



LeBeau Fishing Camp and Weir State Archaeological Preserve Killingly, Connecticut

Acknowledgements



Above: View of the Quinebaug River near the LeBeau site.

Front Cover:
Left:
Slide of an original painting by David R. Wagner entitled Fishing on the Quinebaug (courtesy of the Institute for American Indian Studies)
Background image:
Remains of the stone fishing weir at the LeBeau site on the Quinebaug River

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LeBeau Fishing Camp & Weir Archaeological Preserve

Site No. 69-95

2008

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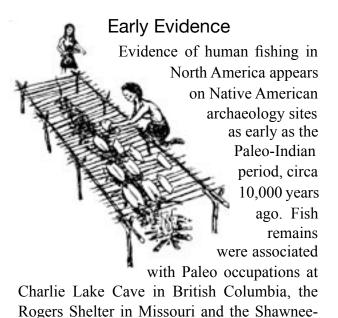
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America's First Fishermen

Archaeological Discoveries Illustrate Native American Fishing Activities



By the Middle Archaic (8,000-6,000 years ago), Native American camp sites appear in Connecticut and elsewhere across New England at major fall lines and other strategic fishing locations along waterways where spring runs of anadromous fish

(1978), The Globe Pequot

Press: Chester, Connecticut.

Minisink site in northeastern Pennsylvania.

Above drawing: Late
Archaic Native Americans smoking fish

Left: Depiction of harpoon fishing

Drawings from Wilbur, C. Keith.
The New England Indians

could be exploited more easily. These camp sites demonstrate that fish were becoming an important part of the Native American diet. Radiocarbon dates that are associated with shell middens in the lower Hudson Valley suggest that Native Americans were utilizing shellfish

at about the same time. Shellfish appear in the faunal assemblages of archaeological sites in Connecticut as early as the Late Archaic. Because of the continual rise in sea level since the retreat of the glaciers, earlier shellfish collecting sites are likely located beneath the waters of Long Island Sound.

Fishing in New England

In New England, the traditional economy of indigenous communities prior to European contact required moving across the landscape to take advantage of seasonally available foods and other natural resources. The annual settlement pattern consisted of two or more base camps surrounded by a myriad of smaller camps that were occupied at various times of the



Left: Photograph of engraving by artist/writer Theodor DeBry, based on watercolors by sixteenth-century artist/cartographer John White, depicting an interpretation of coastal Algonkian-speaking Native American meals. Hand colored by John White. From A Briefe and True Report of the New Found Land of Virginia. (1588) Plate XIII: Their sitting at meate.

Photo courtesy of the North Carolina Collection, University of North Carolina, Chapel Hill



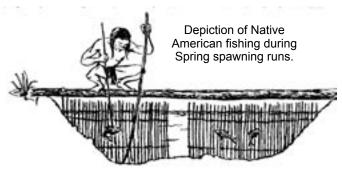
Side view, cane basket fishtrap used by Wampanoag tribal members, Massachusetts/Rhode Island

Photo courtesy of the Institute for American Indian Studies, Washington, CT.

year by some or all of the community members for differing lengths of time. These included hunting camps and game lookout stations; nut and other plant collecting and processing

America's First Fishermen

camps; maple-sugaring camps; berry collecting camps; stone quarries and workshops for



Wilbur, C. Keith. *The New England Indians* (1978), The Globe Pequot Press: Chester. Connecticut.

collecting raw Press: Chester, Connecticut.

material and making

stone tools; tree-processing camps for canoe manufacture or bowl and woodsplint basket-making; fishing camps and shell middens; burying grounds and other sacred sites, to name but a few. These annual movements are reflected in an aboriginal calendar from south-central Massachusetts reported by John Pynchon, a seventeenth-century Englishman, in which the names of the months corresponded to seasonal activities. The Native American month that corresponds to parts of March and April is named for catching fish, which is Namossack kesos

Social Dynamics

The importance of fishing to Indian groups is echoed by early European travelers and historians. Daniel Gookin's description of the seventeenth-century Indian village of Wamesit at the junction of the Concord and Merrimack Rivers in northeastern

Massachusetts reveals that fishing played a key role in the social dynamics of Native peoples. Gookin was the superintendant of Indians for the Massachusetts Bay Colony.

The vast quantities of fish available during spring runs at a time when winter food sources had been depleted was critical and allowed Native American groups to meet at fisheries. This provided an opportunity for trade, exchange of information and other social activities including obtaining marriage partners.

"It is excellently accommodated with a fishing place; and there is taken variety of fish in their seasons, as salmon, shads, lamprey eels, sturgeon, bass, and divers others. There is a great confluence of Indians, that usually resort to this place in the fishing seasons..."

Gookin 1970[1674]:74-5

Photo Below: Rapids and constriction in the Farmington River, above the Tariffville Gorge, as seen from the East Granby bank near the Indian Hill Site in Bloomfield, CT

Select Fishing Locations

As any experienced fisherman knows, not all locations along rivers are equal for catching fish. It is clear that Native groups selected fishing spots at fall lines and/or restrictions along waterways where fish were impeded on their way upstream towards tributaries. These locations permitted large numbers of

Left: Illustration of Native American fishing technique at a waterfall

Wilbur, C. Keith. *The New England Indians* (1978), The Globe Pequot Press: Chester, Connecticut.

fish to be taken. As late as 1700 the wigwams of Mohegan tribal families were observed at Yantic Falls in Norwich, Connecticut.

Important Fish Species for Native New England

Seventeenth century English historians and ichthyological literature make it clear that a variety of fish species were available to the aboriginal inhabitants of southern New England. They included shad, salmon, alewife, herring, eel, sturgeon, bass, trout, perch, mackerel, pickerel, sucker, and bullhead. Anadromous species such as the American



Common Mackere

Goodrich, S. G. Animal Kingdom Illustrated Vol 2. New York: Derby & Jackson, 1859. Common Mackerel. Retrieved 12/04/07, http://etc.usf.edu/clipart/13700/13740/cmnmackerel_13740.htm

shad (*Alosa sapidissima*) and the Atlantic salmon (*Salmo salar*) were both a reliable and a predictable food resource. During their spring spawning runs, these fish would have been present in large quantities. At this time of the year, when other foods were scarce, large numbers of fish could have been taken with relatively simple techniques in harbors and at the mouths of rivers along the coast, and at fall



Whitney, William. The Century Dictionary and Cyclopedia: An Encyclopedic Lexicon of the English Language. New York: The Century Co., 1902. *Alewife*. Retrieved 12/04/07, http://etc.usf.edu/clipart/14500/14598/alewife_14598.htm

lines and other natural restrictions in the rivers that slowed the progress of fish as they headed upstream.



Atlantic Salmon

Whitney, William. The Century Dictionary and Cyclopedia: An Encyclopedic Lexicon of the English Language. New York: The Century Co., 1889. *Atlantic Salmon*. Retrieved 12/04/07, http://etc.usf.edu/clipart/28200/28285/atlsalmon_28285.htm

The large quantities of sturgeon and eels frequently mentioned in early colonial accounts were also important Indian foods. Sturgeon, like salmon and shad, would have entered the rivers in the early spring to spawn. The species of sturgeon present in southern New England include the shortnose sturgeon (*Acipenser brevirostrum*), which can reach lengths of



Goodrich, S. G. Animal Kingdom Illustrated Vol 2. New York: Derby & Jackson, 1859. Sturgeon. Retrieved 12/07/07, http://etc.usf.edu/clipart/13700/13702/sturgeon_13702.htm

three feet, and the Atlantic sturgeon (*Acipenser oxyrhynchus*), which reaches lengths of up to fourteen feet. John Josselyn described sturgeon up to sixteen feet in length during his 17th century voyages to New England. Fish of this size would have provided a sizable quantity of food.

Unlike these species, the American eel

(Anquilla rostrata) is catadromous and spends several years in fresh water before maturing and returning to the south Atlantic Ocean to spawn and die. Eels are found in virtually every river and stream in eastern North America and their high caloric content makes them the most nutrious of the food fish. They would have been available throughout the year and particularly abundant in the spring as they descended the rivers on their way to sea.

Of the 119 species of saltwater fishes found in Connecticut waters, barracuda (*Sphyrana borealis*), striped bass (*Roccus saxatilis*), blue fish (*Pomatomus saltatrix*), cod (*Gadus sp.*), grouper (*Mycteroperca bonaci*), and shark (*Carcharodon carcharias*) are among those that have been identified at Native American archaeological sites, which indicates serious off-shore fishing expertise.



A calcined sturgeon scute fragment recovered at the Indian Hill Site near the Farmington River

Fish Species

That Migrated Into Connecticut Drainages Since The Last Glaciation

Ameiurus nebulosus Catostomus commersoni Erimyzon oblongus Esox americanus Esox niger Etheostoma olmstedi Fundulus diaphanus Lepomis auritus Lepomis gibbosus Luxilus cornutus Notemigonus crysoleucas Notropis bifrenatus Notropis hudsonius Perca flavescens Rhinichthys atratulus Rhinichthys cataractae Salvelinus fontinalis Semotilus corporalis Cottus cognatus Semotilus atromaculatus Exoglossum maxillingua Enneacanthus obesus Etheostoma fusiforme Acipenser brevirostrum Acipenser oxyrhynchus Alosa aestivalis Alosa pseudoharengus Alosa sapidissima Anguilla rostrata Morone americana Osmerus mordax Petromyzon marinus Salmo salar

brown bullhead white sucker creek shubsucker grass pickerel chain pickerel tessellated darter banded killfish redbreast sunfish pumpkinseed common shiner golden shiner bridle shiner spottail shiner vellow perch blacknose dace longnose dace brook trout fallfish slimy sculpin creek chub cutlips minnow banded sunfish swamp darter shortnose sturgeon Atlantic sturgeon blueback herring alewife American shad American eel white perch rainbow smelt sea lamprey

(Whitworth 1996)

Atlantic salmon

Fishing methods differ in terms of effectiveness and the amount of labor involved. The technology employed depends on the physical characteristics of the fishing spot and the type of fish being sought. While evidence for every method has not been found in Connecticut, ethnographic studies show that fish continued to play an important role in the settlement and subsistence of local Native peoples throughout the Contact period (i.e., the past 400 years). Many fishing techniques documented across North America were likely used in one form or another by Native Americans living in Connecticut.

Hook and Line Fishing

Prior to acquiring metal hooks following contact with European colonists, two-piece composite hooks made of wood and bone and single-piece carved bone hooks similar to modern hooks were used, as was a bi-pointed splinter (gorge)

that would lodge in the fish's mouth. Bait, fish-shaped wooden lures, wooden bobbers and stone line weights were attached to line made from various plant fibers.



Two carved and polished bone fish hooks excavated from the Tubb's Shell Heap in Nlantic. The larger hook is 2.5 inches long.

Rogers collection, photo courtesy of the Institute for American Indian Studies, Washington, CT.



Far Left: Drawing of a perforated weight

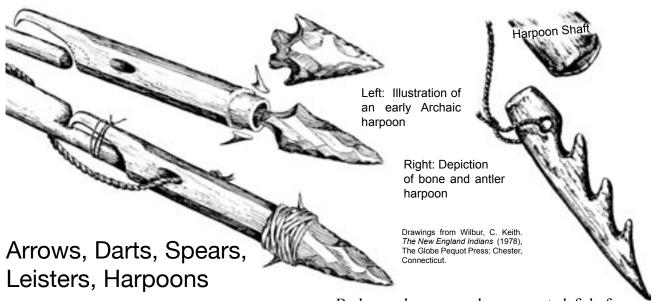
Left: Depiction of a classic stone plummet

Right: Possible attachment technique to line and hook

Drawings from Wilbur, C. Keith. *The New England Indians* (1978), The Globe Pequot Press: Chester, Connecticut.

Fish Drives

This method involves driving the fish towards an obstacle or trap beyond which they could not proceed. This can be accomplished by walking through the water. Once confined the fish can be taken with various devices or even caught with bare hands.



Arrows, darts and spears were employed to impale fish. These devices were often used in conjunction with other fishing devices that trapped or confined groups of fish. The leister was used in a manner similar to a spear using a bone point that impaled the fish while a hardwood grip on either side of the point secured the fish.



Double-barbed bone harpoon excavated from a large fire pit at the Old Merwin Farm Site, Milford

Rogers Collection, photo courtesy of the Institute for American Indian Studies, Washington, CT.

Barbs on harpoons also prevented fish from falling free during retrieval. These implements were often used from canoes, sometimes at night. Torch light used during night fishing helped attract fish to the surface.

Semilunar Knife

This half-moon shaped knife, also known as an "ulu" or "woman's knife" by the Inuit, was



Slate semilunar knife from Enfield (Norris Bull Collection, University of Connecticut, Storrs)

made from stone (usually slate), hammered native copper, metal or shell. It has been suggested that this tool form developed in response to changes in subsistence and the use of mass-capture technologies c. 6,000 - 7.000 years ago. This tool would facilitate the processing of large numbers of fish as well as sea mammals such as seal. The edges of slate knives could be easily sharpened by grinding the edge.

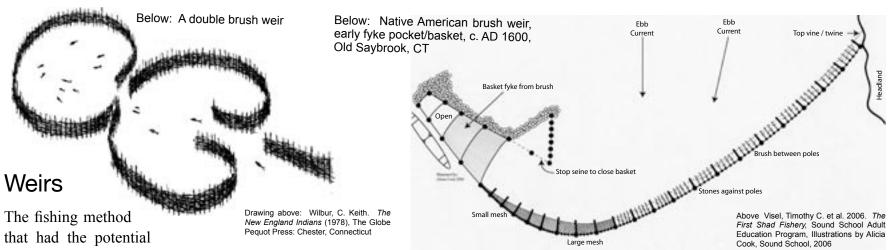






Above: Drawings of post-contact Inuit ulus

Mason, Otis T. The ulu, or womanis knife, of the Eskimo. *Plate LXIV* Report of the
U.S. National Museum. Washington: Government Printing Office (1891)



to contribute the most to aboriginal subsistence was the fish weir. These fence-like structures, composed of wooden stakes with interwoven branches of various sizes, were situated below fall-lines and narrows in rivers where anadromous fish were slowed down as they moved upstream. Large quantities of fish could be taken with spears and nets at these locations,

and along the coast in natural harbors and at the mouths of rivers. In areas of faster-moving water, large rocks were used to help support the wooden stakes.

Often various types of traps were incorporated into these weirs to further confine the fish.

Vines & twine

Cedars

Hickory poles

Soft pine branches (woven)

Stones

Diagram showing brush weir construction

Soft mud bottom

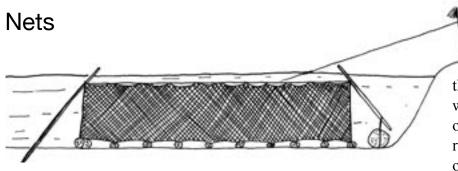
Visel, Timothy C., et al. 2006. The First Shad Fishery, Sound School Adult Education Program, Illustrations by Alicia Cook, Sound School, 2006

These devices would have been particularly effective along the coast where the rising tide would allow fish to swim beyond the traps and the low-tide would leave them stranded. Colonial records refer to brush weirs in Connecticut's coastal coves. These weirs formed barriers that directed the fish into traps such as a basket fyke.

Native American weirs were reported in 17th century accounts of the Charles and Taunton Rivers in Massachusetts. Later historians describe weirs at the outlet to Lake Winnipesaukee that were used in the spring and fall.

Right: Drawing of wooden stake used in fish weir construction

Wilbur, C. Keith. *The New England Indians* (1978), The Globe Pequot Press: Chester, Connecticut



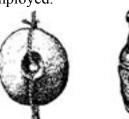
Nets made of Indian hemp (dogbane) and other plant fibers were another device that permitted large catches of fish. Stones were notched, grooved and perforated for attachment to nets. These weights could be used to cast nets out into the water or to hold them in place. Nets could be used where water was too deep for the construction of a weir and allowed the capture of fish species that would not be attracted to a hook. Since making nets is very labor intensive, their use suggests a serious commitment to fishing.

The various types of nets used by Native Americans included: hand nets; dip nets attached to a pole for scooping fish either from a bank or from a canoe; large nets using stone weights and/or floats to suspend them upright in waterways to trap fish; nets pulled behind canoes; seine nets using stone weights, sometimes used under the ice, designed to impound fish; gill nets with which the mesh of the net snagged the fish by the gills; and purse-like nets attached to stakes in a river bottom

Left: Gill Net with net weights and rattle alarm

After Kroeber, A.L. and S.A. Barrett 1960

that filled with fish as tidal waters receded. Depending on location, tidal action or river flow, many variations of these types of nets were employed.



Illustrations of stone weights
Wilbur, C. Keith. *The New England Indians* (1978), The Globe Pequot
Press: Chester. Connecticut.



Notched stone netsinkers, probably from a site on the Farmington River

Traceske Collection, courtesy of the Institute for American Indian Studies, Washington, CT.

Plant Substances

Various plant materials such as crushed green walnuts (by the Lenni Lenape of New Jersey) and pulp of pokeberries and Indian turnip (by the Penobscot of Maine) were placed in slower moving waters to stun fish so that they could be more easily taken.

Other Fishing Tackle

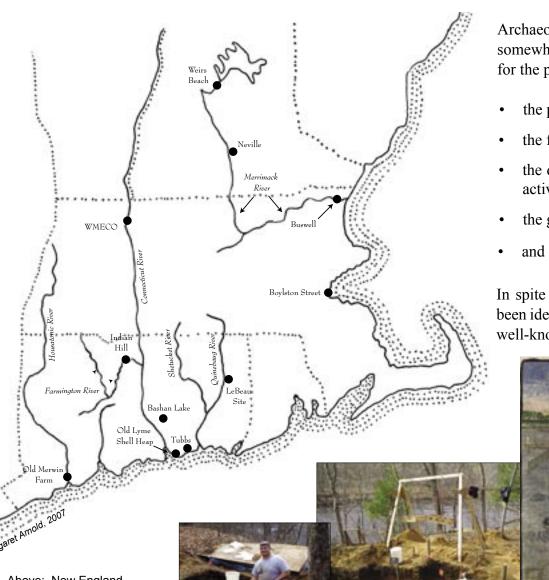
Additional items of tackle included fish rakes (possibly of more recent origins) with perpendicular teeth that were used from canoes. The rake was swept through schools of fish, impaling as many as possible. Gaffs, consisting of a shaft with a hook (often bone or antler) attached at an acute angle, were used to snag fish. Sturgeon was taken with snares in the Mid-Atlantic states. Clubs were used to dispatch fish once landed. They were also used to stun salmon jumping through openings in weirs

Front view, cane basket fishtrap used by Wampanoag tribal members, Massachusetts /Rhode Island

Photo courtesy of the Institute for American Indian Studies, Washington, CT.



Archaeological Evidence for Fishing from Southern New England



Archaeological evidence for Native American fishing has remained somewhat elusive throughout southern New England. Explanations for the paucity of surviving materials related to fishing include:

- the poor preservation of fish-related remains;
- the failure to recognize implements related to fishing activities;
- the destruction and transformation of sites by natural and human activities especially site inundation by rising sea levels;
- the goals and techniques of previous archaeological research;
- and the fish processing methods of pre-contact Native Americans.

In spite of this problem, a number of pre-contact fishing sites have been identified across the Northeast and within Connecticut. The most well-known fishing camps are summarized on the following pages.

Left: Photograph of an engraving by artist/writer Theodor DeBry, based on watercolors by sixteenth century artist/cartographer John White, depicting an interpretation of Native American fishing techniques. Hand colored by John White. From A Briefe and True Report of the New Found Land of Virginia. (1588) Plate XIII: Their manner of fishynge in Virginia

Photo courtesy of the North Carolina Collection, University of North Carolina, Chapel Hill

Above: New England fishing sites discussed in text.

Photos, middle and left:
Archaeological excavation
at the LeBeau site

Archaeological Evidence for Fishing from Southern New England

Neville Site Manchester, New Hampshire

In his *History of Manchester* (New Hampshire) Chandler Eastman Potter stated that fish at Amoskeag Falls were "most abundant, and the facilities for taking them, superior to those of any other place upon the Merrimack" (1856: 29). Archaeological excavation at the Neville site, located at the falls, revealed repeated occupation of this site over the last 8,000 years. Dr. Dena Dincauze has suggested that the wide range of artifact types associated with the earliest of these occupations during the Middle Archaic indicated a late spring through early summer seasonal base camp. This time frame would have coincided with annual runs of anadromous fish.

WMECO Site Gill, Massachusetts

The WMECO Site, located near falls and rapids on the Connecticut River in Gill, contained stone artifacts dating from the Middle Archaic to the Middle Woodland. Growth rings on fish vertebrae believed to be shad, and reptilian elements (snake and turtle) that were recovered within the Archaic levels suggest that this site was occupied between April and June, during spawning runs.

Buswell Site Salisbury, Massachusetts

Situated near a channel on the lower portion of the Merrimack River in Salisbury, the Buswell site provides still more evidence of Native American fishing during the Middle Archaic.

Excavation at this site yielded faunal material that included sturgeon and other boney fish species, stone net weights, thin bifacially worked flakes - possibly used for cleaning fish, and a portion of a wooden stake that may have served as an upright for a weir, driven into the channel bottom. These cultural materials suggest that the site served as an anadromous fishing station during the Middle Archaic. Archaeologist Russell Barber stated that a peculiar tidal pattern at this location that directs the upriver flow of water – and thus, anadromous fish - through the channel, made it ideally suited for the use of a weir.

Weirs Beach, Lake Winnipesaukee New Hampshire

While no direct evidence for fishing was found during excavation at Weirs Beach near the outlet of Lake Winnipesaukee, historic accounts point to the importance of fishing at this location. Historian J. W. Meader wrote that Indians maintained permanent fish weirs near the outlet and also built weirs at the falls.

Chandler Eastman Potter referred to the remains of Indian weirs that continued to be present long after European settlement. Middle Archaic projectile points similar to those from the Neville site were recovered from the Weirs Beach site. This location was used by indigenous people as early as the Early Archaic. In addition, artifact collections from the Lake Region indicate that Early and Middle Archaic groups were selecting sites located near falls and rapids.

Post-contact brush fish weir in Maine

Johnson, Frederick. *The Boylston Street Fishweir.* Papers of the Robert S. Peabody Foundation For Archaeology. Volume Two. Andover, MA: Phillips Academy, 1942. *Plate XIII: Modern Fishweirs on the Maine Coast* (detail). © Robert S. Peabody Museum of Archaeology, Phillips Academy, Andover, Massachusetts. All Rights Reserved.



Archaeological Evidence for Fishing from Southern New England



Above and Below: Post-contact brush fish weirs in Maine

Johnson, Frederick. *The Boylston Street Fishweir*. Papers of the Robert S. Peabody Foundation For Archaeology. Volume Two. Andover, MA: Phillips Academy, 1942. *Plate XIII: Modern fishweirs on the Maine Coast* (detail). © Robert S. Peabody Museum of Archaeology, Phillips Academy, Andover, Massachusetts. All Rights Reserved.

Boylston Street Fishweir Boston, Massachusetts

The discovery of the Boylston Street Fishweir near the Charles River in Boston revealed the antiquity of this fishing technology. The Boylston Street Fishweir, composed of thousands of wooden stakes that encompassed more than a couple of acres, dates to the Late Archaic (circa 2500 B.C.). Archaeologists once believed that this fish weir



Portions of wooden stakes recovered from the Boylston Street Fishweir.

Johnson, Frederick. *The Boylston Street Fishweir*. Papers of the Robert S. Peabody Foundation For Archaeology. Volume Two. Andover, MA: Phillips Academy, 1942. *Plate V: Photographs of Sections of Preserved Fishweir Stakes* © Robert S. Peabody Museum of Archaeology, Phillips Academy, Andover, Massachusetts. All Rights Reserved.

required considerable cooperation and labor to construct and maintain. Recent archaeological investigations suggest that the structure is actually a succession of small tidal weirs built over approximately 1,500 years to overcome an ever increasing sea level.



Connecticut's First Fishermen

Historical Significance of Connecticut's Waterways

It is not surprising that fish were so important to the subsistence of Native American groups, when the vastness of Connecticut's water resources are considered. The state has approximately 450,000 acres of wetlands, 6,000 miles of streams and rivers, over 2,000 lakes and reservoirs and 600 square miles of estuarine water on Long Island Sound. These waterways are ideal environments for finfish and shellfish nurseries and habitats, and they provided Native American communities with access to a variety of shellfish (oyster, scallop, quahog, softshell clam, whelk, mussel and others), crustaceans (crabs, lobster), deep sea finfish and marine mammals (seal, whale) -all of which have been found at coastal shell midden sites

The archaeological literature and site data at the Connecticut Office of State Archaeology mention numerous shell midden sites as having been located along the Connecticut coast and river estuaries.

Most of the perishable pre-contact fishing gear, such as bone and antler fishhooks, harpoons, gorges, and delicate fish bones and scales, were recovered from shell midden sites because the calcium carbonate of the decaying shell

neutralized the soil and made those fragile remains less subject to the acids that normally destroy them. These sites often contain pottery whose surfaces were impressed with netting, another indicator of the importance of fishing to Native Americans.

The Old Lyme Shell Heap

The Old Lyme Shell Heap was located at the junction of the Connecticut and Blackhall Rivers and Long Island Sound in Old Lyme. The shell midden extended at least 800 feet along the coast, and ranged in overall width from eight to over 100 feet. The shell was mainly oyster but also included quahog, or hardshell clam, and scallop. It contained Terminal Archaic, Middle Woodland and Late Woodland stone artifacts and pottery, as well as bone and antler tools and over 3.000 faunal remains The tools included bone awls (punches), weaving shuttles/needles, bone and antler points, an antler punch or miniature pestle, an incised bird bone whistle, antler flaker, antler tine tips, an incised flat bone and an incised bone dagger.

Bone fishing gorges, a stone notched netsinker and net-impressed pottery demonstrated finfishing activities as did the recovery of sturgeon and codfish remains. A single seal bone indicated that marine mammals were also exploited.

Weirs along the Housatonic River

Mergaret Arnold, 2007

The Housatonic River watershed

Wooden stakes buried below four feet of mud and three feet of shell, the remains of fish weirs near the mouth of the Housatonic River, were sometimes encountered by oyster men. Fish weirs were also constructed upstream, some extending thirty to fifty feet into the river using walls of rock to support the wooden stakes against the current. Some of these stone walls may be the remains of post-contact weirs, since Anglo-American settlers often made use of Native American technologies. It may also be that colonial weirs were built over the remains of aboriginal weirs.

Connecticut's First Fishermen

The Indian Hill Site in Bloomfield

The Indian Hill Site lies on a terrace approximately 300 meters west of a stretch of the Farmington River that includes a narrow set of rapids and a significant fall line. Native American groups who camped at Indian Hill would have had the best access to the western side of the fall line, the rapids above and the waters below.

The research focus of the Indian Hill investigations was a Late Archaic component that was radiocarbon dated to 5,000 years ago. Artifacts stylistically diagnostic of both earlier and later occupations were recovered indicating that the site was occupied repeatedly starting as early as the Middle Archaic.

Sturgeon plate/scute fragments, spines and vertebrae of smaller fish, stone weights used with hook and line angling or nets, and semilunar knives recovered at this site support the belief that this site was selected for the fishing opportunities it afforded. The ideal time for fishing at Indian Hill would be spring through early summer. The faunal and botanical materials that were recovered point to warm weather occupations. The absence of evidence for permanent structures suggests lightweight or temporary shelters also consistent with warm weather.



upstream from the Indian Hill site in Bloomfield

Below: The rapids and constriction

Above: The fall line at the Tariffville Gorge near the Indian Hill site in Bloomfield



Above: Semilunar knife fragments from the Indian Hill site

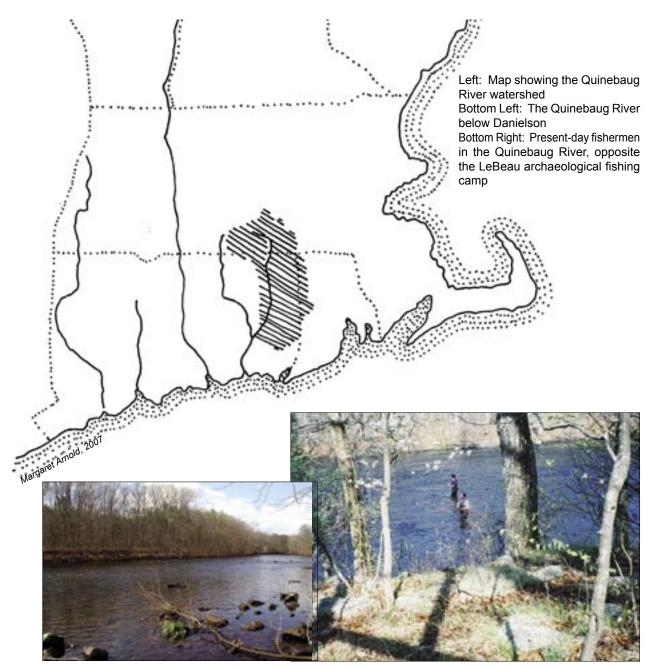
Bashan Lake in East Haddam

Stone weirs were observed at the inlets to Bashan Lake when the water level was lowered in 1982. Stone net weights associated with one of these weirs suggest that the feature was of indigenous construction.

The Quinebaug River Valley

The Quinebaug River is the main waterway in northeastern Connecticut Its watershed contains 141 miles of scenic rivers and streams and 3,657 acres of lakes and ponds. Originating in ponds north of Sturbridge, Massachusetts, the Quinebaug runs southward through rugged hills of mostly undeveloped forests and meadows for about 80 miles. Just east of Norwich, it flows into the Shetucket River and in the southern portion of that city they join the Thames River, eventually draining into Long Island Sound. Because of their unique natural, cultural, and historical resources the U.S. Congress designated the Quinebaug and Shetucket River Valley a National Heritage Corridor in 1994

The Quinebaug is nursery and home to a variety of fish species that include bass, pike, perch, sunfish, trout and American eel. Anadromous and catadromous fish runs provided bountiful food harvests for Native American peoples whose homelands included the Quinebaug drainage. The stone ruins of at least 20 Native American fish weirs that are still visible within the river attest to the importance of fishing to local indigenous communities, as well as later Euro-American settlers.

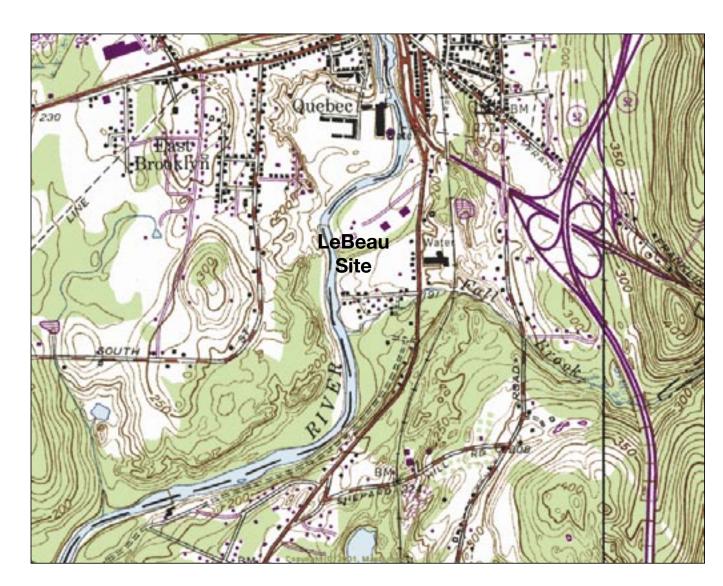


Productive Fishing Grounds

One of these surviving stone weirs is an essential part of the LeBeau State Archaeological Preserve, a Native American fishing camp located on the east bank of the Quinebaug River in southwestern Killingly. The area near the stonework is still considered a good fishing spot today, as a deep trough attractive to trout and other game fish runs north-south up the middle of the river.

Small tributaries provided good spawning areas for several anadromous fish species. For example, predictably every April, suckers ascended the nearby Fall Brook to spawn, followed by pickerel (who ate the suckers) and snapping turtles (who ate the pickerel).

A small Native American archaeology site located above Fall Brook, the Cote-Donovan-Martel site, was once the focus of small short-term camps whose inhabitants most likely took advantage of these spring fish and turtle runs.



Above: LeBeau site and vicinity, Killingly

"Danielson." 11/6/02. (c) 1997, Maptech, Inc.

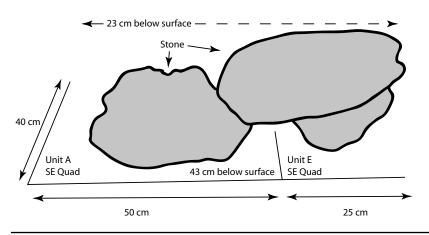


Archaeological Discoveries

Over 8,700 aboriginal artifacts were recovered from the LeBeau site. The vast majority (98.8%) were manufactured from stone, almost all of which was a locally available quartzite. The remaining 1.2% consist of clay shards from broken cooking pots. The stone artifacts included projectile points, bifaces, hammerstones, cores, flake tools for cutting and scraping, debitage and fire-cracked rock.

Below: AMCS crew chief mapping soil stratigraphy evident in an excavation block at the LeBeau site

Above: Remnants of a stone weir at the LeBeau site, extending into the Quinebaug River



Left: Diagram of a stone feature at the LeBeau site. The feature consisted of a large flat stone resting on two other flat stones that may have served as seats, a fish processing block (similar in function to traditional kitchen chopping blocks), or possibly a wind break for a hearth.

Stone Tools

The large quantities of debitage and cores, hammer stones and bifaces in various stages of production demonstrate that extensive tool-making occurred at the site. Some of the finished bifaces likely functioned as knives for processing fish and other foodstuffs. Likewise, the quartzite and quartz flakes that exhibit cutting and scraping edge wear may have been used to scale and process fish.

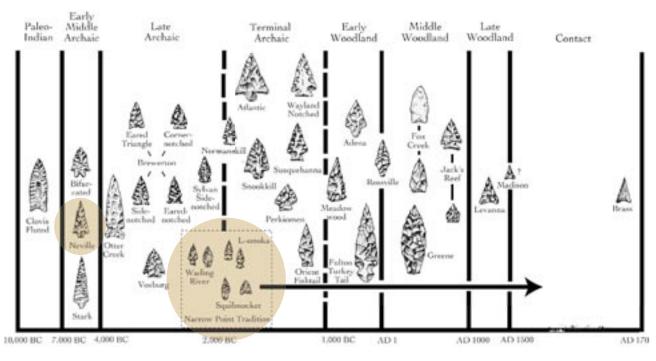
Projectile Points

A number of diagnostic artifacts show that the site was occupied intermittently over thousands of years. A Neville point style indicates a Middle Archaic occupation (circa 8,000-6,000 years ago).

One triangular Squibnocket Triangle point



Projectile points recovered at the LeBeau site



New England point typology through time with types recovered from the LeBeau site highlighted (after Lavin 1984)

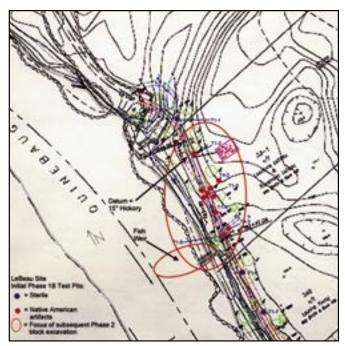
indicates a Late Archaic occupation (about 4,500-4,000 years ago). Two thick, stemmed Narrow Point tradition points may date anywhere from the Late Archaic to the early Middle Woodland (4,500-1,500 years ago).

The small number of projectile points recovered indicates that hunting was not an important site activity. Virtually all were broken and some appeared unfinished, suggesting that they may have been broken during manufacture, not hunting activities.

Netsinker



The notched stone netsinker *(photo above)* indicates the use of nets in fish capture at the LeBeau site.

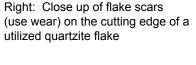


Above: Excavation locations at the LeBeau site

Spokeshave



A special stone tool with a concave working edge, called a spokeshave (photo above), was recovered at the LeBeau site. The spokeshave was used to scrape hard cylindrical objects, such as wood handles, spear shafts or possibly poles for the fish weir.

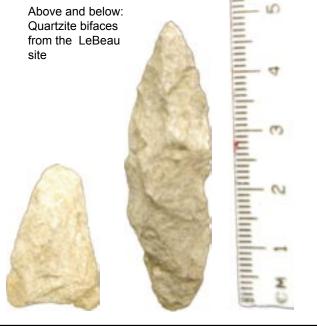


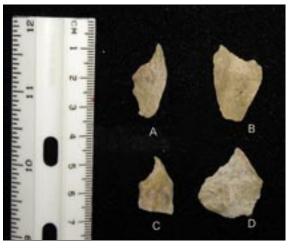


Fire-Cracked Rocks

Cracked and reddened rock fragments indicate the presence of cooking or warming hearths, which were lined with siliceous rocks such as sandstone and quartzite. The silica reflected the heat and helped produce a quick, hot fire.

Below: Spurred quartzite flakes ideal for slitting fish





Clay Pottery

The clay pottery shards are small, eroded and difficult to identify as to style. Some are cordimpressed and all are tempered with medium to coarse crushed stone. At least one exhibits interior cordmarking, which dates it to the Terminal Archaic or early Woodland. The pottery shows that Native American peoples were camped and cooking here.

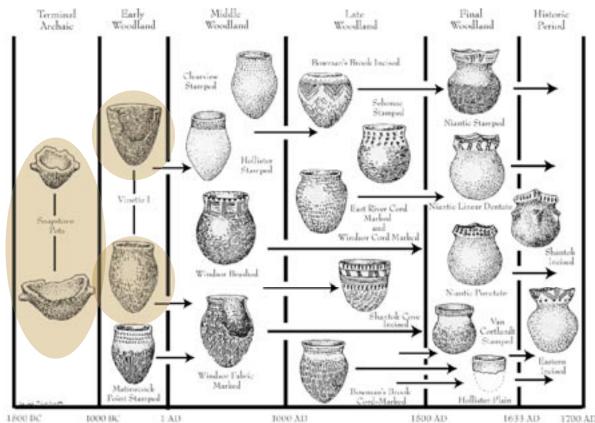








Above: Interior and exterior surfaces of clay pottery shards with cord impressions and coarse stone temper from LeBeau site



Soapstone Bowl

A fragment from a soapstone bowl, a cooking vessel form used from approximately 3,650 to 2,700 years ago, demonstrates occupation during the Terminal Archaic.

Left: New England pot typology, with types found at LeBeau site highlighted (after Lavin 1984)

Significance of the LeBeau Site

Because it contains the earliest and best evidence for Native American fishing associated with weir technology in Connecticut, the LeBeau Fishing Camp and Weir site is an extremely important aspect of Connecticut's cultural heritage. The stone weir is a diagonal type, which extends out from the east bank of the Quinebaug River just below the LeBeau fishing camp site. Its diagonal construction would have forced fish

towards the constricted opening near the west bank, where they could be more easily caught with basket traps, nets, or spears. Local artist/historical writer David Wagner believes that the diagonal weir was a technological improvement over the V-shaped weir, whose opening was in the center of the river at highest water levels. At a diagonal weir like LeBeau, the main action would occur in lower water levels than at the V-shaped weir, making it safer for fishermen during springtime floods when most of the anadromous fish runs occurred.

A large stone pile located on the east bank of the Quinebaug and extending to the eastern edge of the weir may have served as the base of a platform for fishing-related activities. The platform may have been a staging area for temporarily storing additional fishing tackle, or baskets for confining the captured fish and passing them up the embankment for processing in camp, which was located well above the river torrents. Many of the tools recovered, from the archaeological investigation are bifaces and small flakes with

sharp cutting edges or pointed spurs to facilitate

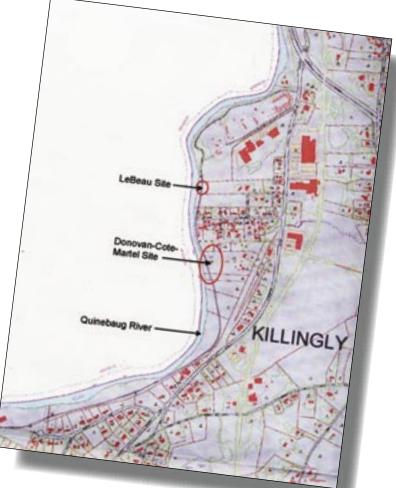
the slicing, gutting, and scaling of fish. Most of

the flake tools are probably too small for the

hand of an adult male but just right for that of

Map showing LeBeau site and vicinity

a woman or young girl. This finding fits well with seventeenth century European accounts of New England that noted indigenous women were responsible for processing seafood and



carrying the catch back to their village in baskets strapped to their backs.

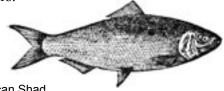
Its large quantity of cultural remains and the wide age range for the projectile point and cooking vessel styles represented at the site indicate that Native American peoples repeatedly returned to camp and fish at the LeBeau site for roughly 6,000 to 8,000 years. Yet the kinds of tool types are limited, indicating that a narrow range of activities occurred here. There are no heavy woodworking tools such as axes or adzes; no drills, punches or engraving tools; no grinding stones, mortars or pestles for vegetal processing; no personal adornments (jewelry) such as pendants or beads; no endscrapers or sidescrapers for woodworking or skin dressing; no chopping tools or hand spades; and, there are relatively few projectile points for hunting or clay or soapstone cooking vessels. Storage pits, refuse pits, and the remains of house structures are also These facts, plus the heavy absent.

concentration of cultural remains in small circumscribed areas, suggest several small groupings of people, most likely family groups gathered together for short periods of time for the sole purpose of capturing and processing fish during the spring anadromous and catadromous fish runs in the Quinebaug River.

Glossary

Anadromous fish

Fish that hatch out in fresh water, grow to adulthood in saltwater, and re-enter fresh waters to spawn. This migration normally occurs from April to mid-June. In southern New England they include Atlantic salmon, American shad, alewives, blueback herring, sea lamprey, striped bass, sturgeon, smelt and suckers

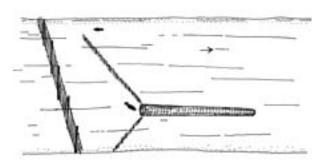


American Shad

Everybody's Cyclopedia. New York: Syndicate Publishing Company, 1912. Shad. Retrieved 12/07/07 from http//etc.usf.edu/clipart/15900/1597/shad_15977.htm

Artifact

Any object made or modified by humans.



Double weir with tubular basketry trap used by Northwestern peoples After Kroeber, A.L. and S.A. Barrett 1960

Basket fyke

A wooden trap constructed at the end of a long brush leader/weir. The leader directed the fish towards the basket where they were trapped.

Biface

An artifact that has been knapped (chipped) on both its surfaces. They are often unfinished tools. Knives and projectile points are examples of bifacial tools.

Catadromous fish

Fish that are hatched in saltwater, live most of their lives in freshwater but re-enter salt water to spawn.



American Eel (Anguilla rostrata), a Connecticut Catadromous fish

Whitworth, Walter R. 1996. Photo courtesy of the Department of Environmental Protection, Hartford, CT

Core

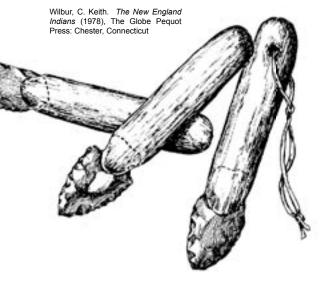
A cobble, nodule, or slab of rock that is the raw material for stone tool manufacture. It normally exhibits flake scars created during the manufacturing process, when the knapper (tool maker) began to either shape the core itself into

a tool or removed large flakes that were destined to become tools.

A cobble used as an abrading stone from the LeBeau fishing camp

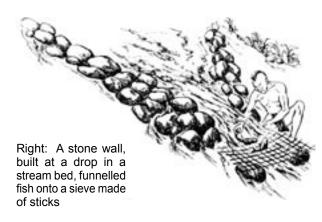


Late Archaic bifaced knives hafted to wooden handles



Cultural feature

A non-portable artifact, such as a hearth, storage pit, cellar hole, stone wall, or well.

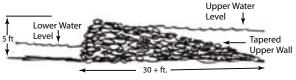


Wilbur, C. Keith. *The New England Indians* (1978), The Globe Pequot Press: Chester, Connecticut

Glossary



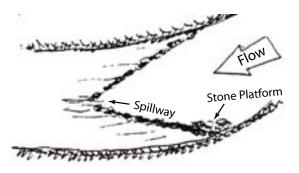
Remains of the stone fish weir at the LeBeau site on the Quinebaug River



Cross section of weir

Above: Profile of a diagonal fish weir





Typical "V" weir

Above: One type of fish weir found elsewhere on the Quinebaug River Wagner, David R. 1994

Debitage

Flakes, chips, or amorphous shatter that are the by-products of stone tool manufacture.

Diagnostic artifact

An object whose style was only produced during a certain time period or by a specific culture, and so its presence on a site identifies the time frame during which the site was occupied and/or by which cultural group.



The fall line at the Tariffville Gorge near the Bloomfield-East Granby town line

Fall line

Those areas where the bedrock beneath rivers and streams creates precipitous drops in the water course - water falls.



Hammerstone from the Dibble Creek site, Haddam, Connecticut

Hammerstone

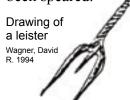
A stone with scarring at its end that functioned as a hammer. Hammerstones were often used to split cobbles and flake cores in stone tool manufacture

Indigenous Community

The original or first peoples to settle a region. In the Americas, they are also known as American Indians, Native Americans and First Nations.

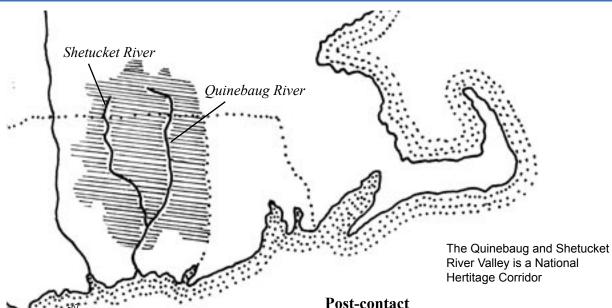
Leister

A spear-like device with a bone point and two hardwood grips to secure the fish after it has been speared.





Glossary



National Heritage Corridor

A national heritage area "is a place designated by the United States Congress where natural, cultural, historic and recreational resources combine to form a cohesive, nationally-distinctive landscape arising from patterns of human activity shaped by geography. These areas tell nationally important stories about our nation and are representative of the national experience through both the physical features that remain and the traditions that have evolved within them." (National Parks Service, U.S. Dept. of the Interior National Heritage Areas web site, http://www.nps.gov/history/heritageareas/FAQ/INDEX.HTM)

Post-contact

Refers to the time period after initial European settlement, which differs depending on the geographic area in question.

Pre-contact

Refers to the time period before European settlement, which in Connecticut dates back to at least 10,000 years ago.



Projectile point

The bifacially chipped stone head of an arrow, dart, or spear.

Sea lamprey

Fish that resemble eels except for their suckerlike jaws.



Lamprey Eel

Colton, Buel P. Zoology: Descriptive and Practical. Boston: D.C. Heath & Co., 1903. *Lamprey Eel.* Retrieved 12/07/07 from http://etc.usf.edu/clipart/6900/6989/lamprey-eel 6989.htm

Scutes

Bony scale-like plates that cover portions of a sturgeon's body.



A calcined sturgeon scute fragment recovered near the Farmington River at the Indian Hill site in Bloomfield

Steatite

A soft stone also called soapstone because of its greasy, soapy feel. Steatite is often carved into stone bowls by Native Americans.

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State Archaeological Preserves

State Archaeological Preserves were established by the Connecticut Legislature as a mechanism to protect significant archaeological sites. The designation process began in 2000. Archaeological sites that are listed on the National Register of Historic Places and/or the State Register of Historic Places qualify for designation as a Preserve, whether or not the land is private or public property. The National Register is the official Federal list of districts, sites buildings, structures, and objects significant in American history, architecture, archaeology, engineering, and culture worthy of preservation. These contribute to an understanding of the historical and cultural foundations of the Nation. Similarly, the State Register of Historic Places is a census of historic and archaeological resources that are integral to the development of Connecticut's distinctive character.

The Connecticut Commission on Culture & Tourism is empowered to designate archaeological sites as Preserves (C.G.S. Section 10-384). The Commission, in coordination with the Office of State Archaeology and, when appropriate, the Native American Heritage Advisory Council, works with property owners to nominate significant archaeological sites as Archaeological Preserves. The Commission is also charged with maintaining the master listing of all Archaeological Preserves.

Preserves recognize both the educational and cultural value, as well as the fragile nature, of archaeological resources. Many of Connecticut's

Preserves are on private land and fall under the protection of property owner rights. In addition, Connecticut law provides that, regardless of whether a Preserve is on private or public land, no person shall "excavate, damage, or otherwise alter or deface the archaeological integrity or

sacred importance" of a Preserve. Connecticut General Statutes Section 10-390 provides significant penalties for vandalism and the unlawful collecting of archaeological remains from State Archaeological Preserves.

Connecticut State Archaeological Preserves (as of March 2008)

- Putnam Memorial State Park, Redding and Bethel
- 2. Axle Shop-Spring Factory
 Archaeological Site, Hamden
- 3. Kent Iron Furnace, Kent
- 4. Newgate Prison and Copper Mine, East Granby
- 5. Fifth Camp of Rochambeau's Infantry, Bolton
- Fort Wooster Park, New Haven
- 7. Fourth Camp of Rochambeau's Army, Windham
- 8. Small Pox Hospital Rock, Farmington
- 9. New London Engine House & Turntable, New London
- Quinebaug River Prehistoric Archaeological District, Canterbury
- 11. Aunt Polly, East Haddam
- 12. Cornfield Point Light Ship LV51, Old Saybrook
- 13. Bridgeport Wood Finishing Company, New Milford

- 14. John Brown Birthplace, Torrington
- 15. Air Line Railroad, Colchester and East Hampton
- 16. Governor Samuel Huntington Homestead, Scotland
- 17. Cady-Copp House Archaeological Site. Putnam
- 18. World War II "Hellcat" Sites, Preston
- 19. Henry Whitfield State Museum, Guilford
- 20. Dividend Brook Industrial Archaeological District, Rocky Hill
- 21. Fort Griswold State Park, Groton
- 22. Ebenezer Story Homestead and Tavern, Preston
- 23. Fort Stamford, Stamford
- 24. New England Hebrew Farmers of the Emanuel Society Synagogue and Creamery Archaeological Site, Montville
- 25. LeBeau Fishing Camp and Weir, Killingly



Engraving by artist/writer Theodor DeBry, based on watercolors by sixteenth century artist/cartographer John White, depicting an interpretation of early Native American methods of cooking fish. Hand colored by John White. From A Briefe and True Report of the New Found Land of Virginia. (1588) Plate XIIII: The brovvylinge of their fish. (Photo courtesy of the North Carolina Collection, University of North Carolina, Chapel Hill)

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