stricts, trails and landmarks.

Archaeological resources, both prehistoric and historic, provide us with evidence of human life and culture in past ages. Prehistoric archaeology attempts to reconstruct the lifestyle of the original human inhabitants of Maine from the end of the Ice Age to the arrival of the Europeans and written history. Historic archaeology analyzes the settlements and forts of the period from 1600 on, helping to expand the historical record. Historical resources in the form of structures, sites or landmarks are associated with past events or people of significance in the history of the state, represent an architectural style of a distinct period, or both. Criteria exist at both the federal and state level for evaluating the significance of such resources for placement on the National Register of Historic Places, Maine's Historic Places, Maine's Archaeological Survey and the Statewide Historic Archaeological Inventory.

5.4.A Early History and Archaeological Resources

The first people known to inhabit Maine, the Paleoindians, moved in from the south or west about 11,000 years ago as the land area of Maine was recovering from its last glaciation. They tended to camp on very well-drained soils away from river valleys and were probably the only prehistoric people to have lived in such areas in Maine. Trees spread across Maine toward the end of the Paleoindian period, forcing subsequent inhabitants to live and travel along lakes, waterways and coastal areas.

Travel on the ocean, main rivers and major lakes in dugout canoes characterized the Archaic period between 10,000 and 3,000 years ago. Native American settlements concentrated at the inlets and outlets of major and medium-sized lakes, along the main river valleys, and in coastal sites. The development of the birchbark canoe sometime between 4,000 and 3,500 years ago opened up the Maine interior away from major lakes and rivers. Canoes enabled an increasingly dispersed settlement pattern around lakes and smaller streams during the late Archaic and Ceramic periods.

Native Americans in Maine began to construct and use pottery about 3,000 years ago. During the Ceramic period, from around 1000 B.C. to 1500 A.D., Native Americans developed a generalized hunting, fishing and gathering economy based upon the mobility of birchbark canoes. They combined subsistence and settlement strategies to move people to seasonally available resources, or to move food and other resources to population concentrations. Life over most of Maine remained based almost entirely upon harvesting wild resources until well after contact with Europeans.

When the first European explorers arrived in the 1500s, the Early Contact period began, marking the end of the prehistoric archaeological period in Maine. Contact with the explorers initially added European materials to Native material culture, followed later by other impacts upon Native life, including intensified fur trapping and trade, changes in intertribal networks, intermittent warfare, widespread disease, and eventually, significant loss of lands.

For most of prehistory, Maine Native Americans were hunter-gatherers. They were generally mobile in lifestyle and lived in relatively small groups. The largest communities consisted of several hundred individuals in villages which most of the population left at certain seasons.

Five types of archaeological sites are known to exist in Maine: (1) habitation and workshop sites; (2) lithic quarries; (3) cemeteries; (4) rock art and (5) waterlogged sites preserving wood or other perishables. There are hundreds of known prehistoric archaeological sites in the jurisdiction, as well as hundreds more that are undiscovered since archaeological surveys have been done on less than 10% of the land area. Habitation and workshop sites comprise the vast majority (over 95%) of the known archaeological locations in Maine. They exhibit evidence of a range of activities from food procurement and processing to tool manufacture and maintenance. More than 95% of these sites are located adjacent to canoe-navigable waters, whether coast, lake, river, stream or wetland, or former shorelines of the same. The majority of sites are shallowly buried on till, sand, gravel or silt soils within 1.5 feet of the surface. Some deeply buried sites, up to three meters in depth, occur in alluvial settings along rivers and streams.

The other types of known archaeological locations are far fewer in number than habitation sites. Lithic quarry sites are mines for rock used in making stone tools. They are highly localized sites, occurring at bedrock outcrops or along exposed, stony stream and river bottoms with extensive cobble materials. Cemetery sites always exist in locations with 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. Rock art sites occur immediately adjacent to canoe-navigable water on particular kinds of bedrock outcrops. They include both petroglyphs and pictographs and probably date within the last 2,000 years. The Sebasticook fish weir is the best example of a waterlogged site, where wooden stakes from a fish trap structure, and some associated birchbark container fragments, have been preserved in anaerobic mud for between 2,000 and 6,000 years.

Examples of significant archaeological sites in the jurisdiction include both prehistoric and historic habitation and workshop sites and prehistoric quarry sites. The Chase Lake-Munsungun Lake Archaeological District incorporates at least 18 prehistoric habitation and quarry sites within 0.1 square kilometers centered on the Chase Lake-Munsungun Lake thoroughfare. The sites range in elevation from lake level to the summits of adjacent hills, and in age from 11,000 year old Paleoindian occupations to 500-year-old Late Ceramic period campsites. The sites away from the lake are associated either with glacial outwash landforms, or with quarry outcrops of a high-quality chert. This area was investigated in the late 1970s by the University of Maine and listed on the National Register of Historic Places in 1979.

The Vail site in the Magalloway Valley near Lake Aziscohos in western Maine is an example of a large Paleoindian habitation site. It is surrounded by many smaller habitation sites, one with a stone meat cache, as well as two killing grounds. The sites occur on sandy soils and are associated with the valley, stream and a kettle hole. Following identification of Paleoindian tools in the collection of Francis Vail in the early 1980s, subsequent professional excavation of eight or nine locations recovered over 4,000 tools and a survey of most of the Magalloway Valley revealed at least eight more sites. Prior to the identification of the killing grounds and stone cache, neither had been recorded east of the Mississippi River. The Vail site and associated killing ground are listed on the National Register as an individual site.

5.4.B European Settlement

Shortly after European explorers came to Maine's coast in the 1500s, European settlers followed, stopping on coastal shores and islands for fishing and fur trading, and later turning to farming, shipbuilding, quarrying and timber harvesting. Settlement didn't begin in the interior of the mainland until around 1800, spreading inland from south to north. The earliest settlements depended upon subsistence agriculture and small scale timber harvesting.

Timber harvesting operations advanced eastward and northward from river to river, from the Saco to the Presumpscot, and then on to the Kennebec as far north as Moosehead Lake. The peak of the lumbering activity occurred along the Penobscot River during the 19th century, following the river's East and West Branches deep into the wildlands. Throughout the 18th and 19th centuries, timber was transported by oxen, horses, and water. Elaborate systems of dams, lakes, canals, rivers and booms were devised to control and facilitate log movement. Lumber camps were built to house loggers. Farms were carved out of the wilderness to supply forage, bedding, produce, meat and shelter.

The opening of the Maine Woods to logging also opened the interior of Maine to other human activities during the 19th century. In addition to settlers, people came from the industrializing cities of the East Coast to vacation, exploring the forests, waterways, mountains and islands. Some stayed in expensive resorts like Kineo, Harfords Point and Seboomook; others chose simpler sporting camps offering guide services to the choicest hunting and fishing spots; still others came with their own canoes, tents and guidebooks to explore on their own. In any case, areas of the jurisdiction were on the map as a vacation and recreation destination.

The jurisdiction never became heavily populated, and by 1890, the population of the area had already peaked. Although new communities were settled, particularly in the northern part of the jurisdiction, the area as a whole was depopulating by the turn of the century. That trend continued until 1970, when the population began to grow slowly.

The most well known historical resources in the jurisdiction relate to the early days of the timber industry and consist of canals, dams, railways, sluiceways, logging settlements and farms. Other resources include architecturally significant structures and districts, historical commercial sites, such as sporting camps, historical industrial sites, and military fortifications and artifacts.

One example of an historic archaeological period habitation and workshop site is a farm settlement established in northwestern Maine in the 1830s. It features a large farm which produced quantities of hay and grain to support logging operations in the area until about 1930. The site consists of two dwellings and several barns and outbuildings along with several other former farms and a depot along a river. This site is important by virtue of its early date for the region and its symbiotic relationship with the logging industry.

5.4.C Cultural Resources

The jurisdiction possesses a variety of historical resources, all of which contribute to the cultural heritage of the state. Though many of these resources are embedded in the past, their legacy continues to influence and shape the jurisdiction’s current sense of culture and heritage. Continued forest management activities and the maintenance of a working landscape remain part of the heritage and culture of the jurisdiction. Similarly, Native American tribes, to include the Aroostook band of Micmacs, Houlton band of Maliseets, Passamaquoddy Tribe of Indian Township, Passamaquoddy Tribe at Pleasant Point, and the Penobscot Nation continue to contribute to the cultural resources of the jurisdiction as well as the state.

There are many state as well as regional efforts to promote cultural resources as part of ecotourism. Efforts range from creating specific centers to creating narrative guides to important historical travel routes and specifically include: The Natural Resources Education Center in Greenville, The Maine Indian Basketmakers Alliance, The Western Maine Cultural Alliance, The Abbe Museum, and the Thoreau-Wabanaki Trail initiative.

5.4.D LURC Regulatory Approach

The Commission employs the Unusual Area Protection Subdistrict (P-UA) to protect important historic, scenic, scientific, recreational, aesthetic or water resources which have special land management requirements which cannot be met by another zone. This zone can be applied to historical, archaeological and other cultural sites and resources. The Commission protects a number of historical sites and trails through P-UA designation. These include the Arnold Trail, Pittston Farm, Katahdin Iron Works, and the Monhegan Island Lighthouse area. Other protection subdistricts encompass additional resources such as Telos Canal which is in a Recreation Protection (P-RR) Subdistrict.

Due to the vastness of the jurisdiction, not all of the important historical resources in the jurisdiction have been identified and zoned. Consequently, the Land Use Regulation Commission and the Maine Historic Preservation Commission (MHPC) worked together to incorporate an assessment of the cultural significance of lakes into LURC's lake database. This assessment is based upon an evaluation of features listed in the National Register of Historic Places, Maine's Archaeological Survey, Statewide Historic Archaeological Inventory and in the publication, Above the Gravel Bar: Indian Canoe Routes in Maine.

The Maine Historic Preservation Commission has data of known archaeological and culturally significant sites for the jurisdiction as well as areas identified as archaeologically sensitive where significant sites may be found in the future. Access to this data, provides Commission staff (for various reasons, this data is not available to the public) with a valuable tool for assessing the potential archaeological and cultural impacts associated with development proposals. When Commission staff reviews an application for a permit which the lakes database or MHPC data indicates is near a potentially significant archaeological or historical area or feature, the Maine Historic Preservation Commission receives a copy of the permit application and site plan for review and comment. In some cases, the MHPC recommends that an archaeologically survey be conducted by the applicant as part of the staff review of the application.

5.4.E Cultural, Archaeological and Historical Resource Issues

### *Erosion, Development, and Vandalism*

Significant archaeological sites and historical resources are eligible for listing on the National Register of Historic Places. Legally, significant archaeological sites are those worthy of protection or excavation with public funds. Criteria for eligibility consider content and condition of the site with specifics varying dependent on the age of the site. The oldest sites (Paleoindian) are eligible even if they have been heavily disturbed. The youngest sites (Ceramic period age sites, historic sites) must be minimally disturbed and must yield archaeological data such as fire hearths or separable layers of occupation, in addition to stone tools and other objects.

Erosion, development, and vandalism can all destroy the significance of archaeological sites. The primary protection afforded these sites comes from identification so that they can be protected from threats or excavated by professionals.

At this time, erosion poses the greatest threat to archaeological sites. Unfortunately, artificially raised water levels on many interior lakes, as well as natural land subsidence along the coast, have resulted in water covering or eroding many sites from the Archaic period to the present. The greatest source of material that survives erosion fairly intact tends to be those sites sealed in the stratified sediments of floodplains along the rivers.

Development runs a close second to erosion as a threat to archaeological resources. Since most of the sites are shallowly buried and over 95% of the habitation and workshop sites occur along shorelines, any activity in shoreland areas that disturbs the top two feet of earth has the potential to severely damage a site.

Finally, vandalism, caused by nonsystematic digging for artifacts, can destroy both site and artifacts. Vandalism usually takes the form of unauthorized excavations by artifact collectors who loot sites once locations are publicized. This has resulted in the legal restriction of public access to information concerning the location of known or potential archaeological resources.

### *Information Needs*

As with archaeological resources, a complete inventory of historical resources in the jurisdiction has not been made. Limited state and federal funds hinder efforts to identify the resources. That lack of information combined with the variety and low density of known sites, structures and trails scattered across the jurisdiction's millions of acres, often in remote locations, make it difficult to develop effective preservation strategies. Other problems involving known historical resources include inappropriate alterations that compromise architectural design and values, abandonment and deterioration of structures, and adjacent development which is incompatible with the historic context of a particular resource.

As discussed earlier, an assessment of the overall cultural significance of lakes is incorporated in LURC's lake database. However, of over 1,500 lakes contained in the database, only 10 to 15 percent were surveyed to determine their archaeological potential. Consequently, the primary source of cultural resource information for the agency’s review of development proposals is not complete. Since the majority of sites are located within 300 to 400 yards of the shorelines of canoe-navigable waterbodies, protection efforts may be enhanced by considering whether criteria can be developed for determining when to request MHPC review of permit application on lakes that have not yet been assessed.

Both LURC and MHPC could strengthen their efforts to protect these cultural resources by further cooperation. The following needs warrant consideration (1) a strengthened process for assuring that all applications with potential impacts on significant archaeological or historical resources are being adequately reviewed; (2) criteria for identifying potential archaeological sites not located near shorelines; (3) an estimate of the costs of professional reconnaissance and survey activities, prior to requiring such an evaluation through LURC procedures; (4) an approach to dealing with architectural design issues for both clustered and isolated historical structures and/or sites which occur within the jurisdiction; and (5) joint efforts to obtain funding to further investigate the extensive areas of the jurisdiction not yet surveyed.