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Arthur Spiess

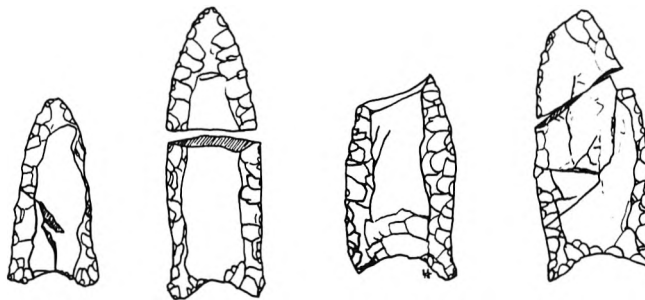
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MAINE PREHISTORIC ARCHAEOLOGICAL SITES: INTRODUCTION AND MANAGEMENT

Arthur Spiess

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INTRODUCTION

Maine's Native Americans left no written records, indeed few lasting records of any kind, before the arrival of Europeans. The first historic record of them was written by European explorers in the 16th century, so we refer to the archaeology of Maine's Native American inhabitants as "prehistoric" archaeology. The methods of prehistoric archaeologists differ from those of historians. Rather than studying written documents primarily, archaeologists study the material remains of extinct cultures.

Archaeological remains, found in archaeological sites, were not created with the intent of communicating anything to future generations, so we must leave some of the most basic questions about prehistoric people unanswered. We shall never know their names for themselves, or the details of their religious beliefs, for example. We can infer some things about their lives from anthropological accounts of similar cultures elsewhere in the world, or from reading the earliest historic documents from Maine. Mostly we are reliant on the archaeological record, which can be shockingly honest and unmistakable, or frustratingly obscure.

To understand Maine's prehistoric archaeological sites, the threats to them, and the means for their protection, the following paragraphs provide an introduction to Maine prehistory and archaeological site location.

The first Native Americans to live in Maine moved in from the south or west about 11,000 years ago as the land recovered from its last glaciation, and as tundra and open spruce woodland vegetation cover grew enough to support the large and small game they hunted (including mastodon and caribou). We call these people Paleoindian. Because of poorly

developed late glacial drainage, and perhaps because of major seasonal runoff and occasional catastrophic drainage of huge interior lake basins dammed by ice or glacial till, these people tended to camp on very well drained

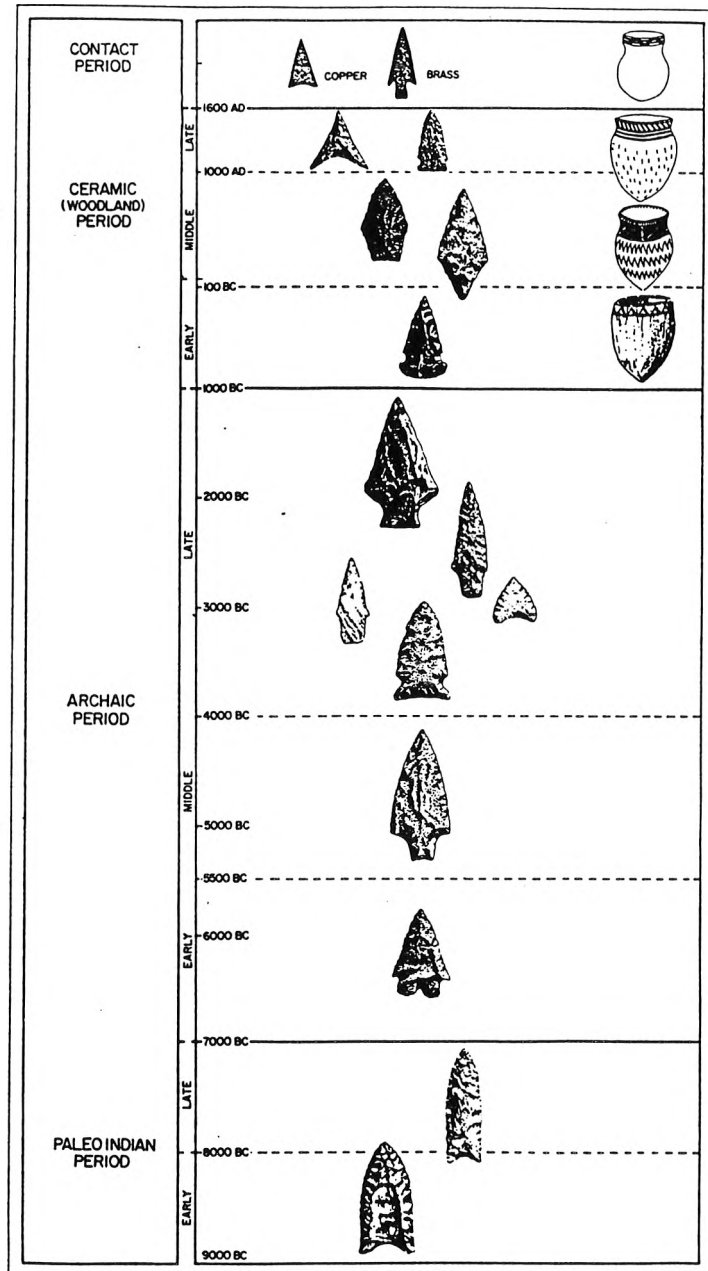


Figure 1. Cultural time line for Maine Native American prehistory and early European contact. Courtesy of the University of Maine at Farmington Archaeological Research Center.



Figure 2. These are Paleoindian stone tools, about 11,000 years old. The item at the left is a hugh knife which has been broken along the right edge. At right are four spear points, the one on the lower right was broken by a mistake during manufacture. Scale in centimeters.

(sandy) soils away from river valleys.

Between 10,500 and 9500 years ago, trees (pine, poplar, birch, oak, with other hardwoods later) colonized the Maine landscape, forcing everyone who has resided here since to live and travel along lakes and waterways and otherwise accommodate to a dense forest. One such accommodation is the proliferation of stone axes and gouges during the Archaic period (between 10,000 and 3000 years ago), indicating exquisite skill in woodworking, examples of which unfortunately have

not survived Maine's acid soil. Until 4000 years ago, we have reason to believe that people traveled in dugout canoes, both on the ocean, on the rivers and on major lakes. Dependence on heavy dugout canoes to some degree limited mobility. Perhaps sometime between 4000 and 3500 years ago, the birch-bark canoe was developed. Use of such light, back-portable watercraft allowed travel up and down small streams and beaver-flowages, and cross-drainage portaging. The birch-bark canoe opened up the Maine interior away from

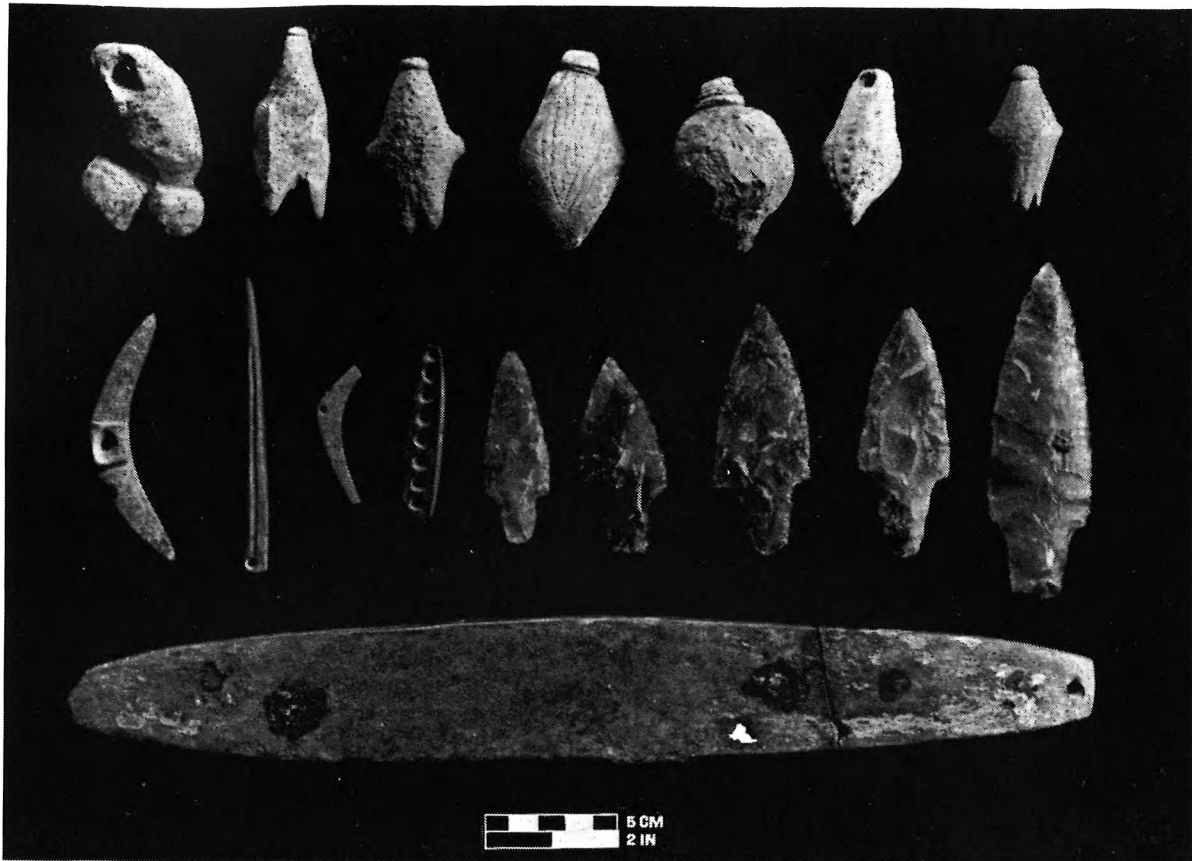


Figure 3. Stone items from Moorehead Phase, sometimes called "Red Paint" habitation and ceremonial contexts. The top row are plummets, perhaps used for fishing weights or suspended from something, perhaps as hunting magic. The four items in the second row at left are ground from slate. They are of unknown function, although the second from left may be a slate copy of a bone net-making needle. The five stemmed points on the right are made from Ramah chert, a stone found only in Labrador. They were imported to Maine from Labrador about 3800 years ago. The item at the bottom is a whetstone, probably for sharpening slate points or stone gouges or axes.

major lakes and rivers.

The Ceramic Period in Maine (1000 B.C. to A.D. 1500) is so-named because Maine's Native Americans adopted the use of pottery. The use of pottery with exterior designs increased the number and stylistic detail of artifacts that we can use to understand the archaeological record. After the first European explorers arrived off the Maine coast in the

early 1500s and began trading (the so-called Contact Period), dramatic changes in Native American life occurred and European written records began.

For most of prehistory, Maine's Native American population supported itself by hunting, fishing and gathering in band organized societies without complex political organization or monumental construction. In south

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western Maine corn, bean and squash horticulture was added to an existing hunting and gathering economic base after about 1000 A.D. without drastic change in socio-political organization and with only subtle changes in the use of the landscape. Maine Native Americans always have been relatively mobile in lifestyle and lived in relatively small groups. The largest and most prominent occupations were multi-seasonal villages of several hundred individuals, from which most of the population would depart and disperse over the landscape at certain seasons. Economic activities (such as food processing, tool maintenance, production of objects such as canoes, snowshoes, clothing, and for the last 3,000 years pottery), may have been controlled to some degree by seasonal availability of raw material, but the manufacturing activities occurred at a wide range of locations. Thus, in the absence of monumental architecture, permanent villages and towns, we recognize four types of archaeological sites: (1) habitation/workshop sites, (2) lithic (stone raw material) quarries, (3) cemeteries, and (4) rock art (petroglyphs and pictographs).

TYPES OF SITES

The vast majority of prehistoric sites in Maine are habitation/workshop sites, which combine evidence of a range of activities from food procurement and processing through tool maintenance and material culture manufacture. These sites comprise the majority, certainly more than 95%, of the known archaeological record. They exist in a continuum of



Figure 4. A large ceramic vessel (32 cm high, 29 cm diameter), about 800 years old. It is highly unusual to be able to reconstruct one this well from pieces.

size and density which is currently impossible to subdivide in any meaningful fashion. We will return to this category of site for further discussion below.

Lithic quarry sites are highly localized mines for rock useable for stone tools at bed-rock outcrops, or for cobble material along exposed, stony stream and river bottoms. Bed-rock outcrop quarries occur at localized quartz, rhyolite and chert sources which are predictable on bedrock geology maps of Maine. Cemetery sites are locations for multiple interments of the dead, spatially separated from habitation sites. Cemeteries were produced

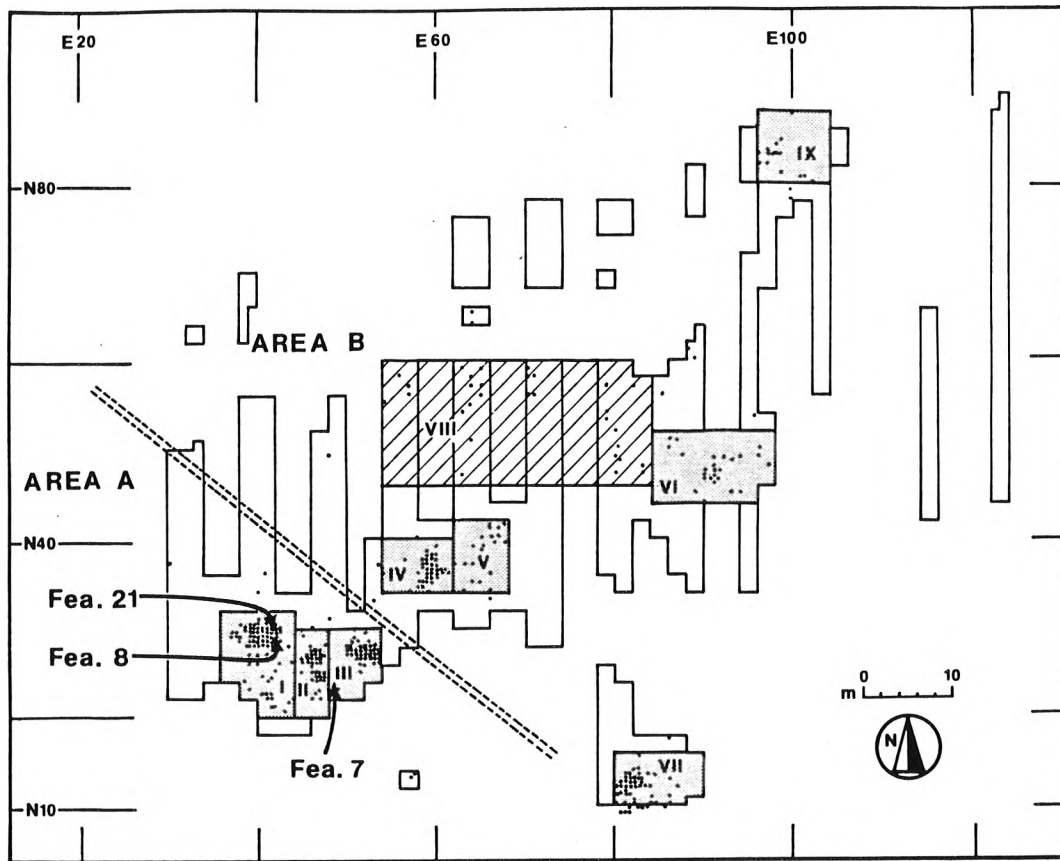


Figure 5. This map, which covers an area 80 x 100 meters, records the pattern of stone tools left at a 10,500 year old camp site (the Michaud site near Auburn). Each dot represents a 50 x 540 cm square which contained stone tools. The tools were grouped in eight concentrations, each probably marking an individual tent or camp. (The cross-hatched area, VIII, was disturbed before excavation, and may have been a ninth camp location.)

only during specific portions of Maine prehistory, notably the Laurentian and Moorehead Late Archaic, the Susquehanna Tradition, and the Early Woodland period. They are always located on well-drained sandy or gravelly-sand soils near a large or small river or lake shore, or within 100 yards of a major habitation site in the case of the Susquehanna Tradition. Rock art sites include petroglyphs and pictographs. There are now approximately 10 petroglyph locations known in Maine, and one pictograph or rock painting site. All contain shamans' mnemonic (memory aiding) represen-

tations of spirit journeys or related designs, and probably date from the last 2,000 years or less. All are located immediately adjacent to canoe-navigable water on particular kinds of bedrock outcrops.

SIZE AND DISTRIBUTION OF SITES

Now let us return to the vast majority of archaeological sites, the "habitation/workshop" sites and answer questions about size, archaeological visibility, site density, and distribution on the landscape. Henceforth, unless we specify otherwise, when we say "site" we mean pre-

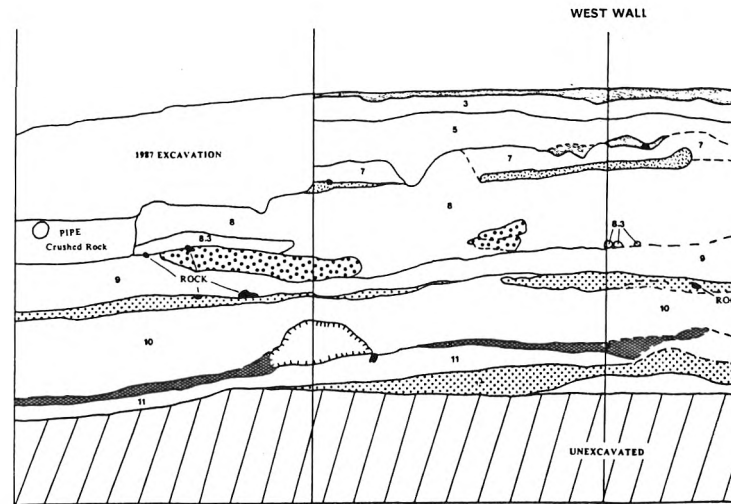
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historic habitation/ workshop site.

Ninety-five percent or more of known pre-historic habitation/workshop sites in Maine are located adjacent to canoe-navigable water (coast, lake, river, stream, swamp) or "fossil" (former) waterways or shorelines of the same types. Of the remainder, roughly 1% are predictable on highly specialized locations, such as eolian (windblown or dune) sands in the case of Paleoindian sites, or tillable, alluvial (river flood sediment) soils in the case of Late Woodland and Early Contact period sites. Well drained sandy soil of low slope seems to be a predictive factor for some proportion of the remaining sites. In sum, it is important to do systematic archaeological surveys before development or disturbance on many types of land in Maine.

Habitation/workshop sites are found in two major depth categories in Maine: shallowly buried, and deeply buried. The majority are shallowly buried on soils derived from glacial till, reworked till, sand, gravel, and silt emplaced by geological processes before 12,000 years ago. In these situations there has been no net accretion of the land surface except by human agency, and archaeological material is found within the top 30 or 40 cm (1 1/2 feet) of active soil turnover (by frost and plant growth) on these types of soils. In these situations, which represent more than 95% of the land surface of Maine, archaeological material is shallowly buried and can be discovered or destroyed by any process that disturbs the top 40 cm or so of the soil column. Deeply buried sites occur only in alluvial settings along rivers and streams, where periodic flooding has deposited silt or sand which separates sequential occupations. Such sites can be up to 3 meters deep.

The maximum dimension (length) of archaeological sites ranges from 2 meters to 800 meters. The modal (average) maximum dimension falls around 50 meters (55 yards). Sites away from water include a similar range and maximum size; in other words they are not necessarily smaller. Archaeological site artifact density ranges from a few pieces of fire-cracked rock and a few pieces of debitage (flakes from tool manufacture) in 5 to 10 square meters upward to many thousands of artifacts per square meter. Archaeological



visibility is the critical concept, not density of site content. When the ground is vegetated and not fully visible, or when working in deep alluvial soils, subsurface testing using shovels or trowels and 1/4" mesh hardware cloth screen is critical for site detection. Sampling intervals ranging from 5 to 20 meters have proven successful time and again for detecting even small sites. In situations of shallow site burial, where the ground has been recently disturbed via plowing or other disturbance, surface inspection of broad areas is an alternate successful method for site location. In all of these cases fire-cracked rock, followed in frequency by stone debitage, are the most common and second most common items typically encountered.

ARCHAEOLOGICAL SURVEY

The Maine Historic Preservation Commission recognizes two different levels of archaeological survey: Reconnaissance and Intensive. Reconnaissance survey deals with site presence or absence on a particular piece of ground or shoreline. In the case of amateur archaeologists' or public reports of site presence (as in, for example, the reporting of an arrowhead or other stone tool material at a particular location) site presence is indicated. Professional reconnaissance archaeological surveys (Phase I survey), in contrast, are designed to determine site presence or "prove" site absence with some level of reliability (often by shovel-test-pit excavation with certain depths and intensity). When we say that a particular piece of ground has been "surveyed", we mean that a professional reconnaissance (Phase I) archaeological survey has been completed which located where sites are and where they are not.

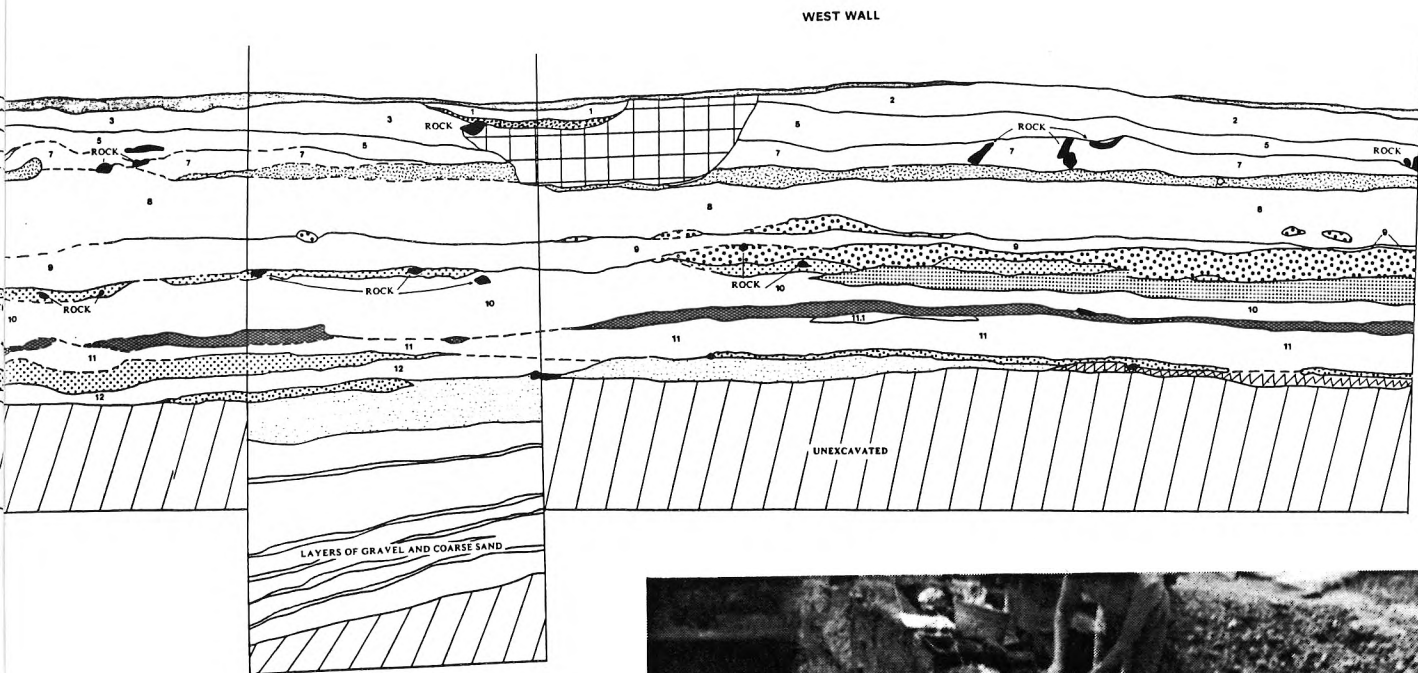
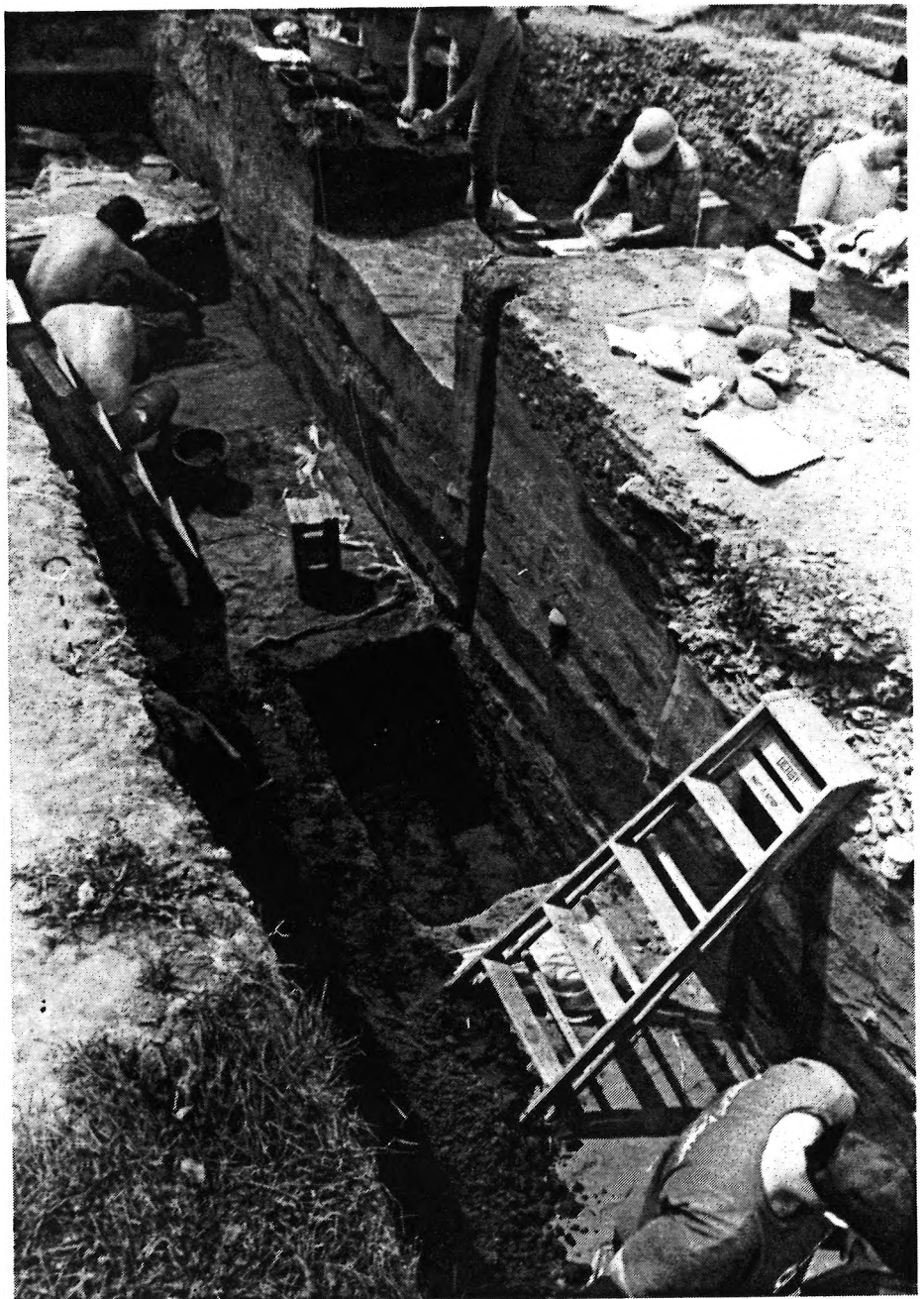


Figure 6. Layers of prehistoric Native American occupation underlying Fort Halifax in Winslow. A profile of 35 feet of the excavation trench across the top of both pages is accompanied by a photograph of the same wall in the lower right. The site consists of layers of flood sands separating surfaces with human occupation evidence such as fire hearths and stone tools. The deepest human occupation layer, nearly 5 feet underground, has been radiocarbon dated to 3100 years ago. The deeper test square, which can be seen in the middle of the photograph and as a downward extension in the profile, encountered flood gravel and coarse sand layers sloping steeply toward the bank of the Sebasticook River. This is an excellent example of a deeply stratified prehistoric site.



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Intensive level archaeological survey (Phase II) is used to determine the vertical and lateral extent of an archaeological site, its contents, and often its "significance." Intensive survey is focussed on known sites and often involves extensive excavation.

Removal of a threatened archaeological site by careful excavation is called data recovery (or Phase III). Protection of a site from a threat (often involving a combination of data recovery, legal and physical protection) is called mitigation. Conservation of some sample of archaeological sites for future excavation is the primary principle of managing archaeological sites, because we assume that archaeological digging techniques, archaeological laboratory techniques (especially) and the questions archaeologists ask of their data will all improve in the future. Having the appropriate site to "dig" is often the only way to answer a question about the past, however, so there must be some balance between conservation and ongoing excavation.

SITE SIGNIFICANCE

A key concept in managing archaeological sites is determining which sites require our attention and which would be a waste of resources. The legal term used to designate sites worthy of protection or excavation with public funds is "significant." A "significant" site is eligible for listing in the National Register of Historic Places, and vice versa. Criteria of eligibility depend upon site age, content, and condition. They are discussed in detail in a series of archaeological "contexts", each addressing the state of knowledge of a particular portion of prehistory, being written by Maine Historic Preservation Commission staff. In the paragraph that follows we quote the Ceramic Period context eligibility criteria as an example.

For a Maine site to be eligible for listing in the National Register of Historic Places because of one (or more) Ceramic Period component(s), that (those) component(s) must: (a) be clearly separable from other components on the basis of horizontal distribution or vertical stratigraphy (layering), or some combination of the

above and typological or raw material analysis; and (b) contain ceramics, lithic and/or bone tools which are diagnostic and can be assigned to some subdivision of the Ceramic Period, either one or several of CP1-7 (of Petersen and Sanger) or an Early/Middle/Late division of the Ceramic Period as commonly understood; and (c) at least in part remain in intact context or site matrix (soil, shell fragments, etc.), mostly undisturbed by manmade or natural forces such that there is a close association between diagnostic elements of material culture and one of the following: one or more features such as a fire hearth, a living floor or major portion thereof, a fossil soil surface and/or a refuse deposit. The feature, living floor, soil surface or refuse deposit must contain one or more of the following in addition to stone tools: charcoal suitable for radiocarbon dating the occupation, charred plant food remains, faunal remains, human remains, and/or mortuary goods or personal adornment items.

SITE PROTECTION

Threats to archaeological sites, those actions that can destroy a site's significance, include primarily erosion, vandalism and development. Because most prehistoric sites in Maine are/were located along the shore of a body of water, erosion is perhaps the greatest threat. Erosion can be entirely natural, or it can be caused by human actions that raise water levels and allow waves and ice to chew away at archaeological deposits that were formerly on dry land. A case in point is Moosehead Lake, where the water levels have been raised for at least a century, first by timber-industry dams and then by water storage dams for hydropower generation (downstream). Approximately 270 archaeological sites were found by a recent reconnaissance survey around the lake shore (above and just below full pool level). Intensive survey is not yet complete, but it is estimated that no more than 20% of those sites survive as "significant" archaeological sites. Development is a close sec



Figure 7. This photograph shows the rapidly eroding edge of site 17.13 in Cushing. The site is a large shell midden, about 1 meter deep. The clam shell fragments from the site can be seen as white specks along the top of the eroding cliff and collecting on the beach. The soft bouldery, sandy clay (glacial till) that underlies the archaeological site is being eroded by a slow rise in relative sea level. Each major storm pulls away sediment from the bottom of the slope, and causes more slumping of the steep eroding bank.

ond to erosion as a threat to archaeological sites. However, damage from development can be minimized with proper review and archaeological survey work.

Protection of archaeological sites for the future is a complex problem. Protection from purposeful vandalism (non-systematic digging for artifacts) relies upon anonymity, or a combination of physical (fencing) and legal protection (conservation easements) plus periodic

monitoring. Archaeological site location information is legally protected primarily to help deter vandalism. Protection of archaeological sites from erosion can be accomplished at great expense with the construction of erosion-control walls or other devices. Often, it is more cost effective to recover a sample of the archaeological data within the area that will be lost to erosion within a certain period of time (eg. within the license period



Figure 8. This "beach" is the eroding remnant of an archaeological site undergoing erosion caused by a hydroelectric impoundment in central Maine. As fine soil particles are washed away fire hearths and other archaeological "features" are destroyed, and hundreds of artifacts are left exposed at low water levels.

for a hydroelectric project). Protection from development relies upon a combination of statute (eg. shoreland zoning, site location of development), active review of proposals related to these laws, and conservation easements.

FURTHER INFORMATION

For further information about known or potential prehistoric archaeological sites on a particular piece of land, please contact Dr.

Arthur Spiess at the Maine Historic Preservation Commission, State House Station 65, Augusta, Maine, 04333. Dr. Spiess can also supply some background information about Maine archaeology and prehistory. Much of the published information about Maine prehistory can be found in books or *Bulletin* articles available from The Maine Archaeological Society, P.O. Box 982, Augusta, Maine, 04332-0982.

