

**The Natural Clam and Oyster Beds of Eastern Connecticut
East Haven to Stonington, CT - HRI Sub Committee on
Shellfish
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Abstract

Much has been written about the ecology of shellfish populations in the last decade. New environmental initiatives around essential fish habitat, estuarine water quality and habitat ecology (termed environmental services) has once again focused attention upon shellfish resources. Many feel that shellfish populations provide a realistic yardstick upon which to measure estuarine quality or its failure, the "canary in the coal mine" so to speak. While this concept is not yet universally held, it is gaining in acceptance as researchers examine entire ecosystems in near coastal areas. Worldwide shellfish populations often have mirrored estuarine health. They can provide indications of environmental problems long before they become extreme. Opportunities to study shellfish populations within natural conditions have been lost, as often the shellfish populations in a given region have been gone for a century or more. This is especially true here in New England as the impact of coastal development has taken its toll in many shellfish producing areas. The Tauton River in Massachusetts, for example, once (a century ago) was one of the largest sources of seed oysters in New England yet no oyster fishery exists for them today. The bay scallop has declined in both range and relative abundance over all of its previously recorded harvests areas. Unfortunately, the location and productivity of many shellfish populations has diminished in the last three centuries. Only with extensive fisheries history research will estuarine researchers be able to determine (if possible) the extent of those resources. Shellfish populations enjoy a distinct advantage over other types of fisheries management with the exception of the bay scallop; they did not move and often leave a record of their habitat history - their shells. A significant research resource has been and continues to be The United States Fish Commission Reports. They contain both references to labor, production and capital investment as well as detailed location/description of shellfish areas.

Therefore, it is possible to return to specific sites or locations and determine a habitat/fisheries history for many areas.

Keywords - Eastern Connecticut oyster Crassostrea virginica, tidal natural oyster beds, shellfish habitat history, oyster ecology, environmental services, submerged tidal lands, essential fish habitat.

Introduction - The First Two Centuries

Why were natural shellfish populations important? Oyster and all shellfish resources emerged first as important source of food and then later commerce. The transition from artisanal use to commercial use set the stage for the culture of shellfish private grounds. "Natural beds" were to remain "public" shellfisheries. Some natural beds were court designated, defined by Boards of Selectman or their designated Oyster Ground Committees appointed by the selectman. Changes in Connecticut laws that allowed individuals to stake out bottom for private culture were at times controversial. Several articles at the turn of century (Clinton Recorder Newspaper) in the Town of Clinton openly discussed the benefits and drawbacks to such new rights. They included frank discussions about the concept of private shellfish cultivation and grow out practices. Madelyn Huffmire and Larry Frankel's monograph details the legal and regulatory framework for the designation of natural beds (Sea Grant UCONN "The Influence of Regulatory Policies on the Production and Marketing of Long Island Sound Oyster"). Their report details the statutory history by the Connecticut General Assembly in creating the legal authority for such uses in submerged public trust lands. Other similar articles and discussions were records found in many coastal Connecticut towns'. The terms "free and common" fisheries frequently occur in descriptions of many New England States. They represent the practice of arriving at the shore to harvest what could be termed abundant shellfish resources in the early 1700's. After all, colonial fisheries merely replaced Native American ones, and cultural differences never recognized the ownership of natural resources the way European settlers did. Here in New England, the tribal unit governed resources as a group not individuals. The concept of individual ownership of natural resources was absent in tribal communities. European shellfish harvesting focused on ownership which

meant possession, which was deeply rooted in English common law.

To own the "common" resource, one had to possess it, a management philosophy that over time rarely sustained natural resource harvests but carried over from colonial and English laws. Early colonial laws also often gave resource use preference to riparian land owners.* This practice often resulted in scarcity, as recorded in New Haven's colonial history. To prevent the over harvesting of the resource, it was in many instances "protected" from the free and common use by regulation. It was no longer totally free; therefore, it became a political process and by its very nature, resultant policies tended to spread the resources "among many hands" rather than concentrating them into fewer hands.

The public policy debate in the late 1800's focused upon the free and common access to the resource as to the other viewpoint of sustained and predictable culture of a commercial product or agriculture. This public policy debate is historic in reference - the exploitation of a natural resource, its collapse (not sustained) and public policy decisions to stabilize or enhance it. The concept of culture and care became linked as in early agricultural practices; one had to "care for crops" or husbandry of the resource. In exchange for the risk of care and investment of capital, shellfish growers now would own "title" by deed to underwater lands. Securing private ownership and protection from the free and common access of previous colonial law was the concept of the first underwater farms here in Connecticut.

* See similar court decision for herring runs and the right to seine fish from upland riparian landowners. This was especially true for Madison and Westbrook regarding the menhaden fisheries.

1900 to Present

Under state statutes, natural beds were not to be designated, and they would remain open as public fishery regulated by the local government. Each community would designate its own areas as provided by state law. These designations were made and recorded in the town halls, many on maps and charts. All such designations were written in

the land records as deeds. Tax records and tax bills were sent with just as with upland real estate.

The natural beds in Eastern Connecticut were a part of tidal river ecology and can be separated from the larger offshore natural beds found in western Connecticut. Here, oysters thrived naturally in rivers and away from the largest predators that included the common starfish Asteria forbesi and oyster drills Urosalpinx cinera. Their proximity to upland tidal marshes and fresh water runoff provides a unique ecological role for water quality, fisheries habitat relationships and the morphology of the river itself. Upland changes often had an immediate and measurable impact as recorded by later 19th and 20th century oyster fishers. We have more oral and written history about these natural beds as they were a food source critical to coastal residents. Some records and reports have been published and provide some of the reference materials used today. This report provides one of the most comprehensive written details of the natural oyster beds in Eastern Connecticut during the late 19th century. Although these local oyster fisheries were modest in size, they continued a historical social and cultural connection to the resource as previous Native Americans had. Many communities still have shellfisheries governed by local shellfish commissions; many shellfishers still seek to gather shellfish as coastal residents of Connecticut have for centuries. Municipal shellfish commissions today continue to exercise local control over licensing and harvest levels.

The scope of this paper involves those natural shellfish beds, primarily in tidal rivers between Branford and Stonington. The source of the information is "The Fisheries Industry - US Bureau of Labor Statistics." Information is from the late 1800's.

The following document, reprinted without change, is part of the US Bureau of Labor Statistics (1889) pages 91 to 140, "The Oyster Industry" received for record Dept. of Environmental Protection Office of Long Island Sound Programs 1/11/94.

Natural Oyster Beds in the Quinnipiac River - page 181

George G. Hamilton states: "Bringing Virginia oysters in the shell to Connecticut, began some sixty years ago. The Quinnipiac River has furnished native oysters from time

immemorial. The river was full of oysters from Chapel Street bridge to Lewis bridge. It was a natural bed. The river was open for taking oysters from November 1st to April 1st. The people culled off the big oysters and put them in their cellars, and sold them during the winter. Most of the oysters were opened and carried by wagons and teams back into the country, even to Albany, Troy, and Buffalo. In those days the dugouts went with their loads of oysters up to what is now the west curb line of Front Street. The cellars of the houses from Ferry Street to Grand Street were excavated right back into the river bluff, and afforded ample room for the storage of large quantities of oysters. The shells were thrown out in front of these houses, and South Front Street and the docks east of the street came into existence. The original Fair Haven oysters were known as 'Dragon Oysters,' dragon being the nickname by which Fair Haven was identified. Some forty years ago the people began to transplant the river-bed oysters to individual ground. The first southern oysters that were brought to New Haven by sloops were brought about fifty years ago. The Beaver was the name of one of the early sloops. The oysters were carted about in the shell to the houses in Fair Haven, and even several miles distant, and opened and packed in gallon and one-half gallon keys, and then sold though the country far and near. Captain Hamilton says that 10,000 bushel of oysters shells were offered for sale at three cents a bushel in the summer of 1880, but were not sold even at the low price."

Many planters send their seed to Rockaway and other places. The sales by New Haven cultivators for the season of 1889 were about 200,000 bushels. The price paid per bushel varied from twenty-five cents to sixty-five cents. The season began April 1st and ended June 20th. The safest and surest way to make money in the oyster business is by transplanting seed oysters raised in the Sound on shells, to inshore grounds, to fatten and increase in size.

Branford and Guilford Natural Beds - page 138

Branford

Henry H. Stedman, town clerk of Branford, states: "The channel of Branford river, and the harbor, excepting ground defined as natural bed, has all been designated. Indeed, as town clerk, I refuse to give certificates as required by

law, to the effect that any new ground that is applied for has not been designated, for the reason that I consider that substantially all the ground in town jurisdiction has at some time been designated. But at the present time only a small area of ground is under cultivation. The tax rate of the town is twelve mills on a dollar. This makes the valuation of the ground returned for taxation, \$4,911.67. There is not a single map of oyster grounds on file. The greater part of the business of the town centers at Stony Creek. No oysters are raised, to sell, in Branford Harbor. No men make a living by working on the natural beds, but, at times, when the law is off, a few bushels are taken. The law limits the quantity to two bushels a day. The natural bed oysters are generally transplanted. They grow too fast and are thin. They are called jack-knives. The outside oyster grounds in town jurisdiction are, as a rule, too shoal for safe cultivation. By an act passed at the 1889 session of the Legislature, the selectmen of Branford, under certain conditions, may lease, for a term of years, portions or the whole of Great Cove natural beds."

Guilford - pages 136-137

E. A. Crittenden of Guilford says: "Fifteen years ago twenty or thirty men caught fifty bushels of oysters daily for two or three months in the East River. The average annual catch is now about 6,000 bushels of two year olds. The oysters sell for from twenty-five to forty cents a bushel."

Fifteen years ago quite a number of men made a living by clamming. Clams have been scarce for two years. The tides have not been low enough to get at the big clams. These clams are to some extent dug by using a cylinder of sheet iron about twenty inches in length and five inches in diameter. The top of the cylinder has a metal head in which is an aircock or hold for a vent-plug. Attached to the pipe or cylinder are two irons through which a handle is slipped. The operation of capturing the clam is performed by placing the pipe over the vertical blow-hole made by the clam through the sand to the surface. The aircock is opened or the vent -plug removed, and the pipe is worked down to the depth necessary to reach the clam. The air-cock is then turned or the plug put in, and the column of material in the cylinder is drawn up and the clam taken out. These clams are sold for about three cents each.

There are about ten oystermen at Guilford; also about three dozen people that come once or twice a week to get oysters. About 7,000 bushels of seed oysters were taken out of the East River in the season of 1880. The amount taken in 1888 was about 10,000 bushels.

The channel of East River is, on an average, sixty feet in width. Some years ago the channel set full of oysters. If it were not for the two-bushel law, men from back in the country and boatmen from all along the shore would come and clean out the river.

After a heavy west or northwest wind and during very low tides, many of the workmen leave the foundry and go clamming. Sometimes seventy-five or one hundred men will be clamming at one time, but as a general thing, but few people clam for a living. The summer visitors dig up most of the clams, and seem to live mostly on clams, and then brag how cheaply they can live at the shore.

Natural Beds - Madison - page 137

Madison

Elihu Kelsey states: "East River, between Guilford and Madison, and from the railroad to the South, is a natural bed. The oysters are celebrated and are known everywhere. Probably 20,000 bushels of seed were taken from the river last year. It is sold to Stony Creek planters. The oysters are tonged up. The law provides that only two bushels can be taken by any one person in a day, but this law is violated. Out of the daily catch a bushel or two, large enough to eat, would be picked out. Would rather own the river than the whole town of Madison. There are about twenty-six regular oystermen hereabouts. Thirty years ago I have seen a hundred men oystering for a few days at a time in the river. At the present time not over eight acres of designated ground are in use. More ground has been tried for cultivation, but the surf washes the oysters away or the oysters get mud-washed."

Natural Beds - Clinton - page 138

Clinton

E. K. Redfield states: " All the designated oyster ground in Clinton is in the harbor, and is located in the channel,

extending from the west wharf nearly down to White Bar. The length is about 8,800 feet, and the area of ground is about twelve acres. A part of this ground has been planted for thirty-six years. The privilege to plant in the channel was obtained at a town meeting. There was a unanimous vote in favor of allowing the planting of oysters in the channel from the west wharf as far down the channel as the persons applying for the ground saw fit. About ten years later the State passed a law that a committee of the town might designate ground for the purpose of cultivating oysters, and the parties that had previously planted grounds in partly planted each spring with oysters that are from three to five years old. Some of these oysters are used during the summer. The small oysters about double in size during the summer and full, and acquire a fine flavor. The law forbids the taking by one person of more than two bushels of the natural bed oysters at a tide. All of the natural bed oysters taken are two and three years old, most of them two years old. About three hundred gallons of oysters were opened and sold last year."

Luke E. Wood, eighty years old, keeps the natural bed war going. About twenty men work on the natural beds. Their capital is a pair of tongs and a row boat. But many of them have no boat. These men would make four times as much money if they hired out to planters. The natural growth men pack the town meetings with farmers who know nothing of the oyster business. Some of the farmers come down a half dozen times a year and catch a few oysters and clams on the natural beds. The Clinton oysters are sent to Norwich, New London, New York, and up the Hudson River. Mr. Wood states that in the winter time he has seen as many of sixty men working at one time at low tide, catching oysters and clams in Clinton harbor. The clams and oysters are like crops of grass. He believes that there are 80,000 bushels of natural bed oysters in Clinton harbor, which is exactly adapted to oysters.

The Natural Beds of Westbrook - page 139

Westbrook

Judge George C. Moore states: "There is an oyster interest here that is native altogether in its character. It is confined to Patchogue and Menuketesuck rivers, extending from the Sound about one mile up the streams. There are about sixteen acres of prolific oyster beds on the first

half mile of the streams. The upper half mile has occasional beds or places where oysters grow and have grown for years. Our oysters law is as follow: In the month of October we allow to be taken not to exceed two bushels in each week by any one person. In November the limit is three bushels. The time is restricted to one day in the week. People come from all the surrounding towns to avail themselves of these privileges. The oysters are all sizes. Some falls as many as 8,000 to 4,000 bushels are taken out of the rivers, but usually not so many. The only designated ground is about two acres in area and situated off Kelsey Point, Westbrook. It appears that the coast is too exposed for in shore coast planting. The oysters wash ashore. But oysters grow naturally on the west side of the Menunketesuck Point. They may be gathered at any time so far as legal restraint is concerned. Sometimes as high as four or five bushels may be had at a tide. The oysters are for the most part attached to the rocks, and it is necessary to get them at low water. This condition of affairs is as recent as four or five years, and is due to the fact that the river changed its course so as to discharged on the west side of the Point.

C. A. Post states: "Fifteen to twenty men living in Westbrook catch clams in the winter time for a living. Clams are dug all along the Westbrook shore, more especially off Westbrook river. The clams are dug with clam hooks."

The Deep River and Essex men dig the clams with pitch forks. They work in pairs, one man to handle the pitch fork, and one to pick up the clams. The summer residents and visitors do not get the big clams; the tides do not go out far enough. The big clams are taken at extreme low tides. Twenty five hundred people or more clam along the bench.

The Natural Beds of Old Saybrook - page 140

Old Saybrook

R. B. Chalker of Saybrook states: "Oyster River from the Sound, just above the lower public crossway, sets full of oysters every year. There was no limit about taking the oysters this year. About the year 1854, Virginia plants were brought here by David Spencer and David Clark, and put in the river. The oysters grew nicely during the summer. But in the succeeding winter the ice killed so many of them as to render the venture unprofitable. In 1879 another

attempt was made by putting gravel in the deeper parts of the river, and planting native seed oysters thereon. The low tides left the heavy ice to press the oysters down and smother them. About ten acres of ground have been designated in the river. Planting on it has proved a failure owing to the settling or river sediment, but some days six or eight barrels of oysters are sent to Hartford from Oyster River. Oysters are found in the Connecticut River, but cultivation is unsafe owing of freshets. About one mile above the railroad bridge, and in forty feet of water, large oysters have been gathered in considerable quantities. It was thought that it would pay to employ divers to gather oysters in this locality. Along in the forties, a bed of large oysters was found just south of the railroad bridge. The bed was about one mile in length, and twenty five to thirty feet in width. The river beds are in veins or streaks, and may be accounted for on the supposition that a rock, boulder, or log makes the beginning for a low bar of earth or sediment which remains till the cutting action of the stream again asserts itself. The river bottom is constantly shifting.

"People come down with wagons for back in the country and catch clams in Kelsey's Bay. As many as ten bushels of seed oyster have been taken in one day by one person. The spawn came from the planted oysters. The law limits the amount of catch of clams, but it is evaded."

Ozias Kirtland, town clerk of Old Saybrook, states that some days as many of thirty men will be clamming on the beach near the mouth of Oyster River. Only a few men get a living by clamming, but there are clams enough.

The Natural Beds of Stonington - page 140

Stonington

Dr. George D. Stanton of Stonington, is of the opinion that the natural beds are not very productive. They have not been mapped out. Clams for home consumption are brought from Rhode Island, except a few from Nepeague. All the ground that is suitable for oyster cultivation in Quiambog Cove, north of the railroad, has been designated. Seed oysters are planted on these grounds in the spring, and they become three fold in size by winter.

Henry Church of Norwich states: "There are probably forty acres of oyster ground designated in Quiambog Cove. Last season the sales from these grounds would have amounted to \$5,000 to \$6,000 if the oysters on them had not been killed by the excessive amount of fresh water."

Groton - page 141

Poquonock River oysters were not fit for market this year. Last year about 1,000 bushels were sold for, say, two dollars a bushels. There are perhaps twenty five persons engaged. This is where the raising of oysters on trees began in the State.

Oysters on Trees - page 112

The Poquonock River near Groton is noted for the growing of oysters on trees. In 1881 white birch bushes were placed in the mud about spawning time. The spat adhered to them in large quantities, so the eighteen months afterwards good sized seed was obtained. On some bushes oysters were found large enough for market. One bush bore twenty five bushels, but the average yield is about five. In 1881 fifty one acres were devoted to this method of culture. The bushes are put down in fourteen or fifteen feet of water at low tide, and pulled up with derricks. The natural growing of oysters on trees has long been noticed in southern creeks, where overhanging branches afford the opportunity for a set. Australia is famed as the continent where oysters grow on trees. It is also recorded that oysters were artificially propagated on trees by Roman knights in the eight century, and that the same culture has for years been a curious feature in the oyster industry of France.

New London - page 141

G.M. Long of New London states: "no men about New London make a living by oystering in this vicinity. There are natural beds in the Thames River near Montville. There is no clamming of any account about New London."

Norwich and Thames River - page 141

It is claimed that the Thames River would be one of the best rivers in the State for fish and oysters if not polluted by the drainage from the manufactories. If there were a fishway at Greeneville dam that would allow the fish to go up

the river about the factories, the fish would spawn and have a chance.

Five years ago there were oysters enough in the Thames River on the natural beds to seed 10,000 acres of ground in the Sound. The oysters were one year old, and were so thick that one man with tongs could take a hundred bushels a day. The natural beds begin about three miles below the city, and extend for six miles down the river, and cover its full width. Five years ago, fifty men worked on the natural beds. At present probably twenty-five men catch oysters on them from October 1st to March 1st, at such times as the river is open. Last season about 10,000 bushels of oyster were taken, two-thirds of which were large enough for immediate consumption; the remainder were transplanted. There are scattered natural beds down the river to the Sound. There are probably sixty acres of designated ground in the river.

Nathaniel Chapman states: "We cannot sell the river oysters owing to their bad taste, except for transplanting into clean, pure water. The oysters then become fit for use. The paper mills at Greeneville turn their dye stuff into the river, and it kills the fish. Shad, dace, suckers, and other fish drift ashore dead."

Natural clam beds - long clams - Colonial name for soft shell clams (steamers)

Clamming - page 112

Long clams abound on our coast, and furnish a livelihood to many men. Besides, there are numbers of persons who make a practice of catching them for their own consumption. It is impossible to more than approximate this branch of the shell-fish industry. For the six towns from Guilford east, these estimates have been prepared: Guilford, 2,000 bushels; Madison, 1,000 bushels; Clinton, 2,500 bushels; Westbrook, 3,000 bushels; Old Saybrook, 2,500 bushels; Old Lyme, 2,500 bushels. It is safe to say that the eighteen other shore towns will average 2,000 bushels, thus making a grand total of 49,500, which is probably far short of the truth.