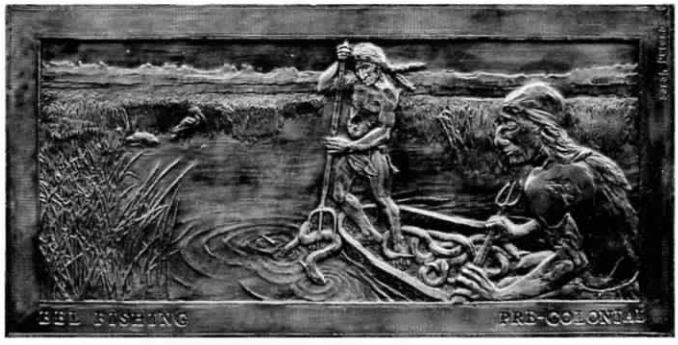
Eel Fishing

by Jennifer Stone Gaines

One fishery that has almost passed from our consciousness is eel fishing. It used to be a dependable standby, especially during the cold and stormy weather when it was difficult and dangerous to fish offshore. The eels were caught close to home, in the salt marsh creeks, bays and estuaries. The importance of eels to the lives of the early settlers can be gauged from Falmouth place names: not one but two Eel Ponds, and one Eel River.

Not surprisingly, the Wampanoags were catching eels long before the first Englishman set foot on this continent. In a more complete accounting of the first Thanksgiving feast in Plymouth, one finds that the friendly and helpful Wampanoags brought not only the famous turkey, corn, and squash, but also eels! The Pilgrims also recorded that in April 1621 "Samoset and Tisquantum [Squanto] were still guests of the Colony. In the afternoon, the latter went to Eel River, and by treading in the mud caught with his hands alone, as many fat sweet eels as he could bring back..." In 1634, William Wood, in his book "New England Prospect," noted "The Indians [of Massachusetts] make great use of local eels and salt water eels." There is other evidence that the Wampanoags were not only consummate hunters and fishermen, but also very sociable, and would go to catch eels as a group, enjoying the camaraderie and the hunt, working cooperatively to ensure a larger catch. The historian Kittredge says succinctly, "The Indians were more gregarious than the whites."



Eel Fishing Plaque by Sarah Peters. Photograph by Jacki Forbes.

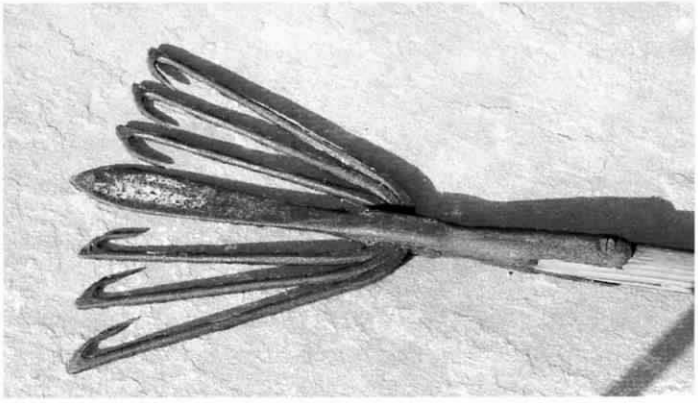
In some places baskets were used to catch the plentiful eels. Narrow necked baskets were submerged to the bottom where the eels would swim into the dark interior to hide. With a quick flip of the basket, they were hauled ashore.

Through the centuries eels were a small but important part of the economy. In the archives of the Woods Hole Historical Museum, there is a letter dated 1874 in the (Quissett) Fish/Morse Collection from Captain Josiah Luce of Holmes Hole (now Vineyard Haven) to his agent, T.D. Fish, who ran a shipping business on South Street in New York City: "I am shipping you a barrel of eels. I would be obliged if you would sell them for me..."

Even as late as the 1980s there was still a commercial eel fishery. The fish were caught here and sent to New York City. From there they were shipped alive in large tanks to Belgium and from there to the rest of Europe to a flourishing eel market. There the eels are eaten at all stages of their life cycle, from tiny elvers to large adults. They are eaten fresh, smoked or even pickled and jellied. In Greece, Italy and Sweden, they

are traditional Christmas fare. Nowadays on Cape Cod, the only commercial use for eels is as bait.

The skill of "treading" for eels, as Squanto did in the Pilgrim account, may have died out, but there are other techniques that have been with us for centuries. Eel spears have changed little in shape through the past two centuries. The handle is a long debarked sapling, 10-20 or more feet long depending on the depth of the water and about 2 inches in diameter. The metal spear, fastened to the wider end of the pole, is made of iron, with 5 to 9 long thin prongs with recurved tips usually sharpened into hooks. The longer flat center blade acts as a guard against rock damage to the more flexible hooks. The metal part of the spear is about the size of a hand, sometimes a bit larger. There is a smaller "marsh spear" not as wide as the regular eel spears, with only four tightly spaced prongs, and a shorter handle. The design takes advantage of the eel's natural inclination to twist back and forth, entwining itself on the metal "fingers" trapping it beneath the barbs. The spears are used mostly in the winter, even through the ice.



Eel Spear used in Eel Pond, Woods Hole. The longer central blade of this eel spear acts as a rock guard to protect the more flexible hooks that snare the eels. This spear is in the Woods Hole Historical Museum. Photograph by Jacki Forbes

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Comments by Sarah Peters

My original sketch for this piece was of one man eel fishing in a salt marsh. After meeting with Glenn Marshall of the Mashpee Wampanoag Tribal Council, I came to realize that this would never have been a solitary task. The Wampanoag are community oriented people, and always have been.

The eels from hundreds of years ago would have been enormous compared to the typical eels we find today. Imagine them coiling around your ankles, in the bottom of a shallow canoe.

Peter Fermino of the Mashpee Wampanoag tribal council still spears eels in the bays in winter. When he was a kid, they were sold to local stores, and years later as a special order. Now he uses them just for his family. He cuts a hole about two feet across in the ice, then lowers in his spear and works around in a circle, probing the muddy bottom with the business end of the spear. He brings the eels up, wrapped around his spear, unwinds them and shakes them off onto the ice. "They're lively when they're first up on the ice!" Then he takes them home, skins them, cuts them into two and a half inch chunks, then rolls them in flour or bread crumbs, fries them in butter, "and boy, are they sweet and good. Very bony, and very good." Usually nowadays he can get about a half a bushel in three hours. About fourteen years ago, he hit a real "hot spot" with lots of eels and was able to get ninety eels in just a few hours, a fish story to remember!

Earl Mills, in his book, Cape Cod Wampanoag Cookbook, remembers, "With the eel spear, we could only catch a certain size

Eeling through the Ice. Eel Pond, Woods Hole, 1864. Oil painting by Franklin Lewis Gifford on exhibit at the Woods Hole Public Library.

because we had to feel in the mud for them and thrust the spear back and forth. Sometime we'd have three or four eels on that spear in between those hooks, and we'd bring it up and have our hands full. There'd be enough eels on the bottom of that spear to provide supper for the whole family. The eels were in the bottom of the boat so we had to be careful we didn't fall overboard because they'd be squirming around."

Eels can also be caught with a hand line or rod. Jacki Forbes of Woods Hole comments, "When I was teaching my kids to fish we'd go out at dusk in a rowboat in the harbor or a fresh water pond with an outlet to the ocean. Eels will bite on almost anything. Drop a line with bacon or salt pork or a bit of quahog or a worm or entrails of some other fish you've just caught. I'd have one kid practice rowing while the other trailed a line near the bottom. Catching an eel didn't take long at dusk, so the kids didn't get bored. You can leave eels in a bucket in water over night, or even until the next night. Still, they're hard to kill. I know some people can skin them alive, but I have to kill them first. Hit 'em over the head with a rock or a hammer and wait until they stop squirming. That's the awful part. You have to skin them before cooking or they taste like mud. Cut a slit all the way around right behind the lateral fins. Grab the head in one hand, and with a pair of pliers grab a bit of skin and pull down towards the tail. The skin peels off pretty easily. Then cut them in two inch chunks and sauté them with onion and maybe some potato chunks. I usually crumble a bit of bacon over the top. They smell and taste delicious, and even kids who claim they don't like fish will eat them."

The eel's life cycle, which allows catching them in such diverse ways and times of year, is unlike that of any other fish. It has been a great mystery to fishermen and scientists alike. For centuries no one knew where they were born. Thanks to the determination and perserverance of one Danish scientist, Johannes Schmidt, it was finally discovered that both the American eel (*Anguilla rostrata*) and the European eel (*Anguilla vulgaris*) go to the Sargasso Sea to mate and lay eggs. It is still only presumed that the adults then die there, as none have been found after egg laying. When the young are hatched they drift in the Gulf Stream gradually changing shape until they look like

miniature transparent eels, at this stage called "glass eels." Within a year of hatching, they near the Atlantic shore that their parents came from, and they turn black. The internal organs (at least of the females) change so they can live in fresh water. At this point they are called "elvers," ranging in size from 2 to 3 and a half inches, and skinnier than a pencil. They arrive at the New England shore in late spring to early summer and start upstream. They migrate mostly at night. Most males seem to stop near harbors, bays, and tidal marshes, but the females continue upstream, pulled by instinct to the very pond their mothers came from. They are so compelled to continue upstream that they will even go overland, if the weather is damp, or through underground streams. John Valois recounts being on Sippewissett Road one rainy foggy night in the spring and seeing hundreds of tiny elvers swimming from a little stream, up the bank, and across the wet road over the edge into Miles Pond. He has also seen them at the entrance to Wing Pond in West Falmouth and swimming up the fish ladder at Red Brook Harbor. Peter Fermino recalls seeing elvers "hatch" out of manhole covers and continue their journey overland.

Eels, live and wriggling or frozen, are popular as bait for Striped Bass, Bluefish, and other larger fish in Cape Cod waters. Photograph by Jacki Forbes.

After reaching journey's end, the elvers eat and grow, gradually turning yellowish on their underside. They stay as "yellow eels" for at least five years, often as long as twelve years, feeding, searching for food mostly at night. In the winter they burrow into the mud at the bottom. Eventually their genetic code calls to them, changing their yellow to silver. The females' jaws shorten, sometimes closing their mouths; their eyes grow large and round; they stop eating. From August through November, these "silver eels" begin their long migration downstream to the sea. Again, even though they are large, about two feet long, they may slither over damp ground past obstacles in their path to continue downstream. The males join them and they strike off across the sea, swimming deep, eventually reaching the Sargasso Sea, where they reproduce and disappear.

Even though one can understand in principle that eels live in fresh water, it is still startling, when using a dip net with kids in the creeks along cranberry bogs to scoop out a huge wriggling eel. In the warm summer waters, some of the eels stay out in the salt water along the shore, hiding under eel grass, waiting until night to swim out looking for food. John Valois used to get eels in Woods Hole right under Sam Cahoon's fish market, where there was indeed eel grass, but perhaps more importantly, there was a hatch just above the water's surface where fish scraps were dumped out to the opportunistic eels below.

Early American eel basket trap found in Maine. Courtesy Phil Stanton.

Different techniques for fishing for eels have developed for each stage of the life cycle. In those places where the elvers are eaten, fine mesh nets are used in the spring. To harvest the adult silver eels migrating downstream in the autumn, weirs were used at night, as were traps. Traps and pots became the most frequently used method for commercial harvesting. Often used in harbors and estuaries, eelpots are similar to lobster pots in that they use bait to lure the fish in through progressively smaller tunnels-of-no-return. The eel pot is usually cylindrical, made of a wire mesh called hardware cloth, and about 30 inches long. Spears are used mostly for winter fishing when the eels are huddled in the mud at the bottom of estuaries, but they are also used in the summer when the eels hide under eelgrass or under salt marsh banks.

Eels have been so common that the most complete survey of fish in the region, "Fishes of the Gulf of Maine," states, "There is, we believe, no harbor, stream mouth, muddy estuary, or tidal marsh...but supports eels in some numbers and they run up every ...stream, from which they eventually find their way into the ponds at the headwaters." Two of the biggest dangers to eels today are degradation of water quality and overfishing.

Both Earl Mills and Peter Fermino believe that there are fewer eels now than when they were growing up. Earl Mills says, "Now many eelers use traps; and that's just part of the reason we can't find many eels. Eelers with traps just take everything." Peter Fermino says there are nowhere near as many eels as there used to be. His observation has been confirmed officially. In the autumn of 2006 the population of eels in New England had dropped to such a low level that the Atlantic States Marine Fisheries Commission, an advisory board to the Department of the Interior, recommended a complete ban on this fishery in New England for 2007. When one sees the hundreds of elvers swimming upstream in the spring, we can hope that their population will recover.

While eel pots are often cylindrical, this modern square trap for eels works equally well. These pots work like lobster traps; the eels swim in through the long tube in the center of the pot in search of the bait of fish or crab parts and have difficulty finding their way back out. Courtesy Phil Stanton.