat under the trail on Sept. 16. The cages are changed every 10 to 12 months, Bacon said.

The Fishing Creek trail took 23 years to approve and nine months to build, Bacon said. It is one and a half miles long and American Disabilities Act compliant, he said.

In a parallel mission to cleaning up the creek, and contributing to the efforts to clean up the Chesapeake Bay, CBOCS has been spearheading efforts to bring local students to the Fishing Creek Trail and teach them about the Fishing Creek environment, oysters, and the animals that live symbiotically with the oysters.

CBOCS started with Beach Elementary School's fifth graders five years ago, Bacon said. CBOCS then connected with Calvert County Public Schools (CCPS) and Chespatx to get more schools involved. The number of schools involved in the educational opportunities at Fishing Creek grows every year, Bacon said. Currently, between 850 and 1,000 fifth grade students, chap-

ones, and teachers visit Fishing Creek and take part in the program every year.

The educational program takes students along the trail, allowing them to see growing oysters, identify native plants and animals, and more, Bacon said. Every student received a guidebook to take home so they can share information with their parents and families.

The fifth grade program is not the only one at fishing creek. Chesapeake Beach is gearing up for the first Happy Trails event on Oct. 3 from 4 to 6:40 p.m., said Chesapeake Beach Community Development Director Connie O'Dell. Happy Trails is target toward adults, O'Dell said, and will have stops along the trail with information about aquaculture, nature watching, photography, and water monitoring. There will be local beer and wine tasting available at the event.

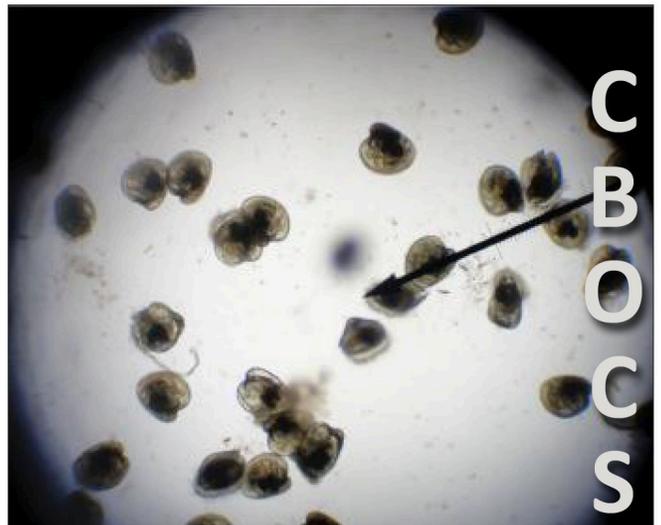
O'Dell said. Visitors to the trail will have a chance to check out the mosquito repellent garden planted at the end of the trail.

"It's my desire to have different people out on the trail," O'Dell said, saying that the majority of individuals on the trail are local residents who return daily or weekly. She hopes the event will draw more attention to the Fishing Creek trail and bring in visitors from beyond Chesapeake Beach.

In another attempt to bring attention to the educational opportunities at Fishing Creek, Chesapeake Beach has created a field guide to the flora in the area, which look five naturalists three days to put together, Bacon said. The field guide, and brochure with information about planting a mosquito repellent garden, are available at the Chesapeake Beach town hall building.

For more information, visit [www.chesapeake-beach.md.us](http://www.chesapeake-beach.md.us).

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Thursday, September 17, 2015

Photos Courtesy of John Bacon