

REPORT SUMMARY

Chesapeake Bay Oysters

ONE HUNDRED YEARS ago Chesapeake Bay was the world's largest oyster-producing region, with fishermen harvesting more oysters than all other countries combined. Slowly but surely the oyster catch has declined and is now only 1% of what it was at the start of the 20th century. Among the factors causing this huge drop are destruction of habitat, reduction in water quality, disease, and overharvesting. The decrease in oysters has had a devastating effect on both the environment and the local economy. Without large numbers of oysters, the water in the bay is not filtered

sufficiently. This, along with increased runoff rich in nitrogen and phosphorous, has allowed more algae to grow in the waters of the bay. As a result the oxygen levels in the bay are lower. "Dead zones" sometimes form as a result of eutrophication, with lethal consequences for many organisms, including the oysters. More and more families that have traditionally made a living from the oyster and fishing industries are leaving the area every year or having to find a different form of employment.





Nonnative oysters, *Crassostrea ariakensis* (left), are much larger than the native oysters, *Crassostrea virginica* (right).

Numerous efforts have been made to improve the Chesapeake Bay ecosystem and to restore the oyster resources of the bay. One proposal made in the early years of this century involved the potential introduction of a species of oyster that is native to the coasts of Asia, *Crassostrea ariakensis*. The hope was that this species would thrive, and filter the polluting algae from the bay's waters, improving conditions sufficiently for native oyster populations to begin to recover.

Crassostrea ariakensis is larger and tends to reproduce more quickly than the native oysters (*Crassostrea virginica*). It also grows much more rapidly than native oysters during the winter months. It can be harvested and sold and would provide a much-needed economic boost to the oyster fishing industry.

Crassostrea ariakensis can survive in a wide range of conditions, including those currently encountered in Chesapeake Bay. However, recent research has indicated that the nonnative species does not reproduce or grow as well when space is limited, for example when it has to compete with other species. *Crassostrea ariakensis* has been shown to have some resistance to the diseases that killed many of the native oysters, but they are susceptible to, and may carry, other diseases and parasites. These diseases, however, are not currently common in the Chesapeake Bay. The nonnative Asian oysters that would be introduced to the bay through the proposal would come from oyster farms in Oregon. ■