



# ACTIVITY 1

## ACTIVITY OVERVIEW

### The Vanishing Act of the Chesapeake Bay Oyster

#### Activity Description

Students will examine reasons for the dramatic decrease in the Bay's oyster population, evaluate the impact on the waterman, identify ways to restore the population, and share their ideas through a poster, letter, or project.

#### Materials

Student worksheet

#### Teacher Background

See the Student Reading on page 66.

## STUDENT READING

# The Vanishing Act of the Chesapeake Bay Oyster

Oysters live on beds or raised areas on the bottom of the Chesapeake Bay. Oysters have been around for almost 10 million years. In some places their fossil shells are piled 50 feet thick. Today scientists and watermen alike are concerned about the dwindling numbers of oysters in the Bay.

Oysters reproduce by spawning. They spawn from June to September. The eggs hatch into larvae and begin to develop. In the first stage, the umbo stage, the oyster has a foot that allows it to swim around. The larvae swim around until they fall to the bottom and settle on a clean, hard surface. This is called spat setting. As spat grow, their shells increase in size. The oyster will grow to 3 inches in about 3 years, just the right size to be legally caught and eaten.

Oysters have been considered a delicacy for more than 100 years. For that reason, they are a very important seafood resource for the Chesapeake Bay. In the 17th century, the oyster population was so great that ship captains had to take care not to run into oyster reefs near shore. At their peak, in the 1880s, seasonal harvests were in the millions of bushels. Working the waters in the late 19th century, buy boat captain Salem Avery bought and sold oysters during the heyday of Chesapeake oystering. In recent times the oyster population has decreased dramatically.

The number of oysters in the Bay has decreased for a variety of reasons:

- **Overharvesting** – Overharvesting in the past removed huge amounts of large oyster shells, destroying reef habitats and sites for spat settlement, and left fewer oysters behind to reproduce.

- **Diseases** – MSX and Dermo are diseases that kill oysters. Dermo will kill oysters at any stage of development. MSX tends to strike just before oysters are mature and are large enough to harvest.
- **Sedimentation** – Sediment washed into the Bay, from areas where soil is exposed and unprotected, also depletes the oyster population. As land development continues, sedimentation increases, smothering living oysters and depriving oysters of hard surfaces to settle and grow.
- **Natural Predators** – Natural predators, such as sea anemones, sea stars, sea nettles, flatworms, and small crabs, feed on oyster larvae.

So why are scientists concerned about the decrease in oyster population? Oysters are a natural filter. They consume algae and other nutrients as they filter water. At one time when there was an abundant oyster population, oysters could filter a volume of water equal to the entire Chesapeake Bay every three to four days. It takes today's oyster population a year to filter that same amount of water. If the oyster population were increased, the water quality of the Bay would improve. Oyster reefs also provide habitat for an enormous range of other animals, such as worms, snails, sea squirts, sponges, small crabs, and fish.

Even in Captain Avery's day, people worried about the disappearing oyster. In the 1860s Maryland and Virginia instituted regulations to help protect the oyster from overharvesting, and since then have continued to add new regulations to protect oysters. Today people are working hard to restore the oyster population. The Chesapeake Bay Trust supports oyster reef restoration, the Maryland Department of Natural Resources plants seed oysters on traditional oyster bars, and the Chesapeake Bay Foundation is implementing an oyster-seeding program (including one at Discovery Village in Shady Side, Maryland). Scientists are working to solve problems associated with the habitat of the oyster. Can you think of anything you, your school, or your community can do to save the oyster?

Name \_\_\_\_\_ Date \_\_\_\_\_

STUDENT WORKSHEET

# The Vanishing Act of the Chesapeake Bay Oyster

1. After reading “The Vanishing Act of the Oyster,” describe the health of the oyster population today. Use examples from the reading.

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2. Why has the oyster population decreased?

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3. How does the Chesapeake Bay benefit from oysters living in its waters?

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4. What can you do to help the oyster population? How could you educate citizens about the oyster dilemma and persuade them to become actively involved in increasing the number of oysters in the Bay? On this page, design a poster, write a letter to the editor, or plan a service project to raise awareness of the oyster in your community.

