A HISTORY OF OYSTERS AND HARD CLAMS IN THE GREAT SOUTH BAY

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The Great South Bay has long been known for its abundance of shellfish. In the latter part of the nineteenth century, it was world famous for its production of "Blue Point" oysters. During the 1970s the abundance and harvest of hard clams was so great that the bay was often called a "hard clam factory" as it was the east coast's leading producer of littleneck, cherrystone and chowder clams. Today there are no oysters in the bay and the annual harvest of hard clams has fallen by over 99 percent from its peak of over 750,000 bushels in 1976. The history of oyster and hard clams in the Great South Bay is one of rise and fall.

In the 1850s oysters were setting in the bay east of Blue Point, but grew slowly, while west of Blue Point they would grow but not set. This lead some baymen to transplant seed (small) oysters from the east bay to the west bay in the hopes of taking advantage of this situation; after a few years, the yield of market size oysters had indeed increased tremendously. This soon led to the widespread leasing by the towns of bay bottom in the western bay for the planting of seed oysters. The age of the oyster industry had begun.

The oyster industry quickly became divided into two components, planters and the baymen. The planters were companies that had the financial capability to secure leases, prepare the leases for planting seed oysters, purchase seed oysters, and harvest and market the oysters. The baymen either worked for the planters or on the unleased areas of the bay.

By the mid 1890s the Great South Bay could not meet the demand for seed oysters, so the planters began to import seed oysters from wherever they could get it, particularly from Long Island Sound. In the spring schooners would bring seed oysters harvested from Connecticut and Huntington and Northport Harbors to the south shore oyster planters who would plant the seeds. It was the oysters from Long Island Sound that fueled the Blue Point oyster industry during the last years of the 19th -century and the early years of the 20th century.

During this time hard clams were also present in the Great South Bay, mostly to the west of Nicolls Point. Baymen would typically switch to harvesting hard clams during the summer months because oysters were not being harvested (oysters were only harvested in months that had an "R") and because hard clams were easier to catch in the summer than in the winter.

The year 1910 brought a turning point in the oyster and oyster industry of the Great South Bay. The Sealshipt Oyster System, which was seeking to establish an oyster monopoly on the east coast, obtained ownership to the bay bottom between Blue Point and Nicolls Point, where most of the oyster planters had their leases. Following this acquisition the oyster industry underwent a consolidation, as all but a handful of oyster planters left the industry. The Sealshipt Oyster System soon experienced financial

difficulties and merged with Jacob Ockers to form the Bluepoints Company in West Sayville.

About the time of World War I, the supply of seed oysters from Connecticut fell sharply because the pollution of the seed beds from industrial development resulted in poor sets. At the same time oysters were not setting in abundance in the Great South Bay. The Great South Bay's oyster era was coming to a close.

During the 1930s two natural events decimated the Great South Bay's oyster population. The first was in 1931 when a coastal storm opened Moriches Inlet into Moriches Bay. The opening of Moriches Inlet increased the salinity of the eastern Great South Bay which enabled the oyster drill, a small snail that that preyed upon seed oysters, to increase in abundance and to expand its range in the bay. As a result the natural production of oysters declined substantially. The second major event was the hurricane of 1938 which destroyed many of the bay's oyster beds.

While the events of the 1930s devastated the oyster population, they greatly benefited the hard clam population. The higher salinities were favorable to the hard clam which became increasingly abundant in the eastern part of the Great South Bay. As the baymen would say, "God took away the oyster but gave us the hard clam."

The 1940s and 1950s were bad years for both oysters and hard clams. The reason was blooms of the "small form", a very small species of algae that was a poor food for both oysters and hard clam, although it had a greater negative impact on oysters. The cause of the blooms was traced to two factors: the duck farming industry in Moriches Bay, which released large quantities of nutrients into the water, and the closing of Moriches Inlet, which caused the nutrients to be transported into the Great South Bay. The reopening of Moriches Inlet in the mid-1950s brought an end to the small form blooms but the oyster was unable to recover.

In the early 1960s the abundance of hard clams increased throughout the bay due to one or more years of high reproductive success, commonly referred to as "good sets." The reason for the good sets is not known and there are many possibilities including a drought which increased bay salinities, several very cold winters that may have killed off many of the predators of the hard clams, and the spraying of DDT which may also have reduced the abundance of hard clam predators. Moriches Inlet and Fire Island Inlet were also dredged which may have created favorable circulation patterns in the bay and the high number of hurricanes during the 1950s may have, in some way, benefited hard clams. It could also have been due to some natural cycle of hard clam abundance.

In the late 1960s and early 1970s new individuals entered the hard clam industry, dramatically increasing the hard clam harvest. The increase in harvests and baymen was due in part to a switch from harvesting hard clams with tongs to rakes. Up through the late 1960s most baymen used tongs, scissor-like devices that could only be used in certain types of bottoms, to harvest hard clams. In the early 1970s the clam rake replaced

tongs as the main harvesting tool, which enabled baymen to work in all types of waters. Clam rakes were also cheaper and could be used on smaller and faster boats.

Even as the harvest of hard clams was increasing, the hard clam population was actually declining, as more and more baymen competed for fewer and fewer clams. The harvest of hard clams peaked in 1976. During the late 1970s and early 1980s, the lack of hard clam sets reduced the harvest, forcing many baymen to leave the bay.

The next blow to the hard clam came in 1985 when the Brown Tide appeared in the Great South Bay. Brown Tide is caused by a small species of micro algae that is a poor food for hard clams. During the next several years, there were recurring Brown Tides which caused poor growth and diminished reproduction in the hard clam population. Both the abundance of hard clams and the harvest of hard clams continued to decline.

The most obvious impact of the rise and fall of oyster and hard clam abundance is on the baymen who depend on the shellfish for their living and, by extension, the shellfish industry and the production of shellfish. However, the declining abundance of first oysters and then hard clams has also impacted the ecology and environmental quality of the Great South Bay.

Oysters are often referred to as "ecosystem engineers" because they create physical structures, oyster reefs that provide habitat for many species. With the demise of the oyster this habitat was lost. Studies have found that areas of high hard clam abundance are often associated with remnants of historic oyster reefs so that the lack of new oyster shell could be limiting the recovery of the hard clam resource.

The decline of oysters and hard clams may also be contributing to a decline in bay water quality. Oysters and hard clams are filter feeders, meaning that they obtain their food by filtering out microscopic organisms, mostly micro algae, from the water column – an adult oyster can filter about 20 gallons of water per day. Therefore, the decline in oysters and hard clams meant that less bay water was being filtered. It has even been suggested that the Brown Tide may be due to reduced hard clam filtering that resulted from the drop in hard clam abundance.

Efforts have been underway for some time to bring back the Great South Bay's hard clam population, not just to increase the harvest but to restore the ecological functioning of the bay (adding hard clams has been suggested as a way to prevent Brown Tide). A number of research projects aimed at understanding the population biology of the hard clam in the bay have recently been completed and adult hard clams are being planted in the bay to increase the hard clam's reproductive potential. Hatchery raised seed hard clams are also being planted. While it is too soon to know if these efforts will be successful, they do offer the hope of a revitalized hard clam resource.