Emerging Challenges in Coastal and Maritime Archaeology
May 28, 2011 University of Massachusetts Amherst

Position Paper
by Kerry Lynch, UMass Archaeological Services

The New England archaeological record illuminates a long and varied history of human occupation and the relationships with the landscape that this occupation produces. However, the data used to build the archaeological record comes almost exclusively from terrestrial sites. Many archaeological resources underwater remain untapped and understudied. Gradual sea level rise following the retreat of the Laurentide ice sheet has covered and obscured formerly exposed landforms with water and sediment. Away from the current ocean margins, coastal and inland fresh water sources have grown, shrunk, migrated, or been otherwise modified post-glaciation by natural and human forces.

Archaeological resources are undeniably present under these waters, and our understanding of New England’s past human history is incomplete without data from submerged sites. In particular, the data from submerged pre-Contact sites is missing. The coastal and inner coastal environment utilized by early New England cultures is now offshore. In addition, over the history of sea level rise, there have been multiple “coastal” environments. Understanding the rate of sea level rise, and how it may have affected environmental adaptations and cultural decision making, is crucial to understanding early New England culture and culture change. Understanding the rate of sea level rise is also instrumental in predicting the preservation of landforms that may contain archaeological sites. Wave energy, sediment supply, resistance to erosion, pre-existing topography and tidal range are additional factors that affect landform preservation (Belknap and Kraft 1981).

Geologists have modeled the preservation potential of sediment deposits on the Atlantic continental shelf post-marine transgression (Belknap and Kraft 1981; Kraft 1971; Uchupi 2001). At present, these geophysical models are primarily theoretical. Julie Brigham-Grette (personal communication 2004) has pointed out that the last 20 years have been very important to the discipline of glacial geology. Glacial history was previously extrapolated from pre-Cambrian bedrock rather than direct field observation of glacial deposits. Since glaciations wipe out any terrestrial, sedimentary evidence of previous glaciations, study of the marine environment has become a new science for glacial geologists and sedimentologists as the marine environment records all glaciations. Archaeologists are well positioned to integrate with geophysists doing marine research, especially in conjunction with offshore development.

Many common research questions pertaining to colonization, migration, settlement patterns, water based transportation or the marine resource adaptations of early New
Englanders cannot be adequately addressed without accessing submerged sites. These sites are understudied due to a complex web of factors that include the lack of researchers, cost, unfamiliarity with available technology, extremely perplexing laws, and skepticism that intact submerged sites exist. The limited attention paid to submerged resources today likely reflects the historical, skeptical attitude of professional archaeologists. Just a few decades ago it was assumed that archaeological sites had been destroyed by the advancing sea. In fact, multiple submerged sites have been recorded worldwide in the past 20-30 years. A site off the coast of South Africa has yielded Acheulean handaxes in undisturbed sediment that has experienced a total of ten marine transgressions (Werz and Flemming 2001). Formerly glaciated regions similar to New England, such as Britain, Sweden, and Denmark, have recorded intact features as well as recovered artifacts (Grøn and Skaarup 2004; Larsson 1983; Momber 2000).

While there are multiple challenges facing the study of these resources, current work is showing that the effort is worth it. Researchers presenting at the 2011 CNEA conference have advanced past skepticism and embraced the challenges. Their projects include CRM surveys, academic programs and field schools, and independent research. As a result, intact, submerged sites have been recorded; collaboration with stakeholders has been established; cross disciplinary research has been enacted; and measures for stewardship and protection have been taken. In law, forming a custom takes place by executing actions that become common and consistent. My hope is that New England archaeologists will move the study of submerged, pre-Contact resources into common practice within both mandated CRM and independent study. Only then can we begin to insert missing data sets into the archaeological record.

Belknap, D. F. and J. C. Kraft

Grøn, Ole and Jorgen Skaarup

Kraft, John C.

Larsson, Lars

Momber, Garry
Uchupi, E., N. Driscoll, R. D. Ballard and S. T. Bolmer
2001 Drainage of Late Wisconsinan glacial lakes and the morphology and late quaternary
stratigraphy of the New Jersey-southern New England continental shelf and slope. Marine
Geology 172:117-145.

Werz, B. E. J. S. and N. C. Flemming
2001 Discovery in Table Bay of the oldest handaxes yet found underwater demonstrates preservation of hominid artefacts on the continental shelf. South African Journal of Science 97:183.

Identifying the submerged pre-Contact history of New England: An Intact, Inundated Archaeological Site in Salem, Massachusetts
Kerry Lynch, UMass Archaeological Services

There are many challenges facing archaeologists in their endeavor to understand the full range of human occupation in New England. One challenge is to overcome the historical absence of data from sites that are now submerged under water, particularly along the coast of the Atlantic Ocean. Post-glacial sea level rise inundated a significant amount of land that had been available and utilized by Native peoples. This landscape is understudied by archaeologists, in part due to long standing professional skepticism that intact land surfaces remain following the advance of the sea. In late 2009/early 2010 a portion of Salem Harbor, Massachusetts was investigated as part of an underwater cultural resource management survey. Bottom sediments were recovered for stratigraphic analysis and an undisturbed archaeological site was recorded in an intact, terrestrial, pre-sea level rise horizon buried under marine sediment.

Submerged Evidence of Early Human Occupation in the New York Bight,
Daria Merwin, Stony Brook University

Sea level rise since the last glacial maximum has flooded previously exposed portions of the continental shelf and countless archaeological sites. Importantly, archaeological reconstructions of human subsistence and settlement patterns prior to the establishment of the modern coastline are incomplete without a consideration of the whole landscape once available to prehistoric peoples and now partially under water. Study of submerged prehistoric sites in the New York Bight, especially around the drowned Hudson River, confirms that now-submerged portions of the landscape were occupied at least as early as 8,000 years ago. One lithic assemblage recovered from the Atlantic Ocean, the Corcione collection, indicates that a site near the drowned Hudson River was repeatedly used over a long period of time by Native Americans. Projectile points from the assemblage include Early Archaic bifurcate base, Middle Archaic stemmed, and a variety of Late Archaic point styles. An end date for occupation around 4,000 years ago is consistent with the last exposure of this part of the continental shelf as suggested by local sea level curves. The research potential of deposits like the Corcione collection, along with the challenges of underwater archaeology, will be discussed.
David Robinson, (Fathom Research, LLC) and Cheryl Stedtler (Nipmuc Nation)

Since securing a Reconnaissance Permit from the Massachusetts Board of Underwater Archaeological Resources in 2001, Nipmuc Nation has led the charge to study and preserve a unique underwater archaeological discovery made by recreational divers, Michael Brauer and Christopher Hugo, of three tribal mishoonash or log-boats preserved in the cold, dark waters of central Massachusetts’ Lake Quinsigamond. Designated MHC No. 19-WR-700 in the Commonwealth’s archaeological site inventory, the mishoonash have been the subject of an on-going program of archaeological documentation, remote sensing survey and archival research, as well as periodic site condition monitoring and a community-wide stewardship effort undertaken by a diverse project team of tribal members, state agency officials, archaeologists, and recreational divers dedicated to their long-term preservation and protection. This presentation provides a summary of work conducted to date, challenges encountered and met along the way, and Nipmuc Nation’s future plans for the mishoonash.

The Isles of Shoals: 5000 Years of Marine Ecology
Nathan Hamilton, University of Southern Maine

The protracted record of 5000 years of prehistory and 400 years of historic period human adaptation to marine resources along the New Hampshire and Maine coasts offers opportunity to establish a record of marine resource utilization. Recent excavations located on Smuttynose Island, Isle of Shoals and earlier work on Appledore Island form the basis of this study. The late 17th to early 19th century English occupation on Smuttynose Island provide primary proxy data on maritime life ways and changes in marine ecosystems, and an opportunity to develop archaeological perspectives of marine ecology. Archaeological excavations have focused on the recovery of marine fish, seabirds, sea mammals, and marine bivalve and gastropod remains. Systematic sampling of fauna-rich sites with diagnostic material culture allows the definition of historic faunal assemblages with finely resolved decadal chronology. These assemblages provide the opportunity to develop time-transgressive patterns of species presence, abundance, and diversity in historic fishing and birding strategies. Further, it provides biological samples to examine metric and non-metric attributes, especially of fish and gastropod species which adds to the understanding of demography and size classes, predator-prey and trophic relationships.

Some Middle-Range Theory for Archaeological Studies of Wampanoag Indian Whaling
Russell G. Handsman, Mashantucket Pequot Museum and Research Center

Herman Melville called him Tashtego, a Gay Head Indian whose presence in Moby-Dick reminds us that Wampanoag men were the first whalers who helped build the region’s offshore industry, were amongst those who contributed as it grew, and the only native-born whalers who persisted as the industry slowly declined after the Civil War. A recently-completed, two-year study of New Bedford-based, Indian whaling (1815-1925), and the development of a data base of more than
900 entries, has documented the lives and experiences of generations of Wampanoag whalers from communities on the Cape and Islands while illuminating long standing patterns of cohort whaling in age- and family-based groups. As the links between whaling traditions and local community histories become clearer, we can begin building some middle-range theory for archaeological studies of 19th-century Wampanoag settlements and sites. Concepts such as household cycles, cultural citizenship, and ethnic diversity provide new entry points for fieldwork and data analysis, research aimed at deepening our understandings of the dynamics of community survival in a maritime-oriented, Indian New England.

What Lies Beneath that Parking Lot: The Archaeological Investigation of Wharves
Mitchell T. Mulholland, University of Massachusetts, Amherst

The archaeological investigation of shipping wharves on the New England coastline is challenging, expensive, and dangerous, but rewarding. Providing information about industry and commerce rather than domestic or residential life, wharves often reveal information about their builders and the way they adapted construction methods to a changing economy. Historic wharves contain substantial and well-preserved evidence of earlier wharf structures, buried over time as old wharves were covered over by new construction in a process known as “wharfing out.” Wharves were an important component in shipping, foreign trade, and the commerce that followed. Archaeological investigations of Coombs’ wharf in Newburyport; Allen/Ingersoll/Orne/Webb, Derby, and Central Wharves in Salem, Massachusetts; and the Craig-Jackson wharf in Plymouth provide insight into changes in wharf construction techniques in response to the dynamics of the maritime economy in the eighteenth and nineteenth centuries. Early wharves occasionally involved stone construction in the English method, but more often wood construction was employed. Eighteenth century methods included sophisticated dovetail joinery with “bulkhead-with-tieback” systems to handle the demands of the foreign shipping trade. Through the nineteenth century construction methods simplified, especially as shipping and foreign trade declined as local and regional commerce increased. With the introduction of the railroad, wharves were expanded into “made land” for storage of heavy, bulky materials such as fuels and other commodities intended for local and regional sale and distribution. Also, merchants commonly used extant wharves to erect business establishments. Today coastal development projects often threaten ancient wharves and archaeological investigations continue to be warranted to protect the information they contain.
Conference Program

9-9:30 Coffee

9:30 Greetings and Introduction: E. Chilton, Chair of the CNEA Steering Committee

9:45 Identifying the submerged pre-Contact history of New England: An Intact, Inundated Archaeological Site in Salem, Massachusetts

Kerry Lynch, UMass Archaeological Services

10:15 Submerged Evidence of Early Human Occupation in the New York Bight, Daria Merwin, Stony Brook University


David Robinson, (Fathom Research, LLC) and Cheryl Stedtler (Nipmuc Nation)

11:30-1 Lunch break

1:15 Business Meeting

1:45 The Isles of Shoals: 5000 Years of Marine Ecology

Nathan Hamilton, University of Southern Maine

2:15 Some Middle-Range Theory for Archaeological Studies of Wampanoag Indian Whaling. Russell G. Handsman, Mashantucket Pequot Museum and Research Center

2:45 What Lies Beneath that Parking Lot: The Archaeological Investigation of Wharves

Mitchell T. Mulholland, University of Massachusetts, Amherst

3:15 Discussion

3:45 Adjourn

5 PM Cocktails and Dinner in Celebration of the retirement of Mitchell T. Mulholland.

Details to be announced soon: www.umass.edu/anthro

For more conference info and to register for Mitch’s party, please go to:

www.umass.edu/anthro
In 2010, PAL conducted a Phase III Archaeological Data Recovery Program for the U.S. Fish and Wildlife Service within the locations of proposed road and trail improvements in the Assabet River National Wildlife Refuge (NWR). The refuge property includes land in the towns of Maynard, Sudbury and Stow, Massachusetts. The data recovery program involved two significant pre-contact Native American archaeological sites (Puffer Pond Site and Site 34-1) within the area of project effect.

The Puffer Pond Site (19-MD-657) and Site 34-1 (19-MD-654) were first identified by PAL in a 1985 archaeological survey of the former Fort Devens Sudbury Training Annex facility that included land now in Assabet River NWR. Based on the results of a Phase I Archaeological Identification survey conducted by PAL in June 2009, the Puffer Pond Site and Site 34-1 were determined to be eligible for listing in the National and State Registers of Historic Places. Both of these multi-component sites are in an environmental setting with wetlands, streams and ponds some distance from the Assabet River, and contain evidence of repeated occupation over a roughly 7500 year span from the Middle Archaic to Late Woodland period.

On the Puffer Pond Site, two concentrations of cultural materials and features were associated with Middle and Late Archaic period components. One concentration area consisted of a Middle Archaic lithic workshop with a dense deposit of gray-green rhyolite and quartzite chipping debris and a deep pit feature radiocarbon dated to 7330 +/- 40 years B.P. The second concentration also contained a Middle Archaic deposition with a Neville point and bifacial tool blades of local mylonite that are most likely preforms for Stark points. A few Squibnocket Triangle and small stemmed points and a pit feature radiocarbon dated to 3880 +/- 60 years B.P. were in a Late Archaic component on this part of the site.

On Site 34-1, a small dense cluster of Middle Archaic material included a lithic workshop locus with Neville points, bifacial preforms and over 1000 pieces of chipping debris all of a distinct rhyolite. This lithic material may be local to the upper Sudbury or Charles River basins. A sequence of Late Archaic activity was represented mostly by Brewerton, Squibnocket Triangle and small stemmed points. A deep Terminal Archaic pit feature was radiocarbon dated to 2630 +/- 50 years B.P. Features within an important Early to Middle Woodland component yielded radiocarbon dates of 1890 +/- 40 years B.P. and 1660 +/- 30 years B.P. Woodland period activities on Site 34-1 included the construction of burnt rock features related to some type of resource processing activity and use of ceramic vessels with cord marked surfaces, dentate and rocker stamped decoration. A substantial amount of chert debitage found on this site also appears to be associated with the Woodland component. The data recovery program yielded a significant amount of information that will add to what is known about Native American settlement patterns, site formation processes and lithic technology in the combined Sudbury/Assabet/Concord river drainage.

PAL has completed an archaeological data recovery program at the Tower Hill Road Site in Norwich, Connecticut as part of a gas line replacement project for Algonquin Gas Transmission, LLC. The site is located on a level terrace overlooking wetlands associated with the Shetucket River drainage. The investigation uncovered evidence for pre-contact occupation ranging from 10,000 to 1,000 years ago, with the most intense use of the site between 4,500 and 3,500 years ago during the Late Archaic Period. Overall, 2,300 pieces of precontact cultural material were recovered including chipping debris (approximately 48% of the assemblage—mostly quartz and quartzite), 78 diagnostic projectile points, bifaces, cores, grinding and ground stone fragments, scrapers, burnt and fire-cracked rock, cobbles of raw material, choppers, hammerstones, nutting stones, preforms, unifaces, steatite vessel fragments, as well as floral and faunal material.
Research Abstracts
(cont.)

CEDAR SWAMP
SITES 1, 2, AND 24,
WESTBOROUGH
Contributed by Nichole Gillis and Alan Leveillee,
PAL

including a large amount of charred nutshells and calcined mammal bone. In addition, 25 cultural features were identified including large pits, hearths, post molds, roasting platforms and living surfaces. Twelve radiocarbon dates were obtained from features ranging from 6,020±40 to 480±50 (uncalibrated). Nine of these dates fall within the Late Archaic Period and range from 4580±50 B.P. to 3860±50 B.P. The dates were obtained from wood charcoal as well as charred hickory nutshell.

Diagnostic points include an Early Archaic bifurcate, a Middle Archaic Neville variant, 71 Late Archaic Narrow Stemmed, three Susquehanna Broad, and two Orient Fishtail types. Narrow Stemmed points are typically indistinguishable based only on their general morphology. With the Tower Hill Road specimens, an attempt has been made to assign a type based on a comparative study of Narrow Stemmed points from several other sites in eastern Connecticut. The assemblage was fine-tuned into Burwell, Lamoka, Lamoka preform, Squibnocket Stemmed, and Wading River types. The point styles, along with the recovered cores, broken cobbles, and chipping debris also indicate strong evidence for a quartz cobble based technology.

PAL recently completed data recovery excavations within three sites (Cedar Swamp 1, 2, and 24) located on Cedar Swamp's central island in Westborough. The sites are part of the Cedar Swamp Archaeological District, a National Register-listed district that includes more than 30 pre-contact archaeological sites. These sites were first recorded in the early 1980s by the Ekblaw Chapter of the MAS and Dr. Curtiss Hoffman from Bridgewater State College. PAL conducted site examinations of Cedar Swamp Sites 1, 2 and 24 in 1988-89 and in 2010.

The data recovery excavations uncovered evidence for intensive pre-contact occupation between approximately 7,500 to 1000 years ago, spanning the Middle Archaic to the Middle Woodland periods. Approximately 8,000 pre-contact artifacts were collected including chipping debris, chipped stone tools, ground stone tools, Native American pottery sherds, and organics including calcined bone (e.g., fish, mammal, and turtle) and plant materials. Seventeen features were also identified including hearths, pits, and a lithic cache.

The cultural assemblage includes an extensive Laurentian component, comprised of numerous Brewerton-Eared Triangle projectile points, Brewerton-based drills, net weights, axes/choppers, and an ulu. A significant Transitional Archaic/Early Woodland component was also identified and included two steatite vessel lugs, Vinette I type pottery fragments, and three features (e.g., hearths and pits) that produced firm Early Woodland radiocarbon assays (cal BP 2740-2340). Evidence of Middle Woodland Period occupation within the site area included a large pit feature (cal BP 1180-1050).

ELIZABETH MINE COPPERAS FACTORIES,
ORANGE COUNTY,
VERMONT
Contributed by Erin Timms, Matt Kierstead, and Suzanne Cherau

In 2009 and 2010 PAL completed data recovery investigations and archaeological monitoring at the Elizabeth Mine copperas factories in Orange County, Vermont. The archaeological investigations were conducted in support of the Non-Time-Critical Removal Action (NTCRA) on Tailings Pile 3 (TP 3) of the Elizabeth Mine being performed by the United States Army Corps of Engineers-New England District (USACE) for Region 1 of the Environmental Protection Agency (EPA) through Interagency Agreement. The Elizabeth Mine Site (VT-OR-28) encompasses approximately 800 acres of land within the Ompompanoosuc River drainage, a major tributary of the Connecticut River. The majority of the mine site is located in South Strafford in the southern part of the town of Strafford, with an eastern portion in Thetford and small portions at its southern extremity in Sharon and Norwich, which are located in Windsor County. The site is focused on the core area of historic mining activity, although the total land area historically associated with the mine reached 8,000 acres where the mining company(s) had mining rights only.
Copperas is a fourteenth-century term for crystalline green hydrous iron sulfate, an important early industrial chemical compound derived from processing iron sulfide ores. Copperas had a multitude of uses over the centuries. Copperas production was a simple process that is well documented in sixteenth and seventeenth-century accounts, and changed little until the late nineteenth century. The process manipulated the landscape through extraction, various stages of lixiviation, concentration and crystallization. The process was a “cascading” one that made use of water and took advantage of gravity, with successive manufacturing steps typically located on a hillside. The manufacture of copperas from natural materials ended in the 1880s when large, inexpensive sources of iron sulfate became available as a by-product of the steel industry.

The Upper Copperas Factory and its associated Copperas Brook features are located at the bottom of the hillside, at the eastern extreme side of TP 3. The features within Copperas Brook appear to have been designed to channel the flow of the brook, likely as a means of transporting copperas liquor on its course down the hillside. The foundation remains of the Upper Copperas Factory itself are located just north of Copperas Brook. The stone walls and terraces of the Upper Copperas Factory run directly into the Office area (part of the North Village). The Lower Copperas Factory is located just south of the bend in Mine Road and consists of a large L-shaped stone foundation and associated features. Similar to the Upper Copperas Factory, the Lower Factory is built into the hillside with the north edge extending about 6 feet above the ground while the south end is at ground level.

Elizabeth Mine was established in the early nineteenth century and operated to the mid-twentieth century. After the failure to produce iron, attention shifted to copperas production. Copperas was produced on the east slope of Copperas Hill from 1809 to 1880s. The owners of the South Strafford copperas works expanded and improved their works several times. Innovative methods employed to accelerate the ore decomposition and lixiviation process contributed to higher yields making them one of the largest producers in the country. Historical accounts and company records describe some of the methods as well as arrangement of the works. Elizabeth Mine is one of two copperas works excavated in the world. The integrity of the site created a rare opportunity to study the archaeological remains of the constructed landscape. The 2009 and 2010 data recovery investigations of the Elizabeth Mine Copperas Factories and archaeological construction monitoring of Copperas Hill documented extensive features that closely correspond to the historical accounts. Key activity areas including the two factory remains as well as individual features such as crystallizers, fire boxes, boilers, and associated artifact assemblages provide insight into the full spectrum of copperas production at Elizabeth Mine. The site interpretations are currently ongoing and a full technical report will be available for scholarly research in late 2011.

PAL recently completed data recovery investigations at the Riverside Site (27-CH-184) in Hinsdale, NH. The site is situated within a 30-mile transmission line right-of-way slated for line and pole upgrade work by National Grid. It is a multi-component (Late Archaic to Middle Woodland periods) lithic workstation and habitation site located on a high terrace overlooking the Connecticut River. The site was initially discovered in 2009 during a Phase IB archaeological survey, and subjected to a site evaluation that same year, and the data recovery program in the summer of 2010. The initial identification of possible features including a suspected living surface along with a moderately dense concentration of artifacts, and the site's close proximity to the well-known contact period Fort Hill Site (27-CH-85) and the Squakeag Falls, contributed to the site’s National Register eligibility.

Preliminary results of the data recovery suggest that the Riverside Site encompasses an area of approximately 2300 m2 within three activity loci. Although no definite cultural features were identified during the data recovery, artifact concentrations containing fire-cracked rocks suggest there may have been one or more hearths prior to plowing during the historic period. The material culture assemblage was dominated
by rhyolite and chert chipping debris with rarer examples of hornfels, quartzite, and quartz. Over 3200 pieces of chipping debris were collected and analysis suggests that the primary on-site activity was bifacial tool manufacture and maintenance. Despite this activity, however, very few tools or tool fragments were recovered. The tool assemblage includes 5 projectile points or point fragments, one drill/perforator, 9 bifaces, 2 unifaces, one scraper, 3 utilized flakes, and 2 grit-tempered pre-contact ceramic sherds. Floral and faunal remains were scant, but approximately 1300 pieces of thermally altered rock weighing over 36.5 kg were also collected. The diversity of tool types suggests that in addition to tool production a variety of domestic activities including food storage and processing were also being conducted on-site.

Radiocarbon dates collected from occupation levels (1940 +/- 40 B.P., 2860 +/- 30 B.P., 4350 +/- 40 B.P., and 5840 +/- 40 B.P.) indicate use of the site spanned from the beginning of the Late Archaic to the beginning of the Middle Woodland Periods. Diagnostic projectile points include a rhyolite stemmed Lamoka point, a quartz Squibnocket point, and an Ossipee hornfels Susquehanna point. No definitive temporal association could be made to the nearby contact period Fort Hill Site, although one of the two pre-contact ceramic sherds is suggestive of very late Woodland or Contact Period origins and one piece of chert that was recovered is macroscopically similar to European flints derived from ballast material or a gunflint.

The data recovery site analysis is currently ongoing, including attribute analysis of the chipping debris assemblage, thin-sectioning and microscopic description of the dominant rhyolite type, and mercury testing of the soil for trace evidence of on-site fish processing. These analyses are expected to provide additional insights into the subsistence practices of the site’s occupants during the Late Archaic and Woodland periods.

As part of the Rhode Island Department of Transportation’s Stillwater Viaduct Rehabilitation project, PAL conducted a Phase II archaeological site examination of the Stillwater Site (RI 2179) in Smithfield, Rhode Island. The Stillwater Site was originally identified by Rhode Island Historical Preservation & Heritage Commission (RIHPHC) staff during a field review in 1997. A Phase I(c) archaeological survey in 2009 confirmed the presence of the site within the project area, and concluded the site was potentially eligible for listing in the National Register of Historic Places (National Register).

The Phase II site examination identified three main loci defined by topography (larger areas of level ground) and cultural material concentrations and two small, low-density lithic concentrations within a dispersed scatter of cultural material situated primarily on sloped areas. Locus 1 and 2 of the site were characterized by multiple overlapping components representing short-duration occupations. Lithic debitage at the site includes chipping debris of argillite, arkose, chert, Attleboro Red felsite, hornfels, possible Conklin jasper, quartz, quartzite and rhyolite. Other pre-contact materials include projectile points including Neville, Laurentian tradition, Brewerton triangle, Squibnocket and Levanna varieties, bifaces, possible preforms, cores, unifaces, utilized flakes, drills, a possible argillite ground-stone implement, an abrader, a pottery sherd, calcined bone, nutshell, seeds, and raw material including a steatite fragment and pieces of graphite. Quartz, followed by quartzite, argillite, felsite and rhyolite were the most frequently occurring lithic material types. Five features were identified consisting of a hearth and four fire pits. Radiocarbon dates from the fire pits all dated to the period of transition between the Middle and Late Archaic periods. Nut shells from the fire pit features indicate that seasonal occupations during this time occurred during the fall months when nuts are ripe. Diagnostic artifact and radiocarbon dates indicate that the site was occupied during the Middle Archaic, Late Archaic, possible Transitional Archaic and Woodland/Late Woodland periods. The pre-contact materials indicate a variety of activities at the site including hunting, processing of food or other materials, cooking, and late stage lithic manufacture and/or maintenance.
PHASE 1 AND 2 TESTING OF THE PROPOSED NEPONSET GREENWAY IN BOSTON AND MILTON
Contributed by
Christopher Donta
UMass Archaeological Services

Archaeological intensive testing was conducted for a proposed multi-use pathway along the Neponset River in Boston and Milton, between Mattapan and Milton Village, a distance of 1.75 km. Several possible routes were proposed by the Department of Conservation and Recreation. Initial testing consisted of 217 shovel test pits in six survey units along both sides of the river. Three archaeological sites were identified: the Tileston structure historic site, the Starch Factory historic site, and the Black Locust Native American site. The Tileston site is an early 19th century domestic site. The Starch Factory is shown on maps throughout the 19th century. The Black Locust site contained rhyolite debitage. All three were recommended for avoidance. Additional intensive testing was conducted at the Tileston and Black Locust sites to find routes around these sites, while a site examination survey was conducted at the Starch Factory site. The additional intensive testing included another 44 total shovel test pits at the Tileston and Black Locust sites, and identified routes further away from the river to place the pathway. Additional documentary research and testing at the Starch Factory details its use as a mill prior to the production of Starch, identifies some of the construction techniques in the building, and documents artifacts associated with the workers and production routine in the factory. The Mattapan area in the second half of the 19th century included an industrial complex that employed hundreds of people, who lived in nearby row-housing. The foundation of one of these businesses and an associated scatter of 19th century artifacts and features remains. Recommendations for the pathway to proceed adjacent to the foundation were made.

IDENTIFICATION AND SITE EXAMINATION OF THE STRONG STREET NATIVE AMERICAN SITE IN AMHERST
Contributed by
Christopher Donta
UMass Archaeological Services

Testing for a proposed electrical structure replacement identified a Native American site located in the Wildwood area of Amherst. Testing included 43 test pits and one 1-x-1 m unit. Two artifact concentrations were identified, primarily consisting of chert chipping debris, but with small amounts of quartz and rhyolite also present. A probable surface hearth with fire-cracked rock was radiocarbon dated to ca 1,750 years in age. The Strong Street Native American site appears to be a small, perhaps seasonal campsite where Native Americans engaged in subsistence related activities such as tool sharpening, hunting, and food preparation. The feature identified dates from the Middle Woodland period. The excavations completed identified low to moderate artifact concentrations, some of which come from undisturbed subsoils. Multiple intact features may exist in the soil, as demonstrated by one such feature found in the northern concentration. The presence of chert, quartz and rhyolite artifacts point to both local manufacturing, as well as the use of traded raw materials. The site may be part of the larger Fort River area settlement system, possibly related to sites known to the southeast in the Amethyst Brook area, or further downstream along the Fort River itself.
John Milner Associates conducted 26 archeological site examinations for the U.S. Army Corps of Engineers for Section 110 compliance of the National Historic Preservation Act of 1966 (as amended) using funds from the American Recovery and Reinvestment Act of 2010. The work was carried out for the Birch Hill Dam Reservoir Area situated in northern Worcester County in Massachusetts. As a result, 10 historic sites (5 in Winchendon and 5 in Templeton) were recommended as eligible for the National Register. These sites include 3 historic farmsteads, a Civilian Conservation Corps (CCC) camp and an industrial mill complex in Winchendon (WIN-HA-01, WIN-HA-03, WIN-HA-05, WIN-HA-06, and WIN-HA-12), and 2 rural mills and 3 industrial mill complexes in Templeton (TEM-HA-03, TEM-HA-04, TEM-HA-05, TEM-HA-06, and TEM-HA-08). The remaining 16 sites did not meet the criteria of eligibility for the National Register.

The 10 historic sites recommended as eligible for the NRHP are as follows:

- WIN-HA-01 (HS 2-10) in Winchendon; the Day/Neal/Kempton/Kelmel House Site, a mid-nineteenth century to ca. 1940s farmstead/residence.
- WIN-HA-03 (HS 2-20) in Winchendon; the Crooks/Nurse Farmstead Site, a late eighteenth- to early nineteenth-century farmstead/residence.
- WIN-HA-05 (HS 3-05) in Winchendon; the Gibson/Parker & Bush/Bagley/Walls/Brown Farm Site, an early nineteenth-century to ca. 1900 farmstead/residence.
- WIN-HA-06 (HS 3-06) in Winchendon; the CCC Campsite S-63 from 1933-1941.
- WIN-HA-12 (HS 4-59) in Winchendon; the Priest Brook Mill Complex, ca. 1820s to 1900 complex of sawmills and a cider mill.
- TEM-HA-03 (HS 6-23) in Templeton; the Varnish Shop & Toy Mfy/Bishop & Streeter Site, a mid-nineteenth-century to 1940s woodworking mill and toy factory complex.
- TEM-HA-04 (HS 6-25) in Templeton; the Waite Chair Company Mill Complex, a complex of industrial sites spanning the mid-eighteenth century to the 1940s, with a predominance of wood working mills from the mid-nineteenth century to the 1940s.
- TEM-HA-05 (HS 8-02) in Templeton; the Norcross Saw Mill Site is a ca. 1898-1915 sawmill site.
- TEM-HA-06 (HS 8-19) in Templeton; the Thompson Chair Co. Site, a mid-nineteenth-century to ca. 1940s woodworking mill complex.
- TEM-HA-08 (HS 8-57) in Templeton; the Day Saw Mill Site, an early to late-nineteenth century sawmill site.

The Day/Neal/Kempton/Kelmel House Site (WIN-HA-01, formerly HS 2-10) consists of a cellar foundation and ell foundation dating to the mid-nineteenth-century occupation by the Day family. The site appears to have functioned primarily as a residence and as a farm, although the extent of farming that took place appears to have been on a small scale. WIN-HA-01 has good integrity and exhibits research potential for understanding the residential development and changes in small-scale agriculture in the southwestern portion of Winchendon from ca. 1840 to 1940. The intact cellar hole, ell foundation, and concrete “milk room” are well-preserved and associated with a rich material culture record. The Day/Neal/Kempton/Kelmel House Site (WIN-HA-01) provides insight into a marginalized community within a town with a successful industrial economy and is recommended as eligible to the NRHP under Criterion D at the local level, with the Area of Significance under Archeology: Historic-Non-Aboriginal.
The Crooks/Nurse Farmstead Site (WIN-HA-03) is the earliest farmstead site identified within the Birch Hill Dam Reservoir area. The principal occupants were yeoman: Henry Crooks from 1780 to 1804, and Asa Nurse from 1804 to 1807. The site has not been disturbed by modern activity, and the apparent early date of abandonment has preserved the site from later alterations common to sites occupied throughout the nineteenth century. The good integrity of the site, the preservation of intact stratigraphy and house features, and possible outbuilding locations confer research potential to address settlement layout for an early farmstead in the region. The Crooks/Nurse Farmstead Site (WIN-HA-03) is recommended as eligible to the NRHP under Criterion D at the local level, with the Area of Significance under Archeology: Historic-Non-Aboriginal.

The Priest Brook Mill Complex (WIN-HA-12) consists of the remains of a dam, tailrace, mill pond impoundment area, a quarry area, buried structural evidence and artifacts from one or more mills located along Priest Brook. The complex functioned primarily as a sawmill from the 1820s to the 1890s, but was also a cider mill beginning in the 1870s. The material culture remains encountered along both sides of Priest Brook near the stone dam date primarily from the second half of the nineteenth-century to the early twentieth-century. The Priest Brook Mill Complex (WIN-HA-12) was important in the economy of a very marginal area of Winchendon and provides information on sawmill activity in northern Worcester County during a well-defined time period. WIN-HA-12 appears as a hybrid type of industrial development near New Boston. The economy relied on agriculture, but was also loosely associated with a phase of industrial development in Worcester where in the early nineteenth-century, farmer-millers erected traditional mills along small streams. As the century progressed, New Boston's population declined and agricultural pursuits continued to underlay the local economy. Deeds from the mid-nineteenth century on suggest that while the mill structure was not always extant, this section of Priest Brook maintained the necessary infrastructure to support new industrial activities on a small scale. Toward the end of the century, the mill complex is loosely associated with industrial development where stream sites were being redeveloped with small-scale market-oriented industries. The site supported a cider mill and a sawmill that continued in support of industrial activities elsewhere. The site is recommended as eligible for the NRHP under Criterion A, as it is associated with events that have made a significant contribution to the broad patterns of history, and Criterion C, as it embodies the distinctive characteristics of a type, period or method of construction.

The Gibson/Parker & Bush/Bagley/Walls/Brown Farmstead Site (WIN-HA-05) dates from ca. 1820s to ca. 1900. Foundations of a house, possible attached carriage house, a separate barn, and an outbuilding have been identified. A deed from 1829 indicates that the property already had buildings at that time. The farm is absent on the 1906 map of Winchendon; based on archeological evidence, the farmstead structures probably burned down by that time. WIN-HA-05 is one of the best-preserved farmstead sites identified within the Birch Hill Dam Reservoir area. The principal occupants were yeoman/farmers: John Gibson from 1829 to 1853, and Nathaniel Bagley from 1858 to 1884. The site has not been disturbed by modern activity or by later alterations and has retained integrity. The preserved foundations and yard deposits contain data that can be used to address research questions associated with farmyard layout, intra-site activity areas and material culture for a nineteenth-century farmstead in the region. The Gibson/Parker & Bush/Bagley/Walls/Brown Farmstead Site (WIN-HA-05) is recommended as eligible to the NRHP under Criterion D at the local level, with the Area of Significance under Archeology: Historic-Non-Aboriginal.
CCC Camp S-63 (WIN-HA-06, FORMERLY HS 3-06) consists of the foundations of at least seven structures and over a dozen associated features. CCC activities at Camp S-63 took place during two periods: June 28, 1933, to October 21, 1935 and October 22, 1938, to May 28, 1941. The integrity of the site as a whole is considered to be fair, and the site retains integrity of location, setting and association. The extant foundations and related elements of the camp retain integrity of design, materials, workmanship and feeling. CCC Camp S-63 (WIN-HA-06) is associated with the CCC public works projects during the Depression that made significant contributions to the local community and parks in the region. The site has the added significance of having been located within the Otter River State Forest, the first state forest in the Commonwealth, and may yield information on the CCC occupation that is not available elsewhere. As such, CCC Camp S-63 (WIN-HA-06) has significance under Criteria A and D at the local level and is recommended as eligible to the NRHP. The site is associated with the following state-recognized historic context and preservation framework: early modern period recreation areas.

The three large industrial sites (TEM-HA-03, TEM-HA-04 and TEM-HA-06) located in the village of Baldwinville along the Otter River are excellent examples of the type of industry that flourished in Templeton during the nineteenth and early twentieth century. Sites TEM-HA-03, TEM-HA-04 and TEM-HA-06 are characterized as industrial site complexes, with substantial extant architectural remnants and features that can be associated with a number of structures and waterpower elements. The Varnish Shop and Toy Manuf./Bishop & Streeter Chair Mfty Site (TEM-HA-03, formerly HS 6-23) was first developed for industrial activities in 1844. Between 1850 until 1858, a match manufactory was in operation at the site. Starting in ca. 1858, children's carriages, carts, chairs and cribs were made by the Baker Company and later the Baker and Wilson Toy Manufactory. The Bishop & Streeter's Chair Manufactory was active starting in the 1890s. From 1917 to 1941, the property was owned and run by the Kenney Brothers and Wollens Corporation, which manufactured school desks and chairs. The site has extensive architectural remains of multiple structures that display good integrity.

The Waite Chair Company Mill Complex (TEM-HA-04, formerly HS 6-25) spans the entire era of industrial activities on the Otter River in Baldwinville, from the initial establishment of a grist mill in the mid-eighteenth century to the predominance of furniture-making from the mid-nineteenth to the early twentieth century. The site consists of a large, multi-component industrial complex on both sides of the Otter River. There are different developmental histories for the north and south sides of the river. The south parcel is associated with a series of mills going back as far as 1754; with furniture and chair production from the mid-nineteenth century on. The north parcel was developed during the mid-nineteenth century and contained several businesses including the Lee & Stearns Hat Mf'y and the Baker & Wilson Toy Mf'y prior to the 1895 fire which leveled this industrial complex. The Waite Chair Company developed the north parcel following 1904. Both sides of the Otter River have extensive architectural remains of multiple structures with good integrity.

The Thompson Chair Co. Site (TEM-HA-06, formerly HS 8-19) was developed for industrial use by ca. 1846. During the 1850s, a match manufactory was located at the site, but from the 1860s until 1941, mill activities were focused on chair and furniture production. A succession of chair manufactories operated the site and included the Sawyer, Thompson and Perley Chair Mf'y; the Thompson, Perley and Waite Company; the D.L. Thompson and Son Chair Company; and the E.L. Thompson Chair Company. The site has extensive architectural remains of multiple structures with fair integrity.
TEM-HA-03, TEM-HA-04 and TEM-HA-06 illustrate the dominance of furniture-making in Baldwinville from the mid-nineteenth to the early twentieth-century and are recommended as eligible to the NRHP as locally significant under Criterion A, as sites associated with events that have made a significant contribution to the broad patterns of history. The sites are also significant under Criterion D for their ability to yield important information about history. The sites have a high potential to yield additional information on the character of the furniture-making practice and on nineteenth-century manufacturing in the region. These large industrial complexes housed various businesses, mostly run by local businessmen employing local workers. These three sites are located just outside the Baldwinville Village National Register Historic District, but are important to the development and history of the area and are therefore recommended as eligible as contributing properties to the Baldwinville Village Historic District. It is recommended that steps be taken to add these archeological resources to the Baldwinville NRHP District as contributing properties.

The Norcross Saw Mill Site (TEM.HA.05) dates from ca. 1898-1915 and retains integrity of location, setting and association, and substantial elements of design, materials, workmanship and feeling. Elements of the foundation and waterpower system are sufficiently intact to interpret operations. Remains of the sawmill include the stone sluice gate, a wheel pit, and a series of stone foundation walls from the sawmill. The integrity of these elements and of the site's stratigraphy is good. TEM-HA-05 is recommended as eligible to the NRHP as locally significant under Criterion A, as a site associated with events that have made a significant contribution to the broad patterns of history. The establishment of specialized woodworking sites in Templeton, such as this archeological site, provides insight into the nineteenth-century sawmill industry and is associated with the following state-recognized historic contexts and preservation frameworks: extractive industries, woodworking and woodworking machinery, industrial mill complexes. The site is also significant under Criterion D for its ability to yield important information about history. In the instance of TEM-HA-05, the woodworking industry dominated economic activity in the region from the nineteenth through the first half of the twentieth century.

The Day Saw Mill Site on Trout Brook (TEM-HA-08, formerly HS 8-57) was built prior to 1830 and continued in use throughout much of the nineteenth century. The site of a water-powered sawmill, Site TEM-HA-08 includes an earthen mill dam and wood sluice gate, tailrace and a single stone retaining wall of boulders where one side of the carriage substructure sat on the wall while the opposite side was supported by wood piers. TEM-HA-08 retains integrity of location, setting and association, and substantial elements of design, materials, workmanship and feeling. Elements of the foundation and waterpower system are sufficiently intact to interpret operations. There is also potential that additional undiscovered elements from the superstructure and waterpower system persist at the site given the wet conditions.

TEM-HA-08 is the most intact of the rural water-powered sawmills identified within the Birch Hill Dam Reservoir Area. The pattern of nineteenth-century rural industrial site formation and abandonment at this site reflects a regional trend and the site is typical of a small sawmill complex that formerly thrived in Massachusetts. As such, the Day Saw Mill Site (TEM-HA-08, formerly HS 8-57) is recommended as eligible to the NRHP as locally significant under Criterion A as a site associated with events that have made a significant contribution to the broad patterns of history. The site has significance under Criterion B, as the site is associated with the life of the mill owner, Gilman Day, who has made a significant contribution to the local history as well as the state. The site is also significant under Criterion D for its ability to yield important information about history. In the instance of TEM-HA-08, the site is a well preserved example of a nineteenth-century rural sawmill and is associated with the following state-recognized historic contexts and preservation frameworks: extractive industries, woodworking and woodworking machinery, industrial mill complexes.
After more than 370 years the Pequot War (1636-1638) remains one of the most controversial and significant events in the Colonial and Native history of North America. The war has been debated, discussed, and analyzed for centuries in hundreds of articles, books, narratives, and films. In 2006, the History Channel included the “Massacre at Mystic” as the first episode in its “10 Days that Unexpectedly Changed America.”

The most significant event in the war was the surprise attack on the Pequot fortified village at Mystic on the morning of May 26, 1637. By the end of the two hour battle, over 400 Pequot men, women, and children were dead, half of them burned to death. The primary motivation for the attack was English fear the Pequot would lead a regional uprising against the English such as happened in Virginia fifteen years earlier.

With funding from the National Park Service Battlefield Protection Program the Mashantucket Pequot Museum and Research Center has initiated a long-term project to research the broader cultural and historical implications of the war and its significance to descendant communities of English and Native people in the region. The first phase of fieldwork on the Mystic Fort Battlefield Site has been completed. Analysis is ongoing, but the materials recovered from the Mystic Fort site battlefield have provided a new perspective on the battle and has important implications for how colonial narratives of the war were constructed and how they inform our broader understanding of Colonial and Native histories.

The University of Connecticut and Mashantucket Pequot Museum and Research Center will offer a field school in battlefield archeology at two battlefields; the site of the Pequot fortified village at Mystic, Connecticut which was attacked and burned by a force of 350 English and Native allies on May 26, 1637 and Nipsachuck, a King Philip’s War (1675-1676) battlefield located in North Smithfield, Rhode Island where several hundred English dragoons and Native allies attacked Wampanoag and Narragansett encampments in early August of 1676. Both projects are funded by grants from the National Park Service American Battlefield Protection Program, and are part of a long-term effort to document the Battlefields of the Pequot and King Philip’s War. Visit www.pequotwar.org for additional information.

The 2011 UConn field school will be based at the Mashantucket Pequot Museum and Research Center with fieldwork taking place in nearby Mystic, Connecticut and North Smithfield, Rhode Island. The 6-week, 6-credit field school will include training in standard archaeological field survey and excavation, artifact conservation, cataloguing and analysis, and research and field methods specific to battlefield archaeology such as analysis of primary sources, use of military terrain models, metal detecting survey, and GPS/GIS applications. The field school provides a unique opportunity for students to work on a nationally significant collaborative research project alongside tribal members, archaeologists and military historians. In addition to the fieldwork, students will participate in training workshops in laboratory and research methods, attend guest lectures, complete assigned readings and maintain a daily field journal.

Fees: Summer Session courses are paid on a per-credit basis at a rate of $336 per credit hour. If you choose the full six-week program, your cost will be $2,016. In addition, there is a $50 lab fee, payable on the first day of class.

Application: All students must fill out an application in order to be considered for the field school and receive a permission number so they can register. Contact Dr. Kevin McBride via e-mail for an application.

Registration: You may register for this course (Anth 3990.10; Course # 1771) once you have the approval of Dr. Kevin McBride. Dr. McBride can be reached at kevin.mcbride@uconn.edu or by calling 860-396-6814. For information on the registration process, go to www.summersession.uconn.edu.

Housing: University housing and meal plans are available. Contact Res Life at 860-486-2926 for a summer housing application or go to the website to learn more: http://www.reslife.uconn.edu/
The 2011 UMass Amherst Field School in Archaeology will be investigating a 17th century Native American site in Deerfield, Massachusetts (19-FR-415). The site is believed to be a fortified place of the Pocumtuck people, referred to in records as the "Pocumtuck Fort." The field school is part of an on-going community-based archaeology project known as the Pocumtuck Fort Archaeology and Stewardship Project, co-directed by Elizabeth Chilton (UMass Amherst) and Siobhan Hart (Binghamton University). The project engages community stakeholders, including avocational archaeologists, local residents, representatives of descendant communities through the Massachusetts Commission on Indian Affairs (MCIA), the landowner, and local heritage institutions such as Historic Deerfield, Inc., to work towards two shared goals: (1) protecting and stewarding the Pocumtuck Fort site for the long-term; and (2) using what we learn from the archeology and collaboration to combat the erasure of New England Native peoples, past and present.

Through testing in 2006-2008, we have documented 47 features (though only a small number have been sampled), many of which are consistent with large storage/trash pit features. Over 31,000 individual objects have been recovered through excavation and soil flotation. A wide range of material from the 17th century is represented, including metals (e.g., cut and rolled brass), lithics, pottery, and glass beads. The vast majority of the assemblage--around 80%--consists of ecofacts such as faunal elements and charred floral remains (e.g., animal and fish bones, freshwater and marine shell, charred flora including maize).

Our aim is to investigate change in the lives of Pocumtuck people in a place that was both homeland and frontier. In 2011, we will use a combination of geophysical techniques and excavation to investigate whether structures and/or activity areas distinguishable, further establish site boundaries, and investigate the cultural features disturbed by artifact collectors. The field school will be directed by, assisted by UMass Amherst graduate students Katie Kirakosian and Dan Lynch. Elizabeth Chilton will serve as associated faculty for the field school and will supervise the lab analysis in Fall 2011. The field school runs from June 28, 2011-July 30, 2011 (Tuesday-Saturday), and we will host an open field lab in the Moors House in Historic Deerfield Thursdays-Saturdays, 9:30-12:00 and 12:30-3:30.

Mitch MulHolland Retirement Party

A celebration of the retirement of Mitchell T. Mulholland to immediately follow this year's conference.