

Shellfish Consumption and Health Considerations

The Division of Shellfish Sanitation, Virginia Department of Health, condemns water that has been found to contain excessive coliform bacteria levels and for other reasons. For condemnation because of bacteria, oysters should not be eaten directly from those waters. This website should be used regularly to check the status of your garden site- <https://www.vdh.virginia.gov/ENVIRONMENTAL-HEALTH/SHELLFISH-CLOSURE-AND-SHORELINE-SURVEY-DOCUMENTS/#LOCALITYMAP>

Condemned waters do not hinder the growth and spawning of the oysters, and oysters that have grown in condemned water can be rendered safe by moving them to clean water for a period of time. This relay process is done through the Virginia Marine Resource Commission (VMRC), see <https://mrc.virginia.gov/regulations/fr310.shtm>, look for "Noncommercial, private use" near the bottom.

The VMRC requires a permit for oyster gardens. This permit is free and allows up to 160 sq. ft. of oyster floats from private docks. Permit applications may be obtained from the VMRC at https://mrc.virginia.gov/forms/2019/VGP3_Aquaculture_form_2019.pdf, or (757) 247-2252.



For More Information:

Tidewater Oyster Gardeners Association web site:

www.oystergardener.org

Contact:

Tidewater Oyster Gardeners Association
P.O. Box 2463
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Oyster Gardening In Virginia



Crassostrea virginica, the Chesapeake Bay oyster, was once a preeminent contributor to the ecology of the Bay. A filter feeder, it was instrumental in maintaining water quality and its erect, living reefs provided protective habitat for its own babies and a vast array of other marine species, many of them filter feeders. The combined impact of over harvesting, oyster disease and habitat destruction severely diminished the number of oysters in the Chesapeake Bay. The oyster harvest, once numbered in the millions of bushels, was reduced to a few thousand bushels.

Scientists at the Virginia Institute of Marine Science (VIMS), pioneers in the introduction of clam aquaculture in the Chesapeake Bay, have developed aquaculture methods

which allow growth of hatchery-bred oyster spat (baby oysters) to eating size (3" or more) in 12-24

months. These oysters are typically sterile triploids and highly disease resistant. However, many Oyster Gardeners choose to grow natural diploids for restoration.

Oyster gardeners generally use baskets constructed of one-inch square mesh, plastic-coated marine wire attached to PVC plastic pipe floats. Seed oysters (spat) are placed in plastic mesh bags with 1/4" openings, and the bags are placed into the floats.



The young oysters are transferred to bags of increasing mesh size as they grow larger. These cages allow good water flow and protection against major predators, the blue crab and the cownose ray. In essence, the rapidly growing seed oyster can “outgrow” the effect of the main oyster diseases MSX and Dermo and attain “eating size” before succumbing to disease. While native oysters are likely to die by the end of the third summer, recently selectively-bred strains show significantly improved longevity.

More than 20 years ago VIMS scientists enlisted a small group of amateur growers to help evaluate aquaculture methods and new seed strains. The VIMS people were somewhat surprised by the enthusiasm with which the amateurs undertook these projects, and soon hundreds of oyster gardeners were at work. It was from among this group that the Tidewater Oyster Gardeners Association (TOGA) was founded as a not-for-profit entity.

Oyster gardeners generally have four goals:

- to experiment with the aquaculture method in the hope of improving its efficiency
- to get a lot of oysters in the water to improve filtering of the Bay
- to plant on the bottom for restoration, or
- to harvest the crop and enjoy an oyster roast!

The Method

The principle of oyster aquaculture is very simple: put the oyster babies into an environment where they have enough room to feed, are protected from smothering by silt, are fed by flowing water of moderate salinity, and can't be reached by predators.

Oyster gardening starts with seed oysters. They have been produced in about two months by hatcheries from selected brood stock that has spawned under ideal conditions. These microscopic spat “set” by attaching to crushed shell where they begin to grow. When they are ¼ to ½ inch in length, they are distributed to gardeners, typically in September or October. At this point, they are placed into marine mesh bags.

The seed grow rapidly in fall, spring and summer, and although they will encounter the diseases the first summer, they have at least two more rapid growing seasons before the disease may be fatal. Thus, the young oysters will reach harvest size by 12 to 18 months and may be harvested through the winter and the following spring.



Various types of floating or hanging devices, which hold the oysters a few inches below the water's surface, have been used successfully. Baskets are generally made of plastic or metal mesh with openings large enough to let the water and food flow through while small enough to contain the oysters. They are kept afloat by PVC pipes, or in some cases, plastic bottles. The floats must be cleaned occasionally because algae and other creatures can clog the openings of the mesh. When the oysters are out of the original growing bags, they must be protected from otters, raccoons and other predators. TOGA's web site, www.oystergardener.org, describes the various devices in more detail.



Current Developments

VIMS and other research labs have been working for over 2 decades on selectively breeding specimens of the Eastern Oyster (aka *Crassostrea virginica*) that have shown resistance to MSX and Dermo. They have also created a sterile oyster known as the triploid that grows faster than the fertile diploid and can be harvested year round. Spat from these strains, as well as hatchery-spawned natural oysters, are now available to gardeners in the fall and sometimes in the spring, although the inexperienced gardener is encouraged to stay with the fall planting regimen.

TOGA provides newsletters and workshops, coordinates the ordering and distribution of spat, and provides training in oyster aquaculture. To become a member, go to the TOGA website, www.oystergardener.org, and click on the “Join TOGA” button or contact us through our mailing address on the back of this brochure.

