Step Two: Choose a Containment System

A wide range of options exist for oyster gardening containment systems. Methods include the use of floats, suspended mesh bags and fixed bottom racks or cages. No single method is right for everyone, and no single method guarantees success. Each grower must consider characteristics of the growing site and his or her ability to handle the weight of the containers. Several options are offered here and a number of different modifications of these systems may be commercially available. See pages 15 and 24 for more information and contacts. Oyster gardeners have been quite inventive in devising containers and methods that work for them. You should feel free to experiment with modifications and methods to make gardening easier for you, given your particular site. The important thing to remember is that your system must provide:

1) minimal flow obstruction  
2) ease of maintenance and handling  
3) adequate predator protection

Taylor Float

Taylor floats are generally constructed with a 2’ x 3’ frame of four inch PVC pipe and a one inch by one inch mesh marine plastic coated wire basket. Vinyl coated galvanized wire is best for reducing corrosion and extending the life of the float. Mesh bags of various sizes for holding small oysters can be laid in the float and turned over frequently, but oysters should be moved to the largest possible mesh size as soon as possible and the density reduced. Reducing the density of oysters in the float helps maintain good water flow and reduces the competition for food among the oysters.

For extra protection against predators, a mesh liner may be placed within the float and attached to it with cable ties. For a 2’ X 3’ Taylor float, cut a 3 ft x 4 ft section of mesh and secure it to the inside of the float. The liner should extend six inches up the sides of the float and be secured at the top with cable ties. The liner may protect against predators, but may slow water flow through the float.

Larger oysters can be placed directly into the floats, but the float may need a lid to keep out predators. Lid options for this float include ¼ inch thick plywood lids, wire mesh, and shade cloth. Performance of different lid options varies with location, and opinions about the best type of lid vary among oyster gardeners. Lids can restrict the growth of macroalgae in the floats and reduce predation by otters and seagulls. However, barnacle and oyster settlement may be greater on lids, and seagulls roosting on top of the lids may cause elevated fecal coliform bacteria levels.

The Tidewater Oyster Gardeners Association holds workshops each year where gardeners can learn how to build their own floats. Directions for building the floats along with information on devices that TOGA can build for you can be found at www.oystergardener.org/#!devices-and-designs/c2ir.

The flip float is just one of the innovative designs oyster gardeners have devised to contain their oysters. Photo courtesy of TOGA.
Mesh bags

A less expensive oyster garden, illustrated in the photo above, consists of ADPI marine plastic mesh bags, each containing about 150 oysters. The bags are kept afloat by four, empty, one-liter soda bottles. Multiple bags are lined up with a rope running through the middle of each bag and attached at each end to a piling or stake. Running a rope through the middle of the bags allows them to be flipped end to end every week or so, to help keep them clean. Fouling organisms tend to grow on the bottom side, so when the bags are flipped, that side is exposed to sun and air which will kill off most of the fouling organisms.

Gardeners in locations where the water may freeze in winter may not want to use this method. Be aware that sinking the bags by filling the bottles with water to keep them below the ice will kill any oysters that end up buried in mud. The mesh bags may also be placed on racks constructed of steel reinforcing bar (rebar). This “rack and bag” method involves securing bags with oysters onto racks that extend 1 – 2 feet above the bottom. Bags may be purchased from commercial suppliers or made with 1/8”, 3/16”, and 5/8” mesh size openings. The bags can be closed with four inch cable ties, using a combination of ½” stainless steel hog rings and cable ties, or sliding a piece of slit PVC pipe over the end and securing it with cable ties.

Cages

Bottom racks or cages are useful in places where the bottom is hard and wave action is too great for surface floats. They may also be preferred in shallow waters where aesthetics are a consideration and you don’t want the oyster garden to be visible. These cages are commercially available or may be constructed. They sit on feet that are a few inches high and must have a lid to protect oysters from predators. These cages full of adult oysters can be quite heavy, and this should be kept in mind when purchasing or building them. It is also critical that the oysters be kept up in the water and out of the mud if they are to survive and grow.

Small baskets (Australian cages), as in the photo above, are also commercially available. These hold around 100-150 mature oysters. They may be fastened to long lines, or suspended in the water by a PVC pipe sealed at both ends and hung from a dock so that they remain horizontal. The sealed pipe will prevent one end from sinking onto the mud even as the weight of the oysters shifts. An advantage of these cages is they are not as heavy to lift out of the water to clean or maintain compared to those described above. However, they don’t hold many oysters.