

Evidence of Native American Brush Fish Weirs
In South Cove, Old Saybrook, CT
Archaeological Society of Connecticut
Research Summary and PowerPoint Presentation

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PowerPoint Presentation by Abigail C. Visel

This paper was presented at the fall meeting of the Archaeological Society of Connecticut, October 18, 2008.

It is to some extent, a follow up of earlier research entitled, "The First Shad Fishery," presented at the Connecticut River Museum, May 20, 2006. Readers of this paper should also review that research. For a more in-depth review about more recent shad fisheries, an IMEP technical bulletin entitled, "Our Connecticut Shad Fishery" examines several historic shad fisheries by different types of fishing methods. All three publications are available from our Adult Education and Outreach programs from The Sound School Website: www.soundschool.com

It is hoped that these publications will be of interest to history students and those interested in our early fisheries.

Timothy C. Visel

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Podium Comments
Archaeological Society of Connecticut Fall Meeting
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Thank you for the opportunity to be in the program today. Special thanks to Dr. Lavin and Donald Malcarne for their interest in my research. Dawn Brown has been very helpful with technical support. To be honest, I never thought I would be presenting before such a group, being neither an archaeologist nor a historian, but a former fishing gear technologist who went into vocational education. With that being said, I hope to further the discussion about inshore fisheries history, an interest of mine for many years.

This research area, to a large extent, was introduced to me by Mrs. Brenda Milkofsky, Curator of the Connecticut River Museum in Essex, CT. Over the last two decades, she has assisted my research, especially the CT River Shad Fishery. The museum's educational and public outreach programs about shad is how today's presentation originated. The first shad fishery in 2006. I'm very grateful to her help and encouragement.

Finally, much thanks to my daughter, Abigail, who compiles the PowerPoint. With her digital photographs. She is slowly dragging me into the world of technology.

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F o r w a r d

The use and harvest of renewable natural resources has been a research area for many decades. This research can be divided into two areas: fisheries history and fisheries gear technology. When I investigate a fishery, I try to reconstruct, as much as possible, the fisheries history, including purpose, productivity, seasons and status. For gear technology, I look at materials, techniques, craft and efficiency.

Some of the native fisheries are today extinct, such as the smelt basket weirs set in small tidal streams or the long line hook codfish fishery off Black Point, Niantic. Great catches of porpoise were made for oil and skins from many beaches, but only fragments of this fishery can be found in the Colonial records. Arrowheads from this fishery continue to wash up on beaches. The alewife, a small member of the herring family, was once valuable for food and fertilizer, and is today illegal to keep them in Connecticut. The smelt fishery, once productive in the Old Saybrook area, is now a legally closed fishery. Some of my research is in fact, to document changes in fisheries habitat, and to draw some conclusions as to the carrying capacity and possible environmental damage. This concept is roughly grouped under a more modern term called fisheries habitat sustainability.

Some of the research I am currently doing regards the long clam or soft shell clam (steamer) in Connecticut. This is in support of the Habitat for Restoration Initiative of the current Long Island Sound Study that is coordinated by the EPA. Some related topics can be found on our Sound School website (www.soundschool.com <<http://www.soundschool.com>>) - publications - then directory for a listing of finfish and shellfish topics.

I am not an archaeologist just much interest in the topic, though no formal training or experience. A personal hobby/activity is learning more about the Indians that once inhabited the Hammonasset Beach area in the town of Madison, the community in which I was raised. I think that is why I am here today.

Introduction-

Few people today realize how productive our Southern Connecticut coves and estuaries were for fish and shellfish. The natural resources of the coast have long attracted interest, and food certainly was a driving factor. Our glacier soils were thin, maritime climate kept much of the land wet and winters were long and harsh. It is not surprising to see utilization of marine fish and shellfish by coastal inhabitants such as the tribes along Connecticut's coast. Today, the productivity of these areas is severely reduced and must be taken into consideration. Time, materials and previous fishing effort have no modern comparison.

The topic of my presentation concerns a type of fishing method commonly called an Indian Brush Fish Weir. Two basic types are the full tide "trap," which was web or netting, and the half tide weirs which often combined a basket or fyke net. Both depended upon the tidal flow and movement of fish with or against the flow. These types of traps are well documented in the Colonial literature. Much of my research is connected with fisheries habitats and seeks specific locations for capture methods within a particular estuary, cove, bay or creek. For example, George McNeil's account of flounder fykes in the Indian River in Clinton, Connecticut is of particular interest. A habitat association exists between flounder, oysters; and the presence of a

flounder gear type in the location of natural river oyster beds is of significance to my habitat research. These devices can be broadly divided into two types: those that needed a falling tide to “trap” the fish and others that trapped fish no matter the level of tide.

In 1980, I started a shellfish restoration project in the Oyster River, Old Saybrook. During the investigation, I obtained shellfish histories from some of the local residents. It was at that time that I learned of the existence of an Indian brush weir in South Cove, Old Saybrook. Mr. Howard Clark, a fish market and bait store owner, shared many of the details, location and description of the brush weir. He was a former Connecticut River shad fisherman and focused mostly on the shad fisheries and how productive the coves once were. He was interested in South Cove, and recalled that it was changed by the causeway, making it much more shallow. As evidence of this change, he mentioned the Indian weirs. It was deep enough to once capture shad in the cove, but since the causeway, the cove’s depth had gradually decreased. An old newspaper article (1915) that told of a lawsuit verified Mr. Clark’s account.

In June 2008, Jim Hoffman, a long-time local resident, confirmed to location and description of the fish weirs. Early settlers of Westbrook, a town immediately to the west of Old Saybrook and once part of the Saybrook community, found much of the same type of weirs “concept” off their shores. Some reference to them is found in the literature in the 1870’s. The traps in Westbrook utilized long brush stone leaders that obstructed currents guiding fish into narrow openings. These offshore weirs resembled fish traps more than weirs. Little remains of these structures, due primarily to disturbance from storms and tidal action, yet they were highlighted as recent as a century ago.

Some of the larger North American fish traps, such as the ones found in the Back Bay section of Boston, trap fish in an enclosure or circular pocket. The fish weirs set in small creeks utilize the banks themselves to help guide the fish. In larger water bodies, the traps themselves become the “banks,” the edges had to be created much of it with net webbing. These continue today in modern fish gear types such as the ocean pound nets found off the coast of Rhode Island or the staked trap nets set off the eastern end of Long Island.

Many of the small creek and river weirs eels and smelt were v-shaped. What is unusual about the traps/weirs in Southern Connecticut is that they combined a little of both the guiding or herding practice of acoustic or barrier to fish lateral line sensory organs and a trap created enclosure. In the South Cove, for example, a brush leader guides fish into a large basket fyke. Effective in shallow tidal estuaries, these brush nets were an efficient method to catch anadromous fish such as alewife, river herring and shad. The placement of the weir was critical, and many used natural land shape contours to determine placement. For instance, in South Cove, local tidal action intended to enter and round west/north to the outside edge. Fish moving with the tide were drawn into such bays and coves. The upland itself tended to act as the “leader,” and the placement of traps adjacent to these headlands very common. This would appear as the tide receded and was the case in South Cove.

Mr. Clark told me that local people knew the history of these traps especially in some of the Old Saybrook fishing families that shad fished. An oral history existed which described the type of trap and a connection to the more modern 19th century long haul seine fishery in the middle of the Connecticut River. According to Mr. Clark, seven “piers” were constructed for the long haul shad fishery from the Indian brush weirs in South Cove. Rocks were recycled from these weirs and deposited into piles which remain today and labeled as piers, although their use never

approached a pier but took the name of fishing gangs or partnerships. Although these brush weirs were altered by this practice, Mr. Clark said you “could find them if you knew where to look.” The seven long haul piers took thousands of rocks to build, and it would make sense to utilize small stones that already were so close and to use them instead of upland sources. His account however was not confirmed until recently by Mr. Hoffman. Mr. Hoffman, an Old Saybrook resident who lives near the cove, claims the stones are still present in hook shapes just under the surface at low tide.

Mr. George McNeil, a Clinton resident who oystered commercially in Clinton Harbor until 1966, told of Indian fykes made of brush to capture flounder in the “Indian River.” He claimed that is how the river got its name. There were so many traps that navigation was impossible. Mr. Clark said the design was similar, but for shad, not flounder. Most likely these weirs used both methods and the final trapping was accomplished with a seine. Much evidence exists that well-designed seines were widely used in many fisheries, and it would complement a shallow water trap. In Massachusetts, several references include seining for striped bass. In the South Cove case, as the tide receded and the natural flow began to ebb out, fish were trapped in relatively shallow water. Thrashing or slapping the water could chase/move the fish into the fyke. When the fish were concentrated, a seine could be deployed to force fish into the fyke. Tens of thousands of shad could be caught this way during the height of the spring run in mid-April to mid-May. Menhaden, a favorite for oil and fertilizer in the Madison/Guilford area, would arrive in May and June.

Weir/Trap Concept

The model combines several well-documented fishing techniques. It is designed to provide only a conceptual design; it is therefore not to scale. Although few sketches exist of Connecticut fish traps, sufficient references can be found in printed literature, early Colonial records and oral accounts to provide guidance in overall basic design/forms.

Three basic criteria are required for the construction/operation of a brush weir: sufficient materials needed to be available close to the weir location; the water depth had to be such that it was possible to work and move materials between tides; the weir had to be durable to withstand normal tides and waves. If damaged, repair was possible.

From earliest records and oral accounts, the design of the brush weirs were advanced and relied upon natural tides and fish behaviors. These fish behaviors are observable over time. The South Cove location was ideal, since it was adjacent to a once a large Atlantic salmon run and also to shad with various herrings and menhaden, a local favorite for fertilizer. Fish on an incoming tide would enter on the south side and follow the normal bowl curve to a headland point- a natural deflecting point. This was also a logical place to put the “leader,” a long brush/wall reinforced by small stones. As the tide fell, fish would follow the leader into the trap area. This is where there was the largest difference between the deepwater traps found in Boston and in the Chesapeake Bay.

In these traps, the leader finished in a circular bowl, which was doubled, resembling a heart-shape. At low tide, fish would be trapped by the leader itself- thus the term half-tide traps. The built-up stones and brush would hold the fish which made them vulnerable to seining or collective thrashing to force fish into the weir fyke/basket. These traps did not fully circle the fish as the more complicated weirs heart traps to the North did. They tended to guide the fish

into a "pocket" or in this case, a fyke basket. It is possible that the circling tendency of herring kept fish along the leader as was the case in Maine and Nova Scotia where leaders had a slight taper to form an indented vee. Fish would hang in the vee indentation. However, in the South Cove, it was most effective when combined with a seine. Although seine fisheries were in use and at the Fenwick section of Old Saybrook until the 1800's, it was hit or miss and required a lot of instantaneous effort to haul and set the seines. Later, Old Saybrook would develop a long haul seine fishery for shad, but rock piles were used away from shore to set and haul nets. Later, a trap net fishery to intercept migrations of herring, mostly menhaden also would evolve along Connecticut's coast. At one time, Connecticut had over 100 of these single and double heart traps set along the shore. In Westbrook, some accounts mention an earlier brush weir set in the same location. I obtained a rather detailed account of a large brush weir at the west side of Clinton Harbor (George McNeil).

An 1881 map lists "pier ruins" in the same area described, by Mr. Emil Miller of the Hammonasset area. Clinton Harbor also had the bowl shape that tended to collect fish at the outer west edge (personal observation). George McNeil, formerly of Clinton, described a brush fyke used to capture flounder inside the harbor in the Indian River. In a trip to Narragansett, RI, a modern fyke with leader/wings was shown to be quite effective in capturing flounder (winter species). A few years ago, volunteers at the Connecticut River Museum found a barn that had a collection of 18th century wood hoop fykes with rough manila twine webbing. These had been set in coves with less tide. According to a one of the employees of Mr. Daniels, they were equipped with wings and leaders and set in Hamburg Cove, Lyme, Connecticut.

With the evidence of this static fishery, as well as anecdotal accounts, it is not difficult to reconstruct what could have been a brush weir and fyke in South Cove. Other coastal sites include behind "weir rock along Meigs Point," Clinton Harbor, another bowl shaped location and Chaffinch Island in Guilford, which today contains a stonewall that resembles a vee trap. Brush weirs were also in Madison and were a point of conflict between the Hammonasset and Quinnipiac tribes farther west. Accounts also include the Poquonnock and Mystic Rivers. It is safe to assume that every coastal town had brush weirs in coves, creeks and salt ponds. The runs of fish were larger and Connecticut's coast was an ideal place to build these traps.

What is left today?

Unfortunately, little remains of these weirs today. The netting would quickly rot and marine worms could destroy a four-inch hickory pole in one summer. What remain are the stones, walls and enclosures that survived in protected areas along Connecticut's coast. According to Mr. Clark of Old Saybrook, the brush weirs (he mentioned at least two connected to each other resembling a "double hook") were "recycled" to build the long haul seine piers along the east edge of the Connecticut River. These rock piles still exist today; these "piers" have claimed more than one unfortunate boater. They are not piers at all, but a built up point from which to set long haul seines. They basically were large enough to hold an anchor capstan and boat tie offs. Mr. Clark states that to construct them, stones from the brush weirs were thrown to barges at low water. Adjacent to the headland, clumps of rocks are still present according to local fishermen. This June, Mr. Jim Hoffman of Cove Road was talking about the cove. I mentioned the Indian brush weir, and Mr. Hoffman led me down with my son Will to show me the same headland and long stonewall that Mr. Clark showed me some three decades earlier. Mr. Hoffman knew about it; it was an oral story of the Old Saybrook small boat shad fishermen. He cautioned me that clumps of rocks were still present and make crossing under power

dangerous. He also described what was on the Indian fish camp on the property. He said the trap was built to eat shad. Indians, he claimed, roasted them on the shore and artifacts over time have been washed from the edge. [Old Saybrook still has a number of shad gillnet fisheries that gillnet shad for roe and fillet (boned) for use in planking roasts each spring. These local roasts, to my knowledge, are the last remaining traditional fish planking roasts on the East Coast.]

One may ask how much of the 18th, 19th and 20th century fisheries fishing practices were learned from Native Americans. I contend quite a bit. In almost every fishery, I see evidence of earlier technology. Not that European settlers were not familiar with them, it is just style and design often reflected what preceded. I have that great print in my office of a 17th century Quinnipiac dug out oyster canoe next to a 18th century New Haven sharpie. The similar size and shape of these vessels are uncanny. The modern bull rake is almost identical to the ash/hickory push pull rake of Niantic Bay. The flounder and eel spears of Stonington, CT, are exactly the same as fishing depicted on Chesapeake Bay in 1587 by sketches of John White, Governor of Raleigh Colony (along North Carolina).

It is hard to describe the productivity of Connecticut's coves and bays in pre-Colonial periods. By the 1860's, coastal pollution had eliminated the bay scallop fisheries in Norwalk. One brief look at how productive flounder fykes could be is a comparison to the Quambaug Cove area in Stonington. In 1891, wood fykes were recorded as catching 1.1 million pounds of flounder in Eastern Connecticut.

Today, the flounder fishery is closely regulated, and is 98 percent less than catches in the 1920's. Today, to catch three flounder of legal size is considered a good daily catch. During high school, a good day for me was 300 pounds by a small hand hauled otter trawl. The anadromous runs were huge, in the millions if not tens of millions. Even with brush and stone, the catches were great, many times too much for food use during the height of the run. I am certain many fish escaped from these weirs, an early, yet effective conservation aspect.

Trap Materials

The brush leader was designed to impede passage by way of acoustics and water densities. At high tide, water flowing past the brush would vibrate and emit a background noise; this is read by an acute sensing system, collectively called the lateral line system. Fish approaching this obstruction would first "hear" it and avoid it. When close, a pressure wave would warn fish of the obstruction at low tide. At the lowest tide, the rocks could be exposed and function like a stonewall fence, which basically it was. This would assist in seining efforts. These types depended primarily upon tidal action. As the tide falls, the trap would impede their escape.

As the fish approached the fyke basket, brush would be placed closer and wrapped with twine or vines. At some distance before the fyke, the wall would have a sheet of webbing (fish netting) hung along the fyke. A wing wall could guide fish back into the fyke mouth. It is possible that a small section of seine netting could be hung in anticipation of closing the fyke. The use of wings today could be the modern equivalent of the wing wall, which was moveable. It is easy to see the effectiveness of this step and I doubt these first fishers could miss something so obvious.

The use of wings and seines with the fyke is a natural learned experience on more than one occasion. I would witness this myself, as a school of menhaden avoided a set fyke without wings. They simply could sense it and turned a few feet before the fyke. A wing/wall would have "turned" them back into the leader. Another example is shad gillnetting. Two older torn and worn nets, which were "noisy", were often placed between a new gill net that was quieter.

The use of wings and seines combined with a separate hard seine or group thrashing would be sufficient at low water to drive fish directly into the brush fyke. Numerous accounts of seine fisheries especially for striped bass can be found in the 1880 series of U.S. Fish Bulletins, edited by George Brown Goode. The construction of seine webbing, of which nets are made, has perplexed me for several years. Good examples of Algonquian nets (pre-European contact) have survived or at least fragments of them have. Nearly all the samples I have examined are of the flat knot or square knot type. This is in stark contrast to the European or western method that incorporated the sheet bend or weavers knot. The latter method is quite easily a hand construction technique, requiring little in the way of materials, but is almost impossible to do with the reef or flat knot.

Why then did Native American web netting use the reef knot? One piece to this puzzle could be found from a sketch I saw at the University of Washington in the early 1980's. An exhibit portrayed some of the native people's fisheries in Washington/Alaska. One of the displays contained a skin and etched into the hide was a diagram of a rack with the caption "making nets." It is often confused with making webbing from which one makes or builds a net. I studied the diagram which had several figures near it. Last year, I was researching early net making methods, and the subject of this early Indian net loom came up. One of my colleagues, Trish Russell, questioned me if I thought that is how the flat knot was involved, I should try to build it. I decided to go ahead and try to build one.

The chief advantage to this method versus the European one was that several people could work the loom at the same time, while the European method was a one-person method. By using the flat knot with "bars" and "holds," several people could work on it, which instantly may have provided a huge advantage. Children could have been involved in web making, freeing adults for other necessary activities. I look forward to reviewing other examples of this loom model. A more modern method utilized a precursor of the pegboard.

Here, wood pegs would be placed into a horizontal beam to hold the top row of meshes. Mesh making would be from the top down, in contrast to the loom example in which meshes were built horizontally and pushed to the side. The net needle, which could have been introduced by Dutch traders, is mostly considered a European device.

One thing is for certain; natural fiber webbing did not last long in the marine environment, especially during the summer. If hauled, bacteria would weaken the meshes as cotton and linen nets were affected. Making webbing and nets must have been an annual activity. Contrary to articles published about stone fishing weights, I doubt that these were used to weight the bottom of the haul seines. These "sinkers" were too valuable to waste on a seine when it could tear or break at any instant. The time required to equip a seine would be extensive, and currents and tides could destroy the trap during a heavy and sudden storm. It appears they were used in the hand line cod fishing off Black Point, Niantic, according to some oral history accounts of shell fishermen there.

I propose that weight was added by using quahog clamshells, holed and then strung on a vine or rope. When incorporated into a haul seine, the shells could clink along the bottom adding more background noise to scare fish further into the trap; simple and quick, yet very similar to the rubber disc sweeps on modern trawls.

Twine Netting

Natural fibers could be collected and manufactured into a high quality twine, especially if soaked in oil or fat. A twine that is "slippery" ties a better knot. We still use tarred nylon twine today even though nylon does not rot. Up until the 1990's, manila and linen twine (cotton webbing always needed to have treatment) was the bulk of webbing used in the fishing industry. Two or three seasons were all that could be expected from these natural fiber twines. Handmade twine would spoil or rot sooner because the fibers are not as tight as machine made twines; fines and mud would quickly enter the twine and abrade the fibers when moved. Fat and oil could prevent such fines from entering and make the twine last longer and help glue the fibers together.

Poles and Stakes

These could be cut by the shore and dragged to the shore. I doubt very much that poles could be set from canoes. Instead, I propose that such activities were done from rafts, a much more stable platform to set and haul poles into place. It is likely that these poles were made of hickory, but there are no known examples to prove this idea. Again the tides could have a role at low tide, the raft was dragged and could be loaded. At high tide, the raft poled out to the fyke location or placed along the leader. Brush could be set the same way. To increase noise, I suggest instead of branches, cedar trees or pine branches were used; water passing among all the needles would be very noisy.

Having set leaders for pound nets, we used very large mesh in them. We did not want to build resistance, but instead wanted to create noise. The resistance on these leaders would be too great, even with our 1.5" diameter poly Dacron lines. Instead, the leaders' function was to create noise by vibration, just with modern traps. If fish charged the leader, they would pass easily through, but rarely did. As the leader approached the fyke, size would drop as it functioned more as a barrier than a noise generator. Some could be true for the brush fykes. Spaces would be common and would also allow noxious items, leaves, weed and jellyfish to pass.

Stones to Hold The Trap

Almost every feature of brush fykes and even the larger full tide traps used stones to help anchor the trap or its leader. They could be dragged to the shore and raft deployed to set them in place. I do not feel they were carried into place; having built fish pools for trout walking on soft mucky bottom, carrying rocks is less than rewarding under such conditions. Considering the amount of stones often used, it could represent decades of building or re-building. The leader would be placed first and rocks dumped on either side. If this were the case, leaders would need to move as driving stakes through last year's stone piles would not work that well. At low tide, these submersed stonewalls would function more as a fence or barrier, assisting the final capture of fish on the ebbing tide.

Several references shed information on the type of materials used to construct these weirs. The primary materials were stone and wood, secondary vines and rocks and twines mesh. Therefore, only stones remain today as evidence of these early fisheries. Chaffinch Island, a public park in Guilford, CT, shares a similar feature – a stonefish weir from a headland. Here a similar bowl coastal feature directed fish much in the same way. In South Cove, in Old Saybrook, at the northeast corner of this bowl, a pronounced stonewall protrudes to create a V-trap. The amount of stones used was tremendous, and some assemblage is clearly visible on satellite imaging in the areas of the headland. Marine worms feasted (and continue to do so) on wood, especially in the warm months. Little of the wood or natural fibrous twine would survive to the following season.

One feature of our coastal traps in shallow areas is the use of small stones to support what is termed the leader. Here, stones would be piled into a crude wall, both to support the brush weir and to trap fish as the tide receded. In northern areas, where brush traps were set upon mud flats, no stones were used; currents were too strong. However, in coastal coves, I feel the stones at low tide formed a reef, which tended to keep fish concentrated against an “artificial shore.”

Why South Cove?

Asking a fyke net fishermen at Charlestown, Rhode Island salt pond why he placed his flounder fyke where he did, he simply replied, “because that’s where the flounders are.” I suspect the very same observation went into the construction of these brush weirs in South Cove.

Trap Details

I believe that much of the work on the fyke took place on the shore. Standing in waste-deep water in March (or earlier) to catch the first smelt run did not happen. Instead, I believe that much construction took place on a beach. Certainly it was easier to fabricate the fyke and the final sections then locked into place, perhaps by raft. Primary poles could be set from a raft, small trees such as pine or cedar, could be sharpened and driven into place if the bottom was soft. The poles could be laced together between forming the two-fyke sides, and connecting poles added on the water to strengthen the trap. I surmise that the trap was built first and then backed by rock piles, similar to the shad haul stations of the 1800’s. Without these piles, tides and waves breaking against the traps, traps would need extensive anchoring systems.

Some thought must be given to dumping unwanted catches such as eelgrass or stinging jellyfish. It is likely an opening existed in the back of the trap for this purpose. Without this option, the trap could be simply carried away. Eighteenth century accounts from the town of Westbrook describe set webbing traps filled with red stinging jellyfish to such an extent that tides compacted the leader, wings and took the entire trap out with the tide.

In South Cove, two large “clumps” of small stones exist to the south and east of the current headland. This is the same area that Mr. Hoffman pointed to this past June. He alluded that this area was once a great spot to fish, but that over time, and with the construction of a causeway, the cove filled in. Mr. Clark expressed some of these same ideas in the early 1980’s. If the cove did fill in, remnants of the leader, if not completely recycled from the construction of

the fishing piers, could be found under marine sediments. That is also what Mr. Hoffman claimed.

Walking to the end of the pier, Mr. Hoffman pointed to a long stonewall on the current property as the location of a fish camp. He also mentioned artifacts in the area, which looked to be remarkably undisturbed. The South Cove account matches other accounts of fish roasting on the “beach” and not hauling fish to other “camps” but consumed away from primary villages. When blue fishing with my daughter, Abigail, and son Will, we learned, after several bee stings, to move the bait, far away from where we were sitting. I believe that also happened with the Indians, much of the fish processing –drying, and brining and smoking took place away from the village, in a camp along the shore.

This, to a large extent, agrees with descriptions of the Native American fishing camps as described by Mr. Clark in Old Saybrook and by Mr. Emil Miller, who once lived at what is now Hammonasset State Park. The “camps” is where fish preparation and cooking possibly took place. According to Mr. Miller, the village was located very close to his family home, but he knew and found evidence of at least three fishing camps along the beachfront. Mr. Clark, describing South Cove as a fishing camp where Indians would brine, dry and smoke fish. The best method of preparation Mr. Clark said is what the area today calls planking. Roasting whole shad nailed into oak planks with strips of bacon is something that he said the first settlers picked up from the Indians, and it is still popular today. He felt that oak planks were a convenience; he had heard that the first fish bakes utilized oak shafts. He had seen a couple of them in his youth, still black and burned, but did not know how old they were. The communities of Essex and Old Saybrook still have community shad bakes that draw hundreds of people from across the country. Roasted shad and pan-fried roe are considered a delicacy.

Mr. Charles Beebe, a resident of the East River Neck River area in Madison described fish smoking and drying stones he had heard about. Native Americans made brine in Westbrook, I did not think much about that until I came across a report of a natural salt works in Westbrook. Today, a road that is called Salt Works Road, leads to the shore in Westbrook. This also was once the site of fish pound traps, and some mention of a brush weir.

It is important also to remember that references in Goode, U.S. Fish Commission Report mention the rendering of fish for valuable oil. Two species, the smelt (which was often called candlefish by Native Americans) and menhaden are oil rich. Oil extraction called for the “redding” of fish by letting them sit out in the sun until the fish eyes turn bright red. This releases the oil naturally, but when cooked, releases 80% -90% of the oil/body weight. The smell was truly attention getting, and the phrase “It was a real red herring,” continues today as something that really stinks badly. East Guilford and Madison Colonial settlers would render the fish on the beach; I believe the Native Americans did the same. Why carry the fish inland at all; why not just render them close to water? It makes more sense to cook and render them on the beaches or shore. At one point, in Madison’s history, rendering the menhaden “white fish” was its chief commercial activity next to farming. Today, it is even represented on the town seal. No one lived next to Hog’s Head Point;” oil back then was stored in Hogs Head barrel. That further explains the absence of fish products next to village sites. It is also the last site of a commercial pole fish trap operated by the Walston family in Guilford.

I hope that by sharing some of these oral and written references about Southern CT Brush Fish Weirs, more information can be gathered from the Colonial literature. The discovery of oral histories and early written accounts can be valuable in this research effort.

The Sound School has made aquaculture information available on its web site (www.soundschool.com), including several historical papers on Connecticut Fisheries and Gear Technology.

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