Present

In the mid-1980s, the Delaware Bay oyster industry faced a serious decline. The lack of large quantities of marketable oysters during the 1980s had resulted in the loss of direct shellfish, a determination of boats, oyster beds, and buildings, and a diminished market for local oysters. The presence of two oyster diseases, particularly Dermo and MSX, severely inhibited oyster production in the lower bay. In 1984, an embargo was initiated for the first time in New Jersey—direct marketing from the State’s natural seedbeds was temporarily suspended. This ban was reinstated in the New Jersey Division of Fish and Wildlife and supported by the industry. The ban has been the most effective method of curtailing disease since the species reappeared in the mid-1980s, and MSX is the better known of these two diseases. Industry participants have observed spikes of roughly 2,500–3,000 bushels per season in some areas, and catches as high as 25,000–27,000 per season. These findings led to the “Disease Management Development Account.” The account is comprised of state and federal funds and is used to fund research, development, and implementation of disease control practices. Dermo is a water-borne disease that affects oyster larvae and seed oysters. It is caused by a protozoan, *Perkinsus marinus*. Oysters will grow on almost any substrate, but the oyster population is severely inhibited by sea grass and other fine-filter units that make up the bay. In turn, these substrates attract other marine life, such as goldfish, which can be detrimental to the oyster population. The oysters are again on their way to recovery. There is consensus that the biological potential for oyster production in the Delaware Bay remains quite high. It will, however, take a consistent and expanded effort in enhancement activities such as shellplanting, transplanting, and oyster bed restoration projects. Over the last decade, the notion that oyster beds are valued habitat, for both oysters and the ecological food source for many recreationally and commercially sought fishes includes weakfish, croaker, and white perch. Continued management efforts by coastal states to bolster the oyster population has held a long-term economic benefit that extends far beyond the norm. Funding for this fact sheet was provided by U. S. EPA, Region II in support of the Delaware Estuary Program.

History of the Eastern Oyster

The eastern oyster, *Crassostrea virginica*, has held a long history as a commercially and ecologically important species in the Delaware Bay. Dating back to the early 1800s, the Delaware Bay oyster has been recognized as a major source of income and job stability. It was extremely popular on the eastern market, and held significant economic importance to the local communities of New Jersey and Delaware. Throughout the early 1980s, oyster production was severely embarged in New Jersey, causing oyster fishermen to search for new markets. After infected seed oysters were identified, approximately 500,000 bushels of healthy seed oysters were licensed each year in New Jersey. The industry produced roughly 1,000 – 3,000 bushels per season and harvesters are charged a $1.25 to $1.75 per bushel fee. These fees are used to fund two key management components: the transplanting of oyster seed from underutilized seedbeds to the downbay seedbeds, which are primarily utilized for the direct market program; and, for the purchase and planting of clean shell on selected areas of the seedbeds to enhance the setting of oyster larvae. Oyster shellplanting provides a ready niche to which young larvae may attach.

Not Out of the Woods Yet!

In 1984, after 31 years of market stability, the oyster industry in the Delaware Bay suffered another set back. In a series of MSX disease outbreaks, the oyster industry was devastated. High mortality affected planted and seed oysters until 1989, when the condition on the beds began to markedly improve. After several years of being closed to harvest, the New Jersey Division of Fish and Wildlife announced that the oyster population was increasing, due in part to the combined effects of natural selection, to MSX disease. The Eastern Oyster? the cause of Dermo disease, was found in Connecticut, commonly used to grow shell. In the mid-1950s, apparently after infected seed oysters were imported, the disease spread among the nursery population. Although oyster stocks have been significantly affected by disease, habitat loss, and to some extent, over-harvesting, the eastern oyster remains an integral part of the Delaware Estuary.
The History of Oyster Harvesting

Exploitation of the oyster resource in the Delaware Bay predates the settlement of the region by Europeans. Unfortunately, the earliest records prior to the Native American period are fragmentary and offer little insight into the extent or methods employed. Native American evidence indicates that oyster beds were used extensively for food, in the form of shellfish and other invertebrates. There is also evidence of the ancient Native Americans using a smaller rattle fish to catch oysters. Descriptions of the oyster beds have been found in the early writings of the Spanish, the Dutch, and the English, from the 16th to the 18th centuries.

Initial Harvest Declines

Dredging, a major predator of oysters, was introduced into the Delaware Bay by northerners because they wanted a more rapid and efficient harvest method than tonging for gathering large quantities of seed. The Delaware Bay oyster harvest represented approximately 45% of the State’s total production from 1790 until 1880. By 1880, the Delaware Bay oyster industry was well established and was considered the most important in the United States. However, the industry was in decline by the 1930s. The major cause of this decline was overfishing, followed by the introduction of Dermo, a protozoan parasite that infects oysters, reducing their growth and survival rates.

The Bountiful Harvest

In 1957, the oyster industry enjoyed a revival when the natural seedbeds of the Delaware Bay was rediscovered. After 1957, production in the Delaware Bay declined somewhat but remained steady at about one million bushels a year until 1967.

The Oyster Battlegrounds

The Delaware Bay oyster industry was in decline by the 1930s. The major cause of this decline was overfishing, followed by the introduction of Dermo, a protozoan parasite that infects oysters, reducing their growth and survival rates.

In spite of a number of laws and regulations designed to protect the oyster population, overfishing of the natural beds continued. In 1975, the state of Delaware established the Delaware Bay Oyster Management Plan, which was designed to protect the oyster population and ensure the sustainability of the industry. The plan included regulations limiting the number of boats and men allowed to harvest oysters, as well as restrictions on the size and type of gear that could be used. The plan was successful, as the oyster population began to recover.

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The history of the Delaware Bay oyster industry dates back to the 17th century. The first oyster beds were established in Delaware Bay in 1609, when the Dutch colonists began to harvest oysters from the natural beds. The oyster industry continued to grow, with the development of new harvesting techniques and the introduction of new oyster species.

The Bountiful Harvest

Despite repeated legislation to protect the resource, over-harvesting of the natural beds was a chronic problem in the Delaware Bay. After World War II, the state passed laws to regulate the oyster industry and protect the natural beds. These laws included restrictions on the number of boats and men allowed to harvest oysters, as well as restrictions on the size and type of gear that could be used. The laws were successful, and the oyster population began to recover.

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