

**LIFE ALONG THE RIVER:
THE ARCHAEOLOGY OF THE
NEW BEDFORD HARBOR
SUPERFUND SITE**



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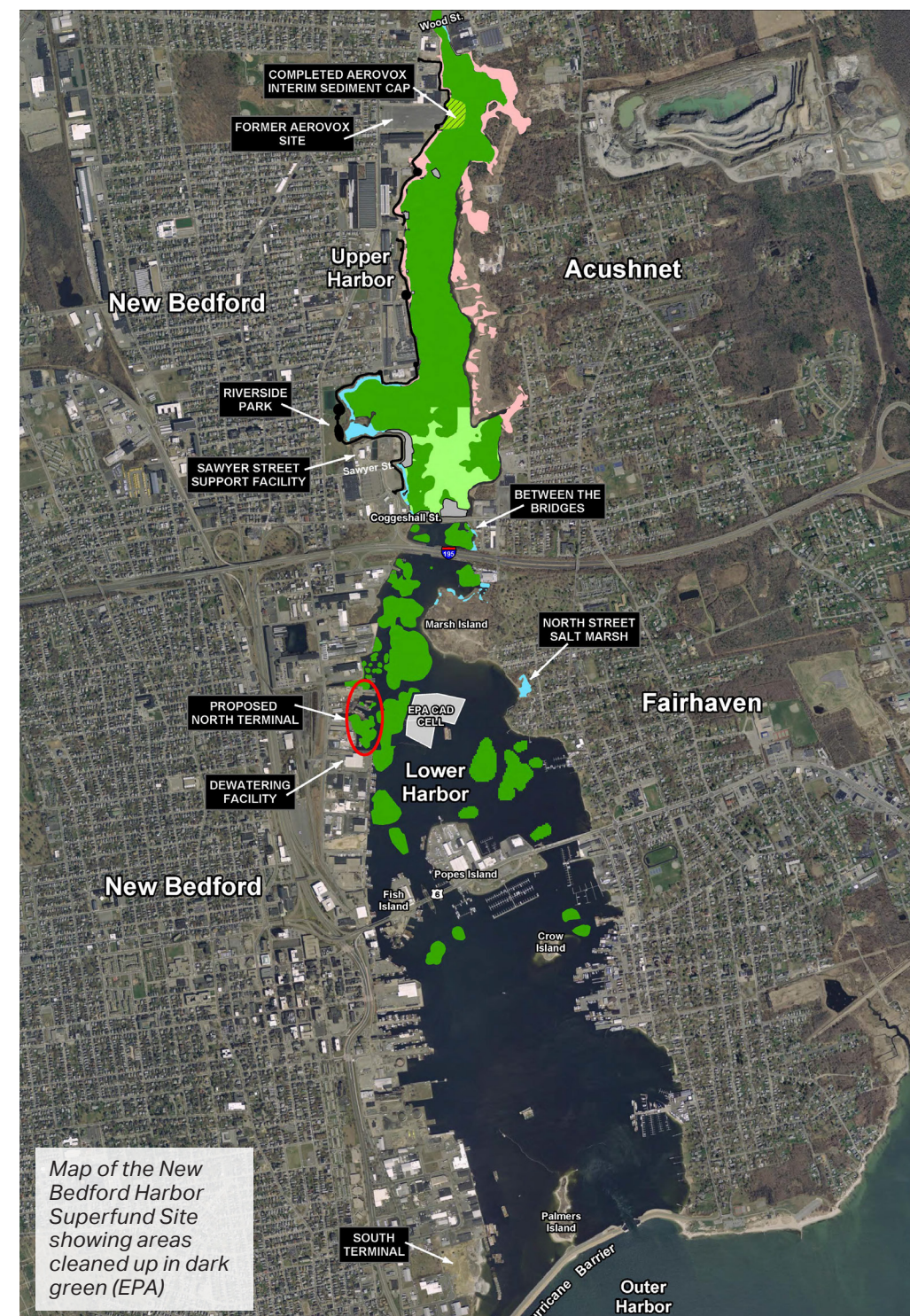
NEW BEDFORD HARBOR SUPERFUND SITE

This is the story of the New Bedford Harbor Superfund Site, as seen through the archaeology undertaken during a cleanup project that has spanned four decades and made substantial improvements to the harbor.

The Acushnet River is an environmentally rich estuary with a history of people living and working along its shores that goes back thousands of years. Its abundant resources and protected waters provided food and shelter and served as a safe harbor and pathway to the sea for the indigenous inhabitants and the European colonists. The past several hundred years has seen the river's shores transformed from farmland to the whaling capital of the world, then to an industrial manufacturing center, and now, to the most valuable fishing port in the nation. It was during the river's industrial period, in the 1940s, that manufacturing companies started dumping toxic chemicals known as polychlorinated biphenyls, or PCBs, into the harbor. The PCBs spread into the sediments at the river bottom and, over time, into about six miles of the harbor and Buzzards Bay. The PCBs got into shellfish and other wildlife in the harbor, making seafood unsafe to eat and posing a major health risk to people fishing and shellfishing. In 1983, the site was declared a Superfund site, making it eligible for federal funding for cleanup. Since then, the United States Environmental Protection Agency (EPA) and Massachusetts Department of Environmental Protection, with construction management from the US Army Corps of Engineers, have completed extensive testing and cleanup in the harbor.



Heavy equipment used to clean up New Bedford Harbor (courtesy of Severson Environmental Services)



Map of the New Bedford Harbor Superfund Site showing areas cleaned up in dark green (EPA)

NEW BEDFORD HARBOR SUPERFUND SITE

Starting in the 1990s, the Superfund cleanup at New Bedford Harbor has removed or remediated about a million cubic yards of PCB-contaminated sediment. By March 2020, dredging of contaminated sediment below the low-tide line in the river was complete and PCB levels in the Upper Harbor are now several hundred times lower than before the cleanup. A limited area of contamination is being capped in locations where dredging was not the best solution.

EPA's 55,000 square-foot sediment dewatering facility at the working waterfront will be decontaminated and commercially redeveloped by the City of New Bedford.

Major shoreline cleanups are now complete at places like Riverside Park in New Bedford and at Marsh Island in Fairhaven. EPA anticipates that the remaining contaminated shoreline of the Acushnet River (north of Coggeshall Street Bridge) will also be cleaned up in the coming years.

As a result of these actions, New Bedford Harbor is the cleanest it has been in decades.



Excavation of contaminated shoreline, Fairhaven, Massachusetts (courtesy of Sevenson Environmental Services)



Freshly replanted salt marsh along cleaned up shoreline, Acushnet, Massachusetts (EPA)



After the contaminated sediments were dried out in the dewatering facility, they were transported by rail to a secure landfill in Michigan (image from Google Maps)

NEW BEDFORD HARBOR SUPERFUND SITE

The cleanup work in the harbor disturbed large areas of sediment on the harbor floor and along the intertidal shoreline. When the federal government undertakes or funds a project, it needs to comply with a law that protects historical and cultural resources called the National Historic Preservation Act of 1966. This law requires federal agencies to take into account the impact the project could have on archaeological sites, historic buildings, landscapes, or traditional cultural properties. That means hiring experts to complete studies and having meaningful consultation with state and tribal historic preservation officers, local officials, and interested members of the public.

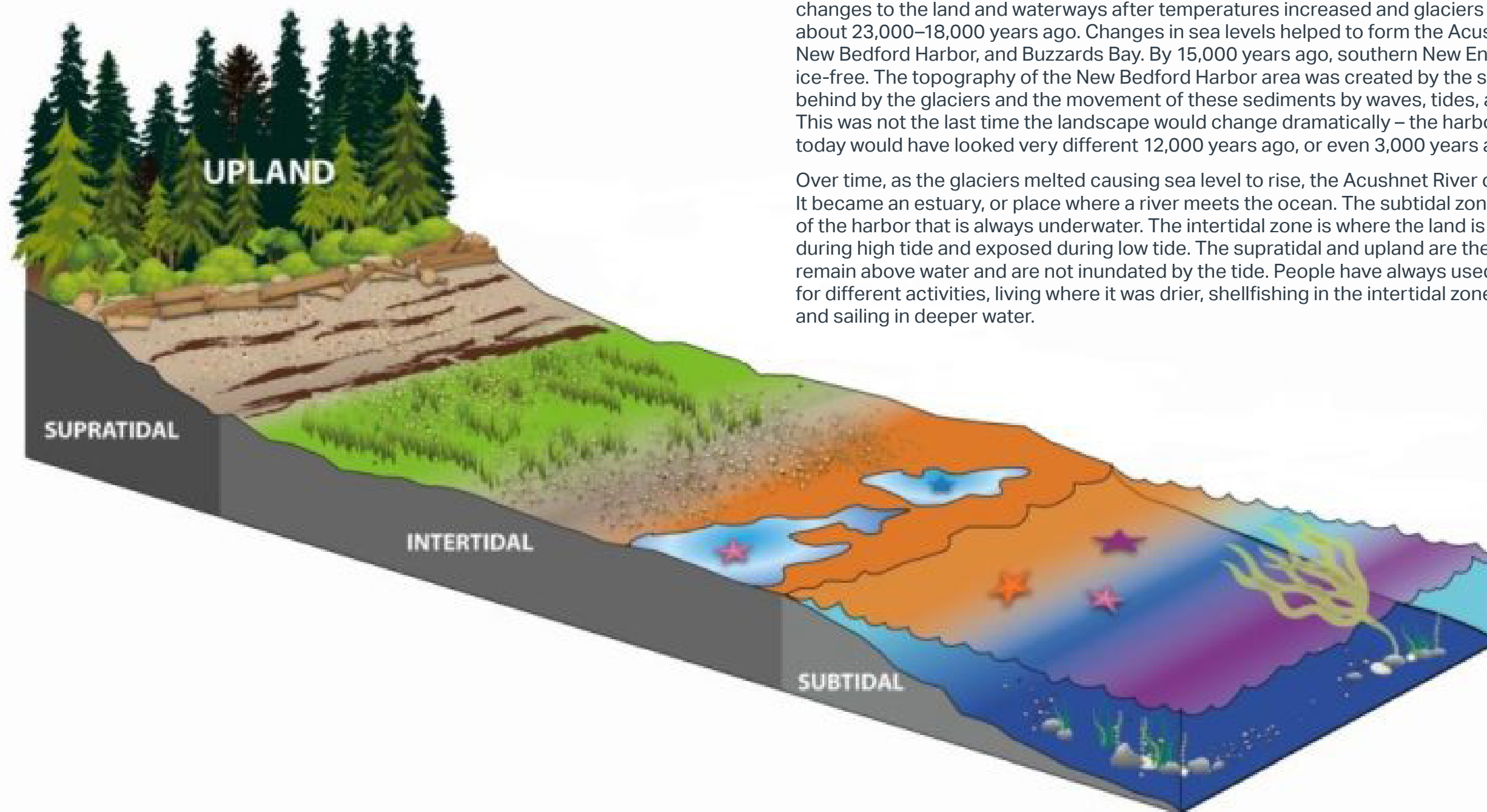
The entire project area for the New Bedford Harbor site is located within the ancestral homelands of the Wampanoag People. Consultation with the Wampanoag Tribe of Gay Head (Aquinnah), the Mashpee Wampanoag Tribe, and the Herring Pond Wampanoag, was important to EPA's efforts to be sensitive to potential impacts to the tools and cultural materials last touched by the indigenous people who lived, worked and played here over 12,000 years ago.

It is not unusual at large projects like the Superfund site in New Bedford for the EPA to work with several experts over many years to determine first what historic or cultural resources are present, and then, how or even if, the cleanup impacts them adversely. At least ten different archaeological studies took place between 2000 and 2017, exploring on-shore and underwater parts of the harbor where archaeological sites might have been in danger of being disturbed by dredging and new construction. These studies discovered 15 new archaeological sites, including three historical shipwrecks.

*Wampanoag tribal monitor
during archaeological work
(courtesy of PAL)*



CHANGING COAST, CHANGING CULTURE



The landscape we see today in and around the New Bedford area has been shaped by changes to the land and waterways after temperatures increased and glaciers melted away about 23,000–18,000 years ago. Changes in sea levels helped to form the Acushnet River, New Bedford Harbor, and Buzzards Bay. By 15,000 years ago, southern New England was ice-free. The topography of the New Bedford Harbor area was created by the sediments left behind by the glaciers and the movement of these sediments by waves, tides, and storms. This was not the last time the landscape would change dramatically – the harbor we see today would have looked very different 12,000 years ago, or even 3,000 years ago.

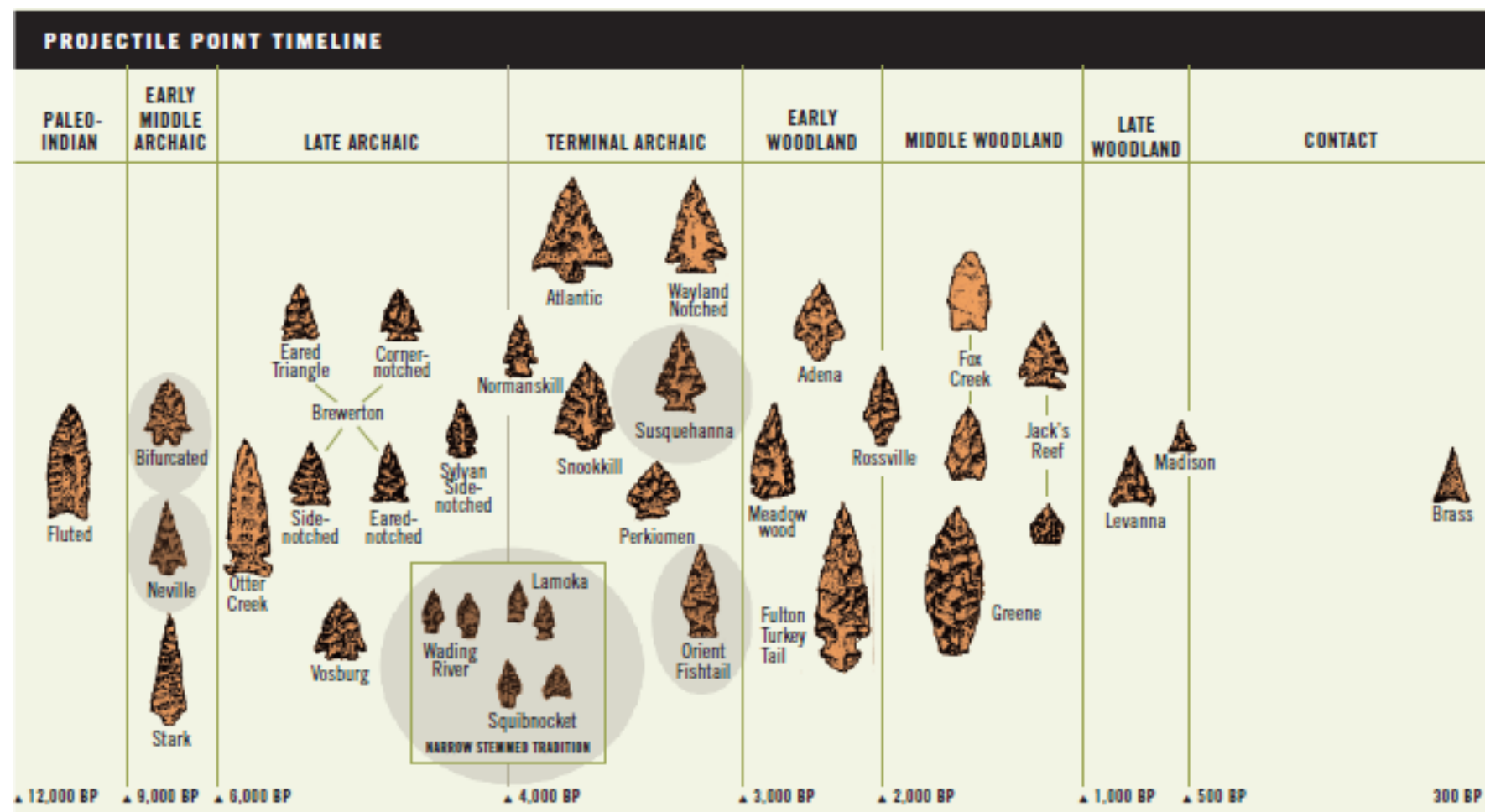
Over time, as the glaciers melted causing sea level to rise, the Acushnet River changed, too. It became an estuary, or place where a river meets the ocean. The subtidal zone is the part of the harbor that is always underwater. The intertidal zone is where the land is underwater during high tide and exposed during low tide. The supratidal and upland are the areas that remain above water and are not inundated by the tide. People have always used these zones for different activities, living where it was drier, shellfishing in the intertidal zone, and fishing and sailing in deeper water.

CHANGING COAST, CHANGING CULTURE

Archaeologists use special terms to refer to different time periods where they find physical clues of cultural change. These terms are a way to organize information about archaeological sites but do not reflect how people living in the past thought of themselves and their culture. This is important to remember because the indigenous people who lived here long ago have never left; their descendants still live here today and can offer perspectives that complement and inform better archaeological thinking.

People in the past used a variety of different materials to make shelters, tools, clothing, and weapons – materials like wood, plant fibers, bone, antler, fur and skins, and stone. The artifacts tough enough to survive until today are usually stone, bone, and antler. Artifacts are just one piece of the puzzle of understanding how people lived long ago. Through consultation with indigenous people who can provide insight into their usage, artifacts can give us a glimpse into what life was like for the earliest inhabitants of an area.

Indigenous people were living in the Buzzards Bay area on a limited basis as early as 12,500 years ago, or years before the present (BP) during a time that archaeologists call the **PALEOINDIAN PERIOD**. People lived in small groups and moved often, collected plants, and hunted mastodon, bison, elk, and caribou. The climate was much colder and drier than it is today, and sea level was about 200 feet lower. Land near the water's edge that was dry in the past is now under many feet of water and sediment. The Acushnet River connected the coast to ponds and wetlands, providing access to food and other resources. The river also helped people travel and communicate with each other.



Archaeological timeline with artifact styles for each Period (courtesy of PAL)

CHANGING COAST, CHANGING CULTURE

During the **EARLY ARCHAIC PERIOD** (10,000–8000 BP), people expanded their food sources as the climate warmed and more animals and plants were available. Early Archaic sites are hard to find, and most of the sites in New England are found farther from the coast in major river valleys. By the **MIDDLE ARCHAIC PERIOD** (8000–5000 BP), people were also fishing and harvesting various plants at locations near waterfalls and river rapids. Ground-stone tools (such as axes or pestles) first appear and local stone was used to make flaked stone tools (like projectile points, drills, or scrapers). During the **LATE ARCHAIC PERIOD** and **TRANSITIONAL ARCHAIC PERIOD** (5000–2500 BP), rising sea levels formed estuaries in the New Bedford area and some areas that had been dry before became salt ponds and marshes. This created new habitats for diverse wildlife and people living in the area adjusted to the changing landscape. Larger groups were living near the coast and collecting shellfish. Soft soapstone was carved into objects such as bowls and pipes that were often traded with other groups.

By the **EARLY WOODLAND PERIOD** (3000–2000 BP), people were making clay pottery. The introduction of pottery meant that food could be cooked, stored, and transported more easily. Pottery styles can give us hints about the lifestyle of the people who made them. In the **MIDDLE WOODLAND PERIOD** (2000–1000 BP), people began to grow crops and make a wide variety of stone tools. Fewer wild foods were collected, and pottery decoration styles became more elaborate. During the **LATE WOODLAND PERIOD** (1000–450 BP), people seemed to prefer living in large groups near the coast and in fortified villages. They lived in large permanent camps and villages and smaller outlying hunting and fishing camps. Some groups gathered at specific times of the year for social and ceremonial activities. The Wampanoag People were well established in the New Bedford area, and other local tribes such as the Narragansett and Nipmuc were also known to have utilized the area before the Europeans arrived.

BASIC CHANGES IN POTTERY STYLES THROUGH THE WOODLAND PERIOD



Early Woodland ca. 3,000–2,000 years ago



Middle Woodland ca. 2,000–1,000 years ago



Late Woodland ca. 1,000–450 years ago

THE HISTORICAL HARBOR

The **EARLY COLONIAL PERIOD** (450 BP) marks the time of contact between Native Americans and Europeans. This was a point of enormous change for the indigenous people of New Bedford, and the start of a struggle for preserving life, culture, and land that continues today. Europeans first arrived in 1602 and by 1675, indigenous resistance to decades of disease, violence, and land-taking led to an uprising known as King Philip's War. Beginning with the Wampanoag Nation, the Narragansett, Nipmuc and other area tribes joined forces against the English. When the war ended in 1678, the population of these tribes had been devastated, including Wampanoag living in settlements along the Acushnet River and New Bedford Harbor.

After King Philip's War, colonial settlements were slow to recover. Eventually, woodmills, shipyards, piers and wharves began to pop up along the waterfront, and settlement of towns on the Acushnet River increased. Though Wampanoags had been hunting whales long before the arrival of Europeans, it was in New Bedford that America's leading whaling industry developed in the early 18th century. Quaker settlers and Wampanoag sailors were quick to join the growing industry, though the peak of whaling would occur nearly 150 years later. The lower Acushnet River's natural features such as its protected harbor and intertidal waters led to changes in land use around the harbor. Farming was replaced by maritime-related activities: whaling, ship building, and extensive import/export trading.

New Bedford's contribution to the Revolutionary War was primarily through ship building, storing captured British ships and supplies, and trade which made it a target for British forces that blockaded the harbor and burned most of the town in 1778. This included shipyards, warehouses, and 34 vessels sitting in the harbor. Only a few years after the Revolutionary War, New Bedford was asked again to contribute a portion of its fleet to America's efforts during the War of 1812 while a shipping embargo slowed exports. The lack of ships and cargo led to a temporary shift in industry from ship building to work on harbor improvements, increasing the harbor's defenses.

Harbor improvements continued even after the end of the War of 1812 as wooden docks with stone footings were replaced by larger stone wharves. As New Bedford grew, land was at a premium and the city filled in along the shoreline to expand its wharves further into the harbor. The larger wharves were able to accommodate the growing whaling industry by making it easier to maintain ships and maneuver cargo. By 1850, there were dozens of wharves operated by numerous shipping and whaling companies.

Who is King Philip? Why did he have an English name?

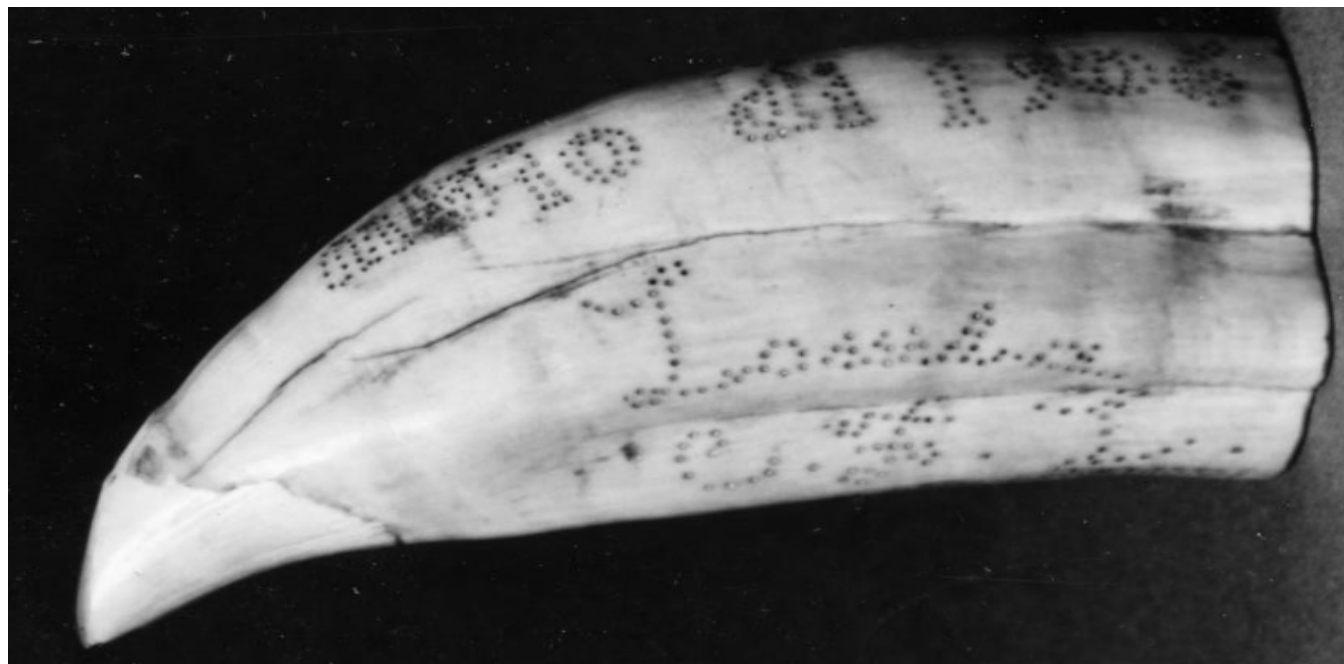
Born Metacomet, the son of Massasoit, King Philip was a Wampanoag sachem who took the English name Philip around 1660 as a diplomatic gesture to the Pilgrims (his brother, Wamsutta, also took the English name Alexander). Since both were leaders of their people, the prefix "King" was added to their names to show their equality to other sovereigns like England's King Charles.

*Metacomet (King Philip)
illustration c. 1867 (courtesy
of Columbia University from
The Old Indian Chronicle, by
Samuel G. Drake)*



THE HISTORICAL HARBOR

In 1857, New Bedford was the richest city (per capita) in the world, with a local whaling fleet that included approximately 450 vessels and accounted for 59% of the American catch. These whaling vessels were active throughout the Atlantic, Arctic, and Pacific Oceans. The diversity among ships' officers and crew is reflected in ships' logs. The Wampanoag continued their long maritime tradition alongside people from around the world with similar connections to the sea, including Portuguese and Cape Verdean sailors. The sailors' art, and the diversity of New Bedford's inhabitants, reflects the whaling port's connections with other maritime cultures around the world. The discovery of petroleum and the onset of the Civil War all but ended the golden age of whaling in the 1860s. New Bedford was forced to shift its economic focus to other industries like fishing, and increased manufacture of products that could be shipped from the harbor.



Whalers scrimshaw shows us how sailors found creative ways to pass the time on long voyages away from their port of calling, New Bedford Harbor. (courtesy of the New Bedford Whaling Museum)



Levi Cuffe was a Wampanoag born in 1818 who spent his life at sea or in his homelands of Aquinnah. He served on the Francis II from 1840-1845, the Young Phenix from 1844-1848, and on the Virginia as third mate from 1851-1855. After his last voyage, he traded the life of a mariner for that of a farmer. By 1856, he had married Alice Peppers and together they owned a cow and two acres of land. Levi went on to have at least three children with his second wife, Melissa Jeffers. One can only imagine the stories of life aboard a whaling ship that he was able to share with his grandchildren! (courtesy of the New Bedford Whaling Museum)

THE HISTORICAL HARBOR

By the 1870s, textile manufacturing had replaced whaling as New Bedford's most important industry, and by 1892, Wamsutta Mills was the largest cotton weaving plant in the world, employing over 2,000 workers. Improvements in transportation and the rise of the textile industry brought thousands of workers to New Bedford, especially Portuguese immigrants. Towns around the harbor became more residential, and the early 20th century was a time of

expansion. Companies quarrying bluestone and trap rock emerged, along with companies that are still in business today. Buildings constructed during this time have largely survived and make up the commercial districts and downtowns of the surrounding towns. Maritime industry in the 20th century has relied on fishing, scalloping, and lobstering and, throughout most of the century, New Bedford was the leading fishing port in the nation.



View of the harbor, 1867 (courtesy of the New Bedford Whaling Museum)



New Bedford fisherman at work in the 1940s (courtesy of noaa.gov)

BESIDE THE HARBOR: ARCHAEOLOGICAL METHODS

Archaeology isn't just about digging – there is careful research and planning that needs to be done ahead of time. Archaeologists working at New Bedford Harbor Superfund Site (NBHSS) spent time looking at historical maps, geological surveys, and archaeological reports, and speaking with tribal members currently living on lands continuously inhabited by their tribal ancestors for thousands of years. On land and in the intertidal zone between land and water, archaeologists dug pits to look for artifacts and features. A feature is where there is evidence of an event or structure that happened in the past. They are especially informative because they don't get moved around the way that artifacts can. When artifacts and features are found, archaeologists carefully record their location, take many measurements, and make handwritten notes and sketches to describe the finds. Tribal resource monitors were on site to make sure that sacred or important discoveries were properly identified and treated with care and respect.



The #1 priority for work at NBHSS was safety. Because archaeologists were digging in and handling sediments contaminated with PCBs, they needed to take precautions and use special equipment to keep themselves healthy and safe. Archaeologists wore special suits, rubber boots, and gloves, and took care to wash all of their equipment each day. They also wore monitors to check the air quality to make sure the air was safe to breathe.



Archaeologist screening soil in protective gear (courtesy of PAL)

ARCHAEOLOGICAL METHODS

To help federal agencies meet the requirements of the National Historic Preservation Act of 1966 (NHPA), it is not enough for archaeologists to answer the question, “is there an archaeological site here?” They must also ask whether the archaeological site is important enough that it must be protected from harm during the project. It can be difficult to answer this question. There are specific criteria that a site must meet to be considered important under NHPA, which also make the site eligible to be included in the country’s official list of important historical sites, the National Register of Historic Places. But not everyone involved in a project may agree on whether a site is significant. That’s why the NHPA requires agencies like EPA to always consult with state and tribal historic preservation officers before undertaking a project. If a site is found to be significant, then every effort must be made to either avoid it or to minimize harm to it. But that is not always possible, and in those situations, the federal agency may have to conduct data recovery which is the most involved and invasive type of excavation. Fortunately, EPA was able to avoid all the significant archaeological sites along the shoreline and data recovery was not necessary.

However, some artifact collection was necessary to evaluate the significance of the archaeological sites located in the NBHSS. After they were labelled in the field, they were brought back to a laboratory to be identified and carefully organized. More than 2,200 artifacts were collected during all the archaeological surveys! These included stone tools, pottery, bone, shell, and glass.

The PCB contamination made this part of the project a challenge. Archaeologists had to follow a safety plan for handling the artifacts, and even the paper field notes were contaminated with PCBs. Ultimately, the artifacts could not be cleaned enough to ensure they were safe for people without proper training to handle. So, a team of archaeologists took photographs and notes of the artifacts and copied the contaminated paperwork onto clean forms. Then everything was scanned to create an electronic record, which will be securely stored, organized, and shared with researchers. After a ceremony carried out by Wampanoag tribal elders, the contaminated cultural materials were reburied in a location where they would be both secure and pose no threat to the environment.



Lab analysis of artifacts
(courtesy of DSRA)

BESIDE THE HARBOR: LIFE ON LAND

Archaeologists focused their investigations on the undeveloped land in the intertidal zone along the eastern shoreline of the Acushnet River and Upper Harbor. Between 2001 and 2004, 12 new archaeological sites were found. Many of these sites were small and did not contain artifacts that could be dated to a particular pre-European contact time period. The rest of the sites had artifacts that could be dated or had the potential for features. Most of the more interesting archaeological results came from studying these sites; however, each site has a story to tell, and together help to describe a bigger story about life long ago.

One of the first places to be excavated was a large archaeological site first found by an artifact collector in the 1970s. The artifacts found by the collector were stone tools, mostly projectile points (spear tips, darts, and arrowheads) with styles dating to the Middle and Late Archaic Periods and came from a sandy beach. Archaeologists recovered more artifacts from the surface of the intertidal zone's mudflats, including one Late Woodland Period point. Overall it seemed like people stopped living at the site around the Woodland Period – but why? A possible explanation is that high tides probably started affecting the site around 2,500 BP making the site a less desirable place to live as sea level rose and a marsh developed. The artifacts found in the intertidal zone's sandy beach and mudflats likely eroded out of the bluffs over time was located on higher ground than initially believed. We don't know the whole story, but this is more evidence of how early indigenous people adapted to changes in their environment.



Artifacts from the eastern shoreline (courtesy of PAL)

LIFE ON LAND

One of the most significant sites is located in the uplands in the Upper Harbor and was the only site in the NBHSS project area that had an intact cultural feature – a hearth. The hearth was a circle of stones with charcoal and soil turned red from burning. The hearth did not contain any artifacts, but other parts of the site had artifacts from the Transitional Archaic Period, including projectile points with styles called “Atlantic” and “Orient Fishtail”. A Woodland Period projectile point was also found. There were different types of stone used to make tools, and the debitage (stone chips left over from making tools) was mostly quartz. Together, the data suggests that it was a seasonal camp, where people returned to gather resources, hunt, and prepare stone tools along the ancient freshwater or tidal marsh setting of the Acushnet River around the time that the landscape was changing. The single feature and low density of artifacts makes it likely this site was a temporary camp created by a mobile group of people.

Another site was also found in the uplands and part of the intertidal zone. This site had 132 artifacts, most of which were quartz debitage, but it also included fire-cracked rock that could have come from a hearth or firepit. Three projectile points were also found, dating to the Transitional Archaic Period. This site was likely a seasonal camp where stone tools were made; however, no features like a hearth were found.

A third site was located in the uplands in the Upper Harbor. Only a few stone tools were recovered, and many of the debitage pieces were made of a stone called argillite. Most other sites recorded along the harbor have tools made of a variety of stone, but the majority of artifacts were made of quartz, which is locally available.



Hearth found
at uplands site
(courtesy of PAL)



Artifacts from
uplands site
(courtesy of PAL)

LIFE ON LAND

All three sites were likely temporary camps created by repeated or seasonal visits to the Acushnet River/upper New Bedford Harbor between 3,600 and 2,800 years ago. The high density of stone flakes found at one of the sites suggests it was also a tool workshop. All three of these sites met the criteria to be included in the National Register of Historic Places; fortunately, EPA's cleanup project was able to avoid disturbing the sites. Many of the sites recorded as part of the NBHSS archaeological investigations date to the Late Archaic and Transitional Archaic Periods, the time at or just before the Acushnet River was inundated with salt water and became a tidal river.

Even though intensive data recover excavations were not completed for the NBHSS, it is still possible to get a sense of the story of these sites; together they create a snapshot of life along the harbor at a time that was not well understood by archaeologists before archaeological work began.



Rhyolite point from suspected seasonal camp (courtesy of PAL)



Artifacts from Upper Harbor uplands site (courtesy of PAL)

BENEATH THE HARBOR: UNDERWATER METHODS

The archaeological discoveries at New Bedford were not only made on land, and work under water required different methods. Before the dredging of contaminated sediments started, the harbor bottom was surveyed to identify shipwrecks and other underwater archaeological sites, but the results were inconclusive. Hundreds of years of sunken commercial and industrial debris made interpretation of the survey data challenging. Archaeologists knew it was still possible that sites might be found once dredging started, so a plan was put in place to handle new discoveries made during the cleanup. Each time the dredging machines encountered material that appeared historical, dredging moved elsewhere on site, and marine archaeologists were called to record the discovery.

Archaeologists used survey techniques like bathymetry and magnetometry to “see” the underwater landscape and look for more archaeological site features or artifacts at that location. Bathymetry sends out sound waves through water to reveal objects (like shipwrecks) on, and the depth and texture of, the harbor floor. A magnetometer detects changes in the earth’s magnetic field that can be caused by magnetic rocks or artifacts like anchors or shipwrecks with magnetic iron and steel in them. Using remote sensing, evidence of a “paleochannel”, meaning the course of the river from long ago, was located 5-10 feet below the harbor floor.



Crew member with
side-scan sonar tow fish
(courtesy of DSRA)



Sub-bottom profiler unit
(courtesy of DSRA)

UNDERWATER METHODS

When the underwater remote sensing survey showed a possible shipwreck, EPA prepared a plan to recover the timbers to document and record the finds. Between 2012-2017, the remains of three historical shipwrecks were found. Remains were brought up from the harbor floor and placed in a recovery barge, where they could be isolated and wrapped in plastic for transportation to shore. Because the finds were recovered from sediments containing PCBs, it was assumed that they were also contaminated. So once on shore, archaeologists documented every piece of timber with careful measurements, drawings, and photographs before they were disposed of as hazardous waste.



Shipwreck timber and scale drawing setup (courtesy of DSRA)



Rinsing mud off shipwreck timbers (courtesy of DSRA)



Shipwreck recovery work barge and hopper barges (courtesy of DSRA)

BENEATH THE HARBOR: SHIPWRECKS

Shipwreck #1 was discovered in the Upper Harbor in 2009. The wreck consisted of mostly timbers and keel fragments from the bottom of the hull and a small number of artifacts including fragments of rope, an iron barrel hoop, hearth bricks, wood cask pieces and the sole of a leather shoe. The hull framing timbers were rough-cut and one timber even had tree bark still attached! The iron fasteners had disintegrated, but the differently-sized and -shaped holes left behind showed how the timbers were connected. 3-D computer models of the hull timbers from drawings allowed archaeologists to piece together the wreckage like a puzzle and determine that the ship was a 100-ton coastal merchant vessel from the late 18th century. Curiously, many of the timbers were charred from fire – perhaps from an old vessel abandoned and eventually burned at the end of its service life? It was not until the discovery of Shipwreck #2 that a different theory was formed.

Shipwreck #2 was discovered in 2016, also in the Upper Harbor. Its remains consisted of the keel and other fragments from the bottom of the hull. Based on drawings, modeling and saw marks on wood, it was determined that the wreck was also a 90-100-ton coastal merchant sloop or schooner from the 18th century. As with Shipwreck #1, the framing timbers and hull planking were extensively charred. The lower extent of charring was also the same indicating that both vessels had been burned afloat while still in use. This finding raises the possibility that both vessels were among those burned and sunk during the September 5, 1778 British attack on New Bedford Harbor!

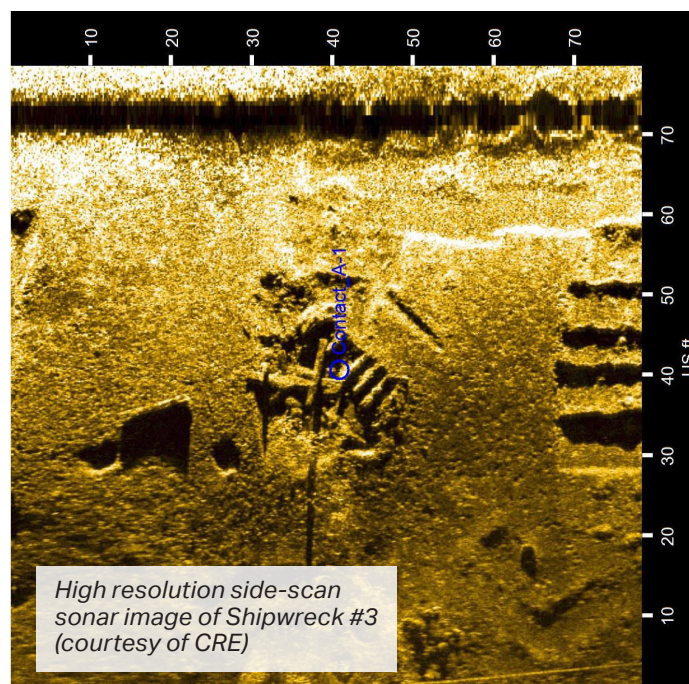


Select artifacts from Shipwreck #1 (clockwise from top: iron barrel hoop fragment, leather shoe sole, glass bottle fragment, wood box fragment, wood cask fragment, rope fragments (courtesy of DSRA))

SHIPWRECKS

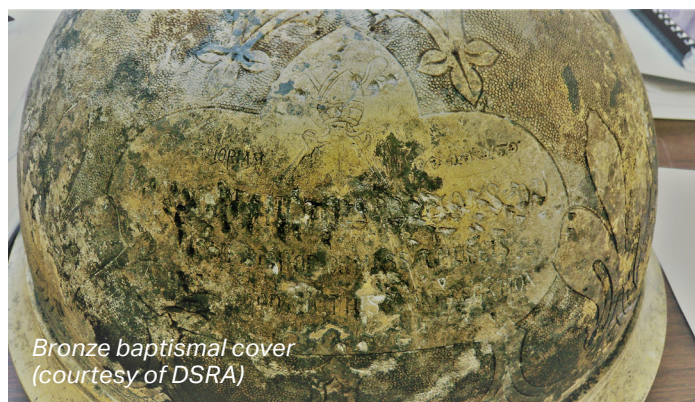
Shipwreck #3 was discovered in 2017 in the Lower Harbor. Its remains also consisted of fragments from the bottom of the hull and unlike the other two shipwrecks, only about a quarter of the keel. Characteristics of the materials recovered – such as the lack of a keel shoe which protects a ship from grounding in shallow water – together with historical information suggested that Shipwreck #3 was a much larger (430- to 450-ton) and later (early to middle 19th century) transoceanic vessel – possibly a whaling ship.

The poor condition of the hull timbers, which showed signs of age, such as infestation of a wood-eating mollusk called “shipworms” and evidence of multiple repairs, indicate Shipwreck #3 was an old vessel at the end of its service life that sank while anchored in the Lower Harbor.



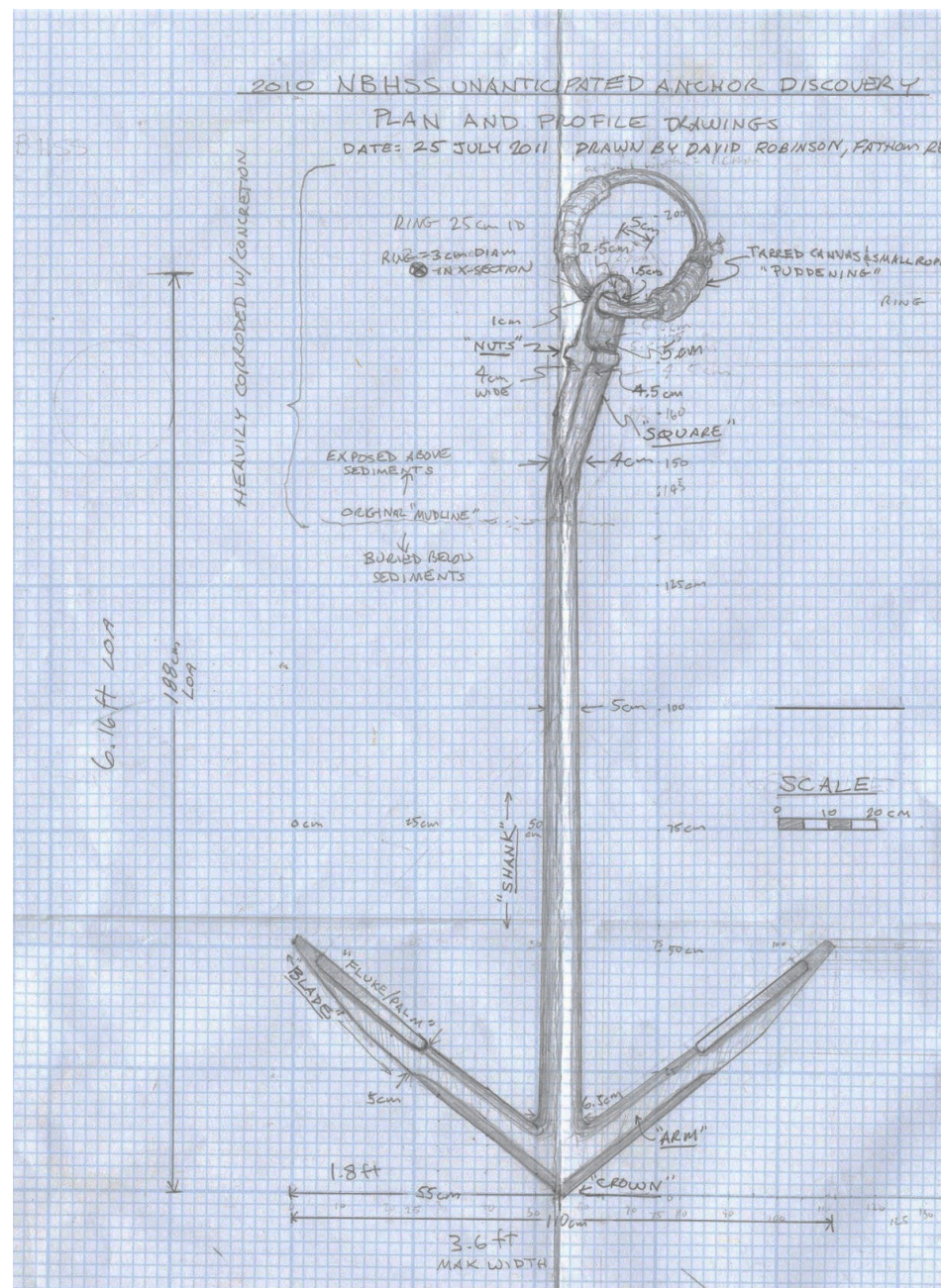
BENEATH THE HARBOR: UNANTICIPATED DISCOVERIES

In addition to the three shipwrecks that were found, several other finds were made, each with their own stories to tell. In all, six anchors without a connection to a known vessel or wreck were recovered from the harbor. The first anchor was found in 2011, two more in 2015, and three additional anchors were found in 2016. Two of the anchors were similar to those commonly used in the late 18th and early 19th centuries. Other small artifacts recovered from the harbor included a leather "brogan" (a work boot worn by seamen in the 19th century), bottles, and fragments of rope – hints of life spent at sea.



Bronze baptismal cover
(courtesy of DSRA)

This decorated bronze artifact was brought to the surface in 2012 during dredging. Based on the cover's shape and decorations, it was quickly identified as a baptismal font cover stolen from the New Bedford Grace Episcopal Church and discarded into the Acushnet River. The cover was returned to the church after testing confirmed it was not contaminated with PCBs and was safe to handle.



19th century anchor and scale
drawing (courtesy of DSRA)

SUMMARY: WHAT WE HAVE LEARNED

Archaeological studies conducted as part of EPA's cleanup of the New Bedford Harbor Superfund Site have added rich new details to our knowledge of thousands of years of life along the Acushnet River. Sites investigated on land provided evidence of a strong ancestral Wampanoag presence extending at least as far back as 5,000 years ago to the Middle Archaic Period. Archaeological evidence consistent with information from other sites in southeastern Massachusetts indicates that early indigenous peoples lived along the river seasonally to fish, hunt, gather food and make stone tools. The variety of stone types used to make tools in the Late Woodland Period suggests that the river was used for short-term occupation by people living in villages elsewhere.

Underwater archaeological studies conducted using remote sensing technologies located a paleochannel, further enhancing our understanding of the major environmental changes to the Acushnet River over the past 15,000 years, as sea level rose and the river became a tidal estuary connected to the sea. The study of shipwrecks and artifacts discovered during cleanup dredging also enhanced our understanding of the more recent past of New Bedford Harbor. The charred hull remains of two 18th century merchant vessels connects them to the 1778 British attack on the harbor during the American Revolutionary War, a significant event in our nation's history. The remains of a 19th century vessel, likely a whaling ship abandoned and left to sink after many years of service, are linked to America and New Bedford's historically significant whaling era. These finds offer a contrasting picture of the rapid technological, economic and cultural changes in peoples' lives along the river within a period of less than 100 years.



Archaeologists completing an excavation unit in 2016 (courtesy of PAL)

RESOURCES & ADDITIONAL INFORMATION

The information in this report is just a sample of the resources available on the history of the New Bedford Harbor Region. Check out the links below for access to EPA's Superfund project information, tribal websites, in-depth histories, archives, and more:

EPA NEW BEDFORD HARBOR SUPERFUND SITE <https://www.epa.gov/new-bedford-harbor>

MASSACHUSETTS BOARD OF UNDERWATER ARCHAEOLOGICAL RESOURCES <https://www.mass.gov/orgs/board-of-underwater-archaeological-resources>

MASSACHUSETTS HISTORICAL COMMISSION <https://www.sec.state.ma.us/mhc/mhcidx.htm>

MASHPEE WAMPANOAG TRIBE <https://mashpeewampanoagtribe-nsn.gov/>

NEW BEDFORD FISHING HERITAGE CENTER <http://www.fishingheritagecenter.org/>

NEW BEDFORD FREE PUBLIC LIBRARY <https://www.newbedford-ma.gov/library/>

NEW BEDFORD WHALING MUSEUM <https://www.whalingmuseum.org/>

NEW BEDFORD WHALING NATIONAL HISTORICAL PARK <https://www.nps.gov/nebe/index.htm>

WAMPANOAG TRIBE OF GAY HEAD (AQUINNAH) <https://www.wampanoagtribe.org/>

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**US Army Corps
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