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APPENDIX H

HISTORIC, ARCHAEOLOGICAL, AND PALEONTOLOGICAL CONTEXTS

1 CULTURAL HISTORY

This section includes succinct reviews of the cultural histories of the four geographic regions (encompassing 13 states) that are within the 100-mile corridor of the Northern Border project area.

1.1 PREHISTORIC CONTEXT

Since the Paleo-Indian period is very similar across the entire Northern Border, a single discussion of that period is presented below. All other prehistoric/pre-contact traditions are discussed on a regional and state-by-state basis.

1.1.1 PALEO-INDIAN PERIOD

Large portions of the study area were covered by the Laurentide and Cordilleran ice sheets at the time of the Late Wisconsin Glacial Maximum (ca. 21,000 B.P.) (Dreimanis, 1977:71; Hill, 2006:83, 85; Ogden, 1977:18). The exceptions include a small portion of northwestern Pennsylvania and parts of northern Montana, Idaho, and Washington. Besides rendering large portions of North America uninhabitable, the ice sheets also trapped a significant portion of the earth's water, resulting in lower sea levels in parts of the study area along the Atlantic and Pacific coastlines. The ice sheets receded from their maximum extent after 21,000 B.P. and were north of the study area by ca. 14,000 to 12,500 B.P. (Hill, 2006). As they melted, a series of proglacial water bodies formed along their margins, such as the Champlain Sea, Lake Iroquois, and Glacial Lakes Albany and Vermont in the Northeast, Glacial Lakes Chicago and Whittlesey in the Great Lakes region, and Glacial Lakes Columbia, Brewster, and Missoula in the Northwest. The northern Great Lakes area, including much of the northern peninsula of Michigan, was the last region to be ice free. The landscape south of the melting glaciers was primarily covered with "tundra-like vegetation," although more productive microhabitats were likely distributed along the edges of proglacial water bodies (Sirkin, 1977:210; see also Wright, 2006:107). Numerous types of fauna were present, such as mastodon, caribou, horse, bison, musk-ox, giant ground sloth, white-tailed deer, elk-moose, and wapiti, along with species of smaller mammals, birds, fish, reptiles, and shellfish, many of which were hunted by the area's earliest human occupants (Lepper and Funk, 2006:188; see also Funk, 1993:258).

No archaeological sites are known within the area of glaciation that pre-date the melting of overlying glacial ice. However, the Meadowcroft Rockshelter site, located in an unglaciated part of southwestern Pennsylvania just south of the study area, has yielded definitive dates associated with cultural materials from as early as 15,950 B.P. (Lepper and Funk, 2006:174). Similarly early sites may exist under water along coastal areas that were dry during periods of advanced glaciation. Early Paleo-Indian sites, which date to soon after the glacial retreat (generally between 12,000 and 10,000 B.P.), have been found throughout the study area. Typically, these sites include Clovis-like projectile points, which have characteristic channels/flutes that were probably used for hafting (Justice, 1995:17-29; Ritchie, 1971:10, 21-22, 74-75). Although the points are broadly similar across much of the continent, some display differences suggesting variation among social groups (Funk, 1983:309; Griffin, 1983:243; Ritchie, 1980:1; Stothers, 1996).

Relatively few early Paleo-Indian sites have yielded radiocarbon dates; the ages of most have been inferred from the presence of fluted points (Funk, 1983:309; Ritchie and Funk, 1973:334).

1 Finds are frequently limited to single projectile points with no accompanying items. Although
2 there is some variation across the study area, typical Paleo-Indian tool kits included unifacially-
3 flaked end- and side-scrapers (some of which are 'limace' (slug-shaped), bifacial preforms,
4 distinct debitage created during point fluting (i.e., 'channel' flakes), burins, wedges, graters,
5 biface knives, large chopping and cutting biface, drills, and denticulates (Funk, 1983:309; Snow,
6 1980). Tools are generally made with high-quality stone, sometimes procured from exotic (long-
7 distance) sources.

8 Late Paleo-Indian (ca. 10,900 to 10,000 B.P.) sites are associated with diagnostic, parallel-
9 flaked, lanceolate Plano tradition projectile points. Plano points are most frequently found in the
10 Plains, where some are associated with bison kills/processing sites (Justice, 1995:30-35). They
11 are extremely scarce in Pennsylvania, New York, and New England, but occur more frequently
12 further to the north, where peri-glacial environments endured until after 10,000 B.P. (Funk,
13 1983:315-316; see also Lepper and Funk, 2006:193).

14 Paleo-Indian sites can be grouped into any number of several functional classes, among which
15 are: workshops/quarries; small camps; major, recurrently occupied camps; kill sites; rockshelter/
16 cave camps; and possible cremation sites (Buckmaster and Paquette, 1989; Frison, 1996; Mason
17 and Irwin, 1960; Meinholz and Kuehn, 1996; Ritchie and Funk, 1973:333-334). Workshops/
18 quarries are defined by the presence of numerous pieces of debitage and stone tool fragments, a
19 low quantity or absence of evidence for longer-term visits such as hearths, and proximity to a
20 lithic source. Examples include: Munsungun in Maine; West Athens Hill and Divers Lake in
21 New York; and several Knife River quarry sites in North Dakota (Funk, 1983:314; Lepper and
22 Funk, 2006:181). Attributes of small camps include a limited areal extent and relatively few
23 artifacts, which might include items associated with hunting, butchering, woodworking, or
24 knapping. Example sites include: Beacon Hill, Lamontagne, and Keogh in Maine; and Potts,
25 Davis, and Kings Road in New York. Major recurrently occupied camps typically cover larger
26 areas than small camps, have more artifacts representing a greater range of activities, and include
27 several 'hotspots,' probably indicative of multiple occupations or areas used during a single
28 occupation by multiple social groups. Examples include: the Michaud and Taxiway sites in
29 Maine; Reagan in Vermont; Arc in New York; Shoop in Pennsylvania; Paleo Crossing in Ohio;
30 and Samels Field in Michigan (Cleland and Ruggles, 1996; Holliday and Mandel, 2006:36;
31 Ritchie and Funk, 1973:333-334; Shott and Wright, 1999; Witthoft, 1952). Kill sites are
32 represented by disarticulated faunal (skeletal) remains in association with Paleo-Indian artifacts.
33 Example sites include the Vail site in Maine (Lepper and Funk, 2006:182). Rockshelter and
34 cave sites are largely defined by the presence of Paleo-Indian artifacts in proximity to those
35 geographic features; visits to these sites would have been brief and probably by relatively few
36 people (Ritchie and Funk, 1973:334). Examples include the Aurora Run Rockshelter, the Squaw
37 Rockshelter, and Sheriden Cave in Ohio, and Dutchess Quarry Cave in New York (Holliday and
38 Mandel, 2006:36; Lepper and Funk, 2006:175; Ritchie and Funk 1973:334). There is also some
39 evidence for large-scale bison kills in Montana and possible cremation burials have been found
40 on the Upper Peninsula of Michigan (Buckmaster and Paquette, 1989; Frison, 1996; Justice,
41 1995:33; Mason and Irwin, 1960; Meinholz and Kuehn, 1996).

42 Paleo-Indian quarries/workshops predictably occur near sources of lithic material with qualities
43 favorable for knapping. By definition rockshelter sites are limited to their geographic settings.
44 Camps were typically on "high, well-drained ground... on such topographic features as hills,

drumlins, knolls, or terraces” and probably near animal migration routes (Ritchie and Funk, 1973:334-335; also see Lepper and Funk, 2006:189). Proximity to water was an additional – and perhaps primary – determinative factor in site location (Holliday and Mandel, 2006:35-36). Many sites, such as Arc and Hiscock in New York, Paleo Crossing in Ohio, and several Saginaw River valley sites in Michigan are located along the peripheries of paleolakes, ponds and wetlands (Cleland et al., 1998; Holliday and Mandel, 2006:36; Laub et al., 1996:1; Lepper and Funk, 2006:190; Loring, 1980). Conversely, few Paleo-Indian sites have been found along younger drainages along the Great Lakes - features that developed after the immediate post-glacial period (Holliday and Mandel, 2006:36; Lantz, 1984:219). Paleo-Indians in Maine, New Hampshire, Vermont, and Washington also appear to have been exploiting upland environments not necessarily in proximity to water (Lacy, 1994; 1999; Loring, 1980). In general, fewer Paleo-Indian sites are known for the parts of the study area in Washington, Idaho, Montana, and North Dakota than for states further to the east.

1.1.2 NEW ENGLAND REGION

1.1.2.1 State of Maine

Early and Middle Archaic Periods

Once thought to be rare in Maine, sites of the Early Archaic and Middle Archaic periods (ca. 10,000 B.P.-8,000 B.P. and 8,000 B.P.-6,000 B.P., respectively) have become much more understood in the last 25 years. Early and Middle Archaic period components have been identified at multi-component stratified sites along the Penobscot, Piscataquis, Kennebec, and Androscoggin rivers and are known from private collections from many Maine lake inlet and outlet sites, including some along the Saint Croix and Saint John Rivers.

These sites exhibit tool assemblages typical of the Gulf of Maine Archaic tradition and include quartz core and flake tools such as thick core/uniface scrapers, fully channeled gouges, celts and stone rods of several forms with few, if any, flaked stone projectile points, although biface manufacture is evident among debitage assemblages. Early Archaic period bifurcate-based points and Middle Archaic period Neville and Stark stemmed points are rarely recovered but are more common in southwestern Maine private collections. Their apparent rarity contributed to early assessments of regional low populations during these periods. Broadly flaring, flat-bottomed, fully channeled gouges are likely earlier than narrower or parallel-sided forms and the later two forms persist well into (or through) the Middle Archaic period. Various forms of slate projectile points and the semi-lunar knife or “ulu” may have appeared by the end of the Early Archaic period and certainly are present in some Middle Archaic period site assemblages.

Subsistence and seasonality evidence from Native American sites in Maine begins to accrue in the Early Archaic period. Early and Middle Archaic period components at sites such as the stratified sites on the Piscataquis River in Milo and N’tolonapemk at the outlet of Meddybemps Lake, among others, contain calcined bones of anadromous fish such as alewife and shad and catadromous eels among other fish, as well as turtle, beaver, muskrat, woodchuck, otter and fox. N’tolonapemk also contained the remains of two semi-subterranean house pits radiocarbon dated to 8,690±50 B.P. and 8,670±60 B.P. No definitive evidence of Early or Middle Archaic period mortuary sites has been identified within the overall study area but it is expected that people

practiced the mortuary ceremonialism identified at other Gulf of Maine Archaic period mortuary sites in the broad region.

Late (and Transitional) Archaic Periods

Sites of the Late Archaic period (ca. 6,000 B.P.-3,900 B.P.) are numerous in Maine and are associated with the Moorehead Burial tradition, apparent elaborations of the Gulf of Maine mortuary ceremonialism that include cemeteries with pit features containing abundant red ocher, suites of typical lithic artifacts that were consistently associated with certain portions of the Late Archaic period, and occasional evidence of cremations. These cemeteries are generally located on elevated well-drained landforms overlooking suitable places to harvest anadromous fish and support band-sized gatherings, and may have served as territorial boundary indicators.

The earliest Late Archaic period occupations have been found in Maine's interior and appear related to the Laurentian tradition Vergennes phase as defined in New York. Artifact assemblages from these sites vary little from earlier Middle Archaic period assemblages apart from the inclusion of broadly side-notched "Otter Creek" projectile points. Also included are ulus, short channeled gouges, celts, slate points, and stone rods. Pecked stone plummets are fairly common at this time but may have initially appeared at the end of the Middle Archaic period. A feature at the Sharrow site in Milo (F.17), with two radiocarbon dates of 5,900 B.P. and 6,000 B.P., contained a plummet and conjoining fragments of a bone or antler point with multiple barbs. A similar barbed point of swordfish rostrum was recovered from a feature associated with the Vergennes phase at Site 96.02 at the outlet of Lewey Lake in Princeton. Interior sites of the Late Archaic period continue to be located along rivers at good fishing spots and at lake inlets and outlets and also include turtle, beaver, and occasional bird and large mammal subsistence remains. The Seabasticook Fish Weir in Newport was initially constructed at this time.

It is also during the Late Archaic period that sites of the small stemmed point tradition (ca. 5,000 B.P.-4,500 B.P.) appear along the coast of Maine. Earlier Archaic occupations undoubtedly occurred on the coast, but were later submerged by rising sea levels due to coastal subsidence. The small stemmed point tradition may have arrived in Maine somewhat later than the Vergennes phase, but is at least partly contemporary with the Vergennes phase and may have persisted longer. Artifact assemblages of the small stemmed point tradition are similar to contemporary assemblages in the interior with the exception of the diagnostic projectile point styles and the apparent absence of ulus in small stemmed point tradition assemblages. As already mentioned, sites of the small stemmed point tradition occur along the coast but also occur on some major islands and to the head of tide on major river estuaries.

Subsistence evidence is more common in small stemmed point tradition faunal assemblages as the presence clam shells neutralizes soil acidity. The small stemmed point component (Occupation 1) at the Turner Farm site demonstrates a clear focus on procuring fish (including swordfish) from the ocean, with a secondary reliance on deer, with clam as a supplementary resource.

Succeeding or developing from the small stemmed point tradition, the Late Archaic period Moorehead phase people (ca. 4,500 B.P.-3,800 B.P.) often occupied the same sites, focused on the same coastal resources, and continued the Moorehead burial tradition. Projectile points of

the Moorehead phase are generally longer with proportionately narrower blades than those of the small stemmed point tradition and resemble roughly contemporary Sylvan Stemmed projectile points associated with the Mast Forest Archaic tradition of New York. Short channeled gouges, plummets, celts, and slate points continued in use and were variously included as burial goods, although slate points of the Moorehead phase burials are often long, narrow faceted “bayonets,” sometimes decorated with incised designs on one face and possibly intended as strictly ritual items. Some otherwise utilitarian items such as plummets exhibit effigy-like characteristics. Evidence of long distance cultural connections during Maine’s Late Archaic period Moorehead phase includes Ramah quartzite bifaces from northern Labrador and side-notched bifaces resembling Normanskill projectile points from New York and Vermont, some made of Vermont Cheshire quartzite, in some cemeteries.

The Transitional Archaic period (ca. 3,800 B.P.-2,800 B.P.) of much of Maine is mostly associated with the Susquehanna tradition, often considered to be an example of the migration of people from the Mid-Atlantic states into New England. The initial regional manifestation of the Susquehanna tradition is similar to the Atlantic phase of Massachusetts and includes large broad stemmed projectile points referred to as Snook Kill or Atlantic points, distinctive drills, celts, occasional fully grooved axes, and short-channeled gouges and cremation burials with little or no red ocher included. Susquehanna sites (and cemeteries) are often located on the same landforms as Moorehead sites but are sometimes very large and possibly more numerous and widely distributed through much of Maine. As seen from Turner Farm, Susquehanna subsistence on the coast, even at this island site, is more focused on terrestrial resources such as deer than is the Moorehead phase occupation, with some use of inshore fish and no swordfish exploitation. This may be, at least in part, due to cooling of the Gulf of Maine waters.

The next Susquehanna tradition manifestation in Maine apparently differs little from the earlier Atlantic other than that projectile points resemble the “Wayland Notched” points of Massachusetts and the number of sites and site size appears to have decreased. This decrease may be a result of sampling as much of the forested parts of Maine have received relatively little professional attention while the many lakes that are seasonally lowered in the fall are well known to attract the attention of collectors. The later manifestations of the Susquehanna tradition to the west of Maine are poorly represented in Maine collections. Projectile points of the Orient phase are occasionally recovered, particularly in central and western Maine, and a few possibly associated steatite bowls are known.

Although some early Susquehanna sites are known, notably the Mud Lake Stream site, very little evidence of the Susquehanna tradition is known from the Canadian Maritime provinces or from eastern Maine. Instead, a regional Transitional Archaic presence has been suggested for the areas adjacent to the Saint John and Saint Croix Rivers and Passamaquoddy Bay.

Ceramic (Woodland) Period

The Ceramic period (ca. 2,800 B.P.-2,100 B.P.) in Maine begins with the arrival of Native American pottery into the region about as early as any other place in the Northeast, as demonstrated by a 2,720±90 B.P. associated with a semi-subterranean house pit within the shell midden at the Knox site. The first ceramics to appear in Maine consisted of conical pots with cordage or fabric-impressed interiors and exteriors. Early Ceramic period sites often demonstrate evidence of cultural contact with cultures to the west in the form of “Meadowood”

1 side-notched projectile points and lobate-stemmed points similar to those associated with the
2 Early Woodland Middlesex Adena culture, although made of local materials. Occasionally,
3 blocked-end tubular tobacco pipes of Ohio pipe clay have been found in Maine. Early Ceramic
4 sites often contain numerous small end scrapers and occasional diagnostic tear drop-shaped
5 bifacial scrapers. The Early Ceramic people of Maine continued the hunter/gatherer subsistence
6 economy of their Archaic period predecessors. Seasonality assessments of clam shells from a
7 variety of Ceramic period shell midden sites suggest that coastal people exploited the resources
8 of the exposed coast and islands during the warmer months and moved to sheltered coves in the
9 winter. There are also many sites spanning the entire Ceramic period throughout the interior of
10 Maine but, likely due to preservation conditions and sampling biases, no evidence of the location
11 of winter occupations has been recovered.

12 Most of Maine's shell middens appear to have begun accumulating during the Middle Ceramic
13 period (ca. 2,100 B.P.-1,000 B.P.) and suggests an expanding population. Early Middle Ceramic
14 period pottery is well-fired and thin with pseudo scallop shell and/or rocker dentate decoration
15 over much of the exterior. Subsequent Middle Ceramic period pottery became thicker and less
16 well fired with cord-wrapped stick and punctate decoration confined to the shoulder, neck, and
17 rim of pots. Projectile points during this time exhibit a variety of stemmed and notched styles
18 and the recovery of numerous small end scrapers of high quality materials from distant source
19 areas demonstrate expanding Middle Ceramic period social connections with people to the east,
20 west, and north.

21 Late Ceramic period (ca. 1,000 B.P.-400 B.P.) sites are well represented in both the interior and
22 on the coast of Maine. Late Ceramic pottery becomes globular, thinner, and well fired once
23 again, with zoned incised exterior decoration of the collar and rim most common, following
24 ceramic patterns elsewhere in the Northeast. Projectile points are of side-notched and corner-
25 notched forms, with corner-notched points most common in eastern Maine and side-notched
26 points dominant in central Maine, although both forms are found at many sites. In western
27 Maine triangular "Levanna" projectile points become dominant and likely indicate cultural
28 influences from the west. Agriculture with maize, beans, and squash also appears in western
29 Maine in the Late Ceramic period associated with larger, more permanent settlements. The
30 adoption of maize agriculture never spread further east than the Kennebec River during the pre-
31 Contact era. In central and eastern Maine Native Americans never abandoned the mobile
32 hunter/gatherer lifestyle of their ancestors, likely an indication of the abundance of resources
33 available to them and the shorter growing season west of the Kennebec River.

34 **Native Americans in the Historic Period - Contact Period**

35 The ancestors of the Micmac people of Nova Scotia began regular contact with European
36 fishermen in the early sixteenth century. Almost certainly European material culture items such
37 as kettles, iron tools, weapons and cloth were available to the people of Maine well before they
38 ever saw a European. By the early seventeenth century, the fur trade was well established and
39 competition between the English, Dutch and French created a complex trading sphere with
40 Native Americans at the nexus. Maine's Native American populations were drawn into warfare
41 due to conflicts between these European countries over trading connections as well as pressure
42 from English colonists spreading eastward along the coast.

Depopulation as a result of epidemics of European diseases, warfare, and the conversion of many Maine people to the Catholic faith caused many Native Americans to abandon their traditional homelands, sometimes temporarily, to seek refuge in Canada where many of their descendants still live. Others returned or never left their homelands and became the ancestors of today's Maine's Passamaquoddy, Maliseet, Penobscot, and Micmac people. Contact period archaeological sites containing a combination of both European and Native American artifacts are distributed along the coast and at several historically recorded villages on the Androscoggin, Kennebec, Penobscot, and Saint Croix Rivers, as well as a recently discovered site on the US-Canada border at East Grand Lake.

1.1.2.2 State of New Hampshire

Archaeologists generally group Native American sites in New Hampshire into the Paleo-Indian, (ca. 11,500-9,000 B.P.), Archaic, (ca. 9,000-2,700 B.P.), and Woodland or Ceramic (ca. 2700-400 B.P.) periods (Haviland and Power, 1994; Thomas 1994; Bunker 1994). In addition, there is a time-transgressive period of early European exploration and settlement referred to as the Contact period, ca. A.D. 1400-1660 for New Hampshire's seacoast and A.D. 1623-1770 for New Hampshire's interior. These major periods are subdivided further into narrower temporal units with every period and subdivision represented in the 100-mile corridor of the Northern Border project area.

In general, early archaeological sites are assigned time periods based on seriation of projectile point or ceramic styles, and radiocarbon dating. Due to the impacts of long-term and extensive agricultural plowing during the historic period, a majority of archaeological sites not only in New Hampshire, but in the Northeast in general, are shallow, often lack intact features, and are typically dated using temporally diagnostic projectile points, tools, or pottery alone. Radiocarbon dating of sites in this region is therefore relatively rare. Cultural affiliation is easier to document from the Woodland period forward because greater numbers of artifacts have survived for archaeologists to examine.

Archaic Period (9,000-2,700 B.P.)

The Archaic period is the longest and perhaps the best-represented period in the archaeological record of New Hampshire because of the attention it has received from archaeologists (Starbuck, 2006). The Paleo-Indian period appears to have ended when the focal adaptation the Paleo-Indians relied on collapsed, forcing a rapid readjustment of their culture (Spiess and Wilson, 1987). This is evidenced by a "clear archaeological discontinuity, for the artifact styles and overall adjustment of Indians during the Early Archaic are indisputably different from those of the preceding Paleo-Indian period" (Snow, 1980:157).

Study of the Archaic period can provide an understanding of the social, cultural, and technological changes that occurred when the climate transitioned from the end of the Ice Age and to milder environmental conditions. The beginning of the Archaic period corresponds with the establishment of a closed forest environment across the Northeast sometime between 10,000 and 9,000 B.P., depending on the particular region (Spiess and Wilson, 1987; Robinson et al., 1992). With the transition to a closed forest environment, reliance on big-game terrestrial fauna diminished (as did the species themselves). Thus, strong evidence for hilltop lookout campsites is not present in the Early Archaic period (Thomas et al., 1981).

1 Well-known sites in New Hampshire associated with the Early Archaic period are Weirs Beach
2 on Lake Winnepesaukee and the Neville site at Amoskeag Falls. Evidence of surface hearths and
3 deep pits, along with a wide range of tool types, nutshell remains, and faunal remains
4 representing mammals and fish, were also recovered (Thomas, 1994:51, 53). Preservation of
5 faunal and floral remains associated with Early Archaic sites is rare, but a mixed diet of different
6 resources is suggested. At one time, continuity of human occupation in the Northeast after the
7 Paleo-Indian period remained a subject of considerable doubt (Sanger, 1979). Site preservation
8 factors related to environmental change have provided keys for interpretation of the Early
9 Archaic archaeological record in the northeast and elsewhere. Thomas (1994) and other
10 archaeologists working in the Northeast believed that Early Archaic sites would continue to be
11 very difficult to locate, because in addition to shallow contexts, they were believed to have
12 survived in deep alluvial deposits along major rivers, in areas currently submerged by lakes such
13 as Lake Champlain, or in environments that were not usually surveyed.

14 In the southeast, early Archaic sites had been primarily identified in stratified alluvial contexts;
15 often sites had been deeply buried through active floodplain sedimentation (Jennings, 1989). As
16 early as 1994, Thomas (1994:50) concluded that archaeological projects in New England had
17 also begun to show the existence of deeply buried Early and Middle Archaic period sites on
18 riverine terraces. Manifestations of the early Archaic period on upland ridges and deflated hill
19 tops are now deemed as peripheral to the main occupations on riverine terraces (Chapman,
20 1980). Thomas (1994:53) also argued that we have a “poor understanding of the factors which
21 may affect [Early Archaic] site discovery . . . and the complex natural environment to which
22 people had adapted.” Because of this, Early Archaic cultural adaptations are difficult to
23 reconstruct. However, evidence from sites outside the Northeast suggests a broadening of the
24 subsistence base to a more diffuse subsistence adaptation (Thomas, 1994). This coincides with
25 the collapse of the focal subsistence adaptation of the Paleo-Indians. It also appears that seasonal
26 movements were more complex with the broader range of resources utilized during the Early
27 Archaic period. Little is known about Early Archaic cultural preferences for site locations and
28 the association of those sites with past local and regional environments.

29 In contrast to Paleo-Indian sites, most of the lithic materials recovered from Early Archaic
30 contexts appear to derive from local sources of chert, quartzite, or quartz. Flaked stone tools
31 seem less common in New Hampshire during the Early Archaic as seen at the Weirs Beach site
32 which contained an unusual assemblage of quartz debitage, cores, steep-bitted quartz scrapers,
33 and elongated stone rods made of schist (Bolian, 1980; Maymon and Bolian, 1992). Expedient
34 tools, however, are a frequent component of Early, Middle, and even late Archaic sites in both
35 states. Extensive manufacture and use of expedient tools using local materials during the Archaic
36 period cautions that archaeologists need to take more care not to prematurely discard materials,
37 such as phyllite, typically not associated with flaked or ground tools (c.f., Klink, 1992; Stone,
38 1994; Brigham et al., 2001). Lithic projectile points made during the early Archaic period often
39 have characteristic bifurcate bases and occasionally serrated edges (Snow, 1980). Preservation of
40 faunal and floral remains associated with Early Archaic archaeological sites is rare, but a mixed
41 diet of different resources is suggested (Thomas, 1994).

42 Archaeological data from New Hampshire, particularly from sites in Manchester and Concord,
43 shows that by the Middle Archaic period fairly sizeable settlements had developed on waterways
44 and lakes that exhibited a greater reliance on fish (Starbuck, 2006). Dincauze’s work at the

1 Neville site, a deeply stratified site on the Merrimack River, was a great contribution in
2 understanding temporal subdivisions of the Archaic period for southern and coastal New
3 England. Middle Archaic peoples continued to heavily rely on quartz, but volcanic materials
4 were also increasingly used (Bunker, 1994).

5 Archaeologists believe that by the Late Archaic Period, the Northeast had a substantial resident
6 population. Regionally, archaeologists define four major archaeological traditions for the Late
7 Archaic period (i.e., Laurentian, Narrow Point, Susquehanna, and Maritime Archaic), and these
8 are subdivided into phases. All traditions but the Maritime Archaic appear to occur in New
9 Hampshire and may exhibit a blending of the four traditions that created a culture unique to the
10 region (Starbuck, 2006). Late Archaic sites have been found in association with major drainages
11 and bordering wetlands, in minor streams and tributaries, in once marginal upland areas, and on
12 upland ridges. While Late Archaic sites are by no means rare in New Hampshire (Starbuck,
13 2006), well-documented assemblages with absolute dating of associated features are uncommon.
14 While Late Archaic sites are represented on the Vermont side of the Connecticut River, little is
15 reported for the New Hampshire side of the river. The use of diverse lithic raw material for the
16 Late Archaic has also been documented in New Hampshire (Starbuck, 2006). New Hampshire
17 Late Archaic sites also exhibit intensive settlement with many location reoccupied on the basis of
18 seasonal hunting and gathering patterns. In New Hampshire's Lakes Region, the Davison Brook
19 Site (17-GR-201) provided a significant contribution to our understanding of Late Archaic
20 settlement, technology, resource acquisition, consumption, and possibly mortuary practices
21 (Goodby, 2001).

22 During the Late Archaic, differential temporal and spatial environmental exploitation for
23 habitation and burial sites is typical. By the Late Archaic period, habitation and resource
24 exploitation sites appear to have been associated with present-day upland ridges, lake shorelines,
25 wetland borders, and along streams and rivers. Therefore, Late Archaic site locations are
26 expected to contrast with older Paleo-Indian through Middle Archaic sites that have been closely
27 associated with late Pleistocene-aged "*fossil*" shorelines and landforms or stratified alluvial
28 contexts.

29 At the close of the Late Archaic period, a transitional period from the preceramic Late Archaic to
30 the ceramic Early Woodland followed. This period is termed the Terminal Archaic or
31 Transitional period (3,700-2,700 B.P.). The Terminal Archaic period is defined as "essentially
32 preceramic and marked by carved soapstone (steatite) vessels, together with new varieties of
33 projectile points" (Ritchie, 1980:150), including the broad points of the Susquehanna tradition
34 and the later Orient "fishtail" points. The presence of various types of Archaic archaeological
35 sites in the Northern Border project area of New Hampshire suggests that there is a high
36 probability of encountering additional archaeological sites of this age. The most sensitive areas
37 for these sites appear to be beside larger rivers, and especially near falls or rapids, beside modern
38 lakes, ponds or wetlands or submerged under their waters, on prominent knolls and terraces
39 along major drainages and valley edges, and upon sandy deltas.

40 **Woodland Period (2,700-400 B.P.)**

41 The first use of ceramics marks the Woodland period in northern New England. Many northern
42 New England archaeologists prefer the term Ceramic Period, rather than Woodland Period.
43 Although ceramics were present, other typical "Woodland" characteristics such as domesticated

1 crops (e.g., corn and tobacco) did not play a large part in annual subsistence patterns in this area.
2 The Woodland period is subdivided into three sub-periods: the Early Woodland period (2,800-
3 1,850 B.P.); the Middle Woodland period (2,050-900 B.P.); and the Late Woodland period (900-
4 350 B.P.; Thomas, 1994; Bunker, 1994). The transformation into the Woodland period is
5 distinguished by the development and use of ceramics. The use of ceramic containers may have
6 influenced settlement patterns due to their capacity for use as food storage containers in addition
7 to their use for cooking.

8 The ability to store food made possible more sedentary, long-term settlements and partially offset
9 the seasonal fluctuation of resources (Petersen and Power, 1985). Ironically, recovery of pottery
10 from nearly all but the best archaeological contexts in New Hampshire is rare. Much of New
11 Hampshire's Woodland period is known from excavation of several deeply stratified sites on the
12 Merrimack River, such as the Neville site at Amoskeag Falls (Dincauze, 1976), the nearby
13 Smyth Site (Kenyon, 1981; 1983; 1985), the Eddy Site (Bunker, 1992) Garvin's Falls (Starbuck,
14 1983; 1985b), and Seawall's Falls (Starbuck, 1982; 1983; 1985a). However, on occasion, even
15 fairly shallow deposits such as those at the Lodge Site in Tilton, New Hampshire (NH-31-6-6)
16 have yielded significant information (Gengras and Bunker, 1998).

17 Early Woodland habitation sites often suggest a pond, lake, or riverine orientation. Upland
18 locations may have been virtually abandoned in favor of more productive alluvial environments
19 (Thomas, 1994). Large habitation sites appear to be rare during this period. Evidence from other
20 sites in the Northeast suggests that the absence of these sites might be attributed to a regional
21 climatic cooling trend that began in about 3,000 B.P. As the climate cooled, forest composition
22 changed, which may have resulted in lowering the distribution and diversity of game species.
23 This shift in the resource base may have caused a change in settlement patterns. If this is correct,
24 "during this period of climatic pressure, families may have remained in small groups which
25 exploited a diversity of resources throughout the year, so that only small sites were ever
26 occupied" (Thomas et al., 1981:73). Evidence from these small sites would be scant, thereby
27 making it difficult to locate habitation sites.

28 Annual subsistence patterns still included hunting, fishing, and gathering, although
29 environmental characteristics, and therefore manner of exploitation of the resources, had
30 changed from that evidenced in the Archaic Period. Faunal remains recovered from the Boucher
31 site in Vermont suggest that moose, deer, bear, raccoon, beaver, and turkey were exploited
32 (Thomas, 1994:72). Thomas (1994:72) writes "the season of site occupation and the
33 environmental characteristics of the territory surrounding any specific [Early Woodland] site
34 undoubtedly had a great deal to do with types of foods which were available." Much more
35 remains to be determined about Early Woodland Period interactions with the local environments.
36 The presence of Early Woodland sites within the Northern Border project area however, suggests
37 that there is potential to encounter additional sites of this age.

38 Early Woodland archaeology of the Northeast may be better known from burial sites than
39 habitation sites. Many Early Woodland mortuary sites were accidentally discovered near Lake
40 Champlain and on the Lower Missisquoi River in Vermont as surface finds by collectors or
41 during modern industrial quarrying for sand and gravel.

1 Middle Woodland sites are quite common and well dated. Well-documented stratified sites exist
2 and “some aspects of the Middle Woodland cultural system are better documented than they are
3 for all other periods of prehistory” (Thomas, 1994:74). Middle Woodland period sites are large
4 in size and contain extensive archaeological materials. This seems to indicate that large numbers
5 of people regularly gathered at these sites to exploit local food resources. Evidence from
6 stratified levels at Middle Woodland period sites reveals that the use of non-local cherts
7 predominated in the manufacture of stone tools. In addition, ceramic assemblages from sites of
8 this period are related to styles from the Great Lakes and St. Lawrence River drainage (Petersen
9 and Power, 1983).

10 The Late Woodland is characterized by a pattern of population growth and territorial expansion
11 across the Northeast (Calloway 1990). As noted for the Archaic period, well-documented
12 archaeological sites on the New Hampshire side of the Connecticut River for the Late Woodland
13 period are rare. The Late Woodland is also marked by the confirmed cultivation of non-
14 indigenous plants. Recently, Chilton (2006, 2008) reassessed the introduction of corn in New
15 England. Heckenberger and Petersen (1988; Heckenberger et al., 1992) hypothesize that
16 cultigens quickly became an important dietary focus soon after their adoption and local
17 populations became increasingly tethered to floodplain sites, minimally from April through
18 September (Haviland and Power, 1994). Archaeological investigations at Shelburne Pond in
19 Vermont suggest that aboriginal utilization of the rich wetland and marsh environments
20 increased as waters became more eutrophic.

21 After 500 B.P there appears to be a decline in evidence of Native American occupation. Data
22 from Late Woodland sites located on the Missisquoi River in Vermont suggests a heavy reliance
23 on hunting and horticulture. The Woodland Period Abenaki probably did not grow corn along
24 the Missisquoi until after 1100 A.D. Thomas (1994:86) suggests that further study is “clearly
25 needed to determine whether the poor visibility [of these Late Woodland Period sites] today
26 resulted from a substantial shift in settlement focus to areas which are not commonly surveyed,
27 from major demographic changes [perhaps resulting from Iroquoian movement into the St.
28 Lawrence Valley], from site loss due to historic plowing and pilfering, or from other causes.”
29 Although few Late Woodland period archaeological sites are known within the Northern Border
30 project area of New Hampshire, their presence and recent discoveries suggest that the possibility
31 for encountering additional sites of this age is high.

32 **1.1.2.3 State of Vermont**

33 Archaeologists generally group Native American sites in Vermont into the Paleo-Indian, (ca.
34 11,500-9,000 B.P.), Archaic, (ca. 9,000-2700 B.P.), and Woodland or Ceramic (ca. 2700-400
35 B.P.) periods (Haviland and Power, 1994; Thomas 1994; Bunker 1994). In addition, there is a
36 time-transgressive period of early European exploration and settlement referred to as the Contact
37 period, ca. A.D. 1609-1790 for Vermont. These major periods are subdivided further into
38 narrower temporal units with every period and subdivision represented in the 100-mile corridor
39 of the Northern Border project area.

40 In general, early archaeological sites are assigned time periods based on seriation of projectile
41 point or ceramic styles, and radiocarbon dating. Due to the impacts of long-term and extensive
42 agricultural plowing during the historic period, a majority of archaeological sites in not only
43 Vermont and New Hampshire, but the Northeast in general, are shallow, often lack intact

features, and are typically dated using temporally diagnostic projectile points, tools, or pottery alone. Radiocarbon dating of sites in this region is therefore relatively rare. Cultural affiliation is easier to document from the Woodland period forward because greater numbers of artifacts have survived for archaeologists to examine.

Archaic Period (9,000-2,700 B.P.)

In Vermont, later Woodland sites appear to be more common than Middle Archaic sites, which are poorly represented (Thomas, 1994). The Paleo-Indian period appears to have ended when the focal adaptation the Paleo-Indians relied on collapsed, forcing a rapid readjustment of their culture (Spiess and Wilson, 1987). This is evidenced by a “clear archaeological discontinuity, for the artifact styles and overall adjustment of Indians during the Early Archaic are indisputably different from those of the preceding Paleo-Indian period” (Snow, 1980:157).

Study of the Archaic period can provide an understanding of the social, cultural, and technological changes that occurred when the climate transitioned from the end of the Ice Age and to milder environmental conditions. The beginning of the Archaic period corresponds with the establishment of a closed forest environment across the Northeast sometime between 10,000 and 9,000 B.P., depending on the particular region (Spiess and Wilson, 1987; Robinson et al., 1992). With the transition to a closed forest environment, reliance on big-game terrestrial fauna diminished (as did the species themselves), with the result that strong evidence for hilltop lookout campsites is not present in the Early Archaic period (Thomas et al., 1981).

Well-known sites in Vermont associated with the Early Archaic period are the John’s Bridge site in Swanton, Vermont, the Ewing and Auclair sites on Shelburne Pond, and Weirs Beach on Lake Winnepesaukee. The John’s Bridge site (VT-FR-69) contains the best known and dated assemblage of Early Archaic tools in Vermont. The John’s Bridge site is a small single-component site situated on a bedrock-defended terrace overlooking the Missisquoi River. The triangular to ovate, corner-notched projectile points recovered from John’s Bridge were named Swanton Corner-Notched, after several similar projectile points were recovered from the Champlain Basin (identified at 13 other sites in Vermont), and as far northeast as Maine (Thomas, 1994:50). Evidence of surface hearths and deep pits, along with a wide range of tool types, nutshell remains, and faunal remains representing mammals and fish, were also recovered (Thomas, 1994:51, 53). Preservation of faunal and floral remains associated with Early Archaic sites is rare, but a mixed diet of different resources is suggested. At one time, continuity of human occupation in the Northeast after the Paleo-Indian period remained a subject of considerable doubt (Sanger, 1979). Site preservation factors related to environmental change have provided keys for interpretation of the Early Archaic archaeological record in the northeast and elsewhere. Thomas (1994) and other archaeologists working in the Northeast believed that Early Archaic sites would continue to be difficult to locate, because in addition to shallow contexts, they were believed to have survived in deep alluvial deposits along major rivers, in areas currently submerged by lakes such as Lake Champlain, or in environments that were not usually surveyed.

In the southeast, early Archaic sites had been primarily identified in stratified alluvial contexts; often sites had been deeply buried through active floodplain sedimentation (Jennings, 1989). As early as 1994, Thomas (1994:50) concluded that archaeological projects in New England had also begun to show the existence of deeply buried Early and Middle Archaic period sites on

1 riverine terraces. Manifestations of the early Archaic period on upland ridges and deflated hill
2 tops are now deemed as peripheral to the main occupations on riverine terraces (Chapman,
3 1980). Thomas (1994:53) also argued that we have a “poor understanding of the factors which
4 may affect [Early Archaic] site discovery . . . and the complex natural environment to which
5 people had adapted.” Because of this, Early Archaic cultural adaptations are difficult to
6 reconstruct. However, evidence from sites outside the Northeast suggests a broadening of the
7 subsistence base to a more diffuse subsistence adaptation (Thomas, 1994). This coincides with
8 the collapse of the focal subsistence adaptation of the Paleo-Indians. It also appears that seasonal
9 movements were more complex with the broader range of resources utilized during the Early
10 Archaic period. Little is known about Early Archaic cultural preferences for site locations and
11 the association of those sites with past local and regional environments.

12 In contrast to Paleo-Indian sites, most of the lithic materials recovered from Early Archaic
13 contexts appear to derive from local sources of chert, quartzite, or quartz. Thomas (1994:52)
14 infers that this predominance of local raw materials implies that “people had settled into
15 Vermont by this time and knew where to easily find workable stone” and other resources. Flaked
16 stone tools seem less common in New Hampshire during the Early Archaic as seen at the Weirs
17 Beach site, which contained an unusual assemblage of quartz debitage, cores, steep-bitted quartz
18 scrapers, and elongated stone rods made of schist (Bolian, 1980; Maymon and Bolian, 1992).
19 Expedient tools, however, are a frequent component of Early, Middle, and even late Archaic sites
20 in both states. Extensive manufacture and use of expedient tools using local materials during the
21 Archaic period cautions that archaeologists need to take more care not to prematurely discard
22 materials, such as phyllite, typically not associated with flaked or ground tools (c.f., Klink, 1992;
23 Stone, 1994; Brigham et al., 2001). Lithic projectile points made during the early Archaic period
24 often have characteristic bifurcate bases and occasionally serrated edges (Snow, 1980).
25 Preservation of faunal and floral remains associated with Early Archaic archaeological sites is
26 rare, but a mixed diet of different resources is suggested (Thomas, 1994).

27 Middle Archaic peoples continued to heavily rely on quartz, but volcanic materials were also
28 increasingly used (Bunker, 1994). Two sites on Indian Brook in Essex, Vermont (VT-CH-229
29 and VT-CH-230) produced numerous large, blocky quartz scrapers similar to ones found in New
30 Hampshire and Maine tentatively attributed to the Middle Archaic, despite a few Early and Late
31 Archaic projectile points found at or near these sites (Thomas, 1992; Dillon et al., 1985).

32 The archaeological picture by Middle Archaic times was somewhat different in Vermont, in
33 contrast to New Hampshire’s growing data on Middle Archaic sites. “Recognition of Middle
34 Archaic period sites in Vermont is so limited at this time that little can be said about settlement
35 patterns. Furthermore, no subsistence data have been recovered from any Middle Archaic period
36 site in Vermont” (Thomas, 1994:55). This pattern sharply contrasts with other northern New
37 England manifestations of the Middle Archaic where an increasing number of projectile points
38 diagnostic of the time period and a higher number of excavated sites point to a mid-Holocene
39 population expansion. Thomas (1992, 1994) argues that the artifact technology in the Champlain
40 Lowlands of Vermont may remain unrecognized, and that this region may have been influenced
41 more during the Archaic period by cultures to the north and west. Another hypothesis is related
42 to early terrace preservation from ongoing lateral fluvial erosion during the Holocene. However,
43 preservation biases would seem as likely to have affected Early Archaic sites as Middle Archaic
44 sites.

1 Yet another hypothesis offered is that sites of the period that were oriented toward wetland and
2 anadromous resources may now be eroded (e.g., by a rise in freshwater Lake Champlain levels)
3 or impacted by development during the historic and modern time periods. For example, if sites
4 were located near Missisquoi Bay in northwestern Vermont in order to exploit wetland resources
5 in the Archaic, those sites would now lie well below the present-day surface of Lake Champlain.
6 Drowned sites off Lake Champlain's present shoreline remain a possibility, although shoreline
7 erosion would probably have affected the integrity of such sites. While the upper reaches of the
8 Missisquoi River might not have supported significant anadromous fishing sites, archaeologists
9 could expect to find some evidence of human exploitation of aquatic resources in the Northern
10 Border project area. Refinement of Vermont's Middle Archaic awaits more exploration of well-
11 dated archaeological contexts.

12 Archaeologists believe that by the Late Archaic Period, the Northeast had a substantial resident
13 population. Regionally, archaeologists define four major archaeological traditions for the Late
14 Archaic period (i.e., Laurentian, Narrow Point, Susquehanna, and Maritime Archaic), and these
15 are subdivided into phases. All traditions but the Maritime Archaic appear to occur in Vermont
16 and New Hampshire, where a blending of the four traditions appear that created a culture unique
17 to the region (Starbuck, 2006). Late Archaic sites have been found in association with major
18 drainages and bordering wetlands, in minor streams and tributaries, in once marginal upland
19 areas, and on upland ridges. While Late Archaic sites are by no means rare in Vermont (Bailey,
20 1939; Thomas, 1992; Haviland and Power, 1994; Thomas, 2002), well-documented assemblages
21 with absolute dating of associated features are uncommon. Late Archaic occupations at the
22 Grand Isle Fish Hatchery are consistent with settlement patterns anticipated for this period. The
23 radiocarbon dated Late Archaic Saxe Brook North Site in Highgate, Vermont was positioned at
24 an important river confluence. Its artifacts and faunal remains point to strong use of wetland
25 resources along the fringes of the Rock River, and are consistent with what we know of the Late
26 Archaic period (Sloma and Callum 2001). Late Archaic sites are also represented on the
27 Vermont side of the Connecticut River at Sumner's Falls and Skitchewaug. Occasionally,
28 unusual finds have been discovered associated with the Late Archic, such as the unearthing of a
29 rare cache of sixteen Late Archaic projectile points in Rutland, Vermont in 2010 (Minichiello,
30 2010).

31 Although rare in the Northeast, one example of a Glacial Kame burial site dated to the Late
32 Archaic was identified in western Vermont in a gravel pit on Isle LaMotte (Haviland and Power,
33 1994; Thomas et al., 1992). Ceremonial burials of this kind are found in gravel ridges or glacial
34 kames. The Isle La Motte Cemetery site yielded two burials consisting of burned and unburned
35 bone stained with red ochre. Sandal sole gorgets made of marine shell and other exotic items
36 suggest an affiliation with the Glacial Kame burial complex that is focused in the south-central
37 Great Lakes (Thomas, 1994:65). During the Late Archaic, differential temporal and spatial
38 environmental exploitation for habitation and burial sites is typical. Distribution of sites across
39 Vermont's landscape is extensive and "sites in a number of environments will be difficult to
40 locate" (Thomas, 1994:66). By the Late Archaic period, habitation and resource exploitation
41 sites appear to have been associated with present-day upland ridges, lake shorelines, wetland
42 borders, and along streams and rivers. Therefore, Late Archaic site locations are expected to
43 contrast with older Paleo-Indian through Middle Archaic sites that have been closely associated
44 with late Pleistocene-aged "*fossil*" shorelines and landforms or stratified alluvial contexts. Late
45 Archaic period sites are expected farther from the modern Missisquoi River channel on former

knolls, old point bars, and near abandoned river channels and tributaries that might likely supported a marshy habitat.

At the close of the Late Archaic period, a transitional period from the preceramic Late Archaic to the ceramic Early Woodland followed. This period is termed the Terminal Archaic or Transitional period (3,700-2,700 B.P.). The Terminal Archaic period is defined as “essentially preceramic and marked by carved soapstone (steatite) vessels, together with new varieties of projectile points” (Ritchie, 1980:150), including the broad points of the Susquehanna tradition and the later Orient “fishtail” points. The presence of various types of Archaic archaeological sites in the Northern Border project area of Vermont suggests that there is a high probability of encountering additional archaeological sites of this age. The most sensitive areas for these sites appear to be beside larger rivers, and especially near falls or rapids, modern lakes, ponds, or wetlands or submerged under their waters, on prominent knolls and terraces along major drainages and valley edges, and upon sandy deltas.

Woodland Period (2,700-400 B.P.)

The first use of ceramics marks the Woodland period in northern New England. Many northern New England archaeologists prefer the term Ceramic Period, rather than Woodland Period. Although ceramics were present, other typical “Woodland” characteristics such as domesticated crops (e.g., corn and tobacco) did not play a large part in annual subsistence patterns here. The Woodland period is subdivided into three subperiods. These are the Early Woodland period (2,800-1,850 B.P.); the Middle Woodland period (2,050-900 B.P.); and the Late Woodland period (900-350 B.P.; Thomas, 1994; Bunker, 1994). The transformation into the Woodland period is distinguished by the development and use of ceramics. The use of ceramic containers may have influenced settlement patterns due to their capacity for use as food storage containers in addition to their use for cooking.

The ability to store food made possible more sedentary, long-term settlements and partially offset the seasonal fluctuation of resources (Petersen and Power, 1985). Ironically, recovery of pottery from nearly all but the best archaeological contexts in Vermont and New Hampshire is rare. Relatively intact sherds are more likely to be found in stratified deposits like Vermont’s Winooski site (VT-CH-46; Petersen and Power, 1983).

Early Woodland habitation sites often suggest a pond, lake, or riverine orientation. Upland locations may have been virtually abandoned in favor of more productive alluvial environments (Thomas, 1994). Large habitation sites appear to be rare during this period. Evidence from other sites in the Northeast suggests that the absence of these sites might be attributed to a regional climatic cooling trend that began about 3,000 B.P. As the climate cooled, forest composition changed, which may have resulted in lowering the distribution and diversity of game species. This shift in the resource base may have caused a change in settlement patterns. If this is correct, “during this period of climatic pressure, families may have remained in small groups which exploited a diversity of resources throughout the year, so that only small sites were ever occupied” (Thomas et al., 1981:73). Evidence from these small sites would be scant, thereby making it difficult to locate habitation sites. Annual subsistence patterns still included hunting, fishing, and gathering, although environmental characteristics, and therefore manner of exploitation of the resources, had changed from that evidenced in the Archaic Period. Early Woodland occupations in the Connecticut River valley include certain components found in

1 lower terraces of the Skitchewaug site (Heckenberger and Petersen, 1988) and Canaan's Bridge
2 Site. Cassedy (1991) documents many other scattered occurrences of Early Woodland projectile
3 points or pottery in the Connecticut River valley. A site located in Highgate (VT-FR-161) shows
4 evidence of Early Woodland subsistence activities, including hunting of deer, beaver, and bear
5 (Thomas and Dillon, 1985). A small site in Vergennes, Vermont yielded big information on an
6 Early Woodland hunting camp (Donta and Medina, 2008). Faunal remains recovered from the
7 Boucher site suggest that moose, deer, bear, raccoon, beaver, and turkey were exploited
8 (Thomas, 1994:72). Thomas (1994:72) writes "the season of site occupation and the
9 environmental characteristics of the territory surrounding any specific [Early Woodland] site
10 undoubtedly had a great deal to do with types of foods which were available." Much more
11 remains to be determined about Early Woodland Period interactions with the local environments.
12 The presence of Early Woodland sites within the Northern Border project area however, suggests
13 that there is potential to encounter additional sites of this age.

14 Early Woodland archaeology of the Northeast may be better known from burial sites than
15 habitation sites. Many Early Woodland mortuary sites were accidentally discovered near Lake
16 Champlain and on the Lower Missisquoi River as surface finds by collectors or during modern
17 industrial quarrying for sand and gravel. Some of these cemetery/burial sites include the Frink
18 Farm site (VT-FR-1) in Highgate (Robinson et al., 1993; Perry, 1868; Perkins, 1873), the
19 Boucher site in Swanton (VT-FR-26; Heckenberger et al., 1990a; 1990b), and the East (VT-AD-
20 26), and Bennett (VT-AD-298) sites in Orwell. Two additional sites in the Champlain Lowland,
21 VT-FR-16 and VT-FR-48, contained blocked-end tubular pipes and birdstones; artifacts
22 commonly found in association with human burials. These rare artifacts suggest that burials
23 could have been present, and that excavation failed to recover fragile osteological remains, or
24 simply these less durable materials did not survive. The Ewing and Auclair sites on Shelburne
25 Pond both produced evidence of Early Woodland burial plots.

26 Middle Woodland sites are quite common and well dated. Well-documented stratified sites exist
27 and "some aspects of the Middle Woodland cultural system are better documented than they are
28 for all other periods of prehistory" (Thomas, 1994:74). The Winooski site in northwestern
29 Vermont serves as a type-site for Middle Woodland archaeological sequences in western
30 Vermont (Thomas, 1994). Archaeological remains were recovered from stratified alluvial
31 deposits along the lower reaches of the Winooski River about "a half-mile downstream from the
32 first falls and rapids" (Thomas, 1994:74). Middle Woodland period sites are large in size and
33 contain extensive archaeological materials. This seems to indicate that large numbers of people
34 regularly gathered at these sites to exploit local food resources. In particular, the large Winooski
35 site contained evidence of fishing, hunting, and nut harvesting (Petersen and Power, 1983).
36 Evidence from stratified levels at Middle Woodland period sites reveals that the use of nonlocal
37 cherts predominated in the manufacture of stone tools. In addition, ceramic assemblages from
38 sites of this period are related to styles from the Great Lakes and St. Lawrence River drainage
39 (Petersen and Power, 1983). These characteristics suggest that long-distance trade or exchange
40 networks existed during the Middle Woodland period in Vermont (Petersen and Power, 1983).

41 The Late Woodland is characterized by a pattern of population growth and territorial expansion
42 across the Northeast (Calloway, 1990). Thomas (1994:83) also notes that "sites dating to the Late
43 Woodland Period occur throughout Vermont, but the actual time of their occupation has been
44 very difficult to determine" as radiocarbon dates only exist for six Late Woodland sites. Half of

these, Sumner's Falls (800 \pm 80 B.P.), Skitchewaugh (850 \pm 50 to 580 \pm 60 B.P.), and Dewey's Mills (490 \pm 120 B.P.) lie in the Connecticut River valley or along one of its major tributaries (Thomas, 1994). Haviland and Power (1994) note that house features have been identified at a site in Fairlee, Vermont. Further toward southern Vermont in the Connecticut River Valley are VT-WD-14 on Dummerston Island, a single sherd recovered from Fort Dummer in Brattleboro, Vermont, and a number of sites in the Great Bend area at Vernon, Vermont. The Late Woodland is marked by the confirmed cultivation of non-indigenous plants. For example, carbonized corn, beans, and squash were recovered from storage pit and associated shallow pit house features at Skitchewaugh (Heckenberger and Petersen, 1988; Thomas, 1994). Recently, Chilton (2006, 2008) reassessed the introduction of corn in New England. Heckenberger and Petersen (1988; Heckenberger et al., 1992) hypothesize that cultigens quickly became an important dietary focus soon after their adoption and local populations became increasingly tethered to floodplain sites, minimally from April through September (Haviland and Power, 1994). Archaeological investigations at Shelburne Pond suggest aboriginal utilization of the rich wetland and marsh environments increased as waters became more eutrophic. Similarly, hydrological changes affecting Lake Champlain and associated riverine water levels may have influenced the size and location of marshlands where Native Americans sought resources during the Late Woodland period.

After 500 B.P. there appears to be a decline in evidence of Native American occupation. Abenaki oral traditions and ceramic vessels in older artifact traditions indicate local continuity of occupation in northwestern Vermont between 500 and 350 B.P. Data from Late Woodland sites located on the Missisquoi River suggests a heavy reliance on hunting and horticulture and that the Woodland Period Abenaki probably didn't grow corn along the Missisquoi until after 1100 A.D. Perhaps the most important Late Woodland archaeological discovery occurred just a few years ago when the Vermont Agency of Transportation was preparing to reconstruct the Missisquoi Bridge at the north end of Lake Champlain. Initial sampling and subsequent evaluation discovered a late pre Contact or early Contact period village site with impressive features, faunal and flora remains, and ceramics. The Bohannon site (VT-GI-26/32) was occupied sometime between A.D. 1400-1600 (Crock and Mandel, 2001). Thomas (1994:86) suggests that further study is "clearly needed to determine whether the poor visibility [of these Late Woodland Period sites] today resulted from a substantial shift in settlement focus to areas which are not commonly surveyed, from major demographic changes [perhaps resulting from Iroquoian movement into the St. Lawrence Valley], from site loss due to historic plowing and pilfering, or from other causes." Although few Late Woodland period archaeological sites are known within the Northern Border project area of Vermont, their presence and recent discoveries suggest that the possibility for encountering additional sites of this age is high.

1.1.3 GREAT LAKES REGION

1.1.3.1 State of New York

Early and Middle Archaic

In the Northeast, the Early and Middle Archaic (10,000 B.P. to 8,000 B.P. and 8,000 B.P. to 6,000 B.P., respectively) have come to be primarily defined in terms of climatic/environmental transition. During these times, the ecological setting transformed from immediate post-glacial tundra and spruce-park forests through denser spruce-fir, pine-oak, and deciduous oak-hemlock

1 forests to an essentially modern oak-hickory forest system (Funk, 1983:304-305; Lepper and
2 Funk, 2006:171-172). As is the case for the Paleo-Indian period, archaeological sites from the
3 Early and Middle Archaic have mostly been identified by the presence of diagnostic projectile
4 points, including Hi-Lo, Kanawha Stemmed, Kirk, LeCroy Bifurcated Stem, MacCorkle, Palmer,
5 Raddatz Side-Notched, and St. Albans Side-Notched points (Abel and Fuerst 1999:12-13; Calkin
6 and Miller 1977:309; Justice 1995:44-46, 54-58, 67-69, 71-79, 81-85, 86-96). Many of these
7 point types have characteristic bifurcated bases.

8 Relatively few Early and Middle Archaic sites have been found in New York (Funk, 1978:20).
9 The low frequency of sites probably correlates with small populations, even relative to earlier
10 Paleo-Indian levels (Fitting, 1978a:14; Funk, 1983:316-319; Griffin, 1983:248; Lepper and Funk
11 2006:193). These low population levels may be related to a minimally-productive environment;
12 for example “coniferous forests with their low carrying capacity for deer and other game
13 constituted an unfavorable environment for hunters and gatherers” (Funk, 1978:23; Calkin and
14 Miller, 1977:309; cf. Nicholas, 1987:100-105). However, many sites probably remain to be
15 found in less-studied areas, since the post-glacial environment in the Northeast was not
16 uniformly desolate and included highly productive diverse environments like “lakes, ponds,
17 extensive wetlands, and emergent riverine systems” that formed in the basins of former glacial
18 lakes (Lepper and Funk, 2006:193; Nicholas, 1987:105-106).

19 Many Early and Middle Archaic sites in the Northeast cluster on former glacial lakes (Nicholas,
20 1987:106). In the Susquehanna Valley in New York (just outside the study area), Early Archaic
21 projectile point forms have been found in both uplands and valley floors (Funk, 1993:317). The
22 Zawatski Site, an Early Archaic site in western New York, was situated on the floodplain of the
23 Allegheny River in Cattaraugus County (Calkin and Miller, 1977:310-312), suggesting that an
24 Early Archaic preference towards occupation on valley floors was not confined to the
25 Susquehanna (cf. Lepper and Funk, 2006:193).

26 In general, there is meager direct evidence concerning Early and Middle Archaic subsistence,
27 site types, and tool assemblages (with the exception of projectile points) in New York (Abel and
28 Fuerst, 1999:13; Funk, 1993:258-265). The Haviland site, located in a relic meander of
29 Cobleskill Creek in Schoharie County, New York is a rare example of an excavated Early
30 Archaic lithic workshop (Ferguson, 1995). Artifacts from the site include Kanawha bifurcate-
31 base projectile points, thin bifacial ovate knives, thin unifacial tools, cores, hammerstones,
32 debitage, abraders, anvils, choppers, and pitted stones. Middle Archaic tool kits are more
33 extensive than those from the Early Archaic and include pecked and ground stone items (axes,
34 adzes, gouges, celts, mortars, pestles, plummets, and netsinkers), polished tools such as
35 bannerstones, and bone artifacts (awls, barbed harpoon tips, gorges, and fishhooks) (Stothers et
36 al., 2001:237-238).

37 **Late Archaic**

38 The Late Archaic Period in New York is most typically defined as the time between the
39 stabilization of post-glacial forest systems to roughly modern states (deciduous forests across the
40 Lake Plain portions of the state and Hemlock-Pine-Hardwoods forests elsewhere in the study
41 area (Tuck, 1978:29; Wright, 2006:103-104) and the appearance of ceramic vessels.
42 Conventional dates for the period are 6,000 B.P. to 3,000 B.P. The Late Archaic contrasts

1 sharply with the Early and Middle Archaic in terms of volume of data; far more Late Archaic
2 sites are known than for the other parts of the Archaic (Funk, 1983:320; Prufer, 2001:188).

3 As is the case for earlier times, the majority of temporally diagnostic / representative Late
4 Archaic artifacts are projectile points, although more is known about their accompanying tool
5 kits (Funk, 1983:320). Projectile points from the first millennium of the Late Archaic include
6 large broad side-notched styles that have square tangs and indented or straight bases, known
7 throughout the Northeast as Otter Creek (Funk, 1983:320; Justice, 1995:61-62; Stothers et al.,
8 2001:237). These points have been found with bifacial knives, unifacial side and end scrapers,
9 anvilstones, and hammerstones (Funk, 1983:321; cf. Ritchie, 1979).

10 For the part of the Late Archaic beginning ca. 5,200 B.P., Ritchie and others have defined
11 several large-scale archaeological 'traditions' that extend across the Northeast, including the
12 Laurentian / Lake Forest, and Narrow-Stemmed / Piedmont Traditions (Funk 1983:321-329;
13 Ritchie 1944:234-253; 1980:79-125; Ritchie and Funk 1973:338-341; Stothers et al. 2001:238;
14 Tuck 1978:29-32). The Laurentian / Lake Forest Tradition includes northwestern Pennsylvania
15 and much of New York State and extends across southeastern Ontario into eastern Michigan and
16 extreme northwestern Ohio (Dragoo 1971; Prufer 2001:188-189; Stothers et al. 2001:238; Tuck
17 1978:29). Sites generally date between 5,200 B.P. and 4,000 B.P. Associated projectile point
18 types include: Vergennes (which are early [ca. 5,200 B.P.] and primarily confined to central and
19 northern New York State); the Brewerton point series (Brewerton Corner-Notched, Brewerton
20 Eared-Notched, Brewerton Eared Triangle, and Brewerton Side-Notched); Vosburg; Genesee;
21 and Snook Kill (all of which are found throughout the state with the exception of the extreme
22 north) (Funk 1983:321; Justice 1995:115-118, 120-124; Ritchie 1971).

23 In addition to the chipped stone projectile points, Laurentian Tradition assemblages typically
24 include: end and side scrapers; knives; drills; bannerstones; ground stone points, axes, knives,
25 'ulu'-like tools, adzes, celts, and gouges (the groundstone points, knives, and 'ulus' are mostly
26 limited to Vergennes contexts); plummets; hammerstones; anvilstones; and bone awls, gorges,
27 and leister points (Funk, 1983:323; Prufer, 2001:190-193). There are numerous Laurentian
28 Tradition sites in the state, among which are: Candee, FDP1002 and FDP1025 (in Fort Drum),
29 Frontenac Island, O'Neil 1, Oberlander No. 1, Robinson, and Smoky Hollow (Abel and Fuerst
30 1999:14-15; Ritchie 1940; 1944:234; 1945; 1980:40-41, 79-125; Ritchie and Funk, 1973:4, 74-
31 95).

32 Narrow Stemmed / Piedmont Tradition assemblages date to ca. 4,500 to 3,500 B.P. (Funk,
33 1983:324; Stothers et al., 2001:238). Although they tend to be found south of Laurentian sites,
34 there is a great deal of overlap between the traditions, and they are occasionally found in the
35 same contexts, such as at the Frontenac Island Site in Cayuga County (Funk, 1983:329; Ritchie,
36 1944:260-273, 292-310; 1945; 1980:36-79; Tuck, 1978:29). The defining characteristic of the
37 Narrow Point is a series of narrow-stemmed and narrow side-notched projectile points, including
38 types such as Lamoka (known from throughout New York). The only other common element of
39 Narrow Point Tradition assemblages appears to be a "general scarcity of uniface tools" (Funk,
40 1983:324). Sites in the Lamoka phase of the tradition also sometimes yield distinct ground stone
41 'beveled adzes,' along with ornaments and tools made from antler and bone. The Lamoka Lake
42 site in western New York is the largest, most productive, and perhaps best-known of the Narrow
43 Stemmed Tradition sites in the study area (Funk, 1983:327).

1 Late Archaic sites in New York can be divided into four general classes: small open camps, large
2 camp sites, quarries/workshops, and rockshelters/caves (Ritchie and Funk, 1973:337-338;
3 Stothers and Abel, 1993; Stothers et al., 2001:242-246). Small open camps are typically located
4 “inland from large waterways, frequently on small streams, on marshes, or near copious springs”
5 while the larger camps are “on major bodies of water, near good fishing grounds” (Ritchie and
6 Funk, 1973:337-338; also see Funk, 1983:327). Quarries and workshops are located near raw
7 material sources. The oldest known burial / mortuary sites in the state date to the Late Archaic
8 and include Frontenac Island (Ritchie 1945).

9 **Transitional / Terminal Archaic**

10 In the Northeast, the Transitional / Terminal Archaic is defined as the time before the adoption of
11 clay vessel technology during which people were making stone containers, which were primarily
12 made from soft soapstone / steatite (Ritchie 1980:150; Ritchie and Funk, 1973:71; Tuck,
13 1978:37). Obviously the timing of these developments varied from one part of New York State
14 to another, but typically-used dates fall in the range of ca. 3,700 B.P. to 2,700 B.P. The
15 definitional basis for this time period is highly problematic since recent research has
16 demonstrated that contexts with early ceramic vessels temporally overlap with those that have
17 steatite containers entirely (Hoffman, 1998; see Ritchie, 1980:157). In central New York, the
18 Transitional Archaic is represented by the Frost Island phase (Ritchie, 1980:156-164).

19 Besides the soapstone containers, the Transitional Archaic in New York is associated with a
20 series of Susquehanna tradition broad-headed stone spear points that were initially developed in
21 the Southeast (Funk, 1983:331; Trubowitz and Snethkamp, 1975:19; Witthoft, 1971; some
22 researchers associate Genesee and Snook Kill points with the broad point tradition (Funk,
23 1983:331; 1993:224; Stothers et al., 2001:238). Examples of these projectile points in New York
24 include: Susquehanna Broad, Perkiomen Broad (found throughout the state, outside its most
25 northerly areas), and ‘Turkey-tail’ blades/points (found in the western part of the state) (Justice,
26 1995:167-170; Ritchie, 1971; Stothers et al., 2001:238). In addition to steatite vessels and
27 projectile points, other typical Transitional Archaic artifacts include: chipped stone scrapers,
28 drills, and gravers (many of which have bases similar to Susquehanna tradition projectile points,
29 suggesting expedient reuse); possible ‘strike-a-lights’; netsinkers manufactured from pebbles;
30 hammerstones; rectangular shale gorgets; ‘cupstones’; adzes; and anvils (Ritchie, 1980:151,
31 159).

32 Transitional Archaic sites in New York tend to “occupy a riverine setting, never far from the
33 main stream” and are typically small or “occur as superimposed components marking a
34 succession of temporary sojourning places by the same group” (Ritchie, 1980:157; see also
35 Tuck, 1978:37). The presence of netsinkers on some sites suggests that fishing was a prominent
36 element of subsistence (Ritchie, 1980:151, 157-159; Ritchie and Funk, 1973:72). Transitional
37 Archaic sites in the western part of the state have been found in a variety of ecological settings
38 including glacial uplands, terraces, and river floodplains (Trubowitz and Snethkamp, 1975:20).
39 Example sites in the study area include O’Neil and Hickory Hill Marsh in New York (Ritchie
40 1980:156-164; Ritchie and Funk 1973:71-95).

41 In general, very little is known about Transitional Archaic burials in central New York (Ritchie,
42 1980:163). However, people inhabiting the northern part of the state in the final years of the
43 Archaic were participating in the earliest known of a series of practices relating to elaborate

1 burial treatment of the deceased that included interments in mounds and the presence of exotic
2 grave goods, the so-called “Glacial Kame culture” (Abel and Fuerst, 1999:16; Tuck, 1978:39).
3 As the name suggests these burials were placed in natural gravel knolls. They include items such
4 as distinctive “sandal sole shell gorgets,” rectangular shell gorgets, rolled copper beads, shell
5 beads, copper adzes, projectile points, leather fragments, and pieces of galena (Funk, 1983:334;
6 Griffin, 1983:253; Ritchie, 1980:133-134). Some of these items imply the existence of long-
7 distance trade routes, including copper, which came from the upper Great Lakes and the shell,
8 which originated along the eastern North American coast. Burials were also occasionally
9 accompanied by red ocher (Ritchie, 1980:133). Example sites in the study area include
10 Muskalonge Lake in northern New York and Isle La Motte in Vermont (Abel and Fuerst,
11 1999:16-17; Ritchie, 1980:132-134).

12 **Woodland**

13 The Woodland Period is defined as the time during which people adopted and used ceramic
14 vessel technology (Feder, 1984:101-102; Sears, 1948; see also Willey, 1966:267-268; discussion
15 in Snow 1980:262). Although the timing of the adoption of clay container technology varied
16 across the New York, 3,000 B.P. is generally used as a convention for the beginning of the
17 Woodland (Funk 1983:306-307; 1993.; Kent et al., 1971:195-196; Ritchie, 1980:179; see also
18 Snow 1980:262; Stoltman 1978). The period extended to historic times (ca. A.D. 1600 / 350
19 B.P.). General developments during the Woodland include increases in population, the adoption
20 of horticulture and domestication of plants such as maize, beans, and squash, nucleation of
21 settlement patterns in some areas, and an elaboration and intensification of the burial practices
22 and long-distance interaction presaged by the Glacial Kame phenomenon.

23 **Early Woodland**

24 Besides the initial appearance of pottery, the Early Woodland period in New York is associated
25 with an elaborate suite of mortuary practices collectively known as Adena (Stothers and Abel,
26 2008:79). Just outside the study area in southern Ohio and southwestern Pennsylvania, Adena
27 burials are in man-made mounds (Coe et al., 1986:51; Dragoo, 1963:134). While such tumuli
28 are rare in the state (one exception is the Long Sault Island site in northern New York [Ritchie
29 and Funk, 1973:97]), Adena grave goods have been found with burials across New York
30 (Dragoo, 1963:177). Items associated with Adena-like burials in the state include: stone
31 (sometimes clay) block-end tubes; lanceolate and leaf-shaped bifaces; trianguloid and ovoid
32 cache blades; stemmed or side-notched projectile points, frequently falling in the range of the
33 ‘Adena’ type (Justice, 1995:191-192, 196; Ritchie, 1971:12-13); bar amulets; copper awls and
34 celts; gorgets; birdstones; cylindrical copper beads; and shell beads (Dragoo, 1963:176-188;
35 Ritchie and Funk, 1973:97). Graves were frequently accompanied by red ocher (Ritchie and
36 Funk, 1973:97). Also, as with Glacial Kame burial practices, some Early Woodland graves and
37 cemeteries in New York are on natural knolls and many items are made from exotic raw
38 materials. Examples of Early Woodland Adena-like cemeteries and burial sites include Vine
39 Valley, Morrow, and Palatine Bridge in New York (Funk, 1983:312-313, 335; Granger,
40 1978a:100). Most of these burial sites tend to be on “terraces of major streams or near large
41 deep water lakes in the Erie-Ontario Lowland Zone” (Granger, 1978a:100; see also Ritchie and
42 Funk, 1973:348).

1 Less is known about Early Woodland settlement and subsistence patterns in New York than
2 burial practices (Funk, 1973:336; Granger, 1978a:96). However, at least two archaeological
3 cultures, typically designated as the Meadowood and Middlesex phases (Ritchie, 1980; Meyer-
4 Oakes, 1955:58), were closely associated with elements of Adena in the state (Granger 1978a).
5 Middlesex refers to sites with Adena-like burials, as well as assemblages from non-burial
6 contexts that include Adena artifacts (Funk, 1983:335). Meadowood phase sites have yielded
7 more data concerning settlement and subsistence than those from the Middlesex. These sites are
8 primarily clustered in central and western New York and are generally found adjacent to major
9 streams and lakes, although some are known from areas near wetlands and smaller water bodies.
10 Typical artifact assemblages include: early pottery (primarily the Vinette I type - conoidal-based,
11 “unornamented,” straight-sided pots, cord-roughened on the entirety of their interiors and
12 exteriors (Ritchie and MacNeish, 1949:100); diagnostic Meadowood-style projectile points
13 (Justice, 1995:170-172; Ritchie, 1971:35-36); other tools such as drills and scrapers with bases
14 suggesting they are re-worked projectile points; anvilstones; abrading stones; hammerstones;
15 cigar / tube-shaped smoking pipes; birdstones; and gorgets (Funk, 1983:335; Ritchie, 1980:191-
16 196). Some sites have produced data suggesting oblong house forms measuring about 4 m by 5
17 m (12 ft by 16 ft) (Ritchie and Funk, 1973:107; Stothers and Abel, 1993:33, 62-63). Fragments
18 of basketry and fish nets have also been found (Ritchie, 1980:194-195). Burials with Adena-like
19 qualities are also sometimes present. Example sites include: Riverhaven No. 2, Vinette, Scaccia,
20 and Sinking Ponds (Funk, 1983:335; Granger, 1978b; Ritchie, 1980:190-191; Ritchie and Funk,
21 1973:96).

22 **Middle Woodland**

23 In New York, the appearance of several types of decorated ‘post-Vinette I’ ceramic vessels
24 around 2,000 B.P. marks the beginning of the Middle Woodland (Kostiwi, 1995). In areas to the
25 southwest, the period is associated with the appearance of the ‘Hopewell Interaction Sphere,’ a
26 phenomenon largely defined by the presence of earthworks and burial mounds sometimes
27 including lavish quantities of exotic grave goods. Hopewell-like mounds and artifacts are found
28 in western and central New York, but they did not appear there until several centuries after their
29 beginnings in Ohio. In New York, the Middle Woodland extends to 1,000 B.P.

30 Hopewell-like burial mounds in western and central New York are up to 50 ft in diameter and 9
31 ft in height. Burials were inside stone slab cists and were typically extended; cremated remains
32 of other individuals are occasionally found in the mounds outside the cists (Ritchie, 1980:227).
33 Among the elaborate grave goods found in the mounds are: platform pipes (made from both
34 ‘Ohio fireclay’ and local materials), some with animal effigies; slate pendants; red and yellow
35 ocher; two-holed gorgets; copper beads, ear spools, breast ornaments, celts, and awls; copper or
36 silver panpipe covers; stone celts and adzes; prismatic flake knives; and projectile points (some
37 of which are large examples of the Snyders type manufactured from high-quality stone from
38 Ohio) (Coe at al., 1986:50-55; Funk, 1983:340; Justice, 1995:201-204; Ritchie, 1938; 1980:227).
39 Examples of Middle Woodland burial mounds in New York include Squawkie Hill, Geneseo,
40 Cain, Bluff Point, and Wheatland (Carpenter, 1950; Ritchie, 1938; 1980:217-228). Mounds tend
41 to be near major rivers or large bodies of water, such as the Genesee, Finger Lakes, and Lake
42 Ontario. They also are frequently not near habitation sites (Kostiwi, 1995:41).

43 Relative to burial practices, little is known about Middle Woodland subsistence, settlement, and
44 other aspects of culture throughout the Northeast (Bowen, 1992:63; Funk, 1983:339; 1993:200;

Ritchie, 1980:226). However, the period is known to have witnessed numerous cultural innovations, including the adoption of the bow-and-arrow (Kostiw, 1995:38) and maize agriculture (Hart and Brumbach, 2003; Hart et al., 2007). New York habitation sites are typically grouped into the Point Peninsula Tradition (Brose, 2000:99; Funk, 1983:338; Ritchie and Funk, 1973:118-119; Stothers and Abel, 1993:31; 2008:96). Typical ceramic vessels from the early parts of the Middle Woodland were small (one to four quart capacities) and conoidal-based, while later pottery was larger and had increasingly globular bodies (Hart and Brumbach, 2009; Ritchie and Funk, 1973:117; Ritchie and MacNeish, 1949). Other artifacts include small projectile points (such as the Levanna, Jack's Reef and Raccoon Notched types), larger points (such as the Fox Creek type, which is limited to eastern New York), bone awls and barbed points, bifacial knives, scrapers, drills, netsinkers, celts, adzes, copper fishhooks and gorges, antler points, bone daggers, and compound bone fishhooks (Funk, 1983:337-343; Justice, 1995:215-220, 228).

Later Middle Woodland sites in New York have post mold patterns suggesting round houses (Funk 1983:340). Several types of sites are known, including large semi-permanent recurrently-occupied camps, small seasonal recurrently occupied camps, workshops, and small temporary camps (Brose, 2000:99; Ritchie and Funk, 1973:349-354). Sites typically occur on rivers, lakes, and in areas near marshes, bogs, and springs (Ritchie and Funk, 1973:349-354). Examples include: Felix, Kipp Island, Canoe Point, and Davenport Creamery (Funk and Hoagland, 1972; Ritchie and Funk, 1973).

Late Woodland

In New York, the Late Woodland spans the years between 1,000 B.P. and the Protohistoric period – the time when European goods were reaching Native American groups, but before the point when there was direct contact between Indians and Europeans (generally around A.D. 1525-1550 / 425-400 B.P. in New York (Bradley, 2005; Engelbrecht, 2003:133-137; Snow, 2000:77-78; Stothers, 2000:52-53). Developments during the Late Woodland include the adoption of horticulture based on maize, squash, and beans, increasingly sedentary settlement patterns, the nucleation of groups into historically-known population centers, and the appearance of palisaded villages with longhouses. In the New York part of the study area, the Late Woodland is largely synonymous with the Iroquoian tradition. People throughout the Northeast were manufacturing diagnostic small triangular (Madison-type) projectile points (Justice, 1995:224-227). Late Woodland inhabitants of New York State were probably mostly speakers of Iroquoian languages.

For the first half of the Late Woodland (1,000 B.P. to 700 B.P.), settlements/occupation sites in New York remained relatively small and some, such as the Bates site, had low numbers of rectangular-shaped houses (Engelbrecht, 2003:89). Settlements gradually shifted from river floodplains and areas near wetlands to more elevated settings away from canoe-navigable waterways – a movement indicating “an increasing focus on features favorable to maize horticulture” (Hasenstab, 2007:169) and possibly a preference for easily-defensible locations. By 450 to 350 B.P., Iroquoian speaking people throughout central and western New York were living in villages up to eight to ten acres in extent that had longhouses and palisades (Engelbrecht, 2003:89). These village sites cluster in the historical homelands of the Five Nations Iroquois (the Seneca, Cayuga, Onondaga, Oneida, and Mohawk (Niemczycki, 1984; Pratt, 1976; Tuck, 1971), as well as nearby groups, such as the Erie who occupied the east end of

1 Lake Erie (Engelbrecht, 2003:143; White, 1961; 1978). Outside these permanent villages,
2 people occasionally visited other areas, such as zones along large rivers and water bodies, for
3 resource procurement activities (such as fishing and hunting), during which they occupied
4 smaller camps, such as that represented by the Street site (Rieth, 2002). There were gradual
5 changes in ceramic vessel morphology throughout the Late Woodland in New York (Hart and
6 Brumbach, 2009; MacNeish, 1952; Ritchie and MacNeish, 1949). Early pots have conoidal
7 bodies with cord-roughened exteriors, lack collars, and were typically decorated with cord-
8 wrapped stick impressions, while later (post ca. 650 B.P.) vessels had globular bodies with
9 smooth exteriors, collars, and incised decorations, sometimes with castellations and
10 anthropomorphic designs.

11 **Protohistoric and Historic Periods**

12 Items of European manufacture appear on Native American archaeological sites throughout the
13 study area in New York beginning in the first half of the sixteenth century A.D. (ca. 450 to 400
14 B.P.). Such artifacts were quickly integrated into the material culture inventories of native
15 groups and included: sheet brass, copper and iron kettles; items derived from sheet metal kettles,
16 including tinkling cones, projectile points, and other tools and ornamental items; colorful glass
17 trade beads; and iron axe blades (Bradley, 2005:69-80). 'True' Wampum - small white and
18 purple beads made from marine shells drilled with metal tools - also dates to the Protohistoric
19 (Ceci, 1989:72-73; Tooker, 1978:422). Site locations were generally similar to those during the
20 Late Woodland; examples include the Onondaga sites at Temperence House, Quirk, and Chase,
21 and the Seneca site at Richmond Mills (Bradley, 2005:49-50; Engelbrecht, 2003:133). The five
22 Iroquois nations likely began the process of forming the League of the Iroquois during the
23 Protohistoric (Engelbrecht, 2003:130).

24 Early historical events involving Indian groups living in New York, Pennsylvania, and Ohio
25 were heavily influenced by the European fur trade and the roles the Five Nations Iroquois played
26 in it. The French established a trading outpost at Tadoussac on the St. Lawrence River about
27 A.D. 1600 and the Dutch settled around Albany by ca. A.D. 1620. The Dutch were later forced
28 out of their land holdings in the Northeast by the British in the 1660s. The Five Nations
29 benefited from trade with the French, Dutch, and British which, among other items brought them
30 European weapons. The European hunger for beaver pelts also drove Five Nations expansion to
31 areas to the west, and by the middle of the 1600s, they had largely dispersed/destroyed many of
32 their neighbors, including the Neutral and Erie in western New York (and probably northwestern
33 Pennsylvania) and the Algonquian groups living in northern Ohio (Engelbrecht, 2003:142-144;
34 Trigger, 1978; White, 1991). Meanwhile, the Iroquois suffered as a result of European epidemic
35 diseases; in some cases mortality rates were as high as 90 percent (Engelbrecht, 2003:158). In
36 the early eighteenth century, Iroquois relations with the French and British stabilized for a time,
37 during which settlements became increasingly dispersed and varied, consisting of small numbers
38 of large villages and larger numbers of small settlements, some of which were located on major
39 bodies of water (Engelbrecht, 2003:166).

40 During this same time, the Tuscarora, an Iroquoian-speaking group that migrated from North
41 Carolina, joined the Five Nations. Despite the fact that the Iroquois were on the losing side of the
42 French and Indian war with Britain (1754-1762), they benefited from the subsequent Royal
43 Proclamation of 1763, by which the British Crown prohibited settlement west of the Appalachian
44 Mountains. However, this reprieve was brief, since after the American Revolution, Iroquois

lands were increasingly encroached on by American settlers and the Iroquois were forced to relocate to ever-dwindling reservations.

1.1.3.2 Commonwealth of Pennsylvania

Early and Middle Archaic

In northwestern Pennsylvania the Early and Middle Archaic (10,000 B.P. to 8,000 B.P. and 8,000 B.P. to 6,000 B.P., respectively) have come to be primarily defined in terms of climatic / environmental transition. During these times, the ecological setting in the Northeast transformed from immediate post-glacial tundra and spruce-park forests through denser spruce-fir, pine-oak, and deciduous oak-hemlock forests to an essentially modern oak-hickory forest system (Funk, 1983:304-305; Lepper and Funk, 2006:171-172). As is the case for the Paleo-Indian period, archaeological sites from the Early and Middle Archaic have been mostly identified by the presence of diagnostic projectile points, including Hi-Lo, Kanawha Stemmed, Kirk, LeCroy Bifurcated Stem, MacCorkle, Palmer, Raddatz Side-Notched, and St. Albans Side-Notched points, all of which have been found throughout the Northeast; and Thebes and St Charles points, which are known in western Pennsylvania (Abel and Fuerst, 1999:12-13; Calkin and Miller, 1977:309; Justice, 1995:44-46, 54-58, 67-69, 71-79, 81-85, 86-96; Stothers, 1996:179-181; Stothers et al., 2001:235). Many of these point types have characteristic bifurcated bases.

Relatively few Early and Middle Archaic sites have been found in northwestern Pennsylvania (Funk, 1978:20; Prufer, 2001:187-188). The low frequency of sites probably correlates with small populations, even relative to earlier Paleo-Indian levels (Fitting, 1978a:14; Funk, 1983:316-319; Griffin, 1983:248; Lepper and Funk, 2006:193). These low population levels may be related to a minimally-productive environment; for example “coniferous forests with their low carrying capacity for deer and other game constituted an unfavorable environment for hunters and gatherers” (Funk, 1978:23; Calkin and Miller, 1977:309; cf. Nicholas, 1987:100-105). However, many sites probably remain to be found in less-studied areas, since the post-glacial environment in the Northeast was not uniformly desolate and included highly productive diverse environments like “lakes, ponds, extensive wetlands, and emergent riverine systems” that formed in the basins of former glacial lakes (Lepper and Funk, 2006:193; Nicholas, 1987:105-106).

Many Early and Middle Archaic sites in the Northeast cluster on former glacial lakes (Nicholas, 1987:106). In the Susquehanna Valley in New York (just outside the study area), Early Archaic projectile point forms have been found in both uplands and valley floors (Funk, 1993:317). The Zawatski Site, an Early Archaic site in western New York, was situated on the flood plain of the Allegheny River in Cattaraugus County (Calkin and Miller, 1977:310-312), suggesting that an Early Archaic preference towards occupation on valley floors was not confined to the Susquehanna (cf. Lepper and Funk, 2006:193).

In general, there is meager direct evidence concerning Early and Middle Archaic subsistence, site types, and tool assemblages (with the exception of projectile points) in northwestern Pennsylvania (Abel and Fuerst, 1999:13; Funk, 1993:258-265; Stothers et al., 2001:236). The Haviland site, located in a relic meander of Cobleskill Creek in Schoharie County, New York is a rare example of an excavated Early Archaic lithic workshop in the Northeast (Ferguson, 1995). Artifacts from the site include Kanawha bifurcate-base projectile points, thin bifacial ovate knives, thin unifacial tools, cores, hammerstones, debitage, abraders, anvils, choppers, and pitted

stones. Middle Archaic tool kits are more extensive than those from the Early Archaic and include pecked and ground stone items (axes, adzes, gouges, celts, mortars, pestles, plummets, and netsinkers), polished tools, such as bannerstones, and bone artifacts (awls, barbed harpoon tips, gorges, and fishhooks) (Stothers et al., 2001:237-238).

Late Archaic

The Late Archaic Period in Ohio is most typically defined as the time between the stabilization of post-glacial forest systems to roughly modern states (deciduous forests in the Lake Plain region of northwestern Pennsylvania and Hemlock-Pine-Hardwoods forests to the south (Tuck, 1978:29; Wright, 2006:103-104) and the appearance of ceramic vessels. Conventional dates for the period are 6,000 B.P. to 3,000 B.P. The Late Archaic contrasts sharply with the Early and Middle Archaic in terms of volume of data; far more Late Archaic sites are known than for the other parts of the Archaic (Funk, 1983:320; Prufer, 2001:188).

As is the case for earlier times, the majority of temporally diagnostic / representative Late Archaic artifacts are projectile points, but more is known about their accompanying tool kits (Funk, 1983:320). Projectile points from the first millennium of the Late Archaic include large broad side-notched styles that have square tangs and indented or straight bases, designated Otter Creek throughout the Northeast (Funk, 1983:320; Justice, 1995:61-62; Stothers et al., 2001:237). Otter Creek points have been found with bifacial knives, unifacial side and end scrapers, anvilstones, and hammerstones (Funk, 1983:321; cf. Ritchie 1979).

For the part of the Late Archaic beginning ca. 5,200 B.P., Ritchie and others have defined several large-scale archaeological 'traditions' that extend across parts of the Northeast, including the Laurentian / Lake Forest, and Narrow-Stemmed / Piedmont Traditions (Funk, 1983:321-329; Ritchie, 1944:234-253; 1980:79-125; Ritchie and Funk, 1973:338-341; Stothers et al., 2001:238; Tuck 1978:29-32). Northwestern Pennsylvania is near the southern edge of The Laurentian / Lake Forest Tradition, which also includes much of New York State and extends across southeastern Ontario into eastern Michigan and extreme northwestern Ohio (Dragoo, 1971; Prufer 2001:188-189; Stothers et al. 2001:238; Tuck 1978:29). Sites generally date between 5,200 B.P. and 4,000 B.P. Associated projectile point types include: examples of the Brewerton point series (Brewerton Corner-Notched, Brewerton Eared-Notched, Brewerton Eared Triangle, and Brewerton Side-Notched); Vosburg; Genesee; and Snook Kill (Funk, 1983:321; Justice, 1995:115-118, 120-124; Ritchie, 1971; Stothers and Abel, 1993:31; Stothers et al., 2001:238).

In addition to the chipped stone projectiles points, Laurentian Tradition assemblages typically include: end and side scrapers; knives; drills; bannerstones; ground stone axes, adzes, celts, and gouges; plummets; hammerstones; anvilstones; and bone awls, gorges, and leister points (Funk, 1983:323; Prufer, 2001:190-193). In parts of Ohio just west of northwestern Pennsylvania, cores are rare and tool-making debitage tends to be scarce and small-sized; sources for lithic materials there are primarily local (Prufer, 2001:193-195). Example Laurentian Tradition sites include: Ringler and Lukens Hill in northeastern Ohio (Prufer, 2001:190-195; Stothers and Abel, 1993:29).

Narrow Stemmed / Piedmont Tradition assemblages date to ca. 4,500 to 3,500 B.P. (Funk, 1983:324; Stothers et al., 2001:238). Although they tend to be found south of Laurentian sites, there is a great deal of overlap between the traditions, and they are occasionally found in the

1 same contexts (Funk, 1983:329; Ritchie, 1944:260-273, 292-310; 1945; 1980:36-79; Tuck,
2 1978:29). The defining characteristic of the Narrow Point is a series of narrow-stemmed and
3 narrow side-notched projectile points, including types such as Lamoka (Justice, 1995:124-130;
4 Ritchie, 1971:29; Stothers et al., 2001:238). The only other common element of Narrow Point
5 Tradition assemblages appears to be a “general scarcity of uniface tools” (Funk, 1983:324).
6 Sites in the Lamoka phase of the tradition also sometimes yield distinct ground stone ‘beveled
7 adzes,’ along with ornaments and tools made from antler and bone. The Lamoka Lake site in
8 western New York is the largest, most productive, and perhaps best-known of the Narrow
9 Stemmed Tradition sites in the study area (Funk, 1983:327).

10 **Transitional / Terminal Archaic**

11 In the Northeast, the Transitional / Terminal Archaic is defined as the time before the adoption of
12 clay vessel technology during which people were making stone containers, which were primarily
13 made from soft soapstone / steatite (Ritchie, 1980:150; Ritchie and Funk, 1973:71; Tuck,
14 1978:37). Obviously the timing of these developments varied from one part of the study area to
15 another, but typically-used dates fall in the range of ca. 3,700 B.P. to 2,700 B.P. The definitional
16 basis for this time period is highly problematic since recent research has demonstrated that
17 contexts with early ceramic vessels temporally overlap with those that have steatite containers
18 entirely (Hoffman, 1998; see Ritchie, 1980:157).

19 Besides the soapstone containers, the Transitional Archaic in northwestern Pennsylvania is
20 associated with a series of Susquehanna tradition broad-headed stone spear points (Funk,
21 1983:331; Trubowitz and Snethkamp, 1975:19; Witthoft, 1971); some researchers associate
22 Genesee and Snook Kill points with the broad point tradition (Funk, 1983:331; 1993:224;
23 Stothers et al., 2001:238). Examples of these projectile points in the study area include:
24 Susquehanna Broad, Perkiomen Broad, and ‘Turkey-tail’ blades/points (Justice, 1995:167-170;
25 Ritchie, 1971; Stothers et al., 2001:238). Besides projectile points and steatite vessels, other
26 typical Transitional Archaic artifacts include: chipped stone scrapers, drills, and gravers (many
27 of which have bases similar to Susquehanna tradition projectile points, suggesting expedient
28 reuse); possible ‘strike-a-lights’; netsinkers manufactured from pebbles; hammerstones;
29 rectangular shale gorgets; ‘cupstones’; adzes; and anvils (Ritchie, 1980:151, 159).

30 Transitional Archaic sites tend to “occupy a riverine setting, never far from the main stream” and
31 are typically small or “occur as superimposed components marking a succession of temporary
32 sojourning places by the same group” (Ritchie, 1980:157; see also Tuck, 1978:37). The presence
33 of netsinkers on some sites suggests that fishing was a prominent element of subsistence
34 (Ritchie, 1980:151, 157-159; Ritchie and Funk, 1973:72). Transitional Archaic sites in New
35 York just north of the Pennsylvania portion of the study area have been found in a variety of
36 ecological settings, including glacial uplands, terraces, and river floodplains (Trubowitz and
37 Snethkamp, 1975:20). Example sites in the study area include O’Neil and Hickory Hill Marsh in
38 New York (Ritchie, 1980:156-164; Ritchie and Funk, 1973:71-95).

39 **Woodland**

40 The Woodland Period is defined as the time during which people adopted and used ceramic
41 vessel technology (Feder, 1984:101-102; Sears, 1948; see also Willey, 1966:267-268; discussion
42 in Snow, 1980:262). Although the timing of the adoption of clay container technology varied
43 across the region, 3,000 B.P. is generally used as a convention for the beginning of the

Woodland (Funk, 1983:306-307; 1993:Figure 40; Kent et al., 1971:195-196; Ritchie, 1980:179; see also Snow, 1980:262; Stoltman, 1978). The period extended to historic times (ca. A.D. 1600 / 350 B.P.). General developments during the Woodland in the Northeast include increases in population, the adoption of horticulture and domestication of plants such as maize, beans, and squash, nucleation of settlement patterns in some areas, and an elaboration, intensification, and expansion of the burial practices and long distance interaction presaged by the Glacial Kame phenomenon (a set of burial practices from areas north of Pennsylvania that included burials in glacial kames that were accompanied by exotic grave goods).

Early Woodland

Besides the initial appearance of pottery, the Early Woodland period in northwestern Pennsylvania is associated with an elaborate suite of mortuary practices collectively known as Adena (Stothers and Abel, 2008:79). Just outside the study area in southern Ohio and southwestern Pennsylvania, Adena burials are in man-made mounds (Coe et al., 1986:51; Dragoo, 1963:134). While such tumuli are rare in the study area, Adena grave goods have been found with burials across northwestern Pennsylvania (Dragoo, 1963:177). Items associated with Adena-like burials include: stone (sometimes clay) block-end tubes; lanceolate and leaf-shaped bifaces; trianguloid and ovoid cache blades; stemmed or side-notched projectile points, frequently falling in the range of the ‘Adena’ type (Justice, 1995:191-192, 196; Ritchie, 1971:12-13); bar amulets; copper awls and celts; gorgets; birdstones; cylindrical copper beads; and shell beads (Dragoo, 1963:176-188; Ritchie and Funk, 1973:97). Graves were frequently accompanied by red ocher (Ritchie and Funk, 1973:97). Some Adena burials and cemeteries are on natural knolls and many items are made from exotic raw materials. Examples of nearby Early Woodland Adena-like cemeteries and burial sites include Green Creek, Marblehead, and Hickory Island No. 2 in northern Ohio (Stothers and Abel, 2008:81, 98-99) and Vine Valley, Morrow, and Palatine Bridge in New York (Funk, 1983:312-313, 335; Granger, 1978a:100). Burial sites tend to be on “terraces of major streams or near large deep water lakes in the Erie-Ontario Lowland Zone” (Granger, 1978a:100; see also Ritchie and Funk, 1973:348).

Less is known about Early Woodland settlement and subsistence patterns in the northwestern Pennsylvania area than burial practices (Funk, 1973:336; Granger, 1978a:96). At least two archaeological cultures, typically designated as the Meadowood and Middlesex phases (Ritchie, 1980; Meyer-Oakes, 1955:58), were closely associated with elements of Adena in New York and Pennsylvania (Granger, 1978a). Middlesex refers to contexts with Adena-like burials and assemblages from non-burial contexts that include Adena artifacts (Funk, 1983:335). Meadowood phase sites have yielded more data concerning settlement and subsistence than those from the Middlesex. Meadowood sites are primarily clustered in central and western New York and are generally found adjacent to major streams and lakes, although some are known from areas near wetlands and smaller water bodies. Typical artifact assemblages include: early pottery (examples of which have thick walls, are conoidal-based, straight-sided, “unornamented,” and are cord-roughened on the entirety of their interiors and exteriors (Ritchie and MacNeish, 1949:100; Stothers and Abel, 1993:44); diagnostic Meadowood-style projectile points (Justice, 1995:170-172; Ritchie, 1971:35-36); other tools such as drills and scrapers with bases suggesting they are re-worked projectile points; anvilstones; abrading stones; hammerstones; cigar / tube-shaped smoking pipes; birdstones; and gorgets (Funk, 1983:335; Ritchie, 1980:191-196). Some New York and Ohio sites have produced data suggesting oblong house forms measuring about 4 m by 5 m (12 ft by 16 ft) (Ritchie and Funk, 1973:107; Stothers and Abel, 1993:33, 62-63).

Fragments of basketry and fish nets have also been found (Ritchie, 1980:194-195). Burials with Adena-like qualities are also sometimes present. Nearby example sites include: Riverhaven No. 2, Vinette, Scaccia, and Sinking Ponds in New York (Funk, 1983:335; Granger, 1978b; Ritchie, 1980:190-191; Ritchie and Funk, 1973:96); and Weillnau and Seeman's Fort in north-central Ohio (Stothers and Abel, 1993:194-195).

Middle Woodland

In northwestern Pennsylvania, the appearance of several types of decorated 'post-Vinette I' ceramic vessels around 2,000 B.P. marks the beginning of the Middle Woodland (Kostiwi, 1995). In areas to the west and southwest, the period is associated with the appearance of the 'Hopewell Interaction Sphere,' a phenomenon largely defined by the presence of earthworks and burial mounds sometimes including lavish quantities of exotic grave goods. Hopewell-like mounds and artifacts are found in northwestern Pennsylvania, but they did not appear there until several centuries after their beginnings in Ohio. In northwestern Pennsylvania the Middle Woodland extends to 1,000 B.P.

Hopewell-like burial mounds in northern Ohio, northwestern Pennsylvania, and western and central New York are up to 50 ft in diameter and 9 ft in height. Burials were inside stone slab cists and were typically extended; cremated remains of other individuals are occasionally found in the mounds outside the cists (Ritchie, 1980:227). Among the elaborate grave goods found in the mounds are: platform pipes (made from both 'Ohio fireclay' and local materials), some with animal effigies; slate pendants; red and yellow ocher; two-holed gorgets; copper beads, ear spools, breast ornaments, celts, and awls; copper or silver panpipe covers; stone celts and adzes; prismatic flake knives; and projectile points (some of which are large examples of the Snyders type manufactured from high-quality stone from Ohio) (Coe et al., 1986:50-55; Funk, 1983:340; Justice, 1995:201-204; Ritchie, 1938; 1980:227). One example of Middle Woodland burial mounds in northwest Pennsylvania is the Irvine Mound (Carpenter, 1956). Mounds tend to be near major rivers or large bodies of water, such as the Genesee, Finger Lakes, and Lake Ontario. They also are frequently not near habitation sites (Kostiwi, 1995:41).

Relative to burial practices, little is known about Middle Woodland subsistence, settlement, and other aspects of culture throughout the Northeast (Bowen, 1992:63; Funk, 1983:339; 1993:200; Ritchie, 1980:226). However, the period is known to have witnessed numerous cultural innovations, including the adoption of the bow-and-arrow (Kostiwi, 1995:38) and maize agriculture (Hart and Brumbach, 2003; Hart et al., 2007). Northwest Pennsylvania Middle Woodland habitation sites are typically grouped into the Scioto/Watson Tradition (Brose, 2000:99). Typical ceramic vessels from nearby northeastern Ohio were "unimaginative plain or cordmarked...ceramics with slightly curved rims" (Brose, 2000:99). Other Middle Woodland artifacts include small projectile points (such as the Levanna, Jack's Reef and Raccoon Notched types), bone awls and barbed points, bifacial knives, scrapers, drills, netsinkers, celts, adzes, copper fishhooks and gorges, antler points, bone daggers, and compound bone fishhooks (Funk, 1983:337-343; Justice, 1995:215-220, 228). Later Middle Woodland sites in New York and Ohio have post mold patterns suggesting round houses (Brose, 2000:99; Funk, 1983:340). Several types of sites are known, including large semi-permanent recurrently-occupied camps, small seasonal recurrently occupied camps, workshops, and small temporary camps (Brose, 2000:99; Ritchie and Funk, 1973:349-354). In New York, sites typically occur on rivers, lakes,

and in areas near marshes, bogs, and springs; in northern Ohio they are on bluffs overlooking major rivers (Bowen, 1992:63; Brose, 2000:99; Ritchie and Funk, 1973:349-354).

Late Woodland

In northwestern Pennsylvania, the Late Woodland spans the years between 1,000 B.P. and the Protohistoric period – the time when European goods were reaching Native American groups, but before the point when there was direct contact between Indians and Europeans (generally around A.D. 1525-1550 / 425-400 B.P. in New York, Pennsylvania, and Ohio (Bradley, 2005; Engelbrecht, 2003:133-137; Snow, 2000:77-78; Stothers, 2000:52-53]). Developments during the Late Woodland include the adoption of horticulture based on maize, squash, and beans, increasingly sedentary settlement patterns, the nucleation of groups into historically-known population centers, and the appearance of pallisaded villages with longhouses. In northwestern Pennsylvania, the time period is primarily represented by the Eastwall/McFate Tradition, which is distinguished from surrounding traditions largely on the basis of pottery attributes (Johnson, 1976). People throughout the area were manufactured diagnostic small triangular (Madison-type) projectile points (Justice, 1995:224-227). Late Woodland inhabitants of northwestern Pennsylvania were probably Iroquoian speakers (Johnson, 1976).

Early Late Woodland (pre-700 B.P.) settlements in northwestern Pennsylvania had oval houses, while later ones had rectanguloid structures and were concentrated on high river bluffs. After ca. 500 B.P., villages were “on high dissected plateaus, overlooking sheltered arable flood plains” (Brose, 2000:106-107). Their occupants also employed smaller camps along upland rivers, in rockshelters, and along lakeshores for hunting and fishing (Brose, 2000:107). McFate is an important site in northwestern Pennsylvania (Johnson, 1976).

Protohistoric and Historic Periods

Items of European manufacture appear on Native American archaeological sites throughout the study area in New York, Ohio and Pennsylvania beginning in the first half of the sixteenth century A.D. (ca. 450 to 400 B.P.). Such artifacts were quickly integrated into the material culture inventories of native groups and included: sheet brass, copper and iron kettles; items derived from sheet metal kettles, including tinkling cones, projectile points, and other tools and ornamental items; colorful glass trade beads; and iron axe blades (Bradley, 2005:69-80). 'True' Wampum - small white and purple beads made from marine shells drilled with metal tools - also dates to the Protohistoric (Ceci, 1989:72-73; Tooker, 1978:422). Site locations were generally similar to those during the Late Woodland. There is some evidence that Iroquoian-speaking people in northwestern Pennsylvania and extreme northeastern (possibly Neutral) Ohio (represented by the Eastwall Complex) expanded their territory further to the west after about A.D. 1550.

Early historical events involving Indian groups living in New York, Pennsylvania, and Ohio were heavily influenced by the European fur trade and the roles the Five Nations Iroquois played in it. The French established a trading outpost at Tadoussac on the St. Lawrence River about A.D. 1600 and the Dutch settled around Albany by ca. A.D. 1620. The Dutch were later forced out of their land holdings in the Northeast by the British in the 1660s. The Five Nations benefited from trade with the French, Dutch, and British which, among other items brought them European weapons. The European hunger for beaver pelts also drove Five Nations expansion to areas to the west, and by the middle of the 1600s, they had largely dispersed/destroyed many of

their neighbors, including the Neutral and Erie in western New York (and probably northwestern Pennsylvania) and the Algonquian groups living in northern Ohio (Engelbrecht, 2003:142-144; Trigger, 1978; White, 1991). Thereafter, northwestern Pennsylvania, along with much of northern Ohio, was essentially devoid of Native American habitation.

1.1.3.3 State of Ohio

Early and Middle Archaic

In Ohio, the Early and Middle Archaic (10,000 B.P. to 8,000 B.P. and 8,000 B.P. to 6,000 B.P., respectively) have come to be primarily defined in terms of climatic / environmental transition. During these times, the ecological setting in the Northeast transformed from immediate post-glacial tundra and spruce-park forests through denser spruce-fir, pine-oak, and deciduous oak-hemlock forests to an essentially modern oak-hickory forest system (Funk, 1983:304-305; Lepper and Funk, 2006:171-172). As is the case for the Paleo-Indian period, archaeological sites from the Early and Middle Archaic in Ohio have been mostly identified by the presence of diagnostic projectile points, including Hi-Lo, Kanawha Stemmed, Kirk, LeCroy Bifurcated Stem, MacCorkle, Palmer, Raddatz Side-Notched, St. Albans Side-Notched, Thebes, St. Charles, Decatur, and Lake Erie Bifurcated Base points (Abel and Fuerst, 1999:12-13; Calkin and Miller, 1977:309; Justice, 1995:44-46, 54-58, 67-69, 71-79, 81-85, 86-96; Stothers, 1996:179-181; Stothers et al., 2001:235). Many of these point types have characteristic bifurcated bases.

Relatively few Early and Middle Archaic sites have been found in northern Ohio (Funk, 1978:20; Prufer, 2001:187-188). The low frequency of sites probably correlates with small populations, even relative to earlier Paleo-Indian levels (Fitting, 1978a:14; Funk, 1983:316-319; Griffin, 1983:248; Lepper and Funk, 2006:193). These low population levels may be related to a minimally-productive environment; for example “coniferous forests with their low carrying capacity for deer and other game constituted an unfavorable environment for hunters and gatherers” (Funk, 1978:23; Calkin and Miller, 1977:309; cf. Nicholas, 1987:100-105). However, many sites probably remain to be found in less-studied areas, since the post-glacial environment in the Northeast was not uniformly desolate and included highly productive diverse environments like “lakes, ponds, extensive wetlands, and emergent riverine systems” that formed in the basins of former glacial lakes (Lepper and Funk, 2006:193; Nicholas, 1987:105-106).

Early and Middle Archaic sites in the Northeast typically cluster on former glacial lakes (Nicholas, 1987:106). In the Susquehanna Valley in New York (just outside the study area), Early Archaic projectile point forms have been found in both uplands and valley floors (Funk, 1993:317). The Zawatski Site, an Early Archaic site in western New York, was situated on the flood plain of the Allegheny River in Cattaraugus County (Calkin and Miller, 1977:310-312), suggesting an Early Archaic preference towards occupation on valley floors was not confined to the Susquehanna (cf. Lepper and Funk, 2006:193). Contrary to areas to the east, Early Archaic sites in Northwestern Ohio tend to be in more upland settings. For instance, nearly 93 percent of Early Archaic sites found in that area during a 1990s CRM survey for Ohio SR 30 were in uplands; the remaining 7 percent were evenly distributed among glacial lake margins, ridges, and valley floors (Keener et al., 2008:37-38). This contrast with areas to the east may indicate the Early Archaic inhabitants of northwest Ohio (and probably elsewhere) employed subsistence strategies distinct from those of people in other parts of the Northeast.

1 In general, there is meager direct evidence concerning Early and Middle Archaic subsistence,
2 site types, and tool assemblages (with the exception of projectile points) in Ohio (Abel and
3 Fuerst, 1999:13; Funk 1993:258-265; Stothers et al., 2001:236). The Haviland site, located in a
4 relic meander of Cobleskill Creek in Schoharie County, New York is a rare example of an
5 excavated Early Archaic lithic workshop (Ferguson, 1995). Artifacts from the site include
6 Kanawha bifurcate-base projectile points, thin bifacial ovate knives, thin unifacial tools, cores,
7 hammerstones, debitage, abraders, anvils, choppers, and pitted stones. Middle Archaic tool kits
8 are more extensive than those from the Early Archaic and include pecked and ground stone items
9 (axes, adzes, gouges, celts, mortars, pestles, plummets, and netsinkers), polished tools, such as
10 bannerstones, and bone artifacts (awls, barbed harpoon tips, gorges, and fishhooks) (Stothers et
11 al., 2001:237-238). Most Archaic sites in Ohio have been disturbed by deep plowing and very
12 little is known about their internal structures; the Erskine site in Mahoning County, which has
13 not been plowed, represents an Early Archaic exception to this pattern (Prufer, 2001:189-190).
14 Another unusual occupation site is the Early Archaic Weillnau site in north-central Ohio, which
15 yielded possible evidence of a structure (Stothers et al., 2001:241). Besides open air sites, there
16 are indications that Early and Middle Archaic individuals visited rockshelters; The Krill Cave
17 site in the northeastern part of the state, which includes an Early Archaic component, is one
18 example in the study area (Prufer, 2001:189).

19 **Late Archaic**

20 The Late Archaic Period in Ohio is most typically defined as the time between the stabilization
21 of post-glacial forest systems to roughly modern states (i.e., the deciduous forests that cover
22 much of Ohio) and the appearance of ceramic vessels. Conventional dates for the period are
23 6,000 B.P. to 3,000 B.P. The Late Archaic contrasts sharply with the Early and Middle Archaic
24 in terms of volume of data; far more Late Archaic sites are known than for the other parts of the
25 Archaic (Funk, 1983:320; Prufer, 2001:188).

26 As is the case for earlier times, the majority of temporally diagnostic / representative Late
27 Archaic artifacts are projectile points, although more is known about their accompanying tool
28 kits (Funk, 1983:320). Projectile points from the first millennium of the Late Archaic include
29 large broad side-notched styles that have square tangs and indented or straight bases, known
30 throughout the Northeast as Otter Creek (Funk, 1983:320; Justice, 1995:61-62; Stothers et al.,
31 2001:237) and Matanzas points in central Ohio and areas to the west (Justice, 1995:119-122;
32 Stothers et al., 2001:237). Otter Creek points have been found with bifacial knives, unifacial side
33 and end scrapers, anvilstones, and hammerstones (Funk, 1983:321; cf. Ritchie, 1979).

34 For the part of the Late Archaic beginning ca. 5,200 B.P., Ritchie and others have defined
35 several large-scale archaeological 'traditions,' including the Laurentian/Lake Forest, and
36 Narrow-Stemmed/Piedmont Traditions (Funk, 1983:321-329; Ritchie, 1944:234-253; 1980:79-
37 125; Ritchie and Funk, 1973:338-341; Stothers et al., 2001:238; Tuck, 1978:29-32). The
38 Laurentian / Lake Forest Tradition includes northwestern Pennsylvania and much of New York
39 State and extends across southeastern Ontario into eastern Michigan and extreme northwestern
40 Ohio (Dragoo, 1971; Prufer, 2001:188-189; Stothers et al., 2001:238; Tuck, 1978:29). Sites
41 generally date between 5,200 B.P. and 4,000 B.P. Associated projectile point types in Ohio
42 include: the Brewerton point series (Brewerton Corner-Notched, Brewerton Eared-Notched,
43 Brewerton Eared Triangle, and Brewerton Side-Notched); Vosburg; Genesee; Snook Kill; and
44 Feeheley (the last of which is found mostly in southwestern Michigan and northwestern Ohio)

(Funk, 1983:321; Justice, 1995:115-118, 120-124; Ritchie, 1971; Stothers and Abel, 1993:31; Stothers et al., 2001:238). Brewerton series projectile points tend to be slightly earlier in Ohio than in areas further to the northeast; they have even been found there in Middle Archaic contexts (Stothers et al., 2001:237).

In addition to the chipped stone projectiles points, Laurentian Tradition assemblages from Ohio typically include: end and side scrapers; knives; drills; bannerstones; ground stone axes, adzes, celts, and gouges; plummets; hammerstones; anvilstones; and bone awls, gorges, and leister points (Funk, 1983:323; Prufer, 2001:190-193). In the northeastern part of the state, cores are rare and tool-making debitage tends to be scarce and small-sized; sources for lithic materials there are primarily local (Prufer, 2001:193-195). Example Laurentian Tradition sites include: Kirian-Treglia in the northwestern Ohio (Stothers and Abel, 1993:29); and Ringler and Lukens Hill in the northeastern part of the state (Prufer, 2001:190-195; Stothers and Abel, 1993:29).

Narrow Stemmed / Piedmont Tradition assemblages date to ca. 4,500 to 3,500 B.P. (Funk, 1983:324; Stothers et al., 2001:238). Although they tend to be found south of Laurentian sites, including in northern Ohio, there is a great deal of overlap between the traditions, and they are occasionally found in the same contexts (Funk, 1983:329; Ritchie, 1944:260-273, 292-310; 1945; 1980:36-79; Tuck, 1978:29). The defining characteristic of the Narrow Point is a series of narrow-stemmed and narrow side-notched projectile points, including types from Ohio such as Lamoka, highly similar Durst Stemmed and Dustin points, and Bottleneck Stemmed points (Justice, 1995:124-130; Ritchie, 1971:29; Stothers et al., 2001:238). The only other common element of Narrow Point Tradition assemblages appears to be a “general scarcity of uniface tools” (Funk, 1983:324). Sites in the Lamoka phase of the tradition also sometimes yield distinct ground stone ‘beveled adzes,’ along with ornaments and tools made from antler and bone. The Lamoka Lake site in western New York is the largest, most productive, and perhaps best-known of the Narrow Stemmed Tradition sites in the study area (Funk, 1983:327).

In northwestern Ohio, Late Archaic sites can be divided into four general classes: small open camps, large camp sites, quarries/workshops, and rockshelters/caves (Ritchie and Funk, 1973: 337-338; Stothers and Abel, 1993; Stothers et al., 2001:242-246). Small open camps are typically located “inland from large waterways, frequently on small streams, on marshes, or near copious springs” while the larger camps are “on major bodies of water, near good fishing grounds” (Ritchie and Funk, 1973:337-338; also see Funk, 1983:327). Quarries and workshops are located near raw material sources. In northeastern Ohio, open (i.e., non-cave) Archaic-period sites are primarily camps, some of which were occupied on numerous occasions. They are typically located on high terrain near major rivers and streams and on knolls near ponds, wetlands, and lakes (Prufer, 2001:188-189). The oldest known burial / mortuary sites in Ohio date to the Late Archaic and include Missionary Island in the northwest part of the state (Stothers et al., 2001:244, 264-265).

Transitional / Terminal Archaic

In the Northeast, the Transitional / Terminal Archaic is defined as the time before the adoption of clay vessel technology during which people were making stone containers, which were primarily made from soft soapstone / steatite (Ritchie, 1980:150; Ritchie and Funk, 1973:71; Tuck, 1978:37). Obviously the timing of these developments varied from one part of the study area to another, but typically-used dates fall in the range of ca. 3,700 B.P. to 2,700 B.P. The definitional

1 basis for this time period is highly problematic since recent research has demonstrated that
2 contexts with early ceramic vessels temporally overlap with those that have steatite containers
3 entirely (Hoffman, 1998; see Ritchie, 1980:157). In much of northern Ohio, the time period is
4 usually integrated into the Late Archaic (Prufer, 2001; Stothers et al., 2001).

5 Besides the soapstone containers, the Transitional Archaic in Ohio is associated with a series of
6 Susquehanna tradition broad-headed stone spear points (Funk, 1983:331; Trubowitz and
7 Snethkamp, 1975:19; Witthoft, 1971; some researchers associate Genesee and Snook Kill points
8 with the broad point tradition (Funk, 1983:331; 1993:224; Stothers et al., 2001:238). Examples
9 of these projectile points in northern Ohio include: Susquehanna Broad, Perkiomen Broad;
10 Ashtabula; 'Turkey-tail'; and Adder Orchard points (Justice, 1995:167-170; Ritchie, 1971;
11 Stothers et al., 2001:238). In the northwestern part of the state, broad-headed points were
12 succeeded by a series of small projectile points (the Late Archaic Small Point Horizon) in the
13 latter years of the Late (Terminal) Archaic that include types such as Innes, Crawford Knoll,
14 Trimble Side-Notched, and Merom Expanding-Stem (Stothers et al., 2001:238; Justice,
15 1995:130-132). Besides projectile points, other typical Transitional Archaic artifacts include:
16 chipped stone scrapers, drills, and gravers (many of which have bases similar to Susquehanna
17 tradition projectile points, suggesting expedient reuse); possible 'strike-a-lights'; netsinkers
18 manufactured from pebbles; hammerstones; rectangular shale gorgets; 'cupstones'; adzes; and
19 anvils (Ritchie, 1980:151, 159).

20 In parts of the Northeast, Transitional Archaic sites typically "occupy a riverine setting, never far
21 from the main stream" and are typically small or "occur as superimposed components marking a
22 succession of temporary sojourning places by the same group" (Ritchie, 1980:157; see also
23 Tuck, 1978:37). The presence of netsinkers on some sites suggests that fishing was a prominent
24 element of subsistence (Ritchie, 1980:151, 157-159; Ritchie and Funk, 1973:72). Transitional
25 Archaic sites in western New York have been found in a variety of ecological settings, including
26 glacial uplands, terraces, and river floodplains (Trubowitz and Snethkamp, 1975:20).

27 People inhabiting Ohio in the final years of the Archaic were participating in the earliest known
28 of a series of practices relating to elaborate burial treatment of the deceased that included
29 interments in mounds and the presence of exotic grave goods, the "Glacial Kame culture" (Abel
30 and Fuerst, 1999:16; Tuck, 1978:39). As the name suggests these burials were placed in natural
31 gravel knolls. They include items such as distinctive "sandal sole shell gorgets," rectangular shell
32 gorgets, rolled copper beads, shell beads, copper adzes, projectile points, leather fragments, and
33 pieces of galena (Funk, 1983:334; Griffin, 1983:253; Ritchie, 1980:133-134). Some of these
34 items imply the existence of long-distance trade routes, including copper which came from the
35 upper Great Lakes and the shell, which originated along the eastern North American coast.
36 Burials were also occasionally accompanied by red ocher (Ritchie, 1980:133). A pair of closely
37 related Terminal Archaic Period burial sites in northwestern Ohio (the Williams cemetery and
38 Sidecut crematory / cache site) are representative of another type of burial in which individuals
39 were interred in non-mound contexts, but still with exotic grave goods that included marine shell
40 beads and lithic artifacts made from cherts from eastern Ohio and the Niagara Peninsula (Abel et
41 al., 2001). Both sites are on the floodplain of the Maumee River.

1 **Woodland**

2 The Woodland Period is defined as the time during which people adopted and used ceramic
3 vessel technology (Feder, 1984:101-102; Sears, 1948; see also Willey, 1966:267-268; discussion
4 in Snow, 1980:262). Although the timing of the adoption of clay container technology varied
5 across the region, 3,000 B.P. is generally used as a convention for the beginning of the
6 Woodland (Funk, 1983:306-307; 1993:Figure 40; Kent et al., 1971:195-196; Ritchie, 1980:179;
7 see also Snow, 1980:262; Stoltman, 1978). The period extended to historic times (ca. A.D. 1600
8 / 350 B.P). General developments during the Woodland include increases in population, the
9 adoption of horticulture and domestication of plants such as maize, beans, and squash, nucleation
10 of settlement patterns in some areas, and an elaboration and intensification of the burial practices
11 and long distance interaction presaged by the Glacial Kame phenomenon.

12 **Early Woodland**

13 Besides the initial appearance of pottery, the Early Woodland period in Ohio is associated with
14 an elaborate suite of mortuary practices collectively known as Adena (Stothers and Abel,
15 2008:79). Just outside the study area in southern Ohio and southwestern Pennsylvania, Adena
16 burials are in man-made mounds (Coe et al., 1986:51; Dragoo, 1963:134). While such tumuli are
17 relatively rare in the northern part of the state, Adena grave goods have been found with burials
18 across New York, northwestern Pennsylvania, and northern Ohio (Dragoo, 1963:177). Items
19 associated with Adena-like burials include: stone (sometimes clay) block-end tubes; lanceolate
20 and leaf-shaped bifaces; trianguloid and ovoid cache blades; stemmed or side-notched projectile
21 points, frequently falling in the range of the ‘Adena’ type (Justice, 1995:191-192, 196; Ritchie,
22 1971:12-13); bar amulets; copper awls and celts; gorgets; birdstones; cylindrical copper beads;
23 and shell beads (Dragoo, 1963:176-188; Ritchie and Funk, 1973:97). Graves were frequently
24 accompanied by red ocher (Ritchie and Funk, 1973:97). Examples of Early Woodland Adena-
25 like cemeteries and burial sites include Green Creek, Marblehead, and Hickory Island No. 2 in
26 northern Ohio (Stothers and Abel, 2008:81, 98-99). Most of these burial sites tend to be on
27 “terraces of major streams or near large deep water lakes in the Erie-Ontario Lowland Zone”
28 (Granger, 1978a:100; see also Ritchie and Funk, 1973:348).

29 Less is known about Early Woodland settlement and subsistence patterns in Ohio than burial
30 practices (Funk, 1973:336; Granger, 1978a:96). Habitation sites are generally found adjacent to
31 major streams and lakes, although some are known from areas near wetlands and smaller water
32 bodies. Typical artifact assemblages include: early pottery (generally thick-walled forms with
33 conoidal, straight-walled forms such as the Leimbach Thick and Fayette Thick types (Stothers
34 and Abel, 1993:44); diagnostic Meadowood-style projectile points (Justice, 1995:170-172;
35 Ritchie, 1971:35-36); other tools such as drills and scrapers with bases suggesting they are re-
36 worked projectile points; anvilstones; abrading stones; hammerstones; cigar/tube-shaped
37 smoking pipes; birdstones; and gorgets (Funk, 1983:335; Ritchie, 1980:191-196). Some New
38 York and Ohio sites have produced data suggesting oblong house forms measuring about 4 m by
39 5 m (12 ft by 16 ft) (Ritchie and Funk, 1973:107; Stothers and Abel, 1993:33, 62-63). Burials
40 with Adena-like qualities are also sometimes present. Example sites include Weillnau and
41 Seeman’s Fort in north-central Ohio (Stothers and Abel, 1993:194-195). In the northwestern part
42 of the state, sites around the Maumee River (including the later components of the Williams and
43 Sidecut cemeteries) suggest a subsistence strategy heavily oriented towards fishing. This area

was possibly also a center for regional interaction (Stothers and Abel, 2008:113-114). In other parts of northern Ohio, subsistence strategies were apparently less focused on fishing.

Middle Woodland

In Ohio, the Middle Woodland Period is associated with the appearance of the so-called ‘Hopewell Interaction Sphere,’ a phenomenon largely defined by the presence of earthworks and burial mounds sometimes including lavish quantities of exotic grave goods (ca. 2,300 B.P. to 1,600 B.P.) (Funk, 1983:337-338; Griffin, 1983:260-267). In the northeastern part of the state, the Middle Woodland extends to 1,000 B.P., while it ends earlier in the remainder of the northern portion of Ohio, at about the time of the disappearance of Hopewell around 1,600 to 1,500 B.P. (Abel et al., 2000; Brose, 2000; Stothers and Betchel, 2000).

Hopewell-like burial mounds in northern Ohio are up to 50 ft in diameter and 9 ft in height. Burials were inside stone slab cists and were typically extended; cremated remains of other individuals are occasionally found in the mounds outside the cists (Ritchie, 1980:227). Among the elaborate grave goods found in the mounds are: platform pipes (made from both ‘Ohio fireclay’ and local materials), some with animal effigies; slate pendants; red and yellow ocher; two-holed gorgets; copper beads, ear spools, breast ornaments, celts, and awls; copper or silver panpipe covers; stone celts and adzes; prismatic flake knives; and projectile points (some of which are large examples of the Snyders type manufactured from high-quality stone from Ohio) (Coe et al., 1986:50-55; Funk, 1983:340; Justice, 1995:201-204; Ritchie, 1938; 1980:227). The Esch site is one example of a Middle Woodland burial mound site in northern Ohio (Stothers et al., 1979). Mounds tend to be near major rivers or large bodies of water, including Lake Erie. They also are frequently not near habitation sites (Kostiw, 1995:41).

Relative to burial practices, little is known about Middle Woodland subsistence, settlement, and other aspects of culture throughout the Northeast (Bowen, 1992:63; Funk, 1983:339; 1993:200; Ritchie, 1980:226). However, the period is known to have witnessed numerous cultural innovations, including the adoption of the bow-and-arrow (Kostiw, 1995:38) and maize agriculture (Hart and Brumbach, 2003; Hart et al., 2007). Northwest Ohio Middle Woodland habitation sites are typically grouped into the Point Peninsula Tradition, while those in the northeastern part of the state are part of the Scioto/Watson Tradition and those along the north-central Lake Erie shore are elements of the Esch Phase (Brose, 2000:99; Funk, 1983:338; Ritchie and Funk, 1973:118-119; Stothers and Abel, 1993:31; 2008:96). Typical ceramic vessels in and northwestern Ohio from the early parts of the Middle Woodland were small (one to four quart capacities) and conoidal-based, while later pottery was larger and had increasingly globular bodies (Hart and Brumbach, 2009; Ritchie and Funk, 1973:117; Ritchie and MacNeish, 1949). Vessels from northeastern Ohio were “unimaginative plain or cordmarked...ceramics with slightly curved rims” (Brose, 2000:99). Other artifacts include small projectile points (such as the Levanna, Jack’s Reef and Raccoon Notched types), bone awls and barbed points, bifacial knives, scrapers, drills, netsinkers, celts, adzes, copper fishhooks and gorges, antler points, bone daggers, and compound bone fishhooks (Funk, 1983:337-343; Justice, 1995:215-220, 228). Later Middle Woodland sites in Ohio have post mold patterns suggesting round houses (Brose, 2000:99; Funk, 1983:340). Several types of sites are known, including large semi-permanent recurrently-occupied camps, small seasonal recurrently occupied camps, workshops, and small temporary camps (Brose, 2000:99; Ritchie and Funk, 1973:349-354). Sites are usually on bluffs

overlooking major rivers (Bowen, 1992:63; Brose, 2000:99; Ritchie and Funk, 1973:349-354). Examples include: and Esch, Heckelman, and 33Wo89 (Bowen, 1992; Ritchie and Funk, 1973).

Late Woodland

In northeastern Ohio, the Late Woodland spans the years between 1,000 B.P. and the Protohistoric period – the time when European goods were reaching Native American groups, but before the point when there was direct contact between Indians and Europeans (generally around A.D. 1525-1550 / 425-400 B.P. in New York, Pennsylvania, and Ohio (Bradley, 2005; Engelbrecht, 2003:133-137; Snow, 2000:77-78; Stothers, 2000:52-53). In the northwestern part of the state, the time period extends from the end of Hopewell (1,600 to 1,500 B.P.) to the Protohistoric. Developments during the Late Woodland include the adoption of horticulture based on maize, squash, and beans, increasingly sedentary settlement patterns, and the appearance of pallisaded villages, some with longhouses. Late Woodland archaeological traditions in the northern part of the state, distinguishable by differences in artifact assemblages (primarily ceramics and smoking pipes) and settlement patterns, include the Western Basin, Sandusky, and Whittlesey and Eastwall Complexes. People throughout the area were manufactured diagnostic small triangular (Madison-type) projectile points (Justice, 1995:224-227). Late Woodland inhabitants of northwestern and north-central Ohio were probably Algonquian speakers, while those living in the extreme northeastern part of the state were likely Iroquoian.

In northwestern and north-central Ohio early Late Woodland (pre-1,000 B.P.) habitation sites typically had circular houses built on river bluffs, islands, sand spits, and inland relic beach ridges (Brose, 2000:99). Later settlement systems in the area were increasingly focused in river valleys, each of which was apparently dominated by single villages. There were fewer settlements in upper portions of river drainages (Bowen, 1992; Brose, 1999:100, 103-405). After ca. 500 B.P. villages were pallisaded and at least some houses were plastered (Brose, 1999:104). In far northeastern Ohio early Late Woodland (pre-700 B.P.) settlements had oval houses, while later ones had rectanguloid structures and were concentrated on high river bluffs. After ca. 500 B.P., villages were “on high dissected plateaus, overlooking sheltered arable flood plains” (Brose, 2000:106-107). Their occupants also employed smaller camps along upland rivers, in rockshelters, and along lakeshores for hunting and fishing (Brose, 2000:107). Attributes of Late Woodland northern Ohio ceramics were highly variable; at the most general level, pots had conoidal to globular bodies (sometimes elongated) with moderately restricted necks and some had collars. Occasionally, pots had appliqué decoration (such as the elaborate Parker Festooned type) or stirrup handles (Brose, 2000; Stothers and Betchel, 2000). Sites with early Late Woodland components include Libben and Baker II in the northwestern part of the state; among later sites are Eiden and South Park in north-central Ohio (Brose 2000; Stothers and Betchel, 2000). In general, little is known of the ethnicity of the Late Woodland inhabitants of northern Ohio, although it is likely that those living in the north-central part of the state (archaeologically represented as the late prehistoric Indian Hills Phase of the Sandusky Tradition) were ancestors of the Mascouten (Abel et al., 2000:385; Brose, 2000:110; Stothers, 2000).

Protohistoric and Historic Periods

Items of European manufacture appear on Native American archaeological sites throughout northern Ohio beginning in the first half of the sixteenth century A.D. (ca. 450 to 400 B.P.). Such

artifacts were quickly integrated into the material culture inventories of native groups and included: sheet brass, copper and iron kettles; items derived from sheet metal kettles, including tinkling cones, projectile points, and other tools and ornamental items; colorful glass trade beads; and iron axe blades (Bradley, 2005:69-80). 'True' Wampum - small white and purple beads made from marine shells drilled with metal tools - also dates to the Protohistoric (Ceci, 1989:72-73; Tooker, 1978:422). Site locations were generally similar to those during the Late Woodland (Bradley, 2005:49-50; Engelbrecht, 2003:133). There is some evidence that Iroquoian-speaking people in extreme northeastern (possibly Neutral) Ohio (represented by the Eastwall Complex) expanded their territory further to the west after about A.D. 1550, displacing groups represented by the Whittlesey Complex (Brose, 2000; Redmond, 2000). Ohio example sites include Muddy Creek, Petersen, and Indian Hills.

Early historical events involving Indian groups living in New York, Pennsylvania, and Ohio were heavily influenced by the European fur trade and the roles the Five Nations Iroquois played in it. The French established a trading outpost at Tadoussac on the St. Lawrence River about A.D. 1600 and the Dutch settled around Albany by ca. A.D. 1620. The Dutch were later forced out of their land holdings in the Northeast by the British in the 1660s. The Five Nations benefited from trade with the French, Dutch, and British which, among other items brought them European weapons. The European hunger for beaver pelts also drove Five Nations expansion to areas to the west, and by the middle of the 1600s, they had largely dispersed / destroyed many of their neighbors, including the Neutral and Erie in western New York (and probably northwestern Pennsylvania) and the Algonquian groups living in northern Ohio (Engelbrecht, 2003:142-144; Trigger, 1978; White, 1991). After this time, northern Ohio was largely devoid of Native American habitation.

1.1.3.4 State of Michigan (Lower Peninsula)

Early and Middle Archaic Periods

The Early and Middle Archaic periods take place during a time of rapid environmental change and fluctuations in the levels of the Great Lakes. Pine forest replaced the spruce parkland by about 10,000 B.P., followed by a mixed coniferous-deciduous forest by about 8,000 B.C., and finally essentially modern forest distributions between about 7,500 B.P. and 7,000 B.P. (Kapp, 1999). These periods corresponded to significantly lower levels in the Great Lakes basins that began around 10,000 B.P. (Monaghan and Lovis, 2005). Beginning around 7,500 B.P. lake levels slowly began to recover, culminating in much higher than modern lake levels known as the Nipissing and Algoma levels between about 5,500 B.P. and 3,500 B.P. when essentially modern levels were achieved (Larsen, 1985a; Larsen, 1985b; Larsen, 1999; Monaghan and Lovis, 2005).

Evidence for the Early Archaic (9,500 B.P. to 8,000 B.P.) is limited but is marked by an increase in projectile point styles. A variety of large notched and stemmed forms, some with bifurcated bases, come into use, along with a variety of groundstone implements (axes, adzes, gouges, and grinding equipment), choppers, knives, and scrapers. This diversity is thought to reflect an increasingly regionally based population and changes in the subsistence economy (Cleland, 1992; Fitting, 1975; Lovis, 2009; Mason, 1981). In the southern part of the Lower Peninsula, it has been suggested that Early Archaic foragers organized into small, seasonally mobile bands that exploited a wide area and used a variety of resources (Arnold, 1977). Evidence for the Early Archaic in the northeastern Lower Peninsula is virtually absent, although it is believed that

1 despite low population densities these people followed a pattern similar to those farther to the
2 south.

3 The Middle Archaic period (8,000 to 5,000 B.P.) is similarly poorly documented and understood
4 across Michigan's Lower Peninsula, although it does appear that there is a decrease in the
5 population density during this period. Large side-notched projectile points are characteristic of
6 this period; other point styles, while present, are only poorly known (Lovis and Robertson,
7 1989). Among the few excavated Middle Archaic sites are the Weber I (Lovis, 1989) and Bear
8 Creek (Branstner and Hambacher, 1994) sites in the Saginaw River valley. The former, which
9 was occupied during the late summer or fall, is indicative of continued high residential mobility
10 (Lovis, 1999; Robertson, 1987). Food remains indicate exploitation of a variety of large and
11 small mammals, fish, birds, reptiles, and a range of nuts, berries, and wild seeds (Egan, 1988;
12 Smith and Egan, 1990). In contrast, the Bear Creek site appears to represent a short-term cold
13 season camp where hunting was one of the primary activities. These sites suggest that people
14 focused on a range of seasonally available resources and moved from one resource patch to
15 another over the course of the year. Evidence for Middle Archaic occupation in the area north of
16 the Saginaw River valley is extremely limited, consisting of only a small number of poorly
17 documented isolated projectile point finds.

18 **Late Archaic Period**

19 The Late Archaic period is relatively well known. Most of this research has taken place in the
20 Saginaw River valley (Fitting, 1975; Robertson et al., 1999); although much of what is known
21 can be extended across the southeastern Lower Peninsula. Very little Archaic period research has
22 been conducted in the northeastern Lower Peninsula, so this period is only rudimentarily
23 understood in that portion of the state.

24 The Late Archaic is marked by continued development of a seasonally based diffuse subsistence
25 and settlement lifestyle evinced by an increase in the number of sites and the development of
26 larger, more varied toolkits. A proliferation of medium- and small-sized notched and stemmed
27 projectile points differentiate this period from earlier periods. Larger corner-notched points are
28 replaced by a small point phase consisting of highly variable small notched, expanding stemmed,
29 and narrow point styles that are superseded by broad-bladed projectile points at the end of the
30 Late Archaic.

31 A pattern of seasonal mobility appears to persist during the Late Archaic; however, repeated use
32 of sites in economically important areas suggests that populations followed more regularized
33 scheduled movement within geographically constrained regions, such as the Saginaw River
34 valley (Robertson, 1987). Many of these larger multicomponent sites are located in the lower
35 reaches of rivers draining the Saginaw basin and surrounding the Shiawassee Embayment (an
36 extensive swamp and marsh system). Smaller special purpose camps and cold season
37 encampments occurred in the morainal highlands surrounding the valley. Ceremonial burial
38 complexes (Glacial Kame, Red Ocher, and Old Copper) developed during this time and are
39 characterized by the use of cemeteries and exotic graves goods (Turkey-tail points, red ocher,
40 copper and shell artifacts, and elaborate groundstone tools).

41 Cleland (1974) suggests that Late Archaic peoples in the northern Lower Peninsula focused on
42 the exploitation of inland resources along major rivers and streams. The settlement system

1 comprised a series of small, seasonally occupied residential camps that would have allowed
2 groups to easily move from one area to another as resources became available. Evidence in
3 support of this model has been recovered from the Screaming Loon site, located in the Inland
4 Waterway area of eastern Emmitt County (Lovis, 1990). A wide range of activities were carried
5 out at the site. Remains at the site indicate that a range of terrestrial animal and plant resources
6 were used, including riverine resources such as fish.

7 **Woodland Period**

8 The onset of the Woodland period in Michigan's Lower Peninsula is distinguished by the
9 appearance of pottery, the use of burial mounds, new artifact types, and stylistic changes (Fitting,
10 1975; Mason, 1981). During the Early Woodland period (600 to 200 B.C.) south of the Saginaw
11 River valley, pottery appeared around 600 B.C. and consists of thick, crudely made interior and
12 exterior cord-marked vessels (Fischer, 1972; Garland, 1986; Garland and Beld, 1999). This
13 period also saw shifts in the lithic technology. Projectile points are mostly stemmed forms
14 characterized by straight stems and weak shoulders. Pottery did not occur in the northeastern
15 Lower Peninsula during this time, but the distinctive stemmed points are present. A style of
16 side-notched points known as Meadowood, present across the southern Lower Peninsula,
17 indicates cultural ties with southern Ontario and western New York.

18 Interpretation of Early Woodland settlement and subsistence patterns is limited by the small
19 number of well-documented sites. In general, however, the diffuse Late Archaic hunting and
20 gathering adaptation persisted, and small amounts of cultigens (squash and sunflower) appear to
21 have been added to the diet in some southern areas (Garland, 1986; Ozker, 1982). Elaborate
22 burial ceremonialism continued. The period is also marked by evidence for widespread inter-
23 regional trade that would have organized what was becoming an efficient procurement system
24 within the broader context of the diffuse subsistence economy (Fitting, 1975; Garland and Beld,
25 1999; Mason, 1981; Prah et al., 1981).

26 The broad-scale cultural differentiation between areas north of the Saginaw River valley and
27 those from the Saginaw River valley southward also becomes more evident during the Middle
28 Woodland period (ca. 200 B.C. to A.D. 600). In the southern parts, this period is often marked
29 by discernable influences of Hopewell cultural groups. Interestingly, although no clear
30 Hopewellian sites have been identified in the southeastern Lower Peninsula (Halsey, 2010),
31 Middle Woodland sites in the Saginaw River valley show such influences, particularly in regards
32 to pottery decoration and projectile point styles. Middle Woodland pottery features dentate and
33 rocker stamping, incising, trailing, punctating, and zonation (Fischer, 1972; Fitting, 1975;
34 Kingsley, 1999; Mason, 1981). Also associated with this period are a variety of expanding
35 stemmed and corner-notched point types, exotic grave goods, copper tools, marine shell artifacts,
36 and specialized tools made from non-local cherts. Subsistence information from the Saginaw
37 River valley suggests an increasing reliance on wetland and aquatic resources and continued use
38 of native cultigens (Egan, 1993; Kingsley, 1999; Lovis et al., 2001).

39 Middle Woodland cultures in the northeastern Lower Peninsula appear to be more closely
40 aligned with Lake Forest (Fitting, 1975) or Northern Tier (Mason, 1981) Middle Woodland
41 cultures that predominate across the Upper Peninsula, although influences from the Saginaw
42 River valley northward are also seen (Brose and Hambacher, 1999). This is most clearly evident
43 in the ceramic decoration, which is similar to that on Laurel and other related northern Middle

1 Woodland ceramics. The economy of these groups may have emphasized the importance of
2 fishing, particularly shallow-water spring spawning species. Larger warm season villages where
3 multiple family groups congregated were supplemented by smaller, special purpose satellite
4 camps and small, cold season camps located away from the coast where hunting was the key
5 economic activity.

6 The Late Woodland period (A.D. 600 to A.D. 1600) is characterized by continued increases in
7 population, an increase in the size and number of sites, a trend toward greater regional diversity,
8 and changes in technology and subsistence patterns (Cleland, 1992; Holman and Brashler, 1999;
9 Martin, 1999; Krakker, 1999). Generally, both the north and south subsistence economies
10 appear to be keyed to seasonally dense plant and animal resources and an increased reliance on
11 agriculture, especially in the southeastern Lower Peninsula. Although maize horticulture appears
12 to be a feature of northern Late Woodland groups, its exact role and importance is less clear.
13 Technological changes include use of the bow and arrow, as evidenced by the small triangular,
14 notched, and flake points, and the use of deep-water gill nets in the northeastern Lower Peninsula
15 (Cleland, 1982; Fitting, 1975; Martin, 1989; Mason, 1981).

16 In the Saginaw River valley and southeastern Michigan, the early Late Woodland period is
17 represented by the Wayne Tradition (Fitting, 1965; Fitting, 1975; Halsey, 1976), characterized
18 by globular vessels with cord-marked exteriors and simple decoration made with impressions by
19 corded wrapped objects and tool punctates. Close similarity between Wayne wares and other
20 regional wares from across the southern part of the state are thought to reflect a high degree of
21 interaction among the regional populations (Brashler, 1981). This period also sees the end of the
22 Wayne Mortuary tradition, which features both open cemeteries and mounds and exotic grave
23 goods (Halsey, 1976).

24 After ca. A.D. 1000, Younger tradition ceramics begin to replace the Wayne tradition. Younger
25 pottery consists of large globular to elongated vessels that are usually collared—often
26 castellated—and exhibit complex rim and shoulder decoration made with plain tools (Fitting,
27 1965; Murphy and Ferris, 1990; Stothers 1999). These ceramics are related to those from the
28 Western Basin tradition from southwestern Ontario and northwestern Ohio. Even with an
29 increased reliance on maize horticulture as a foundation of the economy, scheduled movements
30 to take advantage of seasonally available resources were still taking place. Thus, while villages
31 were located along floodplains and the Great Lakes shorelines for access to easily tillable soils,
32 riverine resources, and transportations, smaller seasonal camps also occurred in upland and
33 headwater settings (Krakker, 1999; Stamps and Zurel, 1980)

34 In the northeastern Lower Peninsula, Late Woodland groups appear to have the closest cultural
35 ties with groups in the Straits of Mackinac regions; however, the co-occurrence of more
36 northerly ceramics with ceramics more typical of the Saginaw River valley region suggests that
37 there was close interaction between these populations, as well as periodic use of some of the
38 same environments (Holman and Kingsley, 1996). During the early Late Woodland period,
39 Mackinac wares, with their globular bodies and everted rims, cord-marked exteriors, and
40 typically simple geometric decorations made with a variety of corded tools predominated across
41 this area. After about A.D. 1100, Mackinac wares were replaced by Juntunen wares, which are
42 generally larger with less sharply everted collared—frequently castellated—rims, have smoothed

exterior, and are decorated with a variety of linear motifs made with plain tool punctations, incising, and the stab-drag technique (McPherron, 1967).

The settlement and subsistence economy of the Late Woodland groups in the northeastern Lower Peninsula were keyed around the development of the Inland Shore Fishery and deep-water fall spawning fish (Cleland, 1982; Martin, 1989). The Inland Shore Fishery allowed the formation of larger villages situated along the Great Lakes coast and higher population densities; however, the seasonal nature of the resource base still required groups to follow a pattern of seasonal mobility with warm season villages dividing into smaller family-based groups that appear to have moved into the interior for cold season hunting.

Native Americans in the Historic Period

The patterns of Native American settlement and subsistence across the eastern Lower Peninsula at the time of historic contact with the Europeans largely mirror the patterns seen toward the end of the Late Woodland period. The location and distribution of the traditional territories associated with the various Native American groups is not as clear, however, as it is in other parts of the Great Lakes region. This is in part a result of the fact that the earliest contact took place in the more eastern and northern parts of the Great Lakes region and a significant European presence was not established in the Lower Peninsula until after some of the major disruptions in Native American societies (Iroquois wars and European diseases) (Cleland, 1992; Cleland, 1999; Tanner, 1987). Historically, the Ojibwa appear to have been the predominant group in the northern Lower Peninsula, while members of the Fire Nation, including groups such as the Sauk and Fox, most likely predominated in the more southern parts of the region (Cleland, 1992; Cleland, 1999).

Following the seventeenth-century diaspora of indigenous tribes, the Ottawa and Ojibwa began to fill the geographic void across the eastern Lower Peninsula and had become well established in these areas by the middle of the eighteenth century (Cleland, 1992; Tanner, 1987). Following the American Revolution, a series of treaties beginning with the Treaty of Greenville in 1795 and culminating with the 1836 Treaty of Washington, passed control of the Lower Peninsula from Native American hands (Cleland, 1992).

1.1.3.5 States of Michigan (Upper Peninsula) and Wisconsin

Early and Middle Archaic Periods

The Early Archaic period begins about 10,000 B.P. and takes place during a time of continued environmental change as the landscape recovered from the after-effects of glaciation. The pine forests that dominated the region earlier were replaced by a mixed deciduous-coniferous forest by about 8,000 B.P. and then by essentially modern forests by about 7,500 B.P. (Davis, 1983; Webb et al., 1983). Fluctuations in the levels of the Great Lakes also continued. During this period the historic low lake levels in the Lake Huron and Michigan basins were replaced by a gradual rising of the lakes until they reached a higher than modern level around 5,500 B.P. known as the Nipissing stage (Anderton, 1993; Larsen, 1985a; Larsen, 1985b). The large migratory game that the earlier Paleo-Indians had relied on and organized their economy around disappeared and were replaced with a wider array of large-, medium-, and small-sized game and a broad variety of plant resources.

As part of the response to these changing conditions, the tool kit used by Early and Middle Archaic populations in the region expanded to include a number of new tool forms designed for efficient exploitation of the new suite of resources that were emerging. Lanceolate points were replaced by a variety of notched and barbed projectile points, a wider variety of scrapers, bifaces and other tools, the beginning of the use of copper, and a variety of groundstone tools such as axes, adzes, and gouges were added to the repertoire. Early and Middle Archaic sites are virtually unknown in Michigan's Upper Peninsula and northern Wisconsin. A number of factors have been invoked to explain this lack of sites including a decline in population due to unfavorable environmental conditions (Fitting, 1975), inundation of many of the sites as lake levels recovered from the historic lows, and/or the inability to adequately identify and differentiate the sites due to the lack of diagnostic artifacts and associated radiocarbon dates (Stoltman, 1986:213). Based on information from more southern parts of the Great Lakes, however, it is believed that Early Archaic peoples continued a highly mobile lifestyle and possessed an economy that emphasized hunting and also incorporated a broader array of wild plant resources.

The Middle Archaic period (ca. 5,000 B.P. to 3,200 B.P.) is distinguished by the manufacture of large side-notched projectile points, a marked increase in the use of copper for making tools and ornaments, and continued use of groundstone tools. The Old Copper culture (primarily a burial complex) developed during this period (Mason, 1981; Ritzenthaler, 1957; Stoltman, 1986; Stoltman, 1997). Some of the Middle Archaic sites excavated in the region are associated with the Old Copper culture and have produced a wide variety of tools and ornaments and possible evidence for the use of cemeteries. If sites like Riverside, Reigh, and Oconto did serve as burial grounds, it suggests that the people were beginning to better define territories and were less mobile than previous periods. While a mobile lifestyle following seasonally available resources probably typified this period, we know from the manufacture of copper fishing gear that fish were added to the economy and became an important part of it. The occurrence of the few major sites that are known in major river valleys also points to an increase in the importance of riverine and wetland resources.

Late Archaic Period

Across the northern Great Lakes, the Late Archaic period (ca. 3,200 B.P./1200 B.C. to A.D. 1) is better represented and understood than the preceding periods, although the number of excavated sites remains small (Fitting, 1975; Lovis, 2009; Mason, 1981; Robertson et al., 1999). Late Archaic cultures are differentiated from the earlier Archaic cultures primarily by changes in projectile point styles in which there is a proliferation of small and medium-sized notched, expanding stemmed, and stemmed types (Robertson et al., 1999). There is little evidence for the importation of goods from other areas aside from small quantities of high quality cherts and orthoquartzites; however, native copper continued in use and was probably traded outside the region. Late Archaic sites have been identified at a number of locales both across Michigan's Upper Peninsula (Anderton, 1993; Benchley et al., 1988; Conway, 1980; Dunham and Anderton, 1999; Fitting, 1974; Franzen, 1987; Wright, 1972) and in northern Wisconsin (Bruhy et al., 1999; Salzer, 1969; 1974; Stoltman, 1986; Stoltman, 1997).

In general, Late Archaic lifeways have been characterized as a diffuse adaptation based on scheduled use of a variety of plant and animal resources; fish were an abundant, highly productive and reliable resource (Cleland, 1976; Cleland, 1982). Available information indicates that the annual economic round focused on hunting with population movement to the coastal areas during the spring and summer where spearing shallow-water spawning fish, hunting

1 waterfowl and mammals in adjacent wetlands, and collecting wild plant foods took place. In the
2 winter, groups probably split into smaller family-sized units and moved into interior lake and
3 other near-wetland settings where hunting was a primary activity (Dunham and Anderton, 1999).
4 Evidence for a small oval or round house floor defined by a wall trench was identified at the
5 Butternut Lake Inlet site in northeastern Wisconsin (Bruhy et al., 1999). The occurrence of
6 acorns indicate these nuts were being processed at the site and recovered bone shows evidence of
7 large game hunting and suggests that the site was occupied in the fall and possibly the winter. It
8 has also been suggested that many of the small lithic scatters that lack pottery found on relict
9 shorelines associated with earlier stages of the Great Lakes date to the Late Archaic period
10 (Anderton, 1993; Conway, 1980; Franzen, 1987).

11 **Woodland Period**

12 The Woodland period is distinguished from the Archaic by more numerous sites that become larger
13 through time and a number of technological innovations, such as the introduction of ceramics and
14 new tools for fishing. Like the Archaic period, the Woodland period has been subdivided into Early,
15 Middle, and Late subperiods (Halsey, 1999; Stevenson et al., 1997). Knowledge about the nature of
16 the lifestyles practiced during each of these periods is uneven, at best.

17 Early Woodland occupations are poorly known in both the Upper Peninsula and northern
18 Wisconsin. Aside from the possible introduction of pottery from the south, what little is known
19 suggests that it represents a continuation of Late Archaic lifestyles; Early Woodland populations
20 appear to have pursued a broad spectrum economy with aquatic resources playing an
21 increasingly important role in the subsistence economy (Cleland, 1982). Pottery decorated with
22 incised designs over cordmarked surfaces, known as Dane Incised, is associated with the later
23 portions of the Early Woodland in southern and western Wisconsin (Howell, 2001). It also co-
24 occurs with later Middle Woodland ceramics, suggesting that it may be a later arrival in the
25 northern woods and is not associated with Early Woodland occupations.

26 The Middle Woodland or Initial Woodland (ca. A.D. 1 to A.D. 500) period represents the first
27 widespread introduction of pottery in the region. In general, these groups represent a Lake
28 Forest (Fitting, 1975) or Northern Tier (Mason, 1966; Mason, 1981) adaptation that shares
29 cultural traits with Laurel tradition sites to the north and west (Brose and Hambacher, 1999;
30 Janzen, 1968). Pottery consists of vessels with wide mouths and conoidal (pointed) bases
31 decorated with large plats of vertical and oblique stamped and impressed designs. Large corner-
32 notched projectile points, small “thumbnail” end scrapers, and fishing equipment made from
33 bone, antler, and copper are also elements of the Initial Woodland artifact assemblage. This is
34 also the first period when regional differentiation of groups across the broader region becomes
35 evident in the material culture (Brose and Hambacher, 1999).

36 Settlement and subsistence patterns indicate a reliance on seasonal fishing, collecting, and
37 hunting with a continued increase in the emphasis on exploitation of aquatic resources. Sites like
38 Summer Island (Brose, 1970), Winter (Richner, 1973), and Naomikong Point (Janzen, 1968)
39 represent large warm season, coastal or near-coastal villages where people congregated to exploit
40 spring spawning fish. Some dispersal into smaller summer fishing camps is also indicated. By
41 the end of the Initial Woodland period there is also evidence that sites were more consistently
42 located to take advantage of deep water-spawning fall fish. During the winter, groups appear to
43 have dispersed into interior wetland and lake settings for hunting and fishing. Small aceramic

1 lithic scatters located on relict beach ridges and interior wetland settings suggest that these
2 resources were exploited year-round. In northern Wisconsin there is also an adaptation focused
3 around the interior lake system known as the Nokomis phase (Salzer, 1969; Salzer, 1974; Salzer,
4 1986; Stevenson et al. 1996).

5 The Late Woodland period (A.D. 500 to A.D. 1600) is the best documented prehistoric cultural
6 period in the northern Great Lakes. During this period a number of regionally distinct Late
7 Woodland groups are evident across the region along with sites that are more closely affiliated
8 with the Oneota tradition. Broad-scale changes in the technology and subsistence economies are
9 present in the region beginning as early as A.D. 600 (Buckmaster, 1979; Clark, 1991; Cleland,
10 1982; Martin, 1989; Stevenson et al., 1997). The subsistence economies appear to be organized
11 around the use of seasonally dense, abundant plant and animal resources such as spring and fall
12 spawning fish, seasonal fruits and berries, acorns, and wild rice (Cleland, 1976; Dunham, 2010;
13 Stevenson et al., 1997). Technological changes include the widespread adoption of the bow and
14 arrow, the use of small triangular, notched, and flake projectile points, and the use of deep-water
15 gill nets (Clark, 1991; Cleland, 1976; Cleland, 1982; Martin, 1989).

16 Pottery made in the eastern Upper Peninsula, the Straits of Mackinac, and northern Lower
17 Michigan during the Late Woodland period, as epitomized by the sequence from the stratified
18 Juntunen site (McPherron, 1967) documents a shift from a more western Blackduck affiliation
19 during the early part of the period to an eastern Iroquoian influence after about A.D. 1100. The
20 early pottery is characterized by cordmarked surfaces, moderately to sharply out-flaring rims,
21 and both simple and complex geometric decoration made with corded tools. In the late Late
22 Woodland these ceramics are replaced by larger vessels with smooth surfaces, collars and
23 castellations, and less everted rims decorated with a variety of linear designs made by stab-drag
24 techniques and punctations. Serving as a fall fishing village, the Juntunen site also produced
25 evidence for the use of corn, although it is unclear whether it was grown or traded into the area.

26 Similar, but regionally distinctive cordmarked early Late Woodland ceramics are seen in the
27 Keweenaw Bay area (Sand Point ware), the Door Peninsula (Heins Creek ware), and the interior
28 of northern Wisconsin (Lakes Phase). The economy of the makers of Heins Creek pottery
29 appears to be oriented around the use of coastal resources, while the Lakes Phase people are
30 focused on the interior lake systems. In addition to larger warm season coastal or lakeside
31 villages and smaller interior winter hunting camps, Lakes Phase peoples are known to use both
32 open cemeteries and burial mounds, which are often situated in headwater locations (Salzer,
33 1969; Salzer, 1974). The nature of the relationships between these different regional expressions
34 of Late Woodland culture, however, remains poorly understood.

35 Beginning as early as the tenth century A.D., Oneota peoples related to the Mero Complex on the
36 Door Peninsula begin appearing in northern Wisconsin (Bruhy, 2002; Mason, 1990; Overstreet,
37 2000) and spread across parts of the Upper Peninsula, most likely sometime around A.D. 1200
38 (Halsey, 1999). Oneota pottery consists of infrequently decorated grit- and/or shell-tempered
39 globular vessels with sharply everted rims. Some exhibit occasional lip modifications and simple
40 trailed designs. The presence of garden beds bespeak the use of maize horticulture by these peoples
41 (Buckmaster, 2004), although they also appear to have incorporated locally available starchy-seeded
42 annuals, like chenopodium, knotweed, little barley, and wild rice along with fruits and berries into

their diet (Bruhy, 2002; Bruhy et al., 1999). Mounds and clusters of storage pits have been identified in proximity to a number of Oneota village sites in northern Wisconsin.

Native Americans in the Historic Period

It is clear that the historic Native American groups encountered across the region by the early French explorers had cultural ties with the preceding late Late Woodland period. Much of the Upper Peninsula was historically used by the Ojibwa and Ottawa; the Ojibwa also lived across northern Wisconsin. Other groups had traditional territories in the region, such as the Menominee in the Menominee River valley area, the Winnebago (Ho Chunk) in the Door Peninsula area, and Siouian speakers, primarily the Dakota and Assiniboine, farther to the west along the western shores of Lake Superior (Tanner, 1987; Trigger, 1976). Native American cultures were dramatically affected by European influences, land use, and political control by the mid-seventeenth century. French explorers, traders, and Jesuit missionaries begin making contact with Native American groups in the upper Great Lakes by this time (Cleland, 1992; Stone and Chaput, 1976; Tanner, 1987). It was also during this period that a number of groups were pushed west by the outbreak of hostilities with the Iroquois, setting off a series of movements that disrupted traditional distribution of Native peoples. Refugee Huron and Ottawa groups arrived in the Chequamegon Bay region around 1650, although they eventually relocated to the Straits of Mackinac region around 1670. As political control of this region passed from French (pre-1760), to British (post-1760), and finally American jurisdiction (1796-present), Native American societies changed in many respects as they became increasingly dependent on Euroamerican technologies and became intermeshed with the now-dominant society. Many aspects of the traditional cultures and beliefs have survived and area enjoying a resurgence in modern times.

1.1.4 EAST OF THE ROCKIES REGION

1.1.4.1 State of Minnesota

Northern Minnesota extends across parts of the Central Lowlands and the Superior Upland physiographic provinces (Fenneman and Johnson, 1946). The Central Lowlands region of the state includes the Eastern Lake, Western Lake, and Dissected Till Plains sub-provinces.

Minnesota is mostly in the Northeastern Plains cultural region of the Great Plains, with a small portion of the northeast part of the state extending into the Northeast cultural region (DeMallie, 2001a; DeMallie, 2001b; Trigger, 1978). The prehistory of the state is outlined in a number of monographs and edited volumes (e.g., DeMallie, 2001a; DeMallie, 2001b; Frison, 2001; Harrison, 1985; Fitting, 1978a; Fitting, 1978b; Tuck, 1978).

A Cultural context for the prehistoric period in Minnesota and the larger area of the plains was developed in the early and mid-twentieth century by Kroeber (1936), and was elaborated by others in later years (Wilford, 1955; Quimby, 1960; Wedel, 1961; Bamforth, 1988; Johnson, 2004; Fitting, 1978a; Fitting, 1978b; Tuck, 1978; Gibbon et al, 2000). However, detailed cultural chronologies for the portion of Minnesota within 100 miles of the Canadian border are largely nonexistent, although chronologies have been developed for other parts of the state (Harrison, 1985).

The MN SHPO has developed a historic preservation plan titled *Gaining Ground: A Preservation Plan for Minnesota's Historic Properties 2006-2010* (2006) that includes cultural contexts for both the prehistoric and historic periods. The foundation for the current plan was

created in 1995, in a document titled *Preserving Minnesota: a Plan for Historic Properties in the New Century* (MN SHPO, 1995). The prehistoric cultural chronology for Minnesota divides the approximately 11,500-year continuum into five main phases or cultural traditions (MN SHPO, 2010). From earliest to latest, the defined traditions are:

- Paleo-Indian Period (see Section 1.1.1)
- Archaic Period
- Woodland Period
- Plains Village Tradition
- Mississippian Tradition

The prehistoric context is available at http://www.mnhs.org/shpo/survey/docs_pdfs/HistoryArchitectureSurveyManualOctober2010.pdf

Archaic Period (ca. 8,000 B.P. – 2,500 B.P.)

During the Archaic Period, the subsistence practices focused on hunting and gathering as suggested by the presence of flaked stone spear and dart points, bifaces, scrapers, and knives. Groundstone and copper tools also appear during this time period. Typical sites include stone quarries and resource procurement areas, tool production sites, hunting and game processing sites, and camps.

Woodland Period (ca. 500 B.C. (2,500 B.P.) – A.D. 900, and A.D. 1650 in some areas)

The Woodland Period witnessed a transition from a somewhat mobile settlement system to a more sedentary lifeway with semi-permanent villages. The development and use of pottery and more elaborate human burials are key elements of the period. Artifact assemblages typically include bone artifacts, bone and shell beads and ornaments, ground stone implements, and small projectile points. Sites include resource procurement sites, villages, camps, hunting and processing sites, and burial mounds.

Plains Village Tradition (ca. A.D. 900–1300)

The Plains Village Tradition is characterized by the development of villages focused on cultivation of crops along river banks and major drainages. Structures include lodges and stockaded village compounds. The range of artifact types produced during the Plains Village Tradition far exceeded the variability in earlier assemblages. Among the items they comprised were copper implements, bone and stone tools, small stone arrow points, and elaborately decorated ceramics. Typical sites include those related to resource procurement, villages, camps, hunting and processing sites, and burials.

Mississippian Tradition (ca. A.D. 900–1650)

The Mississippian Tradition in Minnesota was primarily confined to the southern parts of the state, but some of its elements (particularly those related to ideology) probably extended further to the north. The Mississippian had its origins in the southern United States and is partially characterized by cultural influences from Mexico. Its defining qualities include an intensification of agriculture, along with increases in the size and complexity of communities and

1 cultural systems. While unquestionably influenced by Mississippian Tradition developments to
2 the south, sites in Minnesota display a variation of those lifeways to life in forest and prairie
3 environments. Cultivation relied heavily on corn, beans, squash, sunflowers, and tobacco.
4 Hunting and fishing were also important. Small side-notched arrow points are typical of this
5 period, as are groundstone tools (e.g., axes, hammerstones, mauls, and grinding stones), bone
6 and antler tools, shell, bone and copper beads and ornaments, and incised pottery. Typical sites
7 of the Mississippian Tradition period include large villages, agricultural fields, tool production
8 loci, hunting and processing sites, and burials.

9 **1.1.4.2 State of North Dakota**

10 Northern North Dakota extends across parts of the Great Plains and Central Lowlands
11 physiographic provinces (Fenneman and Johnson, 1946). The area in the Great Plains province
12 includes both the glaciated and unglaciated Missouri Plateau sub-provinces. The Central
13 Lowlands province includes the Western Lake sub-province.

14 Northern North Dakota is in the Northern Plains cultural area (Wood, 1998:11). The prehistory
15 of the state has been summarized in several monographs and edited volumes, including Wood
16 (1998:1-15; 2001:186-195); Kay(1998:16-49); DeMallie (2001b); Frison (1998:140-172; 2001:
17 131-145); and Johnson (1998:159-172). The Great Plains cultural area extends from central
18 Canada to southern Texas.

19 A Cultural context for the prehistoric period in North Dakota and the larger area of the Great
20 Plains was developed in the early and mid-twentieth century by Kroeber (1939), and was
21 elaborated by others in later years (Wedel, 1961; Bamforth, 1988; Frison 1991, Gregg, et al.,
22 2008; Kornfeld et al 2010). Detailed cultural chronologies for the northern portion of North
23 Dakota are largely nonexistent, although chronologies have been developed for other parts of the
24 state (Gregg, 1984; see ND SHPO, 2009; Gregg et al, 2008). The North Dakota State Historic
25 Preservation Office (ND SHPO) has developed a historic preservation plan titled *Historic*
26 *Preservation in North Dakota, 2010-2015: A Statewide Comprehensive Plan* (2009) that includes
27 cultural contexts for both the prehistoric and historic periods. Its prehistoric cultural
28 chronology is illustrated in Figure H-1.

29 In common usage, the prehistoric cultural chronology for North Dakota includes five
30 archaeological traditions: Paleo-Indian, Plains Archaic, Plains Woodland, Plains Village, and
31 Equestrian Nomadic. The time periods for each vary across space.

Figure H-1. Prehistoric/Precontact Cultural Chronology for North Dakota

Cultural Periods	Years AD - BC	Cultural Traditions	Cultural Complex
Equestrian/Fur Trade 1780 - 1880	1780	Equestrian Nomadic	One Gun Knife River Heart River Painted Woods Middle Missouri Shea Northeastern Plains Devils Lake/Sourisford
Plains Village AD 1200 - 1780	1500 1250	Plains Village	
Late Plains Woodland AD 600 - 1200	1000 750	Plains Woodland	Charred Body Sandy Lake Blackduck Kathio Arvilla
Middle Plains Woodland 100 BC - AD 600	500 250 0		Avonlea Laurel Besant Sonota
Early Plains Woodland 400 - 100 BC	250		
Late Plains Archaic 1000 - 400 BC	500 750	Plains Archaic	Unnamed Early Woodland Pelican Lake Yonkee
Middle Plains Archaic 2800 - 1000 BC	1000 2000		Hanna Duncan McKean Lanceolate
Early Plains Archaic 5500 - 2800 BC	3000 4000 5000		Oxbow Hawken Logan Creek
Paleo-Indian 9500 - 5500 BC	6000 7000 8000 9000	Paleo-Indian	Caribou Lake Pryor Stemmed Parallel-Oblique Flaked Cody Hell Gap Agate Basin Folsom Goshen Clovis

Source: (Gregg et al., 2008).

Plains Archaic Tradition (ca. 7,500 B.P. - 2,400 B.P)

The Plains Archaic is divided into Early (7,500 B.P. - 4,800 B.P.), Middle (4,800 B.P. - 3,000 B.P.), and Late (3,000 B.P. - 2,400 B.P.) periods (e.g. Dyck and Morlan 2001; Wedel 1983). Plains Archaic complexes are primarily represented in the North Dakota archaeological record by distinct types of projectile points, including: Logan Creek, Hawken, Oxbow, McKean Lanceolate, Duncan, Hanna, Pelican Lake, and Yonkee. Throughout the Plains Archaic, people were inhabiting and continually adapting to environments that were changing from a periglacial habitat to those with essentially modern characteristics. Much of this climatic and environmental change occurred during the first few millennia of the time period, ca. 7,500 B.P. to 4,000 B.P., a time represented archaeologically by the 'Mummy Cave' series of sites. In general, the evidence from these sites indicates people were surviving as "mobile bands using large territories within a

thinly populated region” (Dyck and Morlan, 2001:115). Mummy Cave artifacts primarily comprise stone tools, among which are notched projectile points such as the Blackwater and Hawkins types, as well as a geographically-widespread series of simple implements manufactured from chert pebbles that were used as scrapers and wedges. Although far fewer in number, sites also have yielded bone implements, such as needles, knives, hooks, flaking tools, and awls. The atl-atl (or ‘spearthrower’ is probably also developed during the first few millennia of the Plains Archaic) The evidence indicates people were primarily relying on bison for food, although remains from other animal species are also found at archaeological sites, such as those of ground squirrels, canines, and small mammals. Although there is very little direct evidence for plant use, it is highly likely that people were gathering floral material for use as food and for implement manufacture (e.g., baskets). Sites are typically found along large rivers and include camps and animal kill sites.

The part of the Plains Archaic that extends after ca. 4,000 includes archaeological assemblages from the Pelican Lake and Besant series of sites, which are distinguished primarily on the basis of their distinct projectile points. Both relied heavily on the Bison and lived in tepee-like structures. Their sites tend to be along rivers and include habitations and burial and kill sites; some burials are covered with rock cairns (Dyck and Morlan 2001:121-125).

Plains Woodland Tradition (ca. 2,400 B.P. – A.D. 1200)

The Plains Woodland tradition is divided into Early (400 B.C. - 100 B.C.), Middle (100 B.C.-A.D. 600), and Late (A.D. 600-A.D. 1200) periods. In general, Plains Woodland people continued a strategy of subsistence based on hunting and gathering, but also began to inter their dead in mounds with increasingly elaborate grave goods. They also developed ceramic vessel technology and intensified their use of indigenous seedy plants and grasses for food. The bow and arrow technology and point types generally replaced the atlatl around A.D. 600. Plains Woodland complexes are identified in the archaeological record in North Dakota through the presence of distinct types of projectile points, such as the Sonota/Besant, Laurel, Avonlea, Arvilla, Kathio, Blackduck, Charred Body, and Sandy Lake types. Sites tend to be clustered along rivers and include burial mounds and other burial sites, occupations, quarries, lithic procurement areas, and bison kill loci.

Plains Village Tradition (ca. A.D. 1200 – 1780)

People of the Plains Village tradition were horticulturists, hunters, and gatherers. They lived in the North Dakota area from as early as A.D. 1200 until ca. 1780, after which their populations were decimated by plagues of European diseases and the migration of Euro-American settlers into their territory. It is generally believed that the key element in Plains Village adaptive strategies was the production of a dependable, storable, surplus food supply, primarily in the form of dried corn. Stored surpluses of food facilitated the formation of larger, more permanent settlements based around earth lodges.

Typical Plains Village sites types include semi-permanent occupations (among which are fortified and unfortified earth lodge villages, and winter villages and some of which included conical timber lodges), hunting camps, flint quarries, eagle trapping sites, burial sites, lithic workshops, bison kill sites, and rock art sites.

Equestrian Nomadic Tradition (ca. A.D. 1780 – 1880)

The Equestrian Nomadic tradition describes lifeways that were dependent upon horses and that developed during protohistoric and early historic times in the Northern Plains. The use of horses resulted in significant changes in subsistence economies, demographics, social organization, and settlement patterns. Known site types include camps, battle sites, and animal kill sites.

1.1.4.3 State of Montana

The project area that encompasses northern Montana spans two major physiographic provinces, as defined by Nevin Fenneman and D. W. Johnson (1946). The eastern portion of the northern border is situated in the glaciated area of the Missouri Plateau section, within the Great Plains province, in the Interior Plains division. The smaller, western most portion of the northern border falls within the Northern Rocky Mountains province of the Rocky Mountain System division.

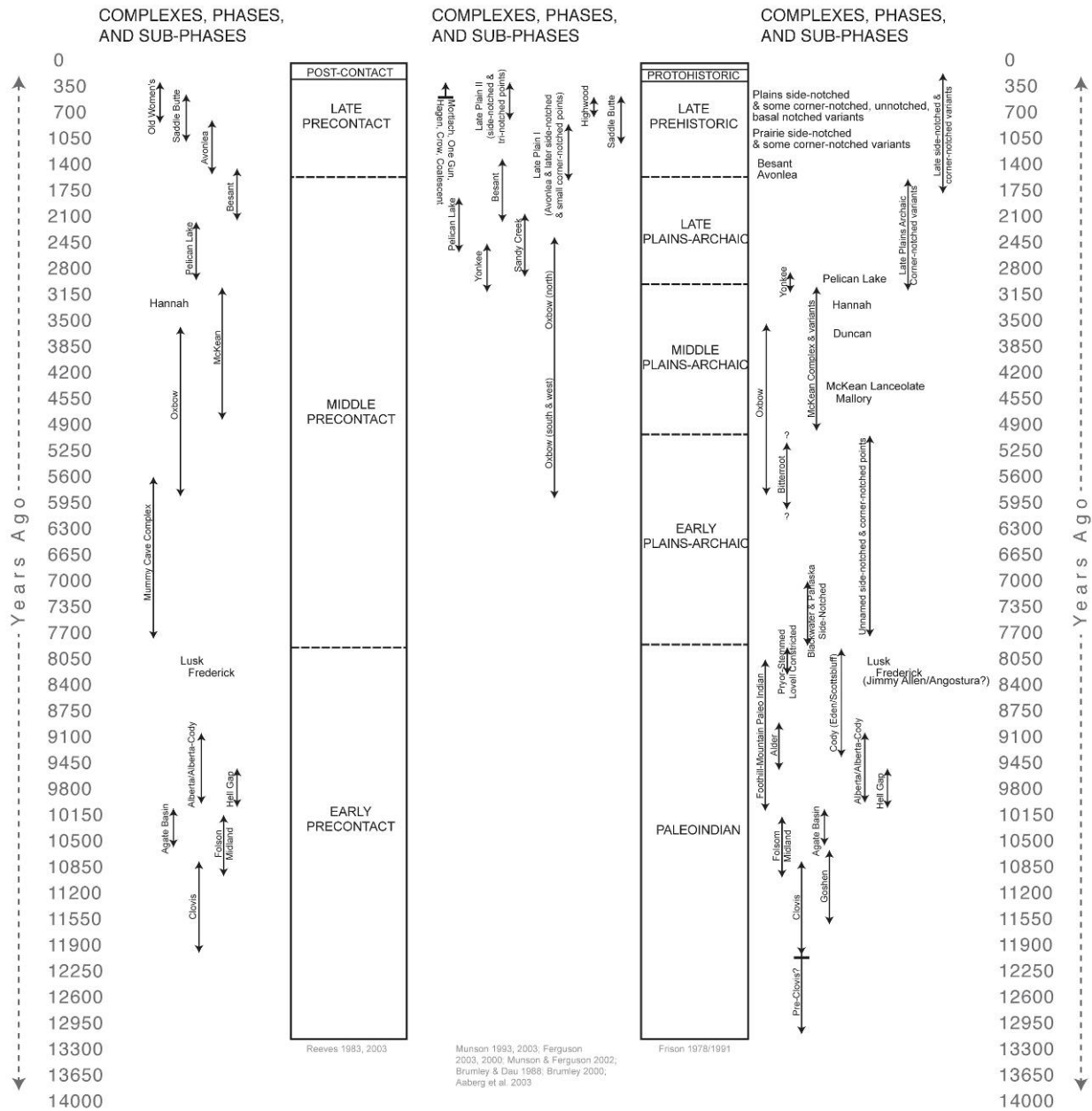
Various attempts have been made to link precontact (prehistoric) culture areas with natural physiographic areas of the region, and the western United States (Mulloy, 1958; Wedel, 1961; Frison, 1991).

Cultural contexts for the precontact period in Montana were first developed in the 1950s (Mulloy 1958), and were revised by others in later years (Reeves, 1970, 1983; Frison, 1991; DeMallie, 2001b; Kornfeld et al, 2010). Regional chronologies and precontact contexts have been developed for specific areas within the state. Although some revisions continue, the basic cultural chronologies remain unchanged. Aaberg (2006) synthesizes a regional context for precontact archaeological sites in eastern Montana. Similar contexts have been devised from data originating from specific areas of the northwestern plains and northern Rocky Mountains, but have resulted in chronologies that are generally applicable throughout northern Montana (Greiser, 1984; Frison, 1991, 2001; Davis et al, 1995). These chronologies, describing the precontact context of the project area, are summarized below.

Due to the lack of a single cultural context for the precontact period in Montana, this brief summary utilizes the synthesized cultural context developed by Aaberg (2006), which is a compilation of several sources (Figure H-2).

The precontact cultural chronology for Montana separates the approximately 13,000-year continuum into four main phases, descending through time from the Post-Contact or Protohistoric, at the recent end of the timeline, to the Late Precontact or Late Prehistoric, to the Middle Precontact or Plains-Archaic, and beginning with Early Precontact or Paleo-Indian.

Figure H-2. Prehistoric/Precontact Cultural Chronologies for Montana and Surrounding Areas of the Northern Great Plains.



Source: (Adapted from Aaberg et al., 2006.)

Notes: Frison's (1991) chronology further separates the Plains-Archaic period into three sub-periods of Late, Middle, and Early.

Middle Precontact (early portion)/Early Plains Archaic Period (ca. 7,800 – 5,000 B.P.)

Frison (1991) separates the Archaic Period into three subdivisions, the Early-, Middle-, and Late-Archaic. Reeves (1970, 1983) does not indicate separate subdivisions for his defined Middle Precontact Period, which is conterminous with the Archaic. The archaeological record shows a reliance on bison hunting, with some locations of mass killing. Frison (1991) notes an increase in the

frequency of ground stone tools throughout the archaeological record for this period, possibly related to a corresponding increase in the procurement and processing of plant food products.

The major change observed in the material culture of the Middle Precontact Period is evidenced by the disappearance of lanceolate and large stemmed projectile points, typical of the Early Precontact/Paleo-Indian Period. The tool collection is exemplified by side-notched and corner-notched point types. Throughout the area, the characteristic site types include lithic scatters and tool production sites, camp sites, game drives and processing sites, and related occupation and use areas.

Middle Precontact (middle portion)/Middle Plains Archaic Period (ca. 5,000 – 3,000 B.P.)

The middle portion of the Middle Precontact Period, discussed by Reeves (1970, 1983), corresponds to Frison's (1991) definition of the Middle Plains Archaic Period. This differentiated period appears to be one of transition in climatic conditions, availability of natural resources, and corresponding changes in human cultural attributes and artifact assemblages.

Although there are possibly older examples within the area of Montana, stone tipi rings are represented in the archaeological record by 4,000 years B.P. (Brumley and Dickerson, 2000).

Diagnostic stone tools, in the form of projectile points and other biface tools, identified in the archaeological record during this time interval, show a continuation of the side-notched and corner-notched forms of the previous sub-period.

Other stone tools include oval bifaces, lanceolate-shaped bifaces, knives, small end scrapers, unifacial knives and side-scrapers, small pebble hammerstones, chopping tools, irregular polyhedral cores, perforators, and flake tools (Melton, 1988; Aaberg et al, 2003). Site types range the full spectrum, from lithic scatters and tool production sites, quarry sites, and habitation sites with tipi rings, to camp sites, game drives and processing sites, and related occupation and use areas.

Middle Precontact (late portion)/Late Plains Archaic Period (ca. 3,000 – 1,500 B.P.)

This sub-period is characterized by a continuation of big game hunting, with emphasis on bison in the plains and lower mountain valley regions of Montana. Strong evidence for large-scale, communal bison kills date to this time (Aaberg et al, 2006:177). Acquisition of bison during this period is documented from drives, cliff jumps, traps, and impoundments.

Increased use of the tipi as a habitation structure is noted during this period. Ceramics first appear at cultural sites on the plains of eastern Montana at the end of this time period (Kornfeld et al, 2010:432-440). Continued use of ground stone implements is also seen in the archaeological record, along with use of the atlatl for throwing hafted projectile points.

The dominant tool kit of the late portion of the Middle Precontact/Late Plains Archaic Period includes predominantly corner-notch projectile points and lithic tools, flake tools, drills, scrapers, bifacial cores, beveled edge bifacial knives, and ground stone tools (Ferguson, 2003; Frison, 1991; Kornfeld et al, 2010).

Site types range across the full spectrum, from lithic scatters and tool production sites, quarry sites, and habitation sites with tipi rings, to field-camp sites, game drives, kill sites and processing areas, rock cairns, and related occupation and use areas.

Late Precontact/Late Prehistoric Period (ca. 1,500 – 200 B.P.)

The major shift in technology that occurred at the beginning of the Late Precontact/Late Prehistoric Period throughout Montana is the introduction of the bow and arrow (Frison, 1991; Kornfeld et al., 2010). Large game hunting, with a focus on bison procurement, including communal kills and hunting, is seen as the primary subsistence adaptation of the time (Aaberg, 2006:185). Many other species of game and smaller animals were also acquired, often throughout a broader seasonal schedule.

Other cultural attributes of the period within Montana include relatively large quantities of projectile points and point preforms, large numbers and types of bone and sandstone tools, as well as faunal remains from rodents and large ungulates (Fredlund 1988). Ceramics also have been identified at sites in the northern extent of the Plains (Johnson, 1988; Quigg, 1988). As is the case with the earlier period, site types during this time range across the full spectrum, from lithic scatters and tool production sites, quarry sites, and habitation sites with tipi rings, to field-camp sites, game drives, kill sites and processing areas, rock cairns, trails, and related occupation, ceremonial sites, and use areas.

Postcontact/Protohistoric Period (ca. 250 – 100 B.P.)

The beginning of the Postcontact/Protohistoric Period is generally defined as the time during which the horse and European trade goods were introduced to native cultures. The acquisition of the horse, guns, metal knives, and other goods from the eastern United States caused a dramatic change in the established but dynamic cultures of the Native American's residing in the Northern Rocky Mountains and Northwestern Plains. As a result, hunting and subsistence strategies began to change at this time as well.

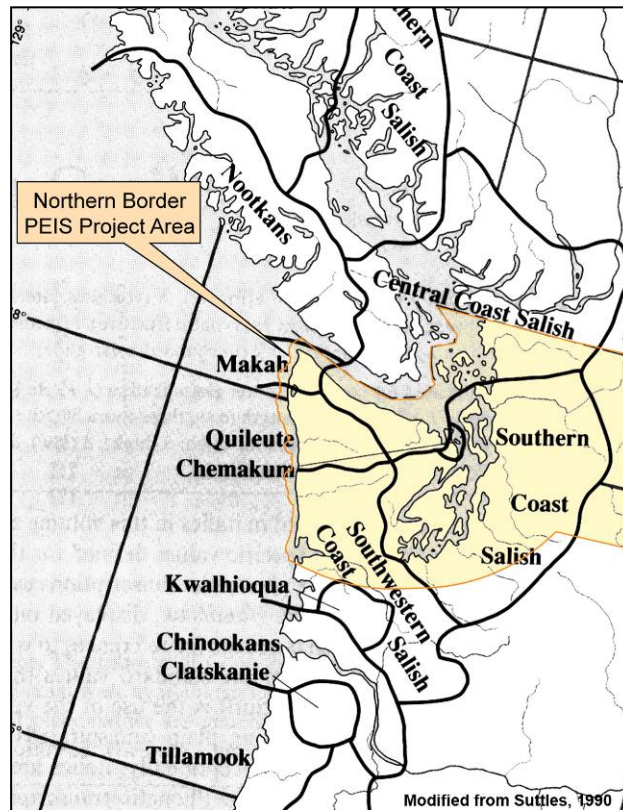
The Post contact Period resulted in a blending of cultural artifacts, tools, and cultural activities – a combining of traditional technologies and items with newly acquired trade items. The traditional tool kit was supplemented by factory made fabrics, European-style clothing and ornaments, trade beads, guns, and ammunition, as well as metal objects, including tools, cookware, knives, arrow points, axes, and lances.

1.1.5 WEST OF THE ROCKIES REGION

1.1.5.1 States of Washington and Idaho

Two Native American Culture Areas, defined over the past century by anthropologists and archaeologists, provide a useful characterization of the pre-contact archaeology and ethnography of Washington and Idaho within the U.S. Customs and Border Patrol Northern Border PEIS project area. The Northwest Coast Culture Area (Figure H-3) is comprised of linguistic groups that inhabited the Pacific Coast of the United States and Canada, from northern California to the Alaskan Panhandle and extending inland one hundred miles or more into the Cascade and Coastal mountain ranges. The Plateau and Northern Rocky Mountain Culture Area (Figure H-4) is comprised of linguistic groups inhabiting intermontane western North America between the Coast and Cascade Mountains and the northern Rocky Mountains. Only a narrow portion within each Culture Area may be affected by the actions considered in this PEIS.

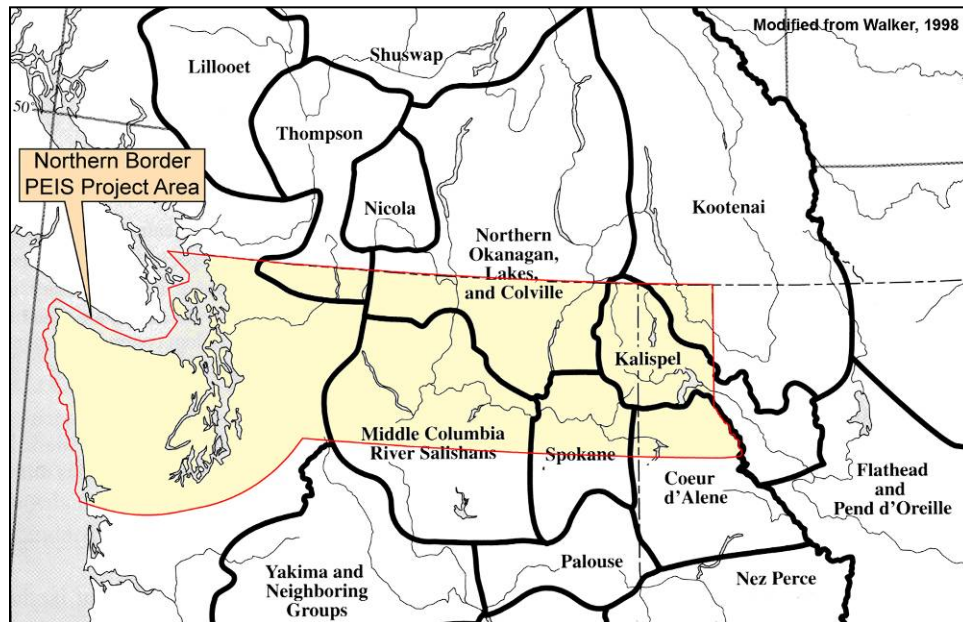
Figure H-3. Northwest Coast Culture Area



Northwest Coast Culture Area

The traditional territory of Southern and Central Coast Salish groups corresponds with the Puget Sound and Strait of Juan de Fuca region. In addition to these groups, the Makah, Quileute, and Southwestern Coast Salish traditionally inhabited the outer Pacific Coast and Olympic Peninsula (Suttles, 1990). Several broad environments within this Northwest Coast Culture Area are bisected by the PEIS zone and are relevant when considering Native American settlement patterns and the potential for impact to archaeological resources. The Olympic Peninsula is characterized by high-energy coastlines on its western and northern shores, a deep but protected fjord on its eastern shore, and inland topography dominated by steep-walled river valleys radiating outward from the Olympic Mountains. The remainder of the PEIS zone within the Northwest Coast Culture Area corresponds with the Puget Lowlands and the western flanks of the Cascade Mountains. The lowlands are characterized by a broad glacial drift plain and relatively low-energy marine embayments and islands in the Puget Sound and Strait of Georgia, all of which were created by advance and retreat of the Puget Lobe of the Cordilleran ice sheet at the end of the Pleistocene. The drift plain is dissected by river systems originating in the Cascade Mountains, which attain elevations exceeding 10,000 feet (3,048 meters) above sea level at the summits of several stratovolcanoes.

Figure H-4. Plateau and Northern Rocky Mountain Culture Area



Land Use

Native American subsistence and settlement in this portion of the Northwest Coast Culture Area witnessed a continuity of economic focus that included hunting, fishing, and gathering since the end of the Pleistocene epoch (Ames and Maschner, 1999). The allocation of these pursuits changed, however, as the environment of Western Washington was altered by geological and climatic processes. With these changes, the human population grew and suitable locations for hunting, fishing, gathering, and settlement shifted as well. The archaeological record suggests the earliest human occupants of Western Washington lived in small, highly mobile groups that pursued a variety of game, including now-extinct large terrestrial mammals, across a landscape that was quickly changing in terms of post-Pleistocene marine shoreline configuration and plant and animal communities. Relative sea level was in the process of stabilizing during the early Holocene epoch, and the archaeological record reflects a terrestrial economic focus ranging from the crest of the Cascade Mountains down to what was during that period a marine shoreline gradually being inundated. Archaeological evidence of fishing along major river systems during the early Holocene exists, but the importance of salmon fishing during this time relative to other subsistence pursuits is much more equivocal than later in the Holocene. The past 5,000 years is a period when sea level and river valley systems stabilized, allowing salmon and shellfish habitats to establish themselves and growing Native American communities to adjust to their location and abundance for subsistence. Vegetation throughout the lowlands and uplands also approximated its modern character by the mid-Holocene. Seasonal berry-picking in the uplands became another cornerstone of Native American land use, which archaeologists hypothesize has intensified over the past several thousand years. Native American land use shifted dramatically as a result of initial Euroamerican contact at the end of the eighteenth century, when disease epidemics decimated communities (Boyd, 1999).

1 *Site Types*

2 Broad-scale changes in Native American land use from the end of the Pleistocene to first
3 encounters with Euroamerican explorers in the late 1700s are manifested in the archaeological
4 record by a variety of artifacts and features. Archaeologists have classified this material into
5 assemblages to infer chronological sequences and past lifeways. This brief overview describes
6 the kinds of pre-contact Native American archaeological deposits found in Western Washington
7 and the patterns in their distribution that have been formally studied since the mid-twentieth
8 century. Artifacts and assemblages characteristic of particular chronological periods are further
9 described in the subsequent section.

10 Archaeological sites clearly associated with any kind of residence are quite rare in Western
11 Washington. These sites contain hearths, cooking and food processing features, post-molds and
12 other structural remnants indicative of both domestic and economic activities. The
13 ethnographically derived categories of *village* and *camp* are often used to differentiate particular
14 residential sites in the prehistoric archaeological record of the Northwest Coast. In the
15 logistically-organized settlement patterns that characterized much of the Northwest Coast around
16 the time of contact, villages were the central residential unit of a particular community for at
17 least a portion of its seasonal economic round. Archaeological remains consist of either multiple
18 residential structures or a single very large house, a diverse artifact assemblage reflecting a wide
19 variety of economic and social activities, and the remains of subsistence resources harvested
20 across several seasons. In the same kind of settlement pattern, camps are more seasonally
21 limited residences of families and task groups and are situated at or near important resources.
22 They are usually manifested by features of a single dwelling, artifacts reflecting only a single or
23 a few economic pursuits, and deposits that are less extensive and lack the stratigraphic
24 complexity of village sites. Overall mobility of Native American communities was greater prior
25 to the village-oriented settlement pattern hypothesized for most of the central Northwest Coast
26 over the past few thousand years. Instead of a single village, community residences were
27 centered on several base camps throughout the annual economic cycle, and smaller camps were
28 used for specific tasks. Most residential sites that have been identified in this region are situated
29 in places that allow easy access to subsistence resources, fresh water, and transportation
30 corridors such as marine shorelines, river valleys, and mountain ridge lines and passes.

31 Much more common than residential sites along the central Northwest Coast are the
32 archaeological remains of harvesting and processing activities and lithic tool manufacture and
33 maintenance. Such deposits are also found as part of residential sites, but are more frequently
34 identified without additional evidence of dwellings. Examples of these kinds of sites include
35 most *shell middens*, comprised of shellfish and other faunal remains discarded during their
36 processing and consumption. Their size, thickness, extent of stratigraphic complexity, and
37 contents vary widely. All provide at least some information regarding past subsistence, and
38 often datable organic material as well. The soil chemistry of shell middens allows preservation
39 of bone, including human remains. Shell middens are usually situated along the shoreline at the
40 time of deposition, but subsequent tectonic activity and sea level change have resulted in the
41 discovery of middens today in both intertidal environments and inland along former beach
42 landforms. Other *resource processing features* such as camas ovens and storage and roasting
43 pits are found in a wider variety of settings, from huckleberry grounds in montane environments
44 to wetlands and prairies in both the coastal and interior lowlands. They are manifested by
45 concentrations of fire-modified rock, charcoal, and burned sediment, and sometimes the remains

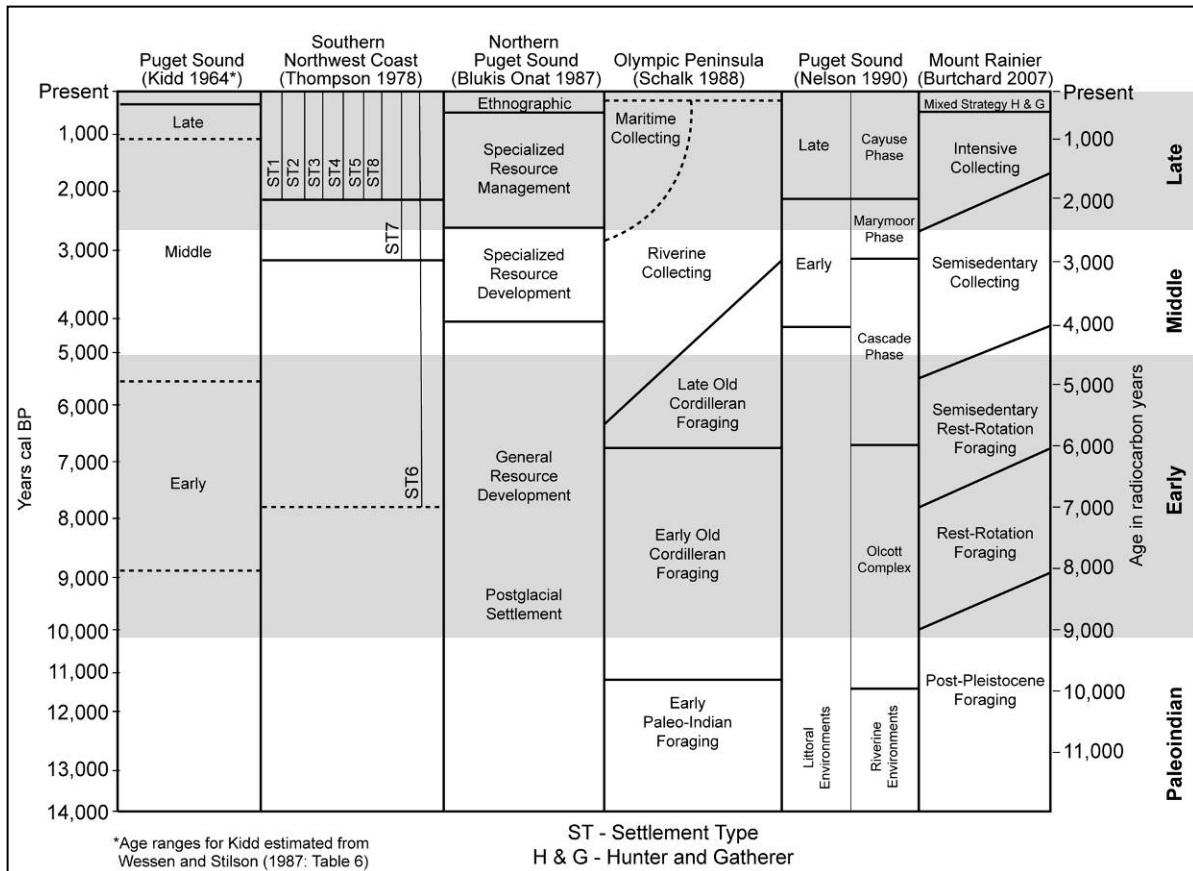
1 of processed resources such as charred plant material, seeds, or calcined bone and shell. Where
2 the landscape has undergone the most intensive historic and modern development, most notably
3 in urban and suburban areas and tilled agricultural land, all that may be left of these sites are
4 dispersed loci of fire-modified rock and little else to indicate their age or function.

5 Lithic tools and tool-making debris are often found unassociated with features or cultural
6 stratigraphy that would otherwise provide ages or contexts to interpret their functions or places in
7 a particular land use pattern. Such sites are usually referred to as *lithic scatters* or *lithic material*
8 sites. *Quarry sites* are distinctive lithic material sites in that they have been identified at natural
9 outcrops of toolstone and consist of dense concentrations of cores and debitage with few if any
10 finished stone tools. Estimating the age of lithic material sites is also difficult if they lack
11 temporally diagnostic artifacts such as projectile points. These sites are found on almost every
12 part of the landscape of Western Washington, from high elevation toolstone outcrops and ideal
13 vantage points for hunting to the broad lowlands and coast.

14 ***Prehistoric Chronological Sequence***

15 Several published culture-historical sequences are important to the identification and
16 interpretation of the Western Washington archaeological record. All focus on sub-areas within
17 this portion of the PEIS zone or neighboring regions of British Columbia. The more recently
18 derived sequences often build on the work of early researchers and share similar age divisions
19 and characteristics of periods, phases, and other culture-historical units. The designations of
20 chronological periods, their characteristics, and their implications for the archaeological record
21 in the PEIS zone are summarized in a very general fashion in this section. The periods used here
22 include the *Paleo-Indian*, *Early*, *Middle*, and *Late* Periods. This terminology is similar to some
23 of the specific sequences cited below; however the divisions between them as conceptualized in
24 this document follow major environmental changes as well as patterns of human land use: the
25 end of the Pleistocene epoch and the early Holocene (10,000-5,000 B.P.), middle-late Holocene
26 (5,000-2,500 B.P.) and late Holocene before Euroamerican contact (2,500-200 B.P.).

27 The summary below is derived from sequences developed for the Strait of Georgia and San Juan
28 Islands area (King, 1950); the Fraser Delta area (Borden, 1970); the Skagit River delta
29 (Thompson, 1978); central and northern Puget Sound (Blukis Onat, 1987; Kidd, 1964; Nelson,
30 1990); the Cascade Mountains (Burtchard, 2007); and the Olympic Peninsula (Schalk, 1988;
31 Wessen, 1990). The northern lowlands portion of the PEIS zone centered on the San Juan
32 Islands and Strait of Georgia has a more fully developed culture historical sequence and
33 formalized phase system, which is a product of the earliest intensive excavation in the central
34 Northwest Coast occurring here (Borden, 1950; Carlson, 1960; King, 1950; Stein, 2000). A
35 comparative schematic of some of these sequences is shown in Figure H-5, which demonstrates
36 the variability of temporal divisions between culture historical sequences of particular sub-
37 regions environmental zones. More general overviews of Northwest Coast prehistory contain
38 useful summaries of the prehistoric cultural sequences in other areas, broader patterns across the
39 region, and persistent research questions that have guided research in this region (Ames and
40 Maschner, 1999; Matson and Coupland, 1995).

Figure H-5. Western Washington Chronological Sequence

2 **Early Period (10,000-5,000 B.P.)**

3 During the early Holocene, the region experienced a relatively stable environment compared
 4 with the dynamic changes that occurred at the end of the Pleistocene, albeit one warmer and drier
 5 than today's climate. Relative sea level fluctuation was the most significant long-term
 6 environmental perturbation; rising global sea level during this time submerged the marine
 7 shorelines that may have been occupied during earlier times. Brush fires and forest fires were
 8 common during periods of summer drought and caused short-term, localized environmental
 9 changes in the forest parkland habitats. By the end of this period, the post-glacial parkland/forest
 10 mosaic across much of Western Washington evolved into a closed canopy forest. The
 11 distribution of important subsistence resources such as deer and elk changed, and human land
 12 use patterns changed as well. Prior to the mid-Holocene closing of the forest canopy, terrestrial
 13 mammals were a subsistence resource widely available throughout the glacial drift plains. The
 14 first well-dated evidence of generalized, marine littoral subsistence first appears in the
 15 archaeological record of the Gulf of Georgia region during this period as well.

16 Humans accommodated environmental changes during the Early Period by utilizing a wider
 17 range of subsistence resources. Increasingly complex patterns of land use resulted in additional
 18 archaeological site types, more elaborate toolkits, and more intensive use of the marine shoreline
 19 and anadromous fish runs that grew more productive as the pace of rising sea level slowed. The
 20 archaeological record of residential camps is still very sparse during this period, probably due in

large part to poor preservation of landforms of suitable age that would host such sites. Specific activity sites that first appear during this period include high-elevation lithic quarries in the North Cascade Mountains, stone tool manufacturing sites on older river terraces in the foothills and glacial drift plain lowlands, and isolated finds of large lanceolate projectile points often made of volcanic rock that are usually attributed to early Holocene-aged manufacture.

Middle Period (5,000-2,500 B.P.)

The period between 5,000 and 2,500 years ago was pivotal for changing human land use in Western Washington. This period encompasses the shift from relatively high residential mobility to a pattern of logistical mobility. The archaeological record shows this change as an increasingly diverse range of site types and a greater proportion of non-residential sites associated with resource procurement and processing in a variety of settings. Development of a closed canopy forest and coeval reduction in the density and distribution of ungulates was probably an important factor in this diversification. A relatively stabilized sea level by the mid-Holocene promoted development of shellfish beds along the marine littoral, and the growing human population utilized this labor-intensive but seasonally profitable resource; the majority of shell middens in Western Washington postdate 5,000 B.P.

The archaeological record of Western Washington grows substantially during this period in terms of dated site components. Artifact assemblages from the period demonstrate more elaborate technologies to access an increasingly diverse range of new resources and to better utilize old ones. Along with widespread distribution of shell middens along the marine shoreline, artifacts and features associated with fish processing and hunting along the lower and middle reaches of rivers have been found. The period is characterized by a growing human population, increasing diversity of utilized habitats facilitated by changing technology, and a much greater proportion of landforms that survive today than from previous time periods. The broad corridor of the PEIS zone contains landforms that are archaeologically sensitive for this period and that transect the Olympic Peninsula, the Puget Sound lowlands, the San Juan Islands, and the foothills and mountains of the Cascade Range.

Late Period (2,500 - 200 B.P.)

The diversity of site types, physical characteristics of deposits, and distribution of archaeological sites across multiple microenvironments over the past 2,500 years reflect a well-established seasonal round in Western Washington largely analogous to ethnographically described land use patterns. The seasonal round of land use that centered on winter villages was established in the region by this time. Many landforms in Western Washington have the potential to retain intact archaeological material dating to the period between 2,500 and 200 years ago; areas with the highest probabilities include the marine littoral, intact levees and terraces on alluvial floodplains, the shores of mountain lakes, mountain ridge complexes, and prairies.

Along with a greater diversity of site types, feature classes, and artifact forms, there is increasing evidence in the archaeological record of social stratification, long-distance trade, and intensified use of subsistence resources such as shellfish, salmon, and plants that are most useful when a sufficient labor pool and appropriate technology are brought to bear. Most of these characteristics make their first appearances in the archaeological record prior to this time, including the presence of exotic lithic raw material such as obsidian as early as the Paleo-Indian Period, limited use of fish, shellfish, and plants from the Early Period, and material culture

1 indicative of warfare and social stratification from the Middle Period. It is the abundance of
2 these archaeological correlates dating to the Late Period coupled with similar patterns seen
3 across much of the Northwest Coast culture area at the same time, however, that distinguish this
4 time period from earlier ones.

5 **Plateau and Northern Rocky Mountain Culture Area**

6 The traditional territory of Salish-speaking groups and the Kootenai in the PEIS zone
7 corresponds with the Columbia Plateau and northern Rocky Mountains of eastern Washington
8 and Idaho (Walker, 1998). Similar to Western Washington, the PEIS zone bisects several
9 distinct environmental zones that are relevant when considering prehistoric land use and
10 potential to impact archaeological resources. This portion of the PEIS zone is mountainous with
11 the exception of the northern edge of the central Columbia River basin, which comprises the only
12 extensive level landform within the area of consideration. The headwaters of all the major river
13 systems that drain this area (including, from west to east, the Okanogan, Sanpoil, Columbia,
14 Pend Oreille, and Kootenay Rivers) reside to the north in British Columbia and their north-south
15 trending valleys were carved by continental glaciation during the Pleistocene. The mountain-
16 valley systems and Columbia Basin that comprise this portion of the Northern Border PEIS
17 project area today represent a more arid environment with greater seasonal temperature extremes
18 than that of Western Washington. The extent and magnitude of this seasonality, however, have
19 fluctuated since the end of the Pleistocene and shaped changes in human land use over time.

20 ***Land Use***

21 Settlement and subsistence in the region over the past several millennia centered around several
22 seasonally restricted but often abundant resources (Chatters and Pokotylo, 1998; Pokotylo and
23 Mitchell, 1998; Ames et al., 1998). Salmon, edible roots, and ungulates were staple subsistence
24 resources for much of the Holocene. The distribution of subsistence resources and basic
25 environmental constraints such as availability of water throughout this landscape helped shape
26 seasonal land use patterns, and broad-scale changes in their availability over time coincide with
27 changes in the archaeological record of northeastern Washington and northern Idaho. Runs of
28 spawning salmon are impeded past Kettle Falls and Metaline Falls, and were therefore not a
29 directly accessible resource to Native American communities living in the Pend Oreille and
30 Kootenay River basins. Ethnographically, these groups relied more heavily on edible roots, most
31 notably camas in the Calispell Valley. They led a much more mobile lifestyle than the salmon-
32 dependent communities of the Plateau to the west, and their patterns involved trade for salmon
33 with those Plateau groups and seasonal pursuit of bison in the Great Plains to the east (cf.
34 Anastasio, 1985).

35 Similar to many other parts of North America at the end of the Pleistocene, the earliest human
36 populations in this region were small, highly mobile groups that frequently moved hunting
37 camps across a landscape that was recently deglaciated and, across the Columbia Basin,
38 repeatedly scoured by massive floods as glacial lakes to the southeast periodically released
39 meltwater. There is limited archaeological evidence of salmon fishing and plant processing
40 elsewhere in the Plateau dating back to the beginning of the Holocene. The focus of these early
41 groups however, especially within the PEIS zone, appears to have been on large ungulates. The
42 climate, which was at a peak of warmth and aridity in the millennia following retreat of
43 continental glaciations, continued to be warmer than today.

1 By about 8,000 years ago, however, a trend towards cooler and wetter conditions in the northern
2 Plateau allowed an expansion of mountain forests into lower elevations and shrub-steppe
3 vegetation to replace the grasslands that covered the Columbia Basin. The relatively cooler and
4 wetter seasonal conditions that intensified into the mid-Holocene expanded ungulate habitat and
5 promoted growth of root plants that soon became economically important. Salmon habitat
6 improved as well once the water temperature of the Columbia and Fraser River systems cooled
7 and sediment load from channel down-cutting decreased. Campsites situated near these
8 resources and the tools for efficient harvest and processing appear in the archaeological record
9 during this time.

10 The late Holocene saw further changes in land use patterns and greater dependence upon
11 particular subsistence resources and food storage strategies. In general, the climate shifted
12 towards the same cooler, wetter Neoglacial regime seen across much of northwestern North
13 America; brief periods within the latter half of the Holocene, however, brought occasions of
14 drought, flooding, and warming. Parallel to these changes were shifts from settlements with
15 fewer but larger semi-subterranean houses to village sites with numerous but smaller pithouses in
16 some regions, and an opposite pattern in others. One broad-scale trend during this period was a
17 growing dependence upon storage as a mechanism to offset fluctuations in seasonal resource
18 availability and inter-annual productivity. Increasingly intensified use of salmon occurred along
19 the Columbia River and its tributaries below Kettle Falls as ungulate habitat shrank during the
20 late Holocene. Labor-intensive resources such as freshwater mussels and edible roots increase in
21 importance as well, especially in places within this region that did not provide access to salmon.
22 Similar to the rest of North America, land use patterns dramatically shifted as a result of initial
23 Euroamerican contact and disease epidemics at the end of the eighteenth century. Like those
24 epidemics, the adoption of horses as a means of transport and trade in the interior Northwest
25 preceded actual contact with Euroamericans by several years and had profound implications on
26 Native American land use.

27 *Site Types*

28 The archaeological record of the Plateau region along the United State-Canada border is
29 characterized by a variety of artifacts and features that reflect broad-scale changes in Native
30 American land use from the end of the Pleistocene to first encounters with Euroamerican
31 explorers in the late 1700s. These materials and deposits are classified into assemblages to infer
32 chronological sequences and past lifeways. This brief overview describes the kinds of pre-
33 contact Native American archaeological deposits found in Eastern Washington and Idaho within
34 the PEIS zone. Artifacts and assemblages characteristic of particular chronological periods are
35 further described in the subsequent section.

36 Residential sites, often in the form of one or more semi-subterranean house pits, are more
37 common in the archaeological record of the Eastern Washington Plateau than that of Western
38 Washington. Sites pre-dating the mid-Holocene are inferred to be habitations based on the
39 composition of their lithic and faunal assemblages and presence of fire-modified and occasional
40 features (Chatters and Pokotylo, 1998). The first house pit sites to appear across the region by
41 about 5,000 years ago were near the ecotones between steppe and forests and contained house
42 pits in small numbers, usually one to three of various sizes and shapes containing diverse tool
43 assemblages. Occasionally houses contain storage pit features and abundant hopper-mortar
44 bases, suggesting a level of sedentism where resources were abundant yet entailed substantial

1 processing. During the later Holocene pit houses often increased in diameter and depth, and the
2 complexity of housefloor and associated midden stratigraphy grew. Large villages of numerous
3 house pits along the lower reaches of larger rivers characterize the archaeological record of the
4 past 2,000 years, although the numbers of pits within villages (and inferred human population)
5 decrease during the roughly 1,200 years prior to Euroamerican contact. Post-depositional
6 processes are the most critical factor in preservation and visibility of archaeological pithouse
7 remains. Housepit sites may be visible on the ground surface of stable landforms that have been
8 relatively unaffected by erosion or deposition over the past several millennia, such as older river
9 terraces. Infilling of house pits after abandonment, especially of those along rivers depositing
10 large volumes of sediment along their banks, in areas exposed to sustained aeolian
11 sedimentation, and places within volcanic ashfall zones that accumulate tephra deposits, may
12 deeply bury the remains of housepits.

13 Other kinds of prehistoric archaeological sites that occur within the PEIS zone in this region
14 include a variety of resource processing features and lithic reduction sites. Artifacts and features
15 associated with plant and fish processing are often found within and around the remains of
16 houses; however, such materials are also identified unassociated with the remains of dwellings in
17 places of high resource abundance. Pit features containing calcined salmon bones found along
18 rivers are often associated with fishing gear such as netweights and processing tools such as
19 ground stone knives. Freshwater mussel shell middens are often exposed along eroding
20 riverbanks. Camas ovens are a notable archaeological feature of the Calispell Valley, comprised
21 of dense buried deposits of fire-modified cobbles, charcoal-rich sediments, and often the charred
22 remains of camas bulbs (Thoms, 1989). Other archaeological features indicative of Native
23 American activity that may be found in isolation include rock cairns along ridgelines and talus
24 slope burials on the flanks of hills and mountains.

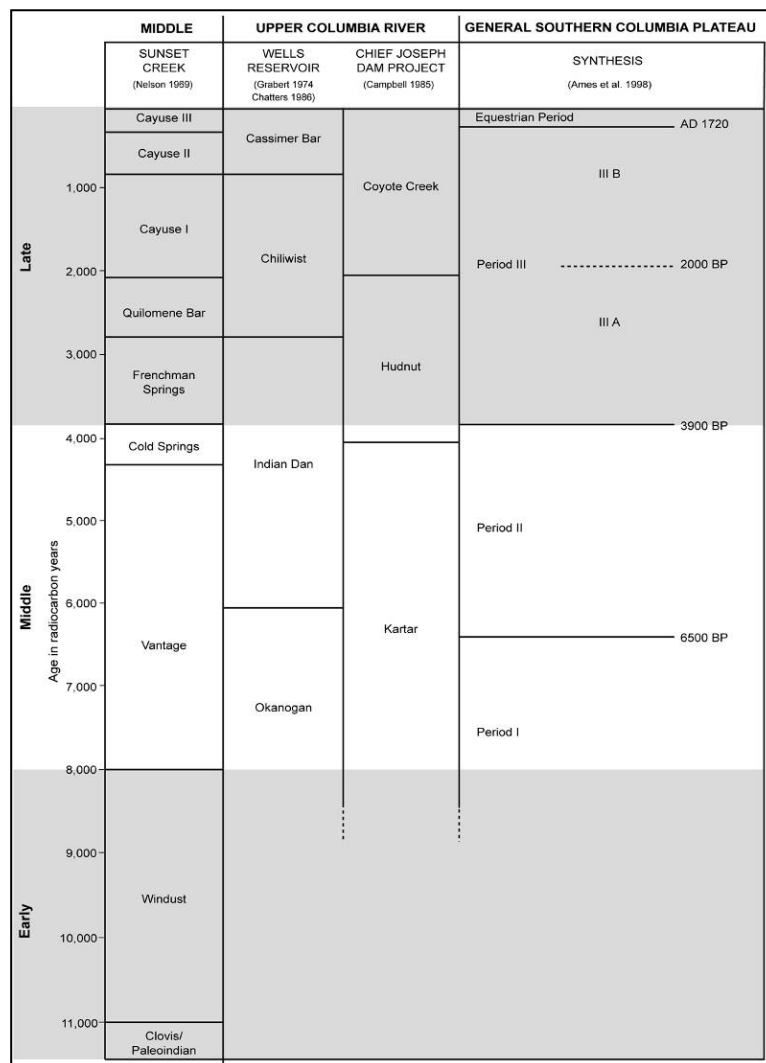
25 Several archaeological complexes have been identified that are defined by nearly continuous
26 distributions of features, lithic artifacts, and house remains that, when interpreted as a whole,
27 present a picture of long-term occupation of the landscape and abundant data on changing land
28 use patterns. An Archaeological District on the Upper Pend Oreille River (Miss, 2004) in Idaho
29 typifies this kind of site complex, as do districts in Washington that have undergone intensive
30 archaeological investigation: Lake Roosevelt above the Grand Coulee Dam (Chatters, 1984), the
31 Lake Pateros reservoir (Chatters, 1986), the Spokane River, the Kettle River in the vicinity of
32 Kettle Falls (Chance and Chance, 1985), in the Calispell Valley (Thoms and Burtchard, 1986),
33 and sites near Chief Joseph Dam and Rufus Woods Lake reservoir (Campbell, 1985).

34 ***Prehistoric Chronological Sequence***

35 Several published culture-historical sequences aid in the identification and interpretation of the
36 archaeological record of the Plateau Culture Area within the PEIS Zone. The designations of
37 chronological periods, their characteristics, and their implications for the archaeological record
38 in the PEIS zone are summarized in a very general fashion in this section. The periods used here
39 include the Early, Middle, and Late Periods as generalized by Chatters and Pokotylo (1998). The
40 divisions between the broad periods follow environmental changes as well as patterns of human
41 land use: the end of the Pleistocene epoch and the early Holocene (12,000-8,000 B.P.), the early
42 to middle Holocene (8,000-4,000 B.P.) and late Holocene before Euroamerican contact (4,000-
43 300 B.P.). Subdivisions within their broad periods are not discussed in detail here.

1 The general sequence is derived from those developed for the Okanogan River Valley (Grabert,
2 1968; Grabert, 1974); the Kettle Falls vicinity (Chance, 1986; Chance and Chance, 1982); the
3 Wells Reservoir and Lake Pateros (Chatters, 1986); the Lake Rufus Woods and Chief Joseph
4 Dam region (Campbell, 1985); and the vicinity of the Pend Oreille and Kootenay Rivers (Thoms
5 and Burtchard 1987). The work of Nelson (1969) and Leonhardy and Rice (1970) in the central
6 Columbia and Lower Snake Basins to the south of the PEIS Zone laid the foundation for much of
7 these later syntheses. Several of the major sequences shown in Figure H-6 attest to the
8 variability in temporal divisions of specific sequences. More general overviews of Plateau
9 prehistory contain useful summaries of the prehistoric cultural sequences in other areas, broader
10 patterns across the region, and persistent research questions that have guided research in this
11 region (Walker, 1998 and references therein).

12

Figure H-6. Plateau Culture Area Chronology

3 **Early Period (12,000 – 8,000 B.P.)**

4 The Early Period spans the Late Pleistocene and Early Holocene, a time of initial human
 5 settlement when continental glaciers retreated north and climate remained warmer and drier than
 6 today. The Paleo-Indian archaeological components that date to this age are rare throughout the
 7 Plateau. The East Wenatchee Clovis Cache was discovered in Grant County just south of the
 8 PEIS Zone and represents a notable, if atypical, assemblage of Clovis projectile points and other
 9 lithic and bone artifacts that date to this period. More widespread are components dated to the
 10 Early Period based on the presence of projectile points of the Western Stemmed Tradition, which
 11 may represent a separate influx of humans into the region around the time of the Pleistocene-
 12 Holocene transition (Beck and Jones, 2010).

13 Humans adapted to environmental changes during the Early Period by utilizing a wide range of
 14 subsistence resources and establishing short-term camps near those resources. The

archaeological record of residential camps is extremely sparse during this period, probably due to a combination of very low population densities and poor preservation of landforms of suitable age that would host such sites. Most sites consist of concentrations of lithic material on geologically older landforms. A variety of projectile points used to arm spears and darts are stylistically diagnostic to the Early Period and are frequently used to assign otherwise undated lithic assemblages to this time, including fluted and concave-based points of the Clovis and Folsom tradition and lanceolate stemmed points of the Windust tradition.

Middle Period (8,000 – 4,000 B.P.)

The Middle Period spans the middle of the Holocene epoch, a time of shifting climatic regimes and concomitant changes in vegetation patterns and subsistence resource distribution. Human adaptations to these changes resulted in an archaeological record that highlights variability in residential site structure, subsistence economies, and other aspects of social structure such as mortuary practices between different regions within the Plateau Culture Area. Housepits make their first appearance in the archaeological record during this time, along with widespread direct evidence of root utilization.

Change in land use towards a greater reliance on riverine and plant resources is manifested in the archaeological record by sites located along salmon-bearing streams, near freshwater mussel habitat, and in areas where important edible roots thrived during mid-Holocene climatic amelioration. Faunal assemblages from riverine sites attest to the importance of fish and freshwater mussels, as do ground bone and stone fishing gear. Milling stones and hopper mortar bases at some sites reflect plant processing. The persistence of hunting as an important activity is, however, apparent in the record from campsites with hunting gear in a variety of environmental zones. Along with certain kinds of plant processing artifacts, projectile points diagnostic of this time period include willow leaf-shaped points of the Cascade/Old Cordilleran tradition and large side-notched points.

Late Period (4,000 – 300 B.P.)

The Late Period encompasses a time in which the regional climate first cooled and then warmed, resulting in changes in human population, pithouse construction, resource availability and economic orientation, and social structure. The small numbers of house pits along major salmon-bearing rivers that characterize the initial Late Period become clustered in larger numbers and highly variable in size by the middle of the Late Period. Towards the end of the Late Period prior to Euro-American contact, many of the larger village sites were apparently abandoned as land use favored more upland areas for much of the annual round and pithouses were established upstream in protected valleys of smaller tributaries. Although there is some debate regarding human population levels in the Plateau towards the end of the Late Period, artifacts assemblages exhibit a growing diversity of tool types, raw materials suggesting long-distance trade networks stretching from the Great Plains to the Pacific Coast, and plant and animal remains indicative of expanding diet breadth. Projectile point styles are at their most complex during this time and include a variety of small arrowheads as well as points to arm larger projectiles.

1.2 HISTORIC CONTEXT

1.2.1 NEW ENGLAND REGION

1.2.1.1 State of Maine

The CBP Northern Border Project Area – 100-mile jurisdiction – encompasses nearly the entire State of Maine except York County and the southern portion of Cumberland County in southern Maine. This area is referred to as the *study area* in this subsection.

- Contact Period/Exploration/Colonial Period

The history of European contact, exploration, and settlement in northern New England and the greater maritime peninsula (Quebec, New Brunswick, and Nova Scotia) of which Maine is a part, commences in the mid-sixteenth and early seventeenth centuries. The early colonial period in Maine is divided into three periods (Early Settlement, 1604-1675; Indian Wars, 1675-early eighteenth century; and the Resettlement Period, early-mid-eighteenth century) and is best represented in southern-most coastal Maine. The 1604 French colony at St. Croix in the northeast corner of the state signaled the arrival of a European power which was to compete with the English colonies to the south. Intermittent warfare characterized much of the period, 1604-1759. Territorial conflict arose initially with the displacement and widespread disruption of Native American culture and competition among European interests to control the fur trade. Specifically, the boundary of New France extended well into Maine and was marked by a series of seventeenth-century and early eighteenth-century French missions (Castine, Norridgewock, Canton, Fryeburg), which in effect curtailed English settlement throughout the northern border area of Maine until the end of the French and Indian Wars, ca. 1759.

With the British conquest of French Canada, ca. 1760, there emerged a period of rapid development in southern sections of the state accompanied by an increase in diversity of industry, transportation, commerce and trade, and agriculture. Variability among site types likewise increases throughout the later historic period with the introduction of technological innovations, division of labor, ethnic diversity, availability of a greater range of natural resources, and other factors.

- Frontier

Primarily, the early settlement period in Maine's interior occurred after the American Revolution, and constitutes a period of approximately 50 years from the first settlement of a given township/plantation. Priority resources, or those which were built within 50 years of the township/plantation's first settlement include, dwelling sites, farmsteads, and village centers/rural neighborhoods (containing, for example, water-powered saw and gristmills, tanneries, carding factories, blacksmith and carriage shops, stores, hotels, churches, schools, cemeteries) are site types that supply data regarding the adaptation of new populations to wilderness landscapes. There are numerous examples of these and related resources in all settled townships.

In northern Maine, the Madawaska settlements represent the oldest permanent settlement, and date to the ca. late 1780s. The St. John River, which now delineates the international border in

1 this region, was part of a long distance water/overland route between Halifax/Saint John and
2 Quebec, an important Native American travel corridor and prior to the Acadian settlements, a
3 route utilized by French-speaking missionaries, couriers, traders, and the military. This
4 extensive tract of land was populated largely by Acadians displaced by the formation of the
5 British province of New Brunswick. Their source of livelihood was farming and settled among
6 them were people from Quebec, Native Americans both local and from the lower St. John Valley
7 and a number of Irish immigrants. Settlers from Maine's upper Kennebec Valley arrived in
8 northern-most Maine in the early nineteenth century.

9 • War

10 As a border territory, Maine was a center of contention between the British and Americans
11 during both the American Revolution and the War of 1812. During the Revolution, Portland was
12 bombarded by a British fleet, and the British occupied a significant portion of the southern part
13 of the state. In the War of 1812, the British again occupied parts of Maine.

14 After the wars with Great Britain, the upper St. John River area was claimed by both New
15 Brunswick and the State of Maine. The dispute intensified principally within the context of
16 logging and lumbering. The Houlton Barracks, Fort Kent, Fort Fairfield, the military road(s) and
17 border outposts are historic resources associated with the Aroostook War, ca. 1839. The conflict
18 was settled without armed warfare, by treaty in 1842.

19 Along the Atlantic Coast, excellent representations of early colonial period coastal sites in the
20 study area include the fortified settlements of the Popham Colony (mouth of the Kennebec
21 River), Fort Pemaquid (Muscongus Bay), and Fort Pentagoet (Penobscot Bay). Also, sunken
22 vessels and earthworks of the Revolutionary War era have been identified in the archaeological
23 record.

24 • Government

25 Maine became part of the Massachusetts Bay Colony in 1652, although the two were not
26 physically attached. Maine seceded from Massachusetts in 1820 and became a state as part of the
27 Missouri compromise. The northern U.S. border between Maine and New Brunswick remained
28 disputed until the 1842 Webster-Ashburton Treaty, by which the boundary largely assumed its
29 current configuration.

30 • Agriculture

31 Since many areas of Maine are distant from markets and the state typically has rocky soils and
32 short growing seasons, agriculture as an industry there was generally not as successful as in other
33 states. However, agriculture at the local level has remained important throughout Maine's
34 history, largely due to the remoteness of many of its smaller settlements. Also, despite the
35 limitations imposed by the state's geography, the growing of potatoes as a cash crop has been
36 successful in some areas in the years following the installation of rail lines, most notably in
37 Aroostook County.

38 • Commerce and Trade

39 Along the Atlantic Coast, seventeenth-century and early eighteenth-century French farmsteads
40 and settlements are alluded to in the archival record. Extensive salt marsh diking is suggestive of

1 Acadian farming practice. However, in the nineteenth century, the economy of the coastal
2 region came to be dominated by shipbuilding and fishing; granite and slate quarrying and cotton
3 textile production were also practiced. Nineteenth-century archaeological sites are represented by
4 numerous site types, including farms, dwellings, tidal, water- and horse-powered mills, quarries,
5 and many others.

6 Distant markets and poor roads discouraged rapid town development until the extension of rail
7 transportation into the St. John Valley and other interior parts of the state. This resulted in the
8 commercialization of potato growing which produced rail-side potato houses, starch factories,
9 and increasingly larger farms. Outside the Aroostook County farming district, logging and
10 lumbering retained prominence as northern Maine's most important industry.

11 Beginning in the 1820s, the logging industry grew to become a vital part of the economy across
12 much of Maine. It has gone through three distinct phases, each phase representing more
13 extensive harvest areas and more intensive means of mechanical production. Resources
14 representing the earliest phase of logging and lumbering, the white pine-era, generally have
15 greater historical significance than those representing the subsequent periods of spruce-logging
16 and pulp and paper manufacturing. Nevertheless, logging camps, driving dams, company farms,
17 and other resources from these latter phases also possess historical significance. Other inland
18 rural industries in the state included maple syrup production along Maine's western border with
19 Quebec, and quarrying, hide-tanning, and lime and charcoal production. Also, beginning in the
20 early twentieth century, paper and wood pulp production supplemented the lumber industry.

21 In the remote townships of the interior parts of the state, where settlement was virtually non-
22 existent, logging and lumbering, hemlock bark extraction and other forest-based industries
23 provide site types of potential historical significance. Archaeological resources, such as logging
24 camps, driving dams, company farms, supply depots, logging railroads, and sporting camps form
25 a significant portion of the infrastructure of Maine's nineteenth century forested interior.

26 • Transportation

27 In Maine's Interior, the network of roads and waterways utilized for local and long distance
28 transport make up a set of resources related to the patterns of early settlement and town
29 development. Notable among the long distance overland routes are the Coos Trail/Magog Road
30 leading from the head of navigation on the Kennebec River (Hallowell) to Montreal, and the
31 Canada Road, linking the upper Kennebec River region with Quebec.

32 The first railroads were built in Maine in the 1830s. By 1853, the Grand Trunk Railroad
33 connected Portland with Montreal and Portland became the *de facto* winter port for much of
34 Canada. A large portion of Maine's historical railroads use an atypically narrow gauge of 2 feet.

35 A number of historic resources and contexts apply specifically to the Maine-Canadian border.
36 These range from historic, cross-border familial and economic ties to smuggling, customs and
37 law enforcement.

1.2.1.2 State of New Hampshire

- Contact Period/Exploration/Colonial Period

Northeastern New England of the seventeenth century presents a complex portrait of dispersed and shifting Native American settlement in response to contact with European traders. Intertribal warfare, catastrophic epidemics and chronic illnesses probably reduced Native American populations in New Hampshire by as much as 90 percent. Archaeological components and sites of the Early Contact period are underrepresented in New Hampshire, and notable New Hampshire Contact Period archaeological sites include Fort Hill site in Hinsdale, New Hampshire (Thomas, 1979), and the Connor Site in Shelburne, New Hampshire (Potter, 1998).

During this early period, Lake Champlain, the Connecticut River, and other major waterways functioned as transportation highways through heavily wooded, mountainous terrain, connecting many disparate settlements (Haviland and Power, 1994). Overland trails were also important Native American travel routes. Samuel de Champlain was the first European to visit Amoskeag Falls in June 1605. In 1609, Champlain journeyed south from Canada, by canoe, to the lake that bears his name.

Actual contact with Europeans occurred relatively late in the interior of New Hampshire because of the remote mountainous position of Western Abenaki country in an area heavily contested by the colonial powers. William Pynchon of Springfield, Massachusetts, first documented trade with a Sokoki in 1648. English trade was largely a commercial venture while French traders cooperated with Catholic missionaries. The English ban on weapon trade, and their alliance with the Haudenosaunee (Iroquois), traditional enemy of the Abenakis, aggravated relations between the Sokokis and the English (Haviland and Power, 1994).

Rivalry between the English and French saw the western Abenaki primarily as French allies during King William's War (1690-1700), and Queen Anne's War (1702-1713). These conflicts ultimately gave rise to military traffic and conflict along Lake Champlain waterways. New Hampshire became a separate province in 1680. The English established forts and garrisons along the northern frontier of Massachusetts and the Province of New Hampshire from which they maintained defenses, as well as sent scouting and raiding parties. By 1736, Massachusetts had established four towns along the New Hampshire side of the Connecticut River, numbered one through four (Bruce, 1990).

During the French and Indian War (1754-1763), increased pressure on the Indians led to revenge killings across northern New England (Corbett, 2002). Abenaki fought with the French at the battles of Monongahela, Oswego, Lake George, William Henry, Québec, and elsewhere, as well as conducted their own raids (Foster and Cowan, 1998:208). The British retaliated by developing strategically placed forts and a group of rangers, experienced in guerilla-style forest warfare. British control of the forts at Ticonderoga and Crown Point essentially pushed the frontier between the British and French north.

During the American Revolution, many Abenaki opted to remain neutral, others took sides with either the colonists or the British, and still others played both sides. Colonial militia manned forts in the Champlain Valley, New Hampshire's seacoast, and frontier borders to defend from British

incursion (Charlton, 1931; Churchill, 1967; Wheeler and Wheeler, 1968; Hance, 1991:384; Kingsley, 1997).

- Frontier

Most settlers in New Hampshire faced the problem of accessing their property via the network of footpaths, Indian trails, and military roads. Early settlement during times of peace spurred improvement to existing overland and waterborne transportation networks. Once settlers reached their lot, their first priority was to remove the forest, build a shelter, and clear an area to plant food (Garvin and Garvin, 1988).

Early Euro-American settlers in New Hampshire probably applied the Native American technique of burning forested land as a primary land-clearance tool (Day, 1953; Krech, 1999). Many found agricultural fields and old campsites already cleared and “abandoned” by Native Americans. Settlers also likely cleared land by axe. Early residential farmstead sites may include, but are not limited to, the following components: improved parcels of land, woodlot, temporary and permanent residential structures, outbuildings, water source, refuse area(s), animal pens, specialized activity areas, and occasionally a cemetery. General improvements include field clearings resulting in stone piles, stone walls, stone or wooden property boundary markers, landscaping through cut and fill areas, stone quarrying, orchards, pasture, cultivated and fallow fields, and gardens.

- Transportation

During the nineteenth century most primitive overland and waterborne transport came to an end (Wilgus, 1945). The next phase of transportation improvements, toll roads, shunpikes, stage roads, and post roads enhanced travel and provided new links to waterways and canals. At the same time, settlement declined across the narrow valleys of New Hampshire with rough terrain unadapted to labor-saving machinery and the availability of land in the West.

Commercialization of agriculture and development of small industries was aided by advances in transportation – such as toll roads and canals. Several turnpikes were established early in the nineteenth century to provide a straight and direct route for teamsters, travelers, and stagecoaches to connect from Massachusetts and the Connecticut River valley towns of southern New Hampshire and Vermont (Wood, 1997). With the success of the Erie Canal after 1825 drawing commerce to New York City, Boston merchants sought to access the commerce of the Great Lakes through a steam-powered railroad across New Hampshire and Vermont. Between 1840 and 1870 railroads had the single most important effect on New Hampshire (Goldthwait, 1927). With the introduction of the railroad, it was easy to import feed grains and other products from the Midwest. Establishment of railroads in the region provided better shipping facilities and expanded markets for the town’s farm produce and mineral resources, and simultaneously hastened westward migration. Granite was hauled to larger southern New England markets via railroads (Blaisdell, 1982), with tracks also following the rivers.

Improved automotive technology, coupled with State and Federal support of road construction and maintenance, made highway travel a viable alternative to railroads. Railroads continued to be consolidated and suffered from the introduction of fossil fuels.

1 • Agriculture

2 Mid-nineteenth- to early twentieth-century farmsteads featured structures and activity areas
3 nearly identical to those of preceding generations and included a domestic structure or structures
4 (tenant houses), numerous barns and other outbuildings, discrete dump areas, water systems, and
5 special resource areas. However, mid-nineteenth- to early twentieth-century farmstead buildings
6 were more permanent, larger and occasionally highly specialized (Milot, 1994).

7 Settlers essentially grew most of what they ate and made most of what they needed, if not by
8 themselves, almost certainly within their community. The earliest crops grown by Euro-
9 American settlers in this region included “Indian corn,” wheat, and potatoes (*cf.*, Stewart, 1817;
10 Thompson, 1842; Dutcher, 1871:297). Wild game, fish, and fruits and nuts supplemented most
11 diets (*cf.*, Dutcher, 1871:291). Farmsteads gradually diversified and became more economically
12 viable. Technological innovations allowed farmers to till more land and harvest more
13 effectively, with less help. More and more people followed other professions, such as
14 shopkeepers, carpenters, foundry workers, etc., but maintained some land that they farmed. The
15 need for greater purchasing power also required farmers to raise a greater quantity of cash crops
16 (Donath, 1992:214). For example, raising hops began to assume commercial importance in New
17 England during the last quarter of the eighteenth century and was focused in northern Middlesex
18 County (Kelsey, 1980). By 1880, hop culture was introduced to nearby Bedford, New
19 Hampshire and soon stretched across Hillsborough County. Other major cash crops were potash
20 and pearl ash made by distilling wood ash accumulated after burning the trees cut while clearing
21 the fields. Ash was also a valuable commodity locally and for international export (Miller, 1980;
22 Meeks, 1986b).

23 Small farms disappeared in New Hampshire as the West opened up for settlement and
24 industrialization took over. Farm towns became increasingly concentrated in one or more village
25 centers, usually marked by a few stores, a district school, a church, an inn or hotel, and perhaps
26 surrounded by a small number of dairy farms. Farmers in northern New England had to change
27 and adapt their mode of agriculture to stay competitive (Donath, 1992:215). This included
28 increasing the numbers of livestock, especially sheep that could graze steep, rocky, and hilly
29 terrain. Patterns of early agriculture gave way to Spanish Merino and other sheep farming.
30 Some of these changes began to obscure late eighteenth-century field patterns (McHenry, 1986)
31 with later nineteenth-century developments, such as the addition, removal, or burial of stone
32 walls to accommodate plows pulled by oxen, horses, and eventually tractors of growing size that
33 could no longer negotiate the field corners in the manner that draught animals could.

34 In general, sheep and wool production era peaked in the late 1830s, and many farmers had turned
35 to stock breeding for the western market (Donath, 1992:215-216). As the nineteenth century
36 evolved, the cash crops changed to wheat, and then wool, and finally dairy products (Wilson,
37 1967:15-26; Sherman, 1999 [1872]).

38 By 1920 fluid milk was the major income source of most Northern New England farmers
39 (Meeks, 1986b). However, population was generally in decline until 1920 and 1930,
40 respectively. Old textile mills were proving to be as uncompetitive as the old hill farms. Farm
41 abandonment climaxed by the mid-twentieth century (Donath, 1992:216).

1 • Industry and Manufacturing

2 The region's waterways and excellent mill privileges stimulated a strong industrial base in the
3 region. Waterpower was first harnessed to run saw and gristmills. Later, waterpower supported
4 the growth of the textile industry in early-nineteenth century. Industrial activity provided for
5 other village, town, and national community needs. Early industries generally spanned in scope
6 from small, self-sufficient operations to larger commercial enterprises. Local industry relied
7 heavily on readily available natural resources such as timber, bedrock, minerals, surficial
8 deposits, and water.

9 Primitive roads were built into once-inaccessible forests followed by logging railroads. Major
10 rivers, smaller tributaries and the outlets of lakes and ponds across New Hampshire and Vermont
11 provided waterpower for the vast majority of energy necessary to produce and/or refine these
12 products. Logging camps predated construction of the Rutland & Burlington Railroad in the late
13 1840s. Industry was, and remains, a vital force of northern New England's economy. Many
14 residential sites are closely associated with nearby industries, whether cottage enterprise or large
15 commercial businesses. Location of former industrial complexes may, or may not, be evident on
16 today's modern landscape.

17 Many of the remaining industries in nearby hamlets still relied heavily upon agricultural pursuits
18 that were part of a diversified economy that was gradually becoming more specialized: cider
19 mills, sawmills, gristmills, and cheese factories. Initially, any surplus milk was turned into
20 cheese; however, as rail transportation to urban markets improved, butter and then cream became
21 the premium products. The wood-products industry remained active in northern New England
22 because the forests of New Hampshire had not yet been completely cleared as they had in other
23 parts of New England.

24 • Commerce and Trade

25 Settlers made most of what they needed, if not by themselves, almost certainly within their
26 community. Whatever skills were not locally available, like shoemaking, were generally
27 provided by barter or purchase from neighbors or itinerant craftsmen. Many farmers undertook
28 some type of specialized activity when not engaged in agricultural pursuits. These skills ranged
29 from working as a homebuilder or mason, cooper, wheelwright, blacksmithing, ferrier, basket
30 maker, potter, and so on. Clay was fashioned and fired into bricks and pottery. Settlers also
31 prospected for stone to build foundations for homes, to mark lot boundaries, and to support early
32 industries. Local bog iron or hematite ore was smelted into iron, supplying early blacksmiths
33 and later industrial purposes.

34 Towns gradually became responsible for the maintenance of other local roads as soon as they
35 were surveyed, laid out, and officially entered onto town records (Garvin and Garvin, 1988;
36 Hance, 1991). Later, bridges were constructed to access other routes where perhaps only fords
37 existed. Economic and regional growth patterns ultimately dictated the evolution of a growing
38 road framework.

39 Near the end of the nineteenth century investors were building grand hotels along coastal areas,
40 in the mountains and surrounding the lakes of New Hampshire to serve tourists from all over the

United States and Europe. Rustic camps and summer homes grew in popularity as well, and in no time, “summer people” began buying up old hill farms for summer homes.

- Government

New Hampshire was one of the original thirteen states that formed the United States of America and rebelled against Great Britain in 1776. New Hampshire was the ninth state to ratify the Constitution in June 1788.

- Domestic, Social, and Cultural

Family cemeteries often provided the nucleus of what would ultimately become a hamlet, village, town, or municipal cemetery. The progress toward establishing characteristic town features of a town plot or village common, meeting house and school varied, often they were not in place until the community was actually settled (Woodard, 1936).

A general downward population trend is attributed to the natural and social upheaval described and the attractiveness of less expensive and fertile land in western New York and Ohio. Large waves of people emigrated from Vermont and New Hampshire as land became less available and opened elsewhere. This process started early, but accelerated as better routes opened up to the west. Those who stayed behind continued to consolidate small farms, eventually developing into the rural agriculture familiar through town histories. Farmers in northern New England had to change and adapt their mode of agriculture to stay competitive (Donath, 1992:215).

After the Civil War, temporary jobs in New England’s textile mills, logging and mining camps, railroad construction, and agriculture offered economic opportunity to new groups of immigrants.

Manufacturing centers began to attract new industries such as clothing and electronics. Only in the last decades of the twentieth century has the population curve of New Hampshire rebounded. The prominence of the dairy industry in the early to mid-twentieth century and improved farming methods led to increased yields and decreased dairy product prices hastening the demise of the family farm. Presently, small family farms persist in New Hampshire and there is hope that specialty products will maintain agriculture and the wood products industry in this area for future generations.

1.2.1.3 State of Vermont

- Contact Period/Exploration/Colonial Period

Intertribal warfare, catastrophic epidemics and chronic illnesses probably reduced Native American populations in Vermont and New Hampshire by as much as 90 percent. Archaeological components and sites of the Early Contact period are underrepresented in Vermont. During this early period, Lake Champlain, the Connecticut River and other major waterways functioned as transportation highways through heavily wooded, mountainous terrain, connecting many disparate settlements (Haviland and Power, 1994). Overland trails were also important Native American travel routes. Samuel de Champlain was the first European to explore what is now Lake Champlain in July 1609 (Grant, 1907:161).

1 Actual contact with Europeans occurred relatively late in Vermont because of the remote
2 mountainous location of Western Abenaki country. English trade was largely a commercial
3 venture while French traders cooperated with Catholic missionaries. The English ban on weapon
4 trade, and their alliance with the Iroquois, traditional enemy of the Abenakis, aggravated
5 relations between the Sokokis and the English (Haviland and Power, 1994).

6 Rivalry between the English and French saw the western Abenaki primarily as French allies
7 during King William's War (1690-1700), and Queen Anne's War (1702-1713). These conflicts
8 ultimately gave rise to military traffic and conflict along Lake Champlain waterways. The British
9 established forts and garrisons along the northern frontier of Massachusetts and the Province of
10 New Hampshire from which they maintained defenses, as well as sent scouting and raiding
11 parties. For example, the British soon built a short-lived fort and trading center at Chimney
12 Point in 1690 during King William's War.

13 The first permanent British outposts in what is now Vermont were in the Connecticut River
14 valley. By 1736, Massachusetts established four towns along the New Hampshire side of the
15 Connecticut River, numbered one through four. Fort Dummer (Fort Number One) was erected in
16 1724, where Brattleboro, Vermont later grew up. In 1739, Josiah Sartwell built a fortified house
17 in present day Vernon, Vermont (Bruce, 1990).

18 In about 1730, a few French-Canadians traveled south, up Lake Champlain and established a
19 settlement at Chimney Point. This community consisted of a blockhouse enclosed by a wooden
20 stockade on the east side of Lake Champlain north of what is now Crown Point, New York (Hall,
21 1868:2; Coolidge, 1938:233). Reconstruction of the bridge connecting Vermont and New York
22 in 2010 uncovered evidence of this French fort at Chimney Point (Crock, 2010). In 1731, the
23 French army built another wooden stockade, but this time, on Lake Champlain's western shore.
24 This latter structure was enlarged over the next few years and eventually surpassed by a stone
25 fortification at the same location called Fort St. Frédéric (Palmer, 1866; Lonergan, 1950). Fort
26 St. Frédéric would protect French interests in the region and later favor the development of
27 French seigniories along Lake Champlain (Coolidge, 1938:224). From this location, the French
28 and their Indian allies would launch attacks on British settlements (Steele, 1990).

29 During the French and Indian War (1754-1763), increased pressure on the Indians led to revenge
30 killings across northern New England (Corbett, 2002). Abenaki fought with the French at the
31 battles of Monongahela, Oswego, Lake George, William Henry, Québec, and elsewhere, as well
32 as conducted their own raids (Foster and Cowan, 1998:208). The English retaliated by
33 developing strategically placed forts and a group of rangers, experienced in guerilla-style forest
34 warfare. British control of the forts at Ticonderoga and Crown Point essentially pushed the
35 frontier between the British and French north.

36 British governors of both New York and New Hampshire now claimed territory between Lake
37 Champlain and the Connecticut River. Anglo-Americans, looking to move into Vermont,
38 considered settling the land in the north. With British victory over the French and lessening in
39 the fear of Indian reprisals, waves of settlers started to pour into Vermont.

40 During the American Revolution, many Abenaki opted to remain neutral, others took sides with
41 either the colonists or the British, and still others played both sides. Colonial militia manned

1 forts in the Champlain Valley, New Hampshire's seacoast, and frontier borders to defend from
2 British incursion (Charlton, 1931; Churchill, 1967; Wheeler and Wheeler, 1968; Hance,
3 1991:384; Kingsley, 1997).

4 • Frontier

5 From the conclusion of the French and Indian War to about the 1780s, Vermont provided one of
6 the only frontier outlets to southern New England's sons and daughters. French and Indian War
7 service, particularly among those who helped build the Crown Point Road, introduced many
8 soldiers to the Vermont's advantageous land and resources. Two separate streams of emigrants,
9 one from eastern Connecticut or Massachusetts and the other from western parts of those states,
10 helped shaped the distinctive ethnic character of Yankee Vermont (Meeks, 1986b; Hubka, 1984).
11 Those settling along the Crown Point Road brought with them characteristic patterns of
12 community development, architecture, types of government, and religion. At the beginning of
13 the Revolution, Vermont declared itself an independent nation. The formation of this republic
14 led to the issuance of new land grants and the reallocation of residual lands. The intervening
15 disputed land years led to numerous hostilities between the territorial rights of New York and
16 New Hampshire proprietors. Jurisdictional dispute between French, English and Vermont land
17 grants was not formally settled until 1791 when the Republic of Vermont became a state (Nye,
18 1947:272-275).

19 Most settlers in Vermont faced the problem of accessing their property via the network of
20 footpaths, Indian trails, and military roads. Early settlement during times of peace spurred
21 improvement to existing overland and waterborne transportation networks. Once settlers reached
22 their lot, their first priority was to remove the forest, build a shelter, and clear an area to plant
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35 (Wilgus, 1945). The next phase of transportation improvements, toll roads, shunpikes, stage
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18 deposits, and water.

19 Primitive roads were built into once-inaccessible forests followed by logging railroads. Major
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2 industries. Local bog iron or hematite ore was smelted into iron, supplying early blacksmiths
3 and later industrial purposes.

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5 were surveyed, laid out, and officially entered onto town records (Garvin and Garvin, 1988;
6 Hance, 1991). Later, bridges were constructed to access other routes where perhaps only fords
7 existed. Economic and regional growth patterns ultimately dictated the evolution of a growing
8 road framework.

9 Near the end of the nineteenth century investors were building grand hotels along coastal areas,
10 in the mountains and surrounding the lakes of Vermont to serve tourists from all over the United
11 States and Europe. Rustic camps and summer homes grew in popularity as well, and in no time,
12 “summer people” began buying up old hill farms for summer homes.

13 • Government

14 Administratively part of New York after 1766, Vermont became an independent republic in 1777
15 during the Revolutionary War. In 1791, Vermont ratified the U.S. Constitution, becoming the
16 fourteenth state of the union. Vermont has 14 counties.

17 • Domestic, Social, and Cultural

18 Family cemeteries often provided the nucleus of what would ultimately become a hamlet,
19 village, town, or municipal cemetery. The progress toward establishing characteristic town
20 features of a town plot or village common, meeting house and school varied, often they were not
21 in place until the community was actually settled (Woodard, 1936).

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24 waves of people emigrated from Vermont and New Hampshire as land became less available and
25 opened elsewhere. This process started early, but accelerated as better routes opened up to the
26 west. Those who stayed behind continued to consolidate small farms, eventually developing into
27 the rural agriculture familiar through town histories. Farmers in northern New England had to
28 change and adapt their mode of agriculture to stay competitive (Donath, 1992:215).

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30 railroad construction, and agriculture offered economic opportunity to new groups of
31 immigrants.

32 Manufacturing centers began to attract new industries such as clothing and electronics. Only in
33 the last decades of the twentieth century has the population curve of New Hampshire rebounded.
34 The prominence of the dairy industry in the early to mid-twentieth century and improved farming
35 methods led to increased yields and decreased dairy product prices hastening the demise of the
36 family farm. Presently, small family farms persist in Vermont and there is hope that specialty
37 products will maintain agriculture and the wood products industry in this area for future
38 generations.

1.2.2 GREAT LAKES REGION

1.2.2.1 State of New York

- Contact Period/Exploration/Colonial Period

The French and Dutch initiated exploration of New York in 1609. The French in the north identified Lake Champlain and explored areas along Lake Ontario and Lake Erie. The Dutch settled Manhattan and areas along Atlantic Ocean, exploring the Hudson Valley. Jesuit missionaries under French authority periodically visited the northern and western New York (into western Pennsylvania and the western Great Lakes). Despite a troublesome relationship with the Haudenosaunee (Iroquois) nations, the French established trading posts at Youngstown (New York) and near Rochester by early eighteenth century. By the middle of the eighteenth century, the French had established fortifications in the Champlain Valley, Lake George, northern New York (Ogdensburg), and western New York (Brasser, 1978; Ellis et al., 1967).

In 1664, the English supplanted the Dutch in southern New York and became patrons of the Haudenosaunee. Gradually filtering west along Mohawk River and over the Catskills and Helderbergs into central New York, the British erected fortifications in the Mohawk Valley and established their primary western outpost at Oswego by the middle of the eighteenth century. The ancient rivalry between these two European monarchies intensified during the period, reaching a crescendo in the 1750s, when warfare flared anew. Despite gaining total control over Lake Ontario during the early stages of the conflict, the French ultimately lost the French and Indian War and all of their North American colonies to the British with the Treaty of Paris in 1763 (Aldenderfer et al., 1982:III-30; Hale, 1972). Central New York, the Champlain Valley, and the Lake George area were predominant theaters in the conflict as dramatized by the book *Last of the Mohicans*.

During the American Revolution, New York was again major theater during the early stages of the conflict, as Great Britain launched attacks on the colony from Canada and their outpost at Oswego. Lake Champlain is reputed to be the scene of the first naval battle fought by the United States Navy. On October 11, 1776, the engagement occurred in a strait between the mainland near Plattsburgh and Valcour Island. Patriot ships under the direction of Brigadier General Benedict Arnold were largely destroyed by a superior British force, but the battle postponed the British campaign to separate New England from the rest of the rebelling colonies. A second British attempt at splitting the colonies occurred the following year under the command of General John Burgoyne. Settlers in the Champlain Valley were driven out when the British invaded (Ellis et al., 1967; Hurd, 1880).

Burgoyne implemented his second attempt to conquer New York in 1777. While he replicated his advance down the Champlain valley, forces from New York City and Oswego would join him at Albany, thus splitting New England from the rest of the colonies. However, the important Battle of Oriskany, just east of Rome, New York, stopped the advance of British forces from Oswego, and left the undermanned British vulnerable to defeat at the significant Battle of Saratoga. Aside from pitched battles, both the British and Americans enlisted the aid of individual Haudenosaunee nations in their skirmishes in the frontier, as several of the nations allied with Great Britain and several with the Americans. British and Haudenosaunee conducted devastating raids on isolated farming communities in the Mohawk and Cherry valleys. As a

1 result, in 1779 Major General John Sullivan led a punitive assault into the heart of
2 Haudenosaunee country in an effort to halt these incursions against the settlers. Sullivan's
3 Continentals engaged in "scorched earth" tactics, destroying settlements, cornfields, and orchards
4 throughout the Finger Lakes region. Seeking refuge in the Niagara River valley, many
5 Haudenosaunee suffered through a difficult winter of hardship and hunger. Fort Niagara
6 remained a British outpost during the war (Aldrich, 1893:199; Abler and Tooker, 1978:507-508;
7 Ellis et al., 1967:115-117; Tooker, 1978:435; Peirce, 1879:13-19).

8 The British and their Loyalist allies were expelled from the new United States after the Treaty of
9 Paris (1783) ended the Revolutionary War, although the British did not vacate forts along Lake
10 Ontario or farther west until 1796 (Jay's Treaty). The Haudenosaunee, abandoned in the United
11 States by the British, were forced to make peace as separate nations with the Americans. In
12 1794, the United States and the Six Nations signed a treaty at Canandaigua which defined the
13 boundaries of the Haudenosaunee nations in New York State (Abler and Tooker, 1978:508).
14 Several treaties between speculators and the Haudenosaunee extinguished their title to most of
15 the land in New York by the early nineteenth century, except for small reservations (Abler and
16 Tooker, 1978:509, 512).

17 • Frontier

18 The International Border did not exist until 1783 when the United States won its independence.
19 Even during the nineteenth century it remained a light presence on border communities in
20 Northern New York, which was an unbroken wilderness in 1783 except for a few settlements
21 fringing Lake Champlain. In fact, most of the region lying between Lake Champlain on the east,
22 Lake Ontario on the west, the St. Lawrence River on the north, and the southern slopes of the
23 Adirondacks remained wilderness until late in the nineteenth century (Ellis et al., 1967:156).

24 With the return of peace after the Revolution, settlers and land speculators again began to trickle
25 westward and northward, exerting pressure to open up land formerly occupied by the
26 Haudenosaunee. After machinations over the settlement of Canadian refugees, the extent of
27 colonial charters, back pay owed to soldiers, and squatters occupying unsettled lands, most of the
28 newly opened frontier areas in the state were patented in large tracts of land to speculators, who
29 had their parcels surveyed and sold off to settlers, or tried to. Areas in northern and central New
30 York were surveyed by the state and reserved for former Continental soldiers, however most of
31 this land reverted to the speculators (Ellis et al., 1967:152-156; Schein, 1993:5-8; Abler and
32 Tooker, 1978:507-509).

33 By 1812, areas in northern and western New York had been settled and rural industries and local
34 commerce were in development. As a result of their location along the International Border,
35 western New York and Lake Erie, and northern New York and Lake Ontario were theaters in the
36 War of 1812 between the United States and Great Britain. Shore areas along Lakes Erie and
37 Ontario were marauded by British soldiers and the United States launched invasions of Canada
38 from Northern New York and from Buffalo and Lewiston. These areas were also invaded by
39 British forces from Canada. Buffalo, Youngstown, Lewiston, and what is now Niagara Falls
40 were all burned to the ground by the British at the end of 1813 (Hurd, 1880; Smith, 1884;
41 Hickey, 1989). Governor Daniel Tompkins remarked, "The whole frontier from Lake Ontario to
42 Lake Erie is depopulated & the buildings & improvements, with a few exceptions, destroyed"
43 (Hurd, 1880; Smith, 1884; Hickey, 1989:143).

1 • Transportation

2 Overland roads were generally poor; however, rivers provided essential inland transportation as
3 well as power for early saw and gristmills. Because of their proximity and lack of inland roads,
4 early settlements in northern New York were more closely tied to British settlements in Canada
5 through the navigable Champlain Valley than to American settlements in the Mohawk Valley.
6 As a result of this proximity, violation of the embargo of British goods was an open secret and
7 smuggling was rampant during the run up to the War of 1812 (Ellis et al., 1967:156; Meinig,
8 1966:144-145, 153).

9 Despite the improvements in roads and development of mills and other processing facilities
10 during the early nineteenth century, economic growth still lagged. A problem facing many rural
11 farming communities was ensuring that their products could reach markets. Logging, lumbering,
12 and timber-related products were the initial commodities of many counties during the early years
13 of settlement. Once the initial round of tree clearing had been completed, the pioneers worked
14 the land sowing crops and grazing animals (Seaver, 1918; Hough, 1853; Hurd, 1880; Sullivan
15 and Martin, 1979).

16 To combat the general lack of transportation, improvements of the state's natural waterways
17 began as early as 1791, but the events of the War of 1812 suspended these undertakings. Begun
18 at Rome in 1817, the Erie Canal linked Buffalo on Lake Erie with the Hudson River and New
19 York City upon its completion in 1825. The nearly simultaneous construction of the Champlain
20 Canal extended transportation capabilities from the Hudson River to Lake Champlain. The
21 success of the Erie Canal inspired numerous other efforts of canal construction in the state.
22 Localities near the canals prospered, and those at some distance from them saw their economic
23 livelihood undermined by the cheap transportation (Shaw, 1990).

24 The arrival of the railroads during the mid-nineteenth century fostered the continued economic
25 diversification the state and the emergence of more densely populated, more heavily
26 industrialized areas. As railroad crossed the state, the New York Central Railroad was formed in
27 1853, merging in 1869 with Cornelius Vanderbilt's Hudson River Railroad, as a result of the
28 consolidation of numerous smaller local lines. Other major railroad routes included the Lehigh
29 Valley, the Erie, the Northern, and the Delaware, Lackawannna & Western, among many other
30 smaller local lines. During the twentieth century, the number of lines has consolidated (Dunn,
31 2000).

32 By the middle of the nineteenth century, efforts were made to construct bridges over the Niagara
33 River to connect Canada and the United States. What is now the City of Niagara Falls was the
34 site of the first international railway suspension bridge over the river in 1848 (Anonymous,
35 1878:319-320; Pool, 1897:192; Williams, 1921:407-408, 520-521). John A. Roebling directed
36 the construction of a second suspension bridge between 1852 and 1855, when the first
37 locomotive made the crossing. Other bridges followed in the twentieth century and included the
38 Lewiston-Queenston Bridge, the Whirlpool Bridge, the Rainbow Bridge, and the Peace Bridge.
39 An International Railroad Bridge was constructed from Buffalo to Canada in 1873.

40 • Agriculture

1 Once the pioneers cleared the abundant forest cover, they planted subsistence crops, the surplus
2 of which was sold or traded. Agriculture formed the predominant economic activity outside the
3 larger urban areas of the state until well into the twentieth century (Aldrich, 1893; McIntosh,
4 1876). During the nineteenth century, wheat was the great staple, but after the Civil War and the
5 opening of the wheat fields of the Midwest, barley, corn, and oats became important crops.
6 Farms also produced geographically specialized fruit crops, notably grapes, cherries, apples,
7 peaches, pears, and raspberries. From the late nineteenth century into the twentieth century,
8 dairying and stock-raising were predominant farm specialties, and expanded into more market-
9 oriented enterprises with the aid of improved canal, railroad, and steamboat transportation.

10 By the mid-nineteenth century, tobacco was grown several southern counties, which supported
11 local cigar manufacturers. In the years after the Civil War, grapes and winemaking became
12 successfully cultivated products in the Finger Lakes region as well as along Lake Erie in
13 Chautauqua County, although homemade wine could utilize grapes, strawberries, raspberries or
14 other fruit. Today, many peach, cherry, apricot, and apple orchards remain.

15 • Industry and Manufacturing

16 The earliest industries focused on forest products and utilized the abundant water resources for
17 power, and included asheries that burned timber into a white powder called pearl ash or potash,
18 sawmills, gristmills, and tanneries. Industrial activity intensified in the years before the Civil
19 War, and expanded greatly after the conflict. Urban areas attracted businesses, industrial
20 organizations, transportation networks and people.

21 In 1877, the Niagara Falls Hydraulic Power and Manufacturing Company initiated the first large-
22 scale attempt to provide hydroelectric power. Its success provided electricity for the lights of the
23 Village of Niagara Falls by 1882. During the last quarter of the nineteenth century, the use of
24 electricity began to replace steam as the source of power for all types of industrial operations
25 (Pool, 1897:226-230; Williams, 1921:180, 190). In 1896, the Niagara Falls Power Company
26 implemented a system for long-distance electricity distribution using alternating current (AC),
27 transmitting power from Niagara Falls to the City of Buffalo. Major cities, Buffalo, Niagara
28 Falls, Rochester, Oswego, Watertown, and Plattsburgh enhanced the economic role by using
29 newly developed electric power to enhance their manufacturing and industrial bases. Niagara
30 Falls, for example, became a center of electrochemistry, electrometallurgy, as well as the
31 chemical industry (Dumych, 1996:7; Churchill, 1895).

32 In Northern New York, bark skinners harvesting for the tanning industry and charcoal makers for
33 the iron industry had, by the time of the Civil War, reduced the primeval forest cover of the
34 Adirondacks. In the late nineteenth century, lumbering operations entered the higher
35 Adirondacks cutting trees for pulp and lumber. These companies purchased and cut large tracts
36 of timber land, later forfeiting denuded acres to the State in lieu of taxes. During this time, the
37 destruction of such large swaths of forest raised an outcry and resulted in the creation of the
38 Adirondack Forest Preserve in 1885. The Adirondack Park was created in 1892 and contains six
39 million acres of both State-owned and private land (Adirondack Park Agency, 2003; Haynes,
40 2001).

41 The commercial lumbering and pulp industry began a long decline in the early twentieth century
42 before essentially dying out in the 1920s. During the early years of the twenty-first century,

several wind-energy projects and wind farms have been constructed or are in the process of being constructed in northern New York. Today, the area remains a rural mix of small farms, towns and forests. Tourism, timbering, dairying, and some farming are the dominant economic activities in the area, as has generally been the case for well over a century.

- Commerce and Trade

Commerce and trade were initially locally focused. As transportation improved with the advent of better roads, canals, and railroads, trade became more extended. Municipalities on Lake Ontario and Lake Erie, such as Buffalo, Oswego, and Rochester developed extensive port operations. Municipalities along the Erie Canal and the other canals also developed port facilities (Churchill, 1985; Smith, 1884).

The invention and proliferation of the grain elevator reinforces Buffalo's strategic location at the nexus of the Great Lakes/inland trade and the ocean trade associated with the Atlantic ports. Beginning in 1842, construction of numerous grain elevators would turn Buffalo into one of the leading grain shipping centers in North America (Goldman, 1983:58; Smith, 1884). By 1863, numerous grain elevators enshadowed Buffalo's harbor and were part of an extensive transportation network and developing industrial economy. From the mid-nineteenth century to the mid-twentieth century, Buffalo's lake port was a center for an extensive inland trade in grain, lumber, livestock, iron, and limestone, which utilized canal boats and freight trains to transport goods east (Kowsky et al., 1981:248).

- Government

New York was one of the original thirteen states that formed the United States of America and rebelled against Great Britain in 1776. New York was the tenth state to ratify the Constitution on July 26, 1788. At present, New York State has 62 counties, 932 towns, and 62 cities. It also has nine Indian reservations. In total, the state has over 4,200 local governments (New York State Department of State, 2009).

- Domestic, Social, and Cultural

Settlement of New York began in the early seventeenth century, focused along the Atlantic Coast and Hudson River Valley. Gradually, settlers spread throughout the state. Early settlers erected log cabins and cleared fields of trees in order to farm their land. As houses became more elaborate, they were made of frame construction, and later from a variety of building materials, such as stone and brick. In larger urban environments, residences rose to multi-story dimensions in a variety of styles.

The economic prosperity resulting from the Erie Canal swelled the population in centers along its route. Hundreds of thousands of settlers arrived at Buffalo as they journeyed west as "more immigrants passed through these streets [surrounding the Erie Canal] during the height of the canal era (1830-1865) than passed through Ellis Island" (Rapp, 1993). Population also clustered at railroad nodes.

In July 1885, the New York State Niagara Reservation Park was officially opened by New York State. The lengthy campaign to build support from political and business leaders for a park to preserve the falls was underpinned by the persistence and organizational skills of Frederick Law

Olmsted. In addition to building the consensus for the park, he and his associate Calvert Vaux were commissioned to prepare the layout and planting plan for the reservation (Hall, 1995:179-185; Williams, 1972:16-17).

The Adirondack Forest Preserve was created in 1885, and the Adirondack Park was established in 1892 and contains six million acres of both State-owned and private land. The Forest Preserve was made “forever wild” in 1895. In the twenty-first century, the Forest Preserve covers approximately 2.5 million acres (Adirondack Park Agency, 2003; Haynes, 2001).

1.2.2.2 Commonwealth of Pennsylvania

- Contact Period/Exploration/Colonial Period

While Dutch and Swedish traders explored and settled portions of eastern Pennsylvania as early as the 1620s, Catholic missionaries and French explorers would not enter the valleys and waterways of western Pennsylvania until the 1660s. As the fur trade became more established during the seventeenth and eighteenth centuries, the European powers erected fortified trading posts in the frontier. However, it would not be until the eighteenth century that the inland areas of western Pennsylvania saw fortifications. By the 1700s, Haudenosaunee (Iroquois) incursions into the area pushed local Delaware and Shawnee populations as far west as what is now Illinois. As a result, northwestern Pennsylvania and northeastern Ohio became a sparsely settled hinterland of the Seneca, subject to hunting and resource procurement (Hunter, 1978:590).

By 1669, the French portaged from Lake Erie to Chautauqua Lake (in western New York) and then via waterways through western Pennsylvania to the Mississippi River. This route was traversed in 1739 by forces under the command of Charles Le Moyne de Longueuil as part of an indecisive effort to reinforce French forces in what is now northern Mississippi (Stevens and Kent, 2000 [1941]; Figure H-7). A similar route was followed by a French expedition under the direction of Captain Pierre-Joseph Céloron de Blainville in 1749 in the run-up to the French and Indian War. By the middle of the eighteenth century, the French had created a string of military and trading installations extending from Fort Niagara at Lake Ontario along the southern shore of Lake Erie to Presqu’isle (present-day Erie, Pennsylvania) into the Ohio valley (see Figure H-7). In the late 1740s, both French traders and British settlers had expanded their activities west of the Appalachian Mountains to engage native nations in the Ohio Country. As a result, each kingdom intensified their efforts to deny the other access to the area (Abler and Tooker, 1978:506-507; Tooker, 1978:431-432; Smith 2008).

Great Britain and France engaged in another round of their incessant colonial war in the 1750s. While much of the action of the conflict occurred elsewhere, what is now western Pennsylvania saw the erection of several French fortifications, including Fort de la Presqu’isle (1753); Fort de la Riviere au Boeuf (Fort Le Boeuf) on French Creek (1753, near Waterford); and Fort Machault at the confluence of French Creek and the Allegheny River (1753-1757, present-day Franklin) (see Figure H-7). An important supply route extended from Presqu’isle to the junction of the Allegheny and Monongahela rivers which forms the Ohio River, where the French erected Fort Duquesne (present-day Pittsburgh). The British would make extensive use of this route after the construction of Fort Pitt. Later, the British would construct Fort Venango (1760) in proximity to the former location of Fort Machault, which the French burned upon their evacuation of the area

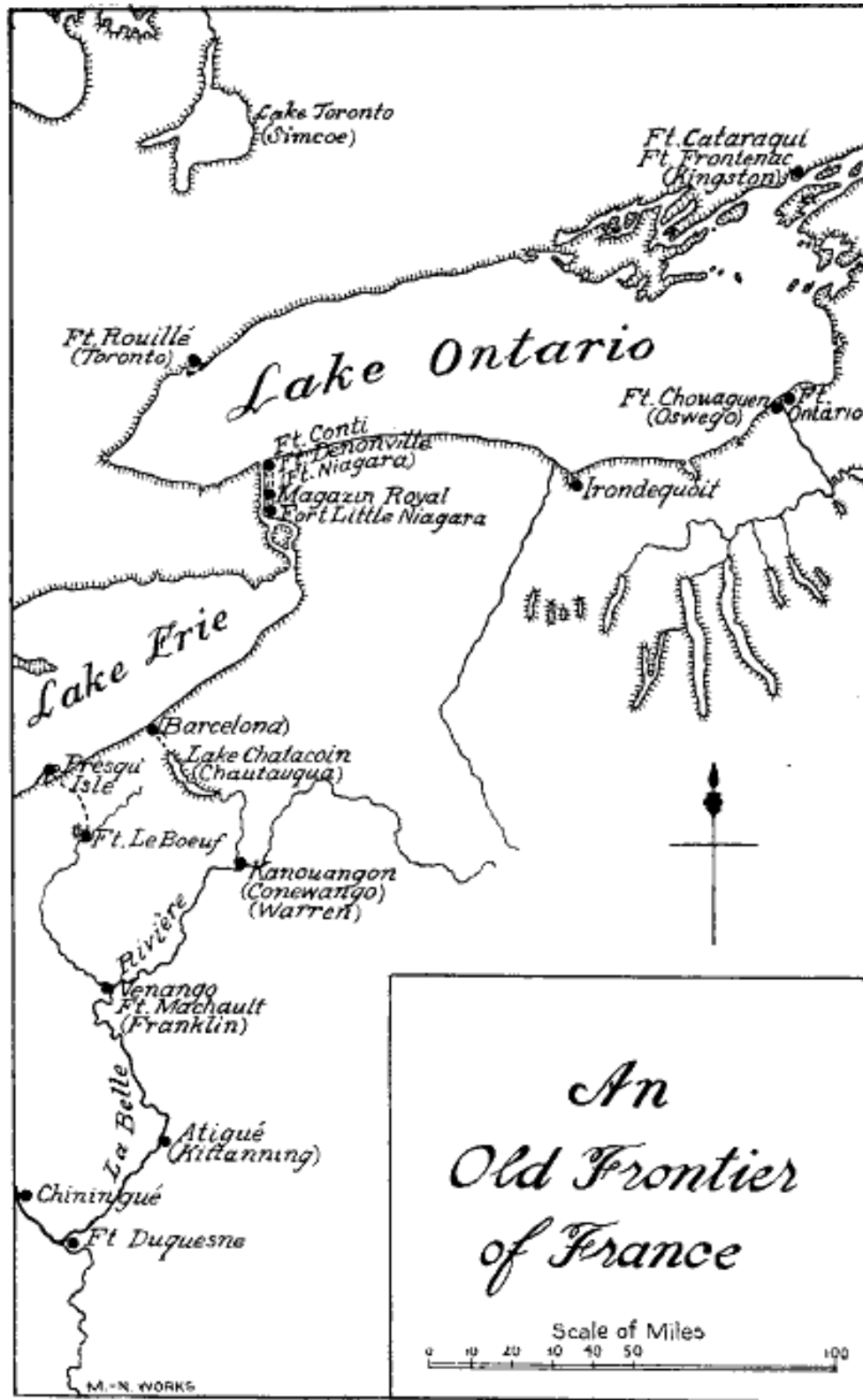
1 in 1759 (Waddell and Bomberger, 1996:1-9; Smith, 2008; Tooker, 1978:432-434; Davis,
2 1986:206).

3 • Frontier

4 The focus of attention of the French and Indian War was the Ohio Valley. While British land
5 speculators were promoting the Ohio Valley, settlers in western Pennsylvania were subject to
6 attacks from native allies of the French. In 1754, Major George Washington was sent to meet
7 the French at Fort Le Boeuf to inform them of Virginia's interest in this land, and was rebuffed,
8 resulting in an exchange of gunfire, and the erection of the short-lived Fort Necessity (Tindall,
9 1988:167-168). After a long march from Philadelphia, British troops under the command of
10 General John Forbes frightened the French into deserting and burning Fort Duquesne. After a
11 siege, British troops captured Fort Niagara in July 1759 and the French abandoned their outposts
12 in western Pennsylvania. The British erected Fort Pitt on the ruins of Fort Duquesne (Tindall,
13 1988:172; Tooker, 1978:433; Department of General Services, 2009:1-13).

14 After the French defeat and their loss of North American colonies, some of the western Seneca,
15 remaining loyal to the French, joined Pontiac's Rebellion (1763-1764), harrying English-
16 American settlers in the upper Great Lakes and the Ohio Valley. Pontiac's forces attacked and
17 took British-occupied Fort Venago, Fort Le Boeuf, and Fort Presqu'isle. In an attempt to quell
18 the rebellion, King George III issued the Royal Proclamation of 1763 which created a line along
19 the crest of the Appalachian Mountains beyond which settlement was forbidden (Waddell and
20 Bomberger, 1996:57-60; Tindall, 1988:182-184). In the first Treaty of Stanwix in 1768, the
21 Haudenosaunee relinquished their land in central Pennsylvania to the British.

Figure H-7. French Outposts in Western New York and Northwestern Pennsylvania
During the Mid-Eighteenth Century



Source: (Severance 1917).

1 During the Revolutionary War, Major General John Sullivan campaign into New York's
2 Haudenosaunee country had a Pennsylvania component. Colonel Daniel Broadhead, 8th
3 Pennsylvania Regiment, led a complementary maneuver to drive British-allied nations from the
4 Allegheny valley in western Pennsylvania. The Americans destroyed ten native villages during
5 their march up the Allegheny River between Fort Pitt and Olean Point (New York). Provisioned
6 and armed by the British, groups of Native Americans periodically harassed colonial settlements
7 until the end of the war (Abler and Tooker, 1978:508; Department of General Services, 2009:1-
8 16).

9 After the conclusion of the Revolution, the Haudenosaunee were forced to make peace as
10 separate nations with the Americans. As a result, they relinquished all their land west of the
11 Niagara River in the subsequent Second Fort Stanwix Treaty (1784). During these negotiations,
12 the Haudenosaunee also sold the title to their land in Pennsylvania in a series of deeds. During
13 the Fort McIntosh treaty negotiations (1785), the Delaware and Wyandot also released their
14 claims to land in Pennsylvania to the Commonwealth ((Abler and Tooker, 1978:507-508; Ellis et
15 al., 1967:115-117). Hunter, 1978:593; Davis, 1986:199; Pennsylvania Historical Museum
16 Commission [PHMC], 2008).

17 European-American settlement of northwestern Pennsylvania dates from the end of the
18 American Revolution as traders and settlers entered the upper Ohio Valley through the major
19 river systems and Lake Erie. These water routes were interconnected within a complex system
20 of inland Indian and military paths and served as channels of both commerce and
21 communication. Pennsylvania purchased the Erie Triangle from the Federal government in 1792
22 in hopes that the port located at Erie would attract the developing Great Lakes commercial
23 traffic, where it would be conveyed through Pennsylvania to the busy Atlantic Ocean ports at
24 Philadelphia. However, the construction of the Erie Canal in New York turned this dream to
25 smoke (Tindall, 1988:266-268; Fletcher, 1971:6; Davis, 1986:199, 206).

26 During the closing years of the Revolutionary War, numerous states and the Federal government
27 attempted to compensate soldiers who fought against the British with grants of land. In 1780, the
28 Pennsylvania General Assembly reserved land north and west of the Ohio and Allegheny rivers
29 as "Donation Lands," to be distributed through a lottery to Pennsylvania veterans. Three years
30 later, additional territory in this region was designated as "Depreciation Lands" to replace
31 "certificates of depreciation" that had been given to Pennsylvania's veterans in compensation for
32 the great depreciation in Continental currency. Settlement had to wait, however, until Native
33 American title to these lands had been extinguished. As noted, title was secured by 1785
34 (Fletcher, 1971:10; Davis, 1986:199; Wallace, 1978:443-444).

35 After machinations over the extent of colonial charters, restitution to Revolutionary soldiers,
36 attempted settlement of expatriate French nobility, and squatters occupying unsettled lands, most
37 of the newly opened frontier areas in the state were patented in large tracts of land to speculators.
38 The rugged western Pennsylvania countryside saw little actual settlement as the land was
39 considered practically worthless (Fletcher, 1971:26, 30; Currin, 2001; Frederick, ca. 2000;
40 Schadenberger and Wilson 2001 [1947]).

41 The rugged, heavily forested terrain and the distance from established settlements retarded the
42 area's initial growth away from the lake shore. Migration from eastern New York and New

England into the northwestern counties became a torrent after 1810. These settlers erected log or frame homes and established a variety of rural industries, including taverns, small hotels, grist and sawmills, blacksmith shops, and distilleries (McKnight 1905:569; Frederick ca. 2000; Payne 1999-2009; Bates, 1884:855; Fletcher 1971:46).

During the late 1780s, the Commonwealth of Pennsylvania surveyed and explored the northwestern parts of the state in an effort to develop it. A group of speculators, the Pennsylvania Population Company (formed in 1792), purchased a large portion of the Erie Triangle to sell it off at a profit. A village at Presque Isle was formed by legislative act in 1792, and the Commonwealth established a military presence there in 1794. General Anthony Wayne's troops landed at Presque Isle in 1795 after the Battle of Fallen Timbers, and erected fortifications and a sawmill in the village. Surveyors arrived later that year, and settlement began in earnest.

- Transportation

The French had constructed a portage road from what is now Waterford to Presque Isle prior to the French and Indian War. In 1803, an Erie to Waterford turnpike was chartered to facilitate the transfer of the Great Lakes trade inland. With the excellent port at Erie, commerce from the lakes could be enhanced by a linkage from the port through Waterford on French Creek to Pittsburgh and beyond via the network of rivers that stretched all the way to the Mississippi and the Gulf of Mexico. The creation of additional turnpikes promoted the movement of both goods and people. The National Road was an important route for western migration prior to 1850 (Fletcher, 1971; Sanford, 1862, 1894; Department of General Services, 2009:1-19). In the mid-1840s, the Erie extension of the Pennsylvania Main Line Canal connected New Castle to Erie (Davis, 1986:207; Sanford, 1862:117-119) and augmented the commercial development of Erie, although the Erie Canal in New York State attracted a significant amount of Great Lakes shipping to Buffalo.

The railroad was the major infrastructure advance during the middle decades of the nineteenth century. Early railroad construction centered on the creation of short feeder routes that connected coal mines to the main Pennsylvania canal. Railroad building after 1850 marked the profitable end of canals and cattle driving. The Pennsylvania Railroad built a line between Harrisburg and Pittsburgh, as branches extended from the main line to Erie, Blairsville, and Uniontown. The route was completed to Pittsburgh in December 1852 (Department of General Services, 2009:1:20; Fletcher, 1955:318-320). The Philadelphia & Erie Railroad opened as far as Warren in 1859, and was extended to Sunbury in 1864 (Bates, 1884:855).

- Agriculture

In order to grow any type of crop in this heavily forested area, most of the settlers had to clear their lots of trees. As a result, lumbering and timber by-products—potash, pearl ash, and charcoal—were the region's first important industry. The sale of wood ashes was the only cash-producing crop for many early settlers during their first years in northwestern Pennsylvania. Other forest products included tanbark and lumber (Fletcher, 1971:329).

During the nineteenth century, wheat was the great staple, but after the Civil War and the opening of the wheat fields of the Midwest, barley, corn, and oats became important crops. In

1 the years after the Civil War, grapes and winemaking became successfully cultivated products
2 along Lake Erie. Today, many peach, cherry, apricot, and apple orchards remain.

3 In addition to forest and agricultural products, cattle driving was a part of the pioneer economy
4 until the railroads were built. Every year cattle were collected and driven over the Alleghenies in
5 droves of 100 to counties in the vicinity of Philadelphia. Stock driving ceased about 1850 when
6 railroads began to provide through transportation (Fletcher, 1971:180). Railroads arrived in the
7 late 1860s to revive the lumber industry, coal mining, and tanning and wood chemical industries
8 (e.g., turpentine, creosote) flourished while the forests lasted. From the mid-nineteenth century
9 into the twentieth century, dairying and stock-raising were predominant farm specialties, and
10 expanded into more market-oriented enterprises with the aid of improved transportation.

11 • Industry and Manufacturing

12 As lumbering operations increased, settlement expanded with each new cutting operation. For
13 example, the City of Bradford developed from a lumbering camp (Fletcher, 1971:78-79). As
14 railroads expanded into the rural parts of the state to transport timber, coal, and other products,
15 the population of the region increased. Despite a negative prognosis regarding coal and a general
16 lack of transportation, drilling in northwestern Pennsylvania initiated an oil boom beginning in
17 1871, which lasted to about the end of the 1880s. The industry was revived in the 1930s and
18 1940s by a water-injection method to recover the oil. In addition to oil, natural gas production
19 remains an important component in the economy, especially since the emergence hydro-
20 fracturing in the twenty-first century (Ross and Caplinger, 1994).

21 By the 1920s, through extensive clearing for the wood-chemical industry and technological
22 developments such as the advent of steam power, the band saw, and the Shay locomotive, the
23 forests of northwestern Pennsylvania were quite barren. Much like in New York's Adirondack
24 Mountains, once the forests of Pennsylvania were cleared, timber companies vacated the
25 deforested land in tax delinquency. As a result, Congress passed the Weeks Act in 1911 that
26 allowed the Federal government to purchase land in the east to establish national forests. The
27 Allegheny National Forest was founded in 1923. The Civilian Conservation Corps erected
28 recreational areas within the forest during the 1930s (USDA Forest Service, 2004).

29 The major industries of northwestern Pennsylvania during the twentieth century included coal,
30 oil, and natural-gas production, and timbering. The lumber industry revived after World War II
31 through managed forest systems in the National Forest. Other products include Zippo lighters,
32 cutlery, motor oil, corrugated boxes, furniture, glass containers and construction blocks, and oil
33 and gas pipes and equipment. The Allegheny National Forest encompasses portions of
34 northwestern Pennsylvania (USDA Forest Service, 2007; PHMC, 2008).

35 • Commerce and Trade

36 Commerce and trade were initially locally focused. As transportation improved with the advent
37 of better roads, canals, and railroads, trade became more extended. The City of Erie, on Lake
38 Erie developed extensive port operations.

39 • Government

Pennsylvania was one of the original thirteen states that formed the United States of America and rebelled against Great Britain in 1776. Pennsylvania was the second state to ratify the Constitution on December 12, 1787. At present, Pennsylvania has 67 counties, 958 boroughs, 1,547 townships, and 56 cities (Department of General Services, 2009).

- Domestic, Social and Cultural

Settlement of Pennsylvania began in the mid-seventeenth century, focused along the Atlantic coast. Gradually, settlers spread throughout the state. Early settlers erected log cabins and cleared fields of trees in order to farm their land. As houses became more elaborate, they were made of frame construction, and later from a variety of building materials, such as stone and brick. In larger urban environments, residences rose to multi-story dimensions in a variety of styles. Migration from eastern New York, eastern Pennsylvania, and New England into the northwestern counties of the state became a torrent after 1820. These settlers erected log or frame homes and established a variety of rural industries, including taverns, small hotels, grist and sawmills, blacksmith shops, and distilleries (Frederick, ca. 2000; Payne, 1999-2009; Fletcher, 1971:46).

The Allegheny National Forest was founded in 1923. In 1965, the Allegheny Reservoir was created as a result of the construction of the Kinzua Dam (USDA Forest Service, 2004).

1.2.2.3 State of Ohio

- Contact Period/Exploration/Colonial Period

The French were the first Europeans to penetrate the interior of what is now the State of Ohio during the second half of the seventeenth century. During the late 1660s, René-Robert Cavelier, Sieur de La Salle and a small party explored Lake Erie and what would become the Ohio Country, the area between Lake Erie and the Ohio River on the north and south, and the Allegheny and Maumee rivers on the east and west. La Salle's foray were part of general reconnoitering and trade expeditions as the French sought to establish contacts with native groups and trading posts in the New World wilderness (Howe, 1852; Hurt, 1995; OHC, 2010; OHO, 2010).

The next prominent European visit occurred in 1739, when Charles Le Moyne de Longueuil led an expedition from Lake Erie through western New York and Pennsylvania down the Ohio River to the Mississippi River, exploring the interior of the Ohio Country. His expedition provided the earliest firsthand information about the area. A similar route was followed by a French expedition under the direction of Captain Pierre-Joseph Céloron de Blainville in 1749 in the run-up to the French and Indian War (Scott, 1877; Graham, 1883; Smith, 2008; OHC, 2010).

During the first half of the eighteenth century, the French created a string of military and trading installations that stretched from Lake Ontario south to Presqu'isle (present-day Erie, Pennsylvania) into the Ohio Valley. During this time, forts on the Maumee River in northwest Ohio, as well as the Illinois and the Mississippi rivers were established. By 1750, a fort at the mouth of the Wabash River (in southwestern Indiana) opened a transportation route between that river and a fort on the Maumee River (Howe, 1852; Hurt, 1995; OHC, 2010; OHO, 2010).

Disagreements over this area erupted into violence as both Great Britain and France claimed the lands in the Ohio Country. While French efforts were focused on areas along Lake Erie, the British infiltrated the area from the south during the 1740s by building a trading post on the Great Miami and forming the Ohio Company to develop the Indian trade. By the 1750s, British trading posts began to emerge among several Indian nations in the Ohio valley, notably at Logs Town, a Seneca village west of Fort Duquesne, along the Miami River, near what is now Piqua, Ohio, and within a settlement of Miami Indians known as Pickawillanees (Howe, 1852; Hurt, 1995; OHC, 2010; OHO, 2010; Hunter, 1978:590). During this period, George Washington represented Virginia's interests in expanding into this area, and his efforts to survey the area sparked the French and Indian War.

The rivalry between the British and the French reached crescendo in 1754, when the two countries went to war. British losses early in the conflict allowed the Indians to reclaim some of their territory in the Ohio Country. Late in the war, however, Britain's fortunes reversed and the French were driven from the area. Skirmishing between Native Americans and the English continued throughout the remainder of the French and Indian War and extended into the early post-war period as British forces in the frontier confronted Indian attempts to drive them back over the mountains. Great Britain issued the Proclamation of 1763 in an attempt to slow immigration over the Alleghenies as an olive branch to the native nations. However, Pontiac marshaled the disparate tribes into a loose, short-lived confederation to attack British positions, and achieved some success in the Ohio Country (1763-1765) (Hunter, 1978).

- Frontier

The Ohio Country was an active war zone during the American Revolution, and during the post-war period. Various Ohio Indian nations allied themselves with the British during the American Revolution, and participated in raids on American settlements in western Virginia and Pennsylvania. From 1777 to 1794, numerous battles and strikes were fought by American and Indian forces in the Ohio Country. Sometimes the Americans claimed the field and sometimes the Indians did. Treaties at Fort Stanwix (1784) and Fort McIntosh (1785) marked the end of formal occupation of the Ohio Country by Native Americans. These treaties were reaffirmed by the Treaty of Fort Harmar (1789). With Indian title largely extinguished, large was parceled off in large tracts to speculators and land companies in the 1780s and 1790s. Despite these agreements, Native nations remained in the area and tensions between settlers and Indians escalated. American and Indian raids and reprisals plagued the Ohio Country for the next 20 years (Howe, 1852; Hurt, 1995; Mahon, 1988; Horsman, 1988).

After the Revolution, eastern states with claims on unappropriated western lands ceded those claims to the Federal government, except Connecticut (Western Reserve) and Virginia (Military Tract). This resulted in the designation of these unappropriated areas as the Northwest Territory, where the U.S. Congress implemented a mechanism for the creation of new states from the area and appointed General Arthur St. Clair as territorial governor in 1787. Land companies were formed to serve as land agents to populate the area in the late 1780s. Settlement schemes were implemented by New England Company, the Scioto Land Company, the Miami Company, the Connecticut Land Company John Cleves Symmes, and Congress's French Grant (Howe, 1852; Hurt, 1995; Horsman, 1988:31; OHC, 2010; OHO, 2010). Settlers came from various points east, especially Connecticut, establishing farms along the rivers and creating a developed and

1 prosperous land. Many of the settlers were Revolutionary War soldiers, who received land for
2 their services.

3 Confrontations between the settlers and the Indians resulted, as Indian resistance to American
4 settlement was being fueled by an alliance with the British. A fierce battle occurred in August
5 1794 at Fallen Timbers in northwestern Ohio, west of Lake Erie. Despite the American victory
6 under the command of General Anthony Wayne and the subsequent Treaty of Greenville (1795),
7 hostilities continued in the face of increased American settlement. Moses Cleaveland landed at
8 the mouth of the Cuyahoga in the Western Reserve in 1796, and Ebenezer Zane completed a
9 rudimentary road across Ohio, and established three ferries in 1797 (Horsman, 1988:32-33;
10 Scott, 1877; Howe, 1852; OHC, 2010; OHO, 2010). In 1798, the Harrison Land Act divided the
11 Northwest Territory into the Ohio Country and the Indiana Territory (Petro, 1994; Knepper,
12 2002; Randall and Ryan, 1912).

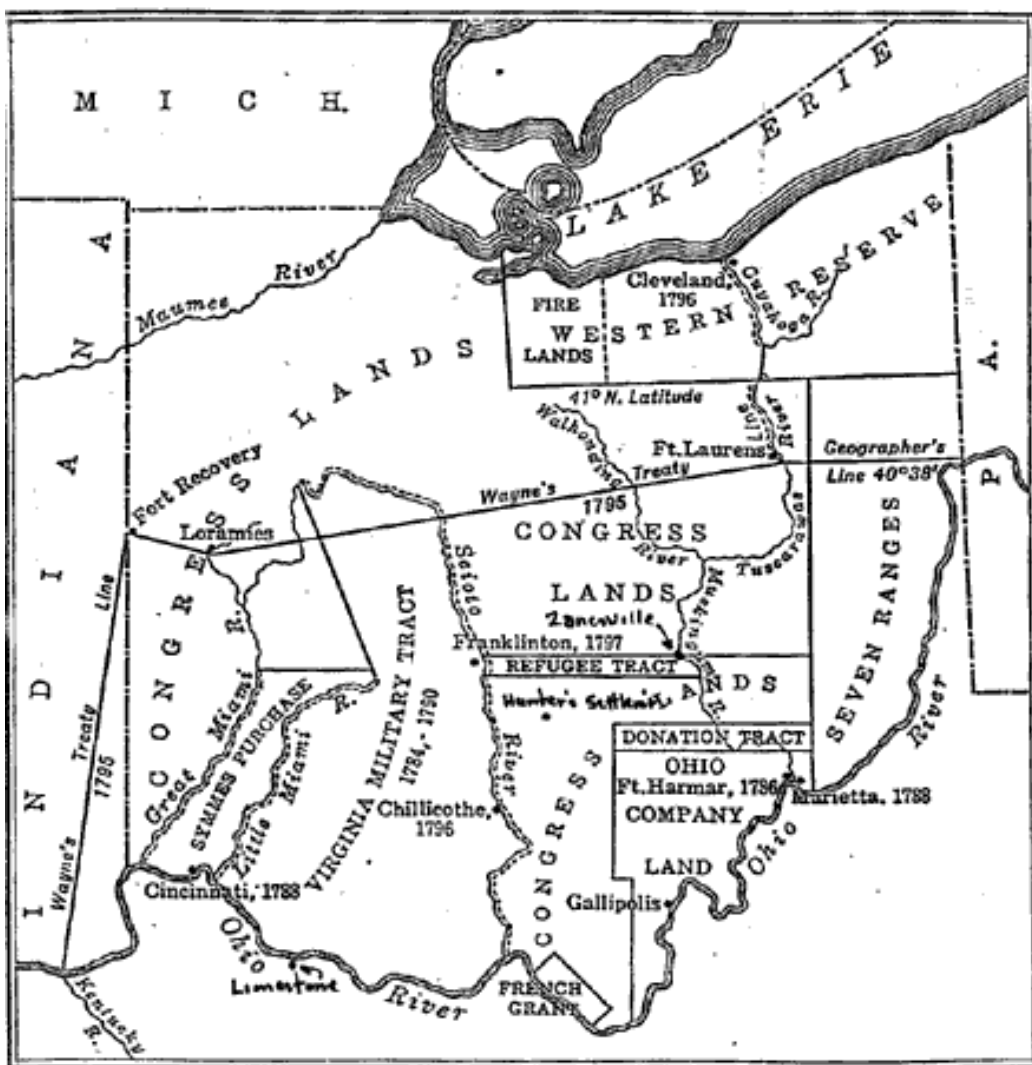
13 Jay's Treaty with Great Britain resolved several issues smoldering since the conclusion of the
14 Revolution. As a result of the treaty, the British withdrew their soldiers from posts along the
15 northern border between the United States and Canada, and a commission was established to
16 settle outstanding border issues between the United States and Canada (Mahon, 1988:152).

17 During the early nineteenth century, Tecumseh and his brother Tenskwatawa led a Shawnee
18 revival in western Ohio and Indiana. Supported by British intervention, the revival evolved into
19 an intertribal movement that rekindled Native American resistance to American expansion. In
20 November 1811, Gen. William Henry Harrison, Indiana Territorial Governor, led American
21 troops against a group of Indians at the Battle of Tippecanoe in northern Indiana. The movement
22 dissolved as a result of the battle. This conflict merged into the battles against the British during
23 the War of 1812 (Callender, 1978:632). The American victory over and combined British-Indian
24 force at the Battle of Thames (in Ontario, Canada) in October 1813 "marked the end of effective
25 Indian resistance between the Ohio and Mississippi rivers" (Horsman, 1988:39).

26 • Transportation

27 Overland roads were generally poor, however, Lake Erie and inland rivers provided essential
28 transportation as well as power for early sawmills and gristmills. Despite the improvements in
29 roads and development of mills and other processing facilities during the early nineteenth
30 century, economic growth still lagged. A problem facing many rural farming communities was
31 ensuring that their products could reach markets. While the state's population rose in tandem
32 with improved infrastructure, this infrastructure was still inadequate for farmers to get their
33 products to market. Beginning in the 1820s, Ohio developed two main canal lines—the Ohio-
34 Erie Canal between Cleveland on Lake Erie and Cincinnati on the Ohio River; and the Ohio-
35 Miami Canal between Toledo and the junction of the Great Miami and Ohio rivers (Howe, 1852;
36 McGill, 1969; OHC, 2010). A number of other feeder canals were also constructed in the
37 following decades to support both systems.

Figure H-8. Ohio Land Grants and Surveys



Source: (Randall and Ryan, 1912).

The impact of the canals on the Ohio economy and settlement was tremendous. Farmers could get their products to market for reasonable profit, and waves of new immigrants, often coming from Lake Erie via New York's Erie Canal, settled in the state. Between 1820 and 1850, the population of the state rose to 1.98 million (McGill, 1969).

Soon after the canals had been completed, the railroad construction began, soon making the canals obsolete. The Erie & Kalamazoo Railroad was first railroad in Ohio, connecting Toledo and Adrian, Michigan in 1836. Other routes quickly followed, as the State supported both canal and railroad construction. The Baltimore & Ohio crossed the Appalachians in the 1850s assuring a connection to east coast markets (Graham, 1883). The businesses that had flourished along the canals slumped as the railroad towns prospered.

- Agriculture

Once the pioneers cleared the abundant forest cover, they planted subsistence crops, the surplus of which was sold or traded. Agriculture formed the predominant economic activity outside the larger urban areas of the state until well into the twentieth century. During the nineteenth century, wheat was the great staple, supplemented by barley, corn, and oats. From the late nineteenth century into the twentieth century, dairying and stock-raising were predominant farm specialties, and expanded into more market-oriented enterprises with the aid of improved canal, railroad, and lake transportation.

- Industry and Manufacturing

Industry developed to complement agricultural endeavors, and included saw and grist mills, iron mines and furnaces, by midcentury coal mining and steel manufacturing. Cleveland became an iron and industrial center in the 1850s, later Youngstown and Toledo emerged as centers for a variety of factories and industries. Industries and businesses blossomed along canal and railroad routes, including hotels, mills, foundries, and distilleries (Graham, 1883). Other manufacturing enterprises included pork products, farm machinery, carriages, cash registers, and oil refineries.

During the late nineteenth century into the twentieth century Cleveland was a leading industrial center as the home to Standard Oil as well as 86 oil refineries, Cleveland also supported facilities related to Dow chemical, Sherwin Williams, Goodyear Tire & Rubber Co., Firestone Tire & Rubber Co., Goodrich Corporation (Akron) and Proctor & Gamble. Other industrial locations included Akron, Toledo, Sandusky, and Ashtabula. With industrialization came increased immigration and urbanization. Like other Great Lakes industrial powers, Ohio's industrial base was undermined by changing economic circumstances in the 1960 and 1970s, notably in steel and heavy industry (Cayton, 2002).

- Commerce and Trade

Waterborne commerce along the lake was one of the earliest components of the area's prosperity, linking the State into broad national and international economies. Economic development advanced from agricultural production to early industry (saw and gristmills) progressing to heavy industrial operations during the 1850s through the twentieth century. From these developments emerged large urban areas like Cleveland, Youngstown, Cincinnati, and Sandusky, which served as commercial nodes to facilitate trade. In the years after the Civil War, Ohio developed into one of major industrial states of the union with essential commercial and shipping connection along the Great Lakes. Raw materials arrived in Ohio's ports and were exchanged for agricultural products and manufacturing goods. Later, railroads provided greater inland links to markets throughout the nation (Cayton, 2002).

- Government

Ohio was the first state created from the Northwest Territories in March 1803. At present, Ohio has 88 counties, 251 cities and 681 villages.

- Domestic, Social, and Cultural

Settlement of Ohio began in the late eighteenth century, focusing along the Lake Erie and the Ohio valley. Gradually, settlers spread throughout the state. Early settlers erected log cabins and cleared fields of trees in order to farm their land. As houses became more elaborate, they were

made of frame construction, and later from a variety of building materials, such as stone and brick. In larger urban environments, residences rose to multi-story dimensions in a variety of styles. Migration from eastern states into the state became a torrent after the War of 1812. Settlers erected log or frame homes and established a variety of rural industries including taverns, small hotels, grist and sawmills, blacksmith shops, and distilleries (Howe, 1852).

After the Civil War into the twentieth century, increasing industrial development and manufacturing attracted hundreds of thousands of new immigrants, both European immigrants and blacks from the South (Cayton, 2002).

1.2.2.4 State of Michigan (Lower Peninsula)

- Contact Period/Exploration/Colonial Period

The first Europeans made their way to what is now Michigan around 1620. Among the earliest recorded visitors were French priests and their party of fellow explorers. The French government, claiming the lands for their own, gave large sections to new settlers, who established trading posts dealing in furs and other commodities. Today, in historically French areas such as Detroit and Monroe, civil land divisions carry reminders of the earliest land claims, known as ribbon farms. These narrow and deep lots front on a river or lake and extend into the interior as much as a mile or more. This arrangement provided each settler direct access to the waterway, which was at the time the easiest means of transportation.

A number of forts were established during early settlement, including Fort Michilimackinac in Mackinaw City, Forts Detroit (later Fort Shelby), and Wayne in Detroit, and Fort Gratiot in Port Huron. Ironically, both Forts Michilimackinac and Gratiot were constructed by the French to protect the area from the British but were lost to the other side. Michigan's forts provided both a sense of security to those living in the region and a center for commerce and trade, thus encouraging settlement. As a result, the State's population grew.

- Transportation

Overland travel was initially difficult in the state, due largely to the heavy forestation. Early routes followed long-established animal and Native American pathways. North of Detroit, explorers met with swampy conditions forcing slow, difficult movement that often resulted in a general condemnation of the entire state as a wasteland.

Three key events improved the movement of both goods and people into Michigan. The completion of the Erie Canal provided a water route for immigrants from New York to the shores of lower Michigan beginning in 1825. The completion of the first locks in Sault Ste. Marie in 1855 opened a path to the west end of Lake Superior from New York and effectively connected Lakes Erie, Huron, Michigan, and Superior. Finally, the 1959 completion of the St. Lawrence Seaway provided a water route from the east coast to Chicago by water (Dunbar and May, 1995).

Forging new roads was challenging, so the existing network of paths provided a logical place to construct new roadways. Corduroy roads were among the earliest roads constructed. These were, particularly in urban environments, followed by brick roads. While most of the brick roads are gone, it is still possible to find remnants in communities such as Detroit, Mount Clemens, and Bay City. As transportation methods shifted from horseback to horse-drawn carriage and to

the horseless carriage, road surfaces became smoother. In 1909, the first one-mile stretch of concrete roadway was paved in the City of Highland Park (Dunbar and May, 1995).

By the late nineteenth century, a network of major railroad lines provided connections to the east and west, and the major industrial centers of the state were connected by interurban railroads. These rail lines connected one side of the Detroit metropolis with the other and from Detroit to Saginaw and Lansing. Railroads facilitated the growth of major industries. In communities like Jackson and Durand, railroad repair shops became dominant employers, drawing additional industries, workers, and residents.

During the twentieth century, four of the most notable bridges in the state were erected, three of which connect Michigan to Canada. In the 1920s, the Ambassador Bridge was completed connecting Detroit with Windsor. The Blue Water Bridge, opened in 1938, connects Port Huron and Sarnia across the St. Clair River. In 1962, the International Bridge was opened between Sault Ste. Marie, Michigan, and Sault Ste. Marie, Ontario, Canada. Michigan's most famous bridge, the five-mile-long Mackinac Bridge, or "Mighty Mac," opened for traffic in 1957 and connects the Lower Peninsula with the Upper Peninsula (Michigan Department of Transportation, 2009).

- Agriculture

Wheat was an early favorite crop, with other grains following soon after. In areas where heavy logging had occurred, one of the first crops to flourish after the trees were removed was the potato. Early in the twentieth century, the Petoskey area was recognized for its production of the Chief Petoskey seed potato. Corn and soy beans are common crops grown in the Lower Peninsula; sugar beets are prevalent in the Saginaw River valley.

Pomiculture was established by the late nineteenth century and early twentieth century. Microclimates in Michigan make it possible to produce apples in the Washington area of Macomb County, peaches in nearby Romeo, and both cherries and grapes on the Leelanau (an area known for its wine industry). Viticulture was practiced in the Monroe region as early as the mid-nineteenth century (Hathaway and Kegerreis, 2010).

- Industry/Manufacturing

Settlement in the northern portion of Michigan's Lower Peninsula was facilitated by logging the white pine forests. Lumber companies purchased large tracts of land, where they established camps to facilitate clear cutting. Logging company owners earned millions of dollars, and the titles of Lumber Barons, in the process.

Logging, railroads, and waterborne shipping formed a symbiotic relationship, and communities such as Bay City, Detroit, and other lakeside settlements often included at least a small shipbuilding enterprise. Although shipbuilding has largely ended, the lakeside ports remain connected to the interior by railroad and highways and continue to ship goods.

Although exactly where the automobile was first invented is often disputed, there is no argument that the automobile industry gained its power and reputation in Michigan. Small automobile manufacturers and their suppliers were located across the state, with most cities in the Lower Peninsula claiming one (or more) automotive-related industry. Michigan also claims credit for

1 transfiguring industry in general with the establishment of the assembly line (Catlin, 1926).
2 Detroit-based Albert Kahn and his brother Louis revolutionized the appearance and functionality
3 of the modern factory.

4 By the early twentieth century, the automobile manufacturing firms of Ford and General Motors
5 (GM) were headquartered in or near Detroit. Ford maintains its world headquarters in Dearborn.
6 GM was headquartered in downtown Detroit and its GM Tech Center was in nearby Warren. In
7 1940, much of the military's tank construction took place at the Chrysler-operated Warren Tank
8 Factory, which operated in this capacity for over 50 years before closing in the 1990s.

9 • Commerce and Trade

10 Like most of the country, Michigan developed trade centers to serve the rural hinterlands;
11 however, unlike most of the country, Michigan also has port cities that facilitated both intra- and
12 interstate shipping and trade. Among the more remarkable products from Michigan
13 manufacturers are catalog homes designed, prepared, and shipped from Bay City to points
14 around the state and country. Tourism has also been an important aspect of Michigan's
15 commerce, with cultural heritage tourism sites across the Lower Peninsula. Entire communities,
16 such as Marshall, Alpena, and Mackinac Island, claim heritage tourism as a major part of their
17 local economies. Lighthouses, a favorite tourist attraction, dot the shores of Lakes Erie, Huron,
18 and Michigan.

19 • Government

20 The Michigan Territory was carved out of the Northwest Territories in 1829, with boundaries
21 closely resembling those of today. In 1837, Michigan reached sufficient numbers to gain entry
22 into the United States as the 26th state in the Union (Dunbar and May, 1995). By the time
23 statehood was granted to Michigan, the land was divided into 37 counties. Today, the State
24 contains 83 counties. Within each county, cities, villages, towns, and townships may also have
25 local jurisdiction, depending on their local population and level of incorporation. A number of
26 Michigan's counties continue to boast courthouse squares, a centrally placed courthouse building
27 surrounded by commercial enterprises that often include attorney offices and other court-related
28 businesses. One of the best examples of this is found in Howell, Livingston County.

29 • Social and Cultural

30 The first waves of immigration into Michigan consisted largely of people of western European
31 ancestry who were later joined by Germans and Irish. Michigan's status as a "free" state (i.e.,
32 without legalized slavery) offered African Americans a permanent home or a refuge during their
33 journey on the Underground Railroad. Later, the automotive industry attracted African
34 American workers from the South. Eastern European communities developed in communities
35 such as Delray in Detroit (Hungarian) and Hamtramck (Polish). In the early twentieth century,
36 Hispanics found employment as migrant workers in Michigan's fields and orchards. The most
37 recent major influx of a single ethnic group has been that from the Middle East. Dearborn, just
38 west of Detroit, represents one of the largest Arabic populations outside the Middle East.

1.2.2.5 States of Michigan (Upper Peninsula) and Wisconsin

- Contact Period/Exploration/Colonial Period

The first Europeans made their way to what would be later known as Michigan around 1620. Among the earliest recorded visitors were French priests and their parties of fellow explorers. The French government, claiming the lands for their own, gave large sections to new settlers, who established trading posts dealing in furs and other commodities. Today, in historically French areas such as Sault Ste. Marie, civil land divisions carry reminders of the earliest land claims, known as ribbon farms. These narrow and deep lots front on a river or lake and extend into the interior as much as a mile or more. This arrangement provided each settler direct access to the waterway, which was at the time the easiest means of transportation.

A number of forts were established during early settlement, including Fort Michilimackinac in Mackinaw City. Ironically, Fort Michilimackinac was constructed by the French to protect the area from the British but was lost to the other side. Michigan's forts provided both a sense of security to those living in the region and a center for commerce and trade, thus encouraging settlement. As a result, the State's population grew.

In the northern portions of both Michigan and Wisconsin, settlers followed the logging and mining industries. By the mid- to late nineteenth century, one of major immigrant groups comprised people from Finland, who came to the United States fleeing mandatory military service for Russia, religious bigotry, and other factors (Legreid, 1986). Many of these immigrants made their way to the northern counties of Michigan and Wisconsin.

- Transportation

Water travel facilitated the earliest settlers of Michigan's Upper Peninsula, yet settlement lagged due to difficulty in traversing the region and long, harsh winters. The hazards associated with early efforts to navigate through the St. Marys Rapids (now largely the site of the Soo Locks) also meant settlement in northern Wisconsin trailed far behind the southern portion of the state.

Overland travel was initially difficult, due largely to heavy forestation. As a result, as in other areas across the country, early routes followed long-established animal and Native American pathways. Corduroy roads were among the earliest roads constructed when permanent roadways were desired. These were, particularly in urban environments, followed by brick roads and eventually concrete and asphalt paving.

Although the railroads abounded in Michigan's Lower Peninsula, they came later to the northern regions. Most of the railroads there were used to facilitate the movement of mine workers and goods, rather than the long-distance rails associated with southern portions of the state. One exception was the Duluth, South Shore & Atlantic, which was incorporated in 1886 and extended from St. Ignace to Duluth by the mid-twentieth century. In Wisconsin, a similar lack of railroads existed until the second half of the nineteenth century. The Chicago, St. Paul, Minneapolis & Omaha, part of the Omaha Road, reached the northern portion of Bayfield County, Wisconsin, in the early 1880s.

The International Bridge, completed in the early 1960s and connecting Sault Ste. Marie, Michigan, with Sault Ste. Marie, Ontario, is one of Michigan's three international bridge

1 crossings. The bridge follows a similar route across the Sault Ste. Marie Canals and Locks as the
2 nearby ca. 1880 railroad bridge. Two large-scale bridges are located in Superior, Douglas
3 County, Wisconsin. These include the 1885 Northern Pacific Drawbridge spanning the St. Louis
4 Bay and the 1910 State Highway 105/Minnesota State Highway 23 Bridge over the St. Louis
5 River.

6 • Agriculture

7 In most of Michigan's Upper Peninsula and Wisconsin's Lake Superior shore, once the forests
8 were removed, farming was difficult at best. In spite of being promoted as excellent lands to
9 encourage people to settle the regions, the sandy soils made an agricultural lifestyle difficult. In
10 recognition of this, in the State and Federal governments began buying back the lands, and
11 established publically owned forests. Private property is still found in and around the forests but
12 for the most part, widespread agriculture practices are limited.

13 By the late nineteenth century and into the early twentieth century, fruit production began, fueled
14 by the recognition of microclimates well-suited to pomiculture. These microclimates made it
15 possible to produce fruit orchards in Bayfield, Wisconsin.

16 • Industry/Manufacturing

17 Settlement in the Michigan's Upper Peninsula and in the northern tip of Wisconsin was
18 facilitated by logging the extensive white pine forests. Lumber companies purchased large
19 tracks of land, where they established camps to facilitate clear cutting. Logging company
20 owners earned millions of dollars, and the title of Lumber Baron, in the process.

21 Raw materials form the basis for some of the major industrial activities of the Upper Peninsula
22 and northern Wisconsin. Although Native Americans had long been aware of its existence, the
23 Euroamerican "discovery" of copper in Michigan's Keweenaw Peninsula drove early settlers to
24 the region to pursue its extraction. The copper mining industry was active across much of the
25 northern section of the Upper Peninsula, and lasted well into the twentieth century. At about the
26 same time that copper mining began, iron ore was discovered in the Marquette range (Dunbar
27 and May, 1995). Although copper played out its predominance early, iron ore had an important
28 role on the world stage for considerably longer. In Ashland, Bayfield, and Superior counties,
29 Wisconsin, the extractive industry focused on sandstone. Known as Bayfield or Lake Superior
30 Sandstone, it was widely sought after as a nineteenth-century construction material (Lusignan,
31 1986).

32 Many of the extracted raw materials were transported across Lake Superior and down to ports in
33 Indiana, southern Michigan, Ohio, and Pennsylvania for processing. The need for efficient
34 shipping facilities resulted in improvements of harbors, canals, and locks needed to move
35 massive amount of raw goods to the processing plants.

36 • Government

37 Michigan and Wisconsin were both part of the Northwest Territories established in the late
38 1780s. The Michigan Territory was carved out of the Northwest Territories in 1829, with
39 boundaries closely resembling those of today. In 1837, Michigan reached sufficient numbers to
40 gain entry into the United States as the 26th state in the Union (Dunbar and May, 1995). By the

time statehood was granted to Michigan, the land was divided into 37 counties. Today, the State contains 83 counties. Wisconsin followed a similar path to statehood, first becoming part of the Michigan Territory, then in 1836 forming the majority of the Wisconsin Territory, before finally entering the union in 1838 as the 30th state (Garfield, 1986a; Garfield, 1986b). Originally consisting of one large county, by the time statehood was granted, Wisconsin had 29 counties. There are currently 72 counties across the State. In both Michigan and Wisconsin, the cities, villages, towns, and townships may have local jurisdiction, depending on population and level of incorporation.

- Social and Cultural

The first waves of immigration into northern Michigan and Wisconsin brought individuals with largely western European ancestry and were later joined by Germans and Irish. Mining jobs in the Upper Peninsula and Wisconsin's Lake Superior shore attracted a number of people from areas with a tradition of mining, such as Cornwall and Wales in the United Kingdom, as well as immigrants from Finland and other Scandinavian countries.

1.2.3 EAST OF THE ROCKIES REGION

1.2.3.1 State of Minnesota

- Contact Period/Exploration/Colonial Period

Beginning in the mid-seventeenth century the French were the first Europeans to explore what is now Minnesota. These visitors included Claude Allouez and Daniel Greysolon, Sieur du Lhut. As the fur trade became more established during the late seventeenth century and eighteenth century, French voyageurs established trading posts amid the frontier. The first settlement in Minnesota was an outpost called Grand Portage near Lake Superior, where the French fur traders had to make a portage around the rapids of the Pigeon River. Grand Portage became the frontier headquarters of the North West Company, a dominant fur trading operation. In 1721, the French erected Fort Beauharnois on Lake Pepin. The Dakota (Sioux) and the Ojibwa (also called Chippewa) were the two prominent Native American nations in Minnesota from the colonial period until the middle of the nineteenth century (Eccles, 1997; Heidenreich, 1997; Minnesota Historical Society, 2011a).

- Frontier

The northeastern portion of the state (northeast of the Mississippi River) was included as part of the original Northwest Territory, under which the jurisdiction of the Ordinance of 1787 applied. The part of the state south of the Mississippi River was acquired by the United States from France in 1803 as part of the Louisiana Purchase. The northwestern portion of the state became U.S. territory in 1818 as part of a treaty with Britain that established the U.S.-Canadian Border at the 49th parallel, but border disputes would not be resolved until the Webster-Ashburton Treaty in 1842.

Fort Snelling (Minneapolis-St. Paul) was the first permanent U.S. settlement in the area in 1819, and was completed in 1825. The fort overlooked the junction of the Mississippi and Minnesota rivers. Immigration into the region was slow during the first half of the nineteenth century, but, once the value of the vast forestlands of northern and central Minnesota was recognized, lumbermen from the eastern states initiated a wave of settlement. This wave was followed by an

1 influx of German and Scandinavian immigrants who established farmsteads (Minnesota
2 Historical Society, 2011a).

3 After 1860, Minnesota was the scene of bloody Indian uprisings, including the Sioux Uprising of
4 1862. The Dakota (Sioux), who had not remained in the state during the influx of American and
5 European settlers, were confined to reservations, some the victims of forced land sales as the
6 federal government reneged on earlier treaties. Starvation generated by drought and crop
7 failures, the Dakota attacked local settlements, resulting more than 500 deaths, Indian and non-
8 Indian. The federal government brutally extinguished the uprising.

9 • Transportation

10 The earliest passages through the wilderness were rivers and Native American trails, including
11 the grand portage around the falls west of Lake Superior. Steamboats on the Mississippi brought
12 settlers to St. Paul in increasing numbers during the early 1800s, and inland roads between
13 settlements became more formalized. Railroads were the major infrastructure advance during
14 the middle decades of the nineteenth century.

15 The Northern Pacific Railway and St. Paul & Pacific Railroad were early railroads in the state
16 and they helped draw settlers to the state. James J. Hill played a major role in developing
17 Minnesota's rail network, including connections into Canada. He also was the driving force
18 behind extending rail routes west into North Dakota, Montana, and Idaho in the 1880s, which
19 became the Great Northern Railway in the 1890s. Other railroads included the Milwaukee Road,
20 the Lake Superior & Mississippi Railroad, the Soo Line, and the Minneapolis & St. Louis
21 Railway (Hofsommer, 2005).

22 Ports along Lake Superior benefitted from robust trade on the Great Lakes. The port of Duluth
23 shipped iron ore, coal, and grain from Minnesota to other Great Lakes ports as well as Canada.
24 In 1959, the St. Lawrence Seaway opened, greatly curtailing the Lakes trade as ships leaving
25 Duluth could access the Atlantic Ocean through the lakes and the St. Lawrence River.

26 • Agriculture

27 After the Civil War, European immigrants, notably Scandinavians and Germans flocked to
28 Minnesota to settle the state's rich farmland, encouraged by the 1862 Homestead Act.
29 Agricultural products include wheat, corn, oats, and flax. The volume of grain produced enabled
30 Minnesota to become a leading maker of flour, counting Pillsbury and the Washburn-Crosby
31 Company (later, General Mills) as leading millers by the beginning of the twentieth century.

32 • Industry and Manufacturing

33 The copious pine, balsam, and spruce forests of the territory spurred the development of the
34 lumber industry as sawmills were built along its major rivers, notably the St. Croix in eastern
35 Minnesota. These forests were opened to lumbering by the end of the 1830s and mostly gone by
36 1900. The lumbering industry shifted to the north after 1900 and declined thereafter (Minnesota
37 Historical Society, 2011b).

38 Iron ore was mined commercially beginning in 1884 on the Vermilion Range. In 1890,
39 extensive iron ore deposits were discovered at the Mesabi Range. Large-scale production at this
40 deposit resulted in a population boom for northeastern Minnesota, especially at Duluth.
41 Rigorous exploitation of the deposits depleted the state's reserves of high-grade ore by the late
42 1950s (Encyclopaedia Britannica 2009a).

1 • Commerce and Trade

2 Commerce and trade were initially locally focused. As transportation improved with the advent
3 of better roads, steamers, and railroads, trade with southern Canada and nearby territories
4 became more extended. Areas along Lake Superior developed as a result of a robust lake trade
5 with such ports as Cleveland, Erie, and Buffalo. The first railroad in the state connected
6 Minneapolis and St. Paul in 1862.

7 • Government

8 The Minnesota Territory was established on March 3, 1849, and included areas within what are
9 now North Dakota and South Dakota. Minnesota became the 32nd state of the Union on May 11,
10 1858.

11 • Domestic, Social and Cultural

12 Settlement of Minnesota began during the eighteenth century, focused on areas along Lake
13 Superior and the Mississippi. As a frontier area, commercial ties with Canada provided an
14 important economic lifeline that was facilitated by the lack of enforcement of border crossing.
15 Areas of central Canada were supplied from settlements in the Red River valley (Gilman, 1991;
16 Wingerd, 2010).

17 Gradually, settlers spread throughout the state along the state's waterways. Early settlers erected
18 log cabins and cleared fields of trees in order to farm their land. As houses became more
19 elaborate, they were made of frame construction, and later from a variety of building materials,
20 such as stone and brick. In larger urban environments, residences rose to multi-story dimensions
21 in a variety of styles. Scandinavia immigration into the state increased rapidly after the 1862
22 Homestead Act and with improvements in transportation networks.

23 **1.2.3.2 State of North Dakota**

24 • Contact Period/Exploration/Frontier

25 Contact between Indigenous people and Europeans began in mid-eighteenth century as French
26 fur traders ventured through the Northern Plains to explore the Rocky Mountains. The first
27 recorded explorer to visit what is now North Dakota was Pierre Gaultier de Varennes, sieur
28 (lord) de La Vérendrye. Fur traders from Canada began to arrive in the 1790s. Alexander Henry
29 established the first trading post in the state at Pembina in 1801. Subsequent trading posts were
30 founded at Fort Union and Fort Clark. Visits to the region by Europeans or Americans were
31 infrequent until after 1804, when Lewis and Clark passed through the area. Men under the
32 direction of Lewis and Clark erected Fort Mandan, where the explorers spent the winter (ND
33 Tourism 2011; Eccles, 1997).

34 After the War of 1812, expansion west of the Mississippi River increased. American explorers
35 and traders brought manufactured goods and liquor for trade with the Indians, as well as
36 unfamiliar diseases. The populations of many native nations were decimated by contact with the
37 American traders. As explorers and settlers moved westward, the U.S. Army erected numerous
38 forts along the area's rivers beginning in 1857. Settlement of the Northern Plains began in
39 earnest in 1861 with the creation of the Dakota Territory.

40 • Transportation

1 The first routes through the wilderness were Native American trails, then U.S military supply
2 routes. Railroads were the major infrastructure advance after 1870. James J. Hill played a major
3 role in developing North Dakota as he was the driving force behind extending rail routes west
4 into North Dakota, Montana, and Idaho in the 1880s. Hill's Great Northern Railroad, the Soo
5 Line Railroad, and the Northern Pacific Railroad linked the region to manufacturers in
6 Minnesota and served to bring North Dakota's wheat crop to markets in the East (Controneo,
7 1970; Hedges, 1926; Murray, 1957).

- 8 • Agriculture

9 After the railroads reached the Red River, a period of rapid in-migration occurred as 100,000
10 settlers arrived into the territory between 1879 and 1886. Many of these settlers would establish
11 farmsteads under the 1862 Homestead Act. "Some settled on 160-acre homesteads, while some
12 created bonanza farms that were highly mechanized, well-funded and usually focused on large-
13 scale wheat production" (ND Tourism, 2011). Many of these farms produced wheat, which was
14 shipped to Minnesota to be processed into flour (NPS Parknet, 2011). As Bonanza farms
15 prospered in the eastern part of the state, cattle ranches developed to the west after 1880,
16 centered in the Badlands area.

17 In the twentieth century, farms diversified their production from wheat to other crops like sugar
18 beets, sunflowers, and oats. Around the same time, farms consolidated, grew larger, and became
19 increasingly mechanized. North Dakota has 77,690 farms in 1920 and less than 30,000 in the
20 first decade of the twenty-first century. The average farm size at present is 1,280 acres (ND
21 Tourism, 2011).

- 22 • Industry and Manufacturing

23 Local industries and light manufacturing are concentrated in the urban areas of the state, such as
24 Fargo and Bismarck. In the twentieth century, oil and natural gas exploration became important
25 industries. "North Dakota is a leading producer of coal, oil, gas, and wind energy" (ND Tourism
26 2011).

- 27 • Commerce and Trade

28 Commerce and trade focused on agricultural products, notably wheat. As transportation
29 improved with the advent of better roads and railroads, trade with nearby territories became more
30 extended.

- 31 • Government

32 Northeastern North Dakota was acquired by the United States through the Rush-Bagot
33 Agreement of 1817, while most of what is now North Dakota was purchased from France in
34 1803 as part of the Louisiana Purchase in 1803. The Dakota Territory was established in 1861
35 and included what is now North and South Dakota. The territory was divided in 1889, and both
36 North and South Dakota became states on November 2, 1889.

- 37 • Domestic, Social and Cultural

38 The U.S. Army established numerous forts in this region beginning in the late 1850s. Settlers
39 and frontiersmen engaged in a great slaughter of northern bison after 1870, which undermined
40 the nomadic culture of the local native nations. During the 1870s and 1880, the U.S. Army
41 engaged in numerous battles with the native nations of the Northern Plains. By the end of the
42 Indian wars in the 1890s, mining, open and fee-simple ranching, and Bonanza and dairy-farm

operations had been established throughout the region. Scandinavia and German immigration into the state increased rapidly after the 1862 Homestead Act and with improvements in transportation networks. In the 1950s, North Dakota became the home of two large Air Force bases: Minot and Grand Forks.

1.2.3.3 State of Montana

- Contact Period/Exploration/Frontier

The first recorded Euro-American exploration of what is now Montana was the Lewis and Clark Expedition on 1804-1806. François Antoine Laroque representing the North West Company of Canada, a fur-trading operation, explored the Yellowstone River after 1805. Prior to that time the state was occupied by numerous Native American nations, including the Crow, the Cheyenne, the Blackfeet, the Assiniboine (Ojibwe), the Gros Ventre, the Kootenai, the Chippewa, the Cree, the Lakota Sioux, the Arapaho, and the Shoshone.

As subsequent explorations west of the Red River increased, American fur trappers and traders brought manufactured goods and liquor for trade with the Indians, as well as unfamiliar diseases. The populations of many native nations were decimated by contact with the American traders. The period of active fur trading ended during 1840s. In addition to the mountain men, Catholic missionaries also entered the region, establishing Saint Mary's Mission in the Bitterroot Valley. This settlement is presumed to be the first permanent settlement in the state. The priests promoted agriculture and erected a sawmill (State of Montana, 2011).

Fort Benton, established as a fur trading post on the Missouri River in 1847, was the first permanent fort in Montana in 1865. In the 1860s, gold was discovered in Montana. As a result, prospectors and other settlers flocked to the region. "The rapid influx of people led to boomtowns that grew rapidly and declined just as quickly when the gold ran out" (State of Montana, 2011).

- Transportation

The first routes through the wilderness were Native American trails, then U.S military supply routes. Fort Benton was the western-most navigable point for steamboats on the Missouri River, and became an important trade center as a result. Railroads were the major infrastructure advance after 1880. The Northern Pacific reached Billings in 1882. James J. Hill played a major role in developing the rail network along the northern border, extending a line from Minnesota across North Dakota, Montana, and Idaho into Washington during the 1880s. The line became the Great Northern Railway in the 1890s (Controneo, 1970; Hickcox, 1983; Yenne, 2005).

- Agriculture

Beginning in the 1860s, cattle ranches were established in the western valleys of the territory, spurred by the demand for meat by newly founded mining communities. The availability of free public-domain land in eastern Montana attracted open-range cattle ranches in the 1870s. The railroads also encouraged the development of agriculture along their routes. In 1909, the U.S. Congress passed the Enlarged Homestead Act as an encouragement to settle more marginal lands that could not be irrigated, which resulted in an influx of settlers. Many farmers grew oats and then switched to wheat. Wheat was a successful crop until drought and poor prices destroyed the market after World War I (State of Montana, 2011).

- Industry and Manufacturing

Montana is rich in mineral resources. Beginning in the 1860s, mining for gold, silver and copper led to the emergence of mining communities. Butte developed from nearby silver and copper deposits. The Anaconda Copper Company, one of the world's largest copper mining companies, was based in Butte (State of Montana, 2011). The demand for Montana's mineral wealth drew immigrants from Scandinavia, Central and Eastern Europe, and the United Kingdom.

- Commerce and Trade

Commerce and trade focused on agricultural products, notably oats and later wheat, beef, and mineral products. As transportation improved with the advent of better roads and railroads, trade with nearby territories became more extended.

- Government

Prior to 1863, what is now Montana was included as part of the Dakota and Washington territories. In 1863, Montana, Idaho, and most of Wyoming were subsumed as the Idaho territory. In 1864, the Montana Territory was created with the same boundaries it has now as a state. Montana was admitted to the union on November 8, 1889.

- Domestic, Social and Cultural

The increasing influx of settlers after 1860 engendered conflicts with the native nations, which could not access their traditional hunting areas. During the same time, the U.S. Army began establishing numerous forts in this region to provide protection and assert Federal authority. As a result, Montana became the scene of numerous battles between the army and various native nations over control of the land. These battles included the Battle of Little Big Horn with the Lakota and battles with the Nez Perce. By the end of the Indian wars in the 1890s, mining, open and fee-simple ranching, and farming operations had been established throughout the region.

The demand for Montana's mineral wealth drew immigrants from Scandinavia, Central and Eastern Europe, and the United Kingdom. The mixture of immigrant cultures as well as the manual nature of the work led to the emergence of union movements in the mines of Montana.

Beginning in the late nineteenth century, the Federal government began purchasing large swaths of territory to serve as national parks, with Yellowstone being the first. Other parks include Glacier and Badlands national parks, and more than 20 national wildlife refuges in the region. Montana contains seven Indian reservations: Fort Peck Indian Reservation; Fort Belknap Indian Reservation; Northern Cheyenne Indian Reservation; Crow Indian Reservation; Rocky Boy's Indian Reservation; Blackfeet Indian Reservation; and Flathead Indian Reservation.

1.2.4 WEST OF THE ROCKIES REGION

1.2.4.1 State of Montana

A portion of the State of Montana is considered part of the East of the Rockies Region and a portion is considered part of the West of the Rockies Region. The historic context developed for the State is presented in its entirety in East of the Rockies Region section present above (see Section 1.2.4.2).

1.2.4.2 State of Idaho

- Exploration and Frontier

American exploration in the Northwest expanded after the Lewis and Clark expedition had crossed the continent in 1805. John Jacob Astor's Pacific Fur Company tried to compete in the fur trade by establishing an overland system of posts combined with a maritime trading network. The company sold out to the Northwest Company as a result of the War of 1812, but other independent traders known as mountain men continued to maintain an American presence in the region.

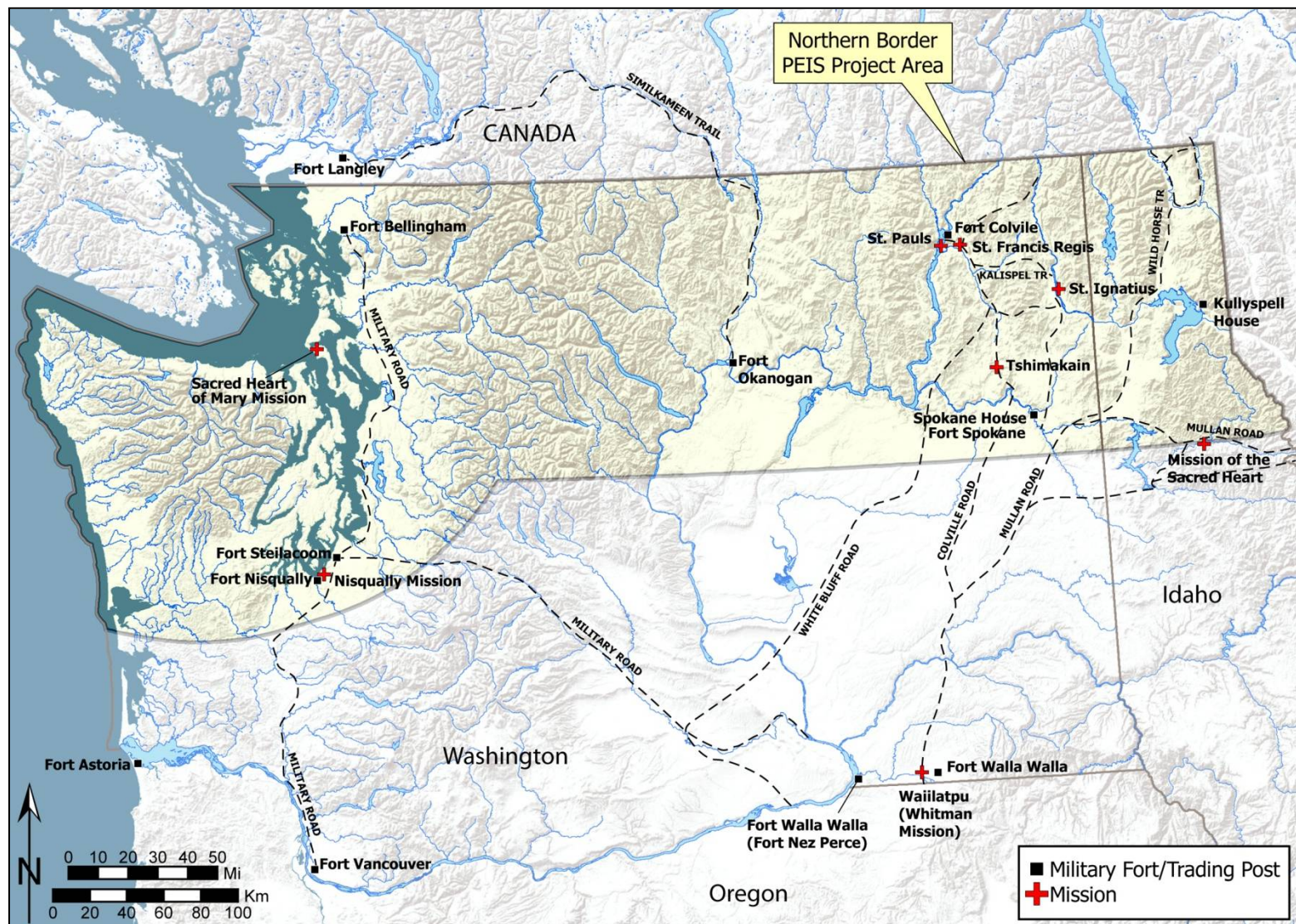
Rivalry between the two largest trading companies, the British Hudson's Bay Company (HBC) and Montreal-based Northwest Company, ended in a merger in 1821, and under the Hudson's Bay name. The new company not only controlled much of the Northwest fur trade but also advanced British dominance in the region. HBC established forts at strategic locations and set up far-reaching networks of exchange throughout the Northwest. None of these forts, however, was located in what is now Idaho (Figure H-9; Carpenter, 1986:25, 26, 30).

As expected, Christian missionaries followed closely behind the commercial ventures, hoping to convert the region's Native peoples. Missionaries conducted religious services at previously established fur-trading operations, as well as at newly created missions along important trade routes or near Native villages.

The American government had long contested British claims in the Northwest, and both sides signed a joint occupation agreement in 1818, which was renewed indefinitely in 1826. The United States pushed for a boundary between British and American interests running from the Rocky Mountains along the 49th parallel to the Pacific. England stood firm against this proposal, calling for the Columbia River as its suggested boundary. The British finally accepted the 49th parallel as the dividing line between the territories of the two countries in 1946. Each nation selected its own boundary commission, and together they spent a total of six years from 1857 to 1862 surveying, clearing and then marking the final boundary (Galbraith, 1957:196-199; Hayes, 2000:150, 171-174).

American settlement in the vast region north of the Columbia expanded quickly once the boundary treaty was signed. Oregon Territory was established in 1848 and included all of the land currently encompassed by Oregon, Washington, Idaho, northwestern Montana and western portions of Wyoming. As the territorial population grew, more would-be settlers headed north to the Puget Sound region and a few into the interior. These residents soon felt isolated from the Oregon territorial government based in Salem and petitioned Congress to create a separate northern territory. In March 1853 the Federal government established Washington Territory, which continued to include large portions of present-day Idaho and Montana. A huge mining rush that increased the population of the inland counties ultimately led to the formation of a separate Idaho Territory in 1863 (Ficken, 2002:17-19; ISHS, 1976:36-38).

Figure H-9. Early Trails, Trading Posts, Forts, and Missions in Idaho and Washington



1 • Transportation

2 Improvements in transportation became the major determinant of growth throughout the region.
3 Most Native peoples as well as outsiders who came into the region initially relied on water
4 travel. The earliest explorers and traders along the coast arrived on sailing vessels but canoes
5 were the preferred method of transportation on Puget Sound as well as most of the navigable
6 rivers and streams throughout the interior.

7 The earliest trade routes in the region were established by Native peoples and were frequently
8 linked to waterways. Incoming traders, miners and settlers readily utilized these established
9 pathways to the interior. As early as 1807, Northwest Company traders crossed the Great Road
10 of the Flatheads, a long-standing Native trail that extended from the Spokane River
11 northeastward through Idaho to the Canadian border. This route became known as the Wild
12 Horse Trail by the 1850s and was used by miners to reach the gold fields of British Columbia
13 (Cork, 1991:3-6).

14 American settlers who wanted to claim their own land in the West came in greater numbers with the
15 opening of the Oregon Trail. Construction of more permanent roads began once the region attained
16 territorial status and the government needed to provide protection and other services for residents.
17 Military roads connected newly built forts across the region and eventually helped to encourage new
18 settlement. The government-built Mullan Road, which extended west from Fort Benton on the
19 Missouri River through Idaho to Fort Walla Walla, opened in 1861 (Schwantes, 1989:149).

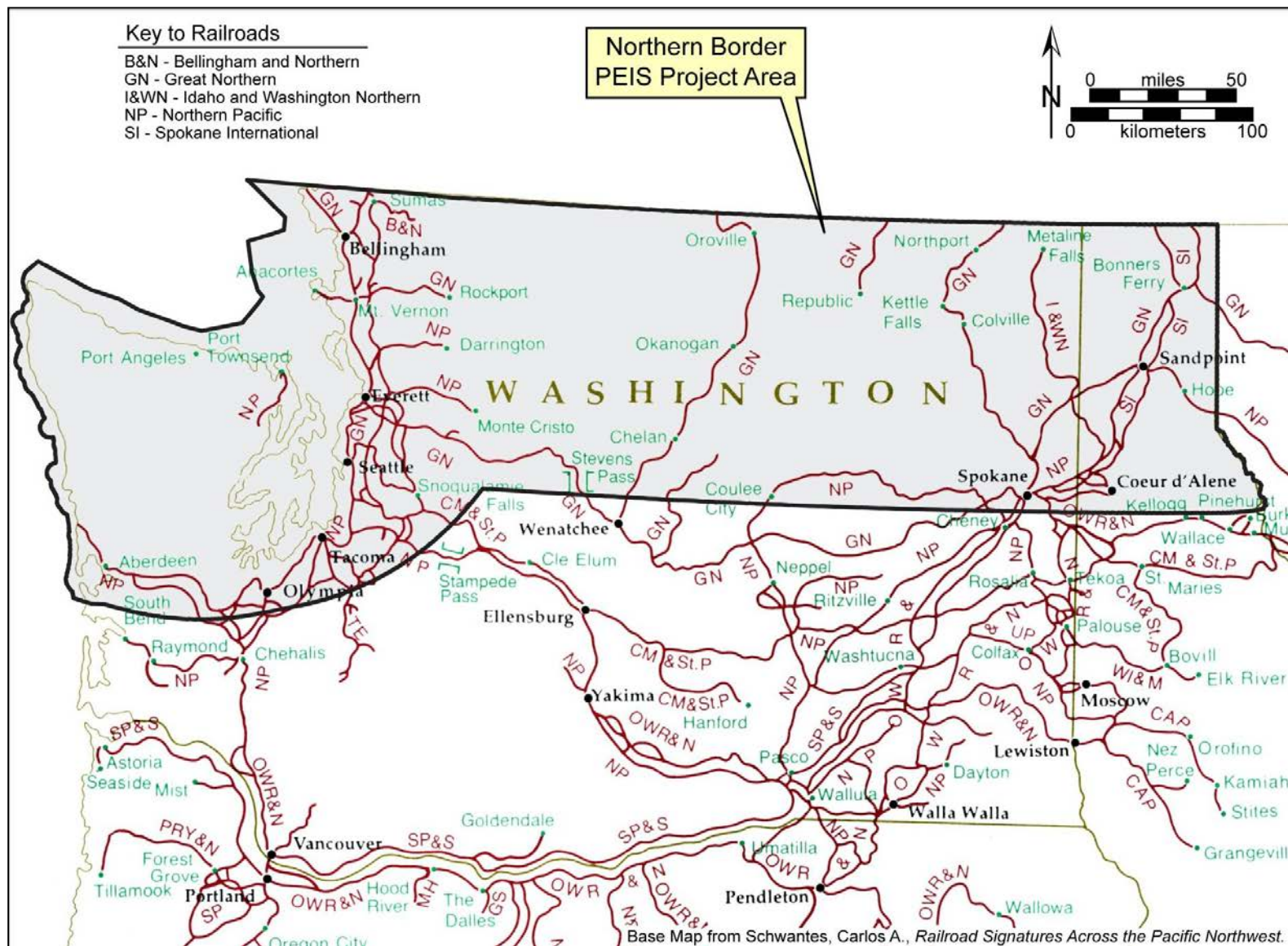
20 Despite the improvements in overland transportation, residents had to wait for the arrival of the
21 railroads for reliable connections to outside markets (Figure H-10). As expected, politics led to
22 the siting of the first transcontinental line through the center of the country, but a second
23 transcontinental line—the Northern Pacific—was chartered in 1864 (Goetzmann, 1959: 274;
24 Schwantes, 1989:142-144).

25 In 1870, construction of the Northern Pacific began simultaneously at Duluth, Minnesota, in the
26 east and Kalama, Washington (near Tacoma), in the west. Construction was halted periodically
27 as a result of financial difficulties but by 1880 work started on the Pend Oreille Division, which
28 ran more than 200 miles from Ainsworth, near the confluence of the Snake and Columbia rivers,
29 to Lake Pend Oreille. Tracks reached Spokane Falls in June 1881 and the south shore of Lake
30 Pend Oreille on January 9, 1882 (Lewty, 1987:50-64, 90-92).

31 The first railroad to challenge the Northern Pacific was the Great Northern Railroad. The route
32 of James J. Hill's Great Northern through Idaho ran south from Bonners Ferry to Sandpoint and
33 then followed the northern shore of the Pend Oreille River, heading to Spokane
34 (Armbruster 1999:163-173).

1
2

Figure H-10. Railroad System in Idaho and Washington, ca. 1916



1 Other regional railroads that crossed through eastern Washington and North Idaho included the
2 Spokane International in 1906 and the Idaho & Washington Northern Railroad. Branch lines
3 from the main railroads also spread across the region, joining towns and stimulating industrial
4 growth (Fahey, 1986:195-196; Fahey, 1965:209-218).

5 Rail transport remained important from the World War I through the end of World War II, when
6 improvements to the highway systems undermined the profitability of the lines. As automobile
7 travel increased throughout the 1900s, Federal, State, and local governments worked to improve
8 the network of roads nationwide. Significant Federal funding first became available with
9 passage of the Federal Road Act of 1916 and both State and Federal legislation over the next few
10 decades provided further support for new highway construction (Dilger, 2003:12-13).

11 • Agriculture

12 Congress passed the Donation Land Claim Act of 1850, which made very generous land grants
13 to established residents of the territory. In most of the Northern Border PEIS project area these
14 claims were limited in number and were often made by former HBC employees. The Donation
15 law expired in 1855. In parts of North Idaho, two other land laws, the Timber and Stone Act and
16 the Forest Homestead Act, were also widely used to make claims in heavily timbered areas.
17 Settlers also purchased property from the railroads, which advertised and sold portions of their
18 land grants, or in later years from lumber companies that offered cheap, cut-over lands
19 (McLaughlin, 1994:64).

20 The range of crops grown varied with the environment, which was extremely diverse throughout
21 the PEIS project area. One historian has likened the agricultural regions of the Northwest to
22 “islands separated from one another by forests, mountains and vast prairies of sagebrush and
23 native grasses” (Schwantes 1989:167). One of these islands of agriculture was in forested areas
24 of eastern Washington and North Idaho, where stump ranch pioneers tried to convert cut-over
25 lands into fields and pastures. In semi-arid parts of the interior, much of the land was initially
26 used for grazing of cattle and sheep, while dryland farming techniques enabled some successful
27 grain production (Schwantes, 1989:167-168).

28 The emergence of irrigation transformed other parts of the semi-arid interior. Apples, cherries
29 and other fruit trees thrived on irrigated lands in the Okanogan and Wenatchee Valleys. Later,
30 the construction of the Grand Coulee Dam led to the development of the Columbia Basin Project,
31 an ambitious effort to irrigate more than half a million arid acres for alfalfa, sugar beets, potatoes
32 and a variety of other crops. Near the Idaho border, the Rathdrum Prairie was also irrigated for
33 agricultural production, although financed by several private ventures (Schwantes, 1989:167-
34 171, 349; Meinig, 1969:479-480; Schwantes et al., 1988:90, 157, 160; Renk, 2002).

35 • Industry and Manufacturing

36 Timber was often the first “cash crop” for early settlers who cut railroad ties, shingle bolts and
37 fence posts on their own claims. Like many other Northwest industries, the first sawmill in the
38 region was operated by the HBC, but as more Americans arrived, small water-powered mills
39 sprang up in virtually every settlement to mill lumber for buildings. The timber industry
40 experienced a severe downturn during the 1893 depression but rebounded after 1900 when
41 several giant lumber companies moved into the region, looking for new opportunities as

1 Midwestern reserves of white pine began to dwindle. The largest was the Weyerhaeuser
2 syndicate, which purchased existing mills or started new ones in a number of North Idaho and
3 Washington towns. Competing companies also located in the project area, all supported by
4 lumber camps in the woods that used logging railroads, chutes and flumes and even river drives
5 to remove the timber from often steep and rugged terrain. A unique timber culture also emerged,
6 peopled by itinerant woodsmen and steam donkey engineers, crews of Japanese millworkers and
7 ultimately union organizers trying to protect the interests of many of these laborers. Lumber
8 production peaked in the mid-1920s but experienced a sharp decline with the onset of the
9 Depression, only to recover once more following World War II when the nationwide housing
10 boom led to a renewed demand for lumber products (Hutchison, 1938).

11 The mining industry in the region also experienced similar boom and bust cycles. Once the 1849
12 gold excitement in California began to wane, prospectors fanned out across the west looking for
13 new opportunities. The first rush to the northern Rocky Mountain region came in 1855 with the
14 discovery of gold near Colville, Washington. Similar discoveries followed in British Columbia,
15 central and southern Idaho and Montana, generating considerable traffic across the Idaho
16 panhandle. Eager miners and pack trains carrying supplies often used the Mullan Road or the
17 Wildhorse Trail to reach the latest finds (Cork, 1991:3-6).

18 Another period of mining excitement began in 1882 with the discovery of gold near Murray,
19 Idaho, followed by a major rush to the North Fork of the Coeur d'Alene River in the winter of
20 1883-1884. Regional mining soon shifted from gold to silver and lead and from placer to lode,
21 as capitalists developed the mineral wealth of Shoshone County, Idaho, in particular. While
22 these mines were by far the most important in northern Idaho, other areas attracted interest as
23 well. An overflow of prospectors poked around the southern end of Lake Pend Oreille with little
24 success, although a nearby silver-lead discovery sparked a rush to the new camp of Chloride in
25 1888. The community of Lakeview developed into a more permanent town to serve the
26 surrounding mining region, where some lode mining and exploration continued intermittently
27 until the 1960s (Fahey, 1986:175-176; Dahlgren and Kincaid, 1991:173; Hackbarth, 2003:57;
28 Savage, 1967:90-95).

29 Lime and concrete manufacturing also developed along Lake Pend Oreille and was the basis of
30 important industrial expansion in other parts of the Northwest, including the Baker River
31 drainage and the San Juan Islands in the Western Washington. Energy production also became
32 an important industry in the Northwest, as rivers were harnessed to provide power for growing
33 communities. Private companies built many of the early dams and hydroelectric facilities, but
34 public projects like Seattle's Ross Lake Dam development or the huge, Federally-sponsored
35 Grand Coulee Dam on the Columbia River, added significantly to the region's industrial base.

36 • Commerce and Trade

37 In northern Idaho, the availability of transportation also frequently dictated the growth of towns
38 and the development of commercial enterprises. Communities usually first evolved around
39 significant industrial or agricultural activities, but location on major road or rail systems helped
40 to ensure longevity. Depending on their size, smaller towns in northern Idaho, eastern
41 Washington, the Columbia Basin and the interior of northwestern Washington often developed
42 their own commercial districts that included basic banking, retail and supply functions, but also
43 warehousing and storage facilities for the products that were grown, mined or manufactured

1 nearby. Transportation-related activities, including gas stations, auto repair as well as
2 restaurants, taverns and tourist facilities also became established commercial ventures, especially
3 as highway systems improved.

4 • Domestic

5 Initially, relatively large pieces of “free” property were offered in exchange for the construction
6 of a dwelling and evidence of working the land. As a result, less desirable locations on steep
7 mountainsides or arid bluffs were settled quickly once the more fertile options were no longer
8 available. As a result, small single-family dwellings as well as a variety of outbuildings are
9 found throughout the region where such lands were homesteaded. In many of these areas log
10 construction was most prevalent in the early years of development. Frame houses predominated
11 in communities where sawmills provided a ready supply of lumber, and often in more rural areas
12 homeowners progressed from log cabins to larger frame homes as their economic situation or
13 transportation access improved.

14 Towns developed in very different patterns than many areas of the eastern United States. Instead
15 of commercial centers arising naturally out of well-established farming regions or industrial
16 centers, many towns in the Northwest essentially arrived in the wilderness with the railroad. The
17 major lines established stations at regular intervals and these stops became the centers of new
18 communities. In other cases entrepreneurs claimed land at the junction of major roads on
19 potential trade networks and hoped to profit by platting their holdings into town sites.

20 In both Washington and Idaho where extractive industries flourished, many companies built not
21 only mills and manufacturing plants but also employee housing and other standard amenities. In
22 some remote areas, there were no alternatives. In some industry-dominated communities, the
23 settings were less picturesque, and often utilitarian company-built housing was merely an
24 addition to an already-established town (Schwantes et al., 1988:113).

25 By the beginning of the twentieth century the leading cities within the PEIS project area—
26 Seattle, Tacoma and Spokane—initiated most of the economic activity in the region, serving as
27 labor pools, trade and transportation centers and the principal markets for the production of the
28 rest of Washington and northern Idaho. Multi-family dwellings, residential hotels and tenements
29 marked the city centers until the World War II era, when an influx of war workers led to the
30 construction of defense housing as well as new urban and suburban neighborhoods (Schwantes,
31 1989:192; Woodbridge and Montgomery, 1980:12-18).

32 • Government

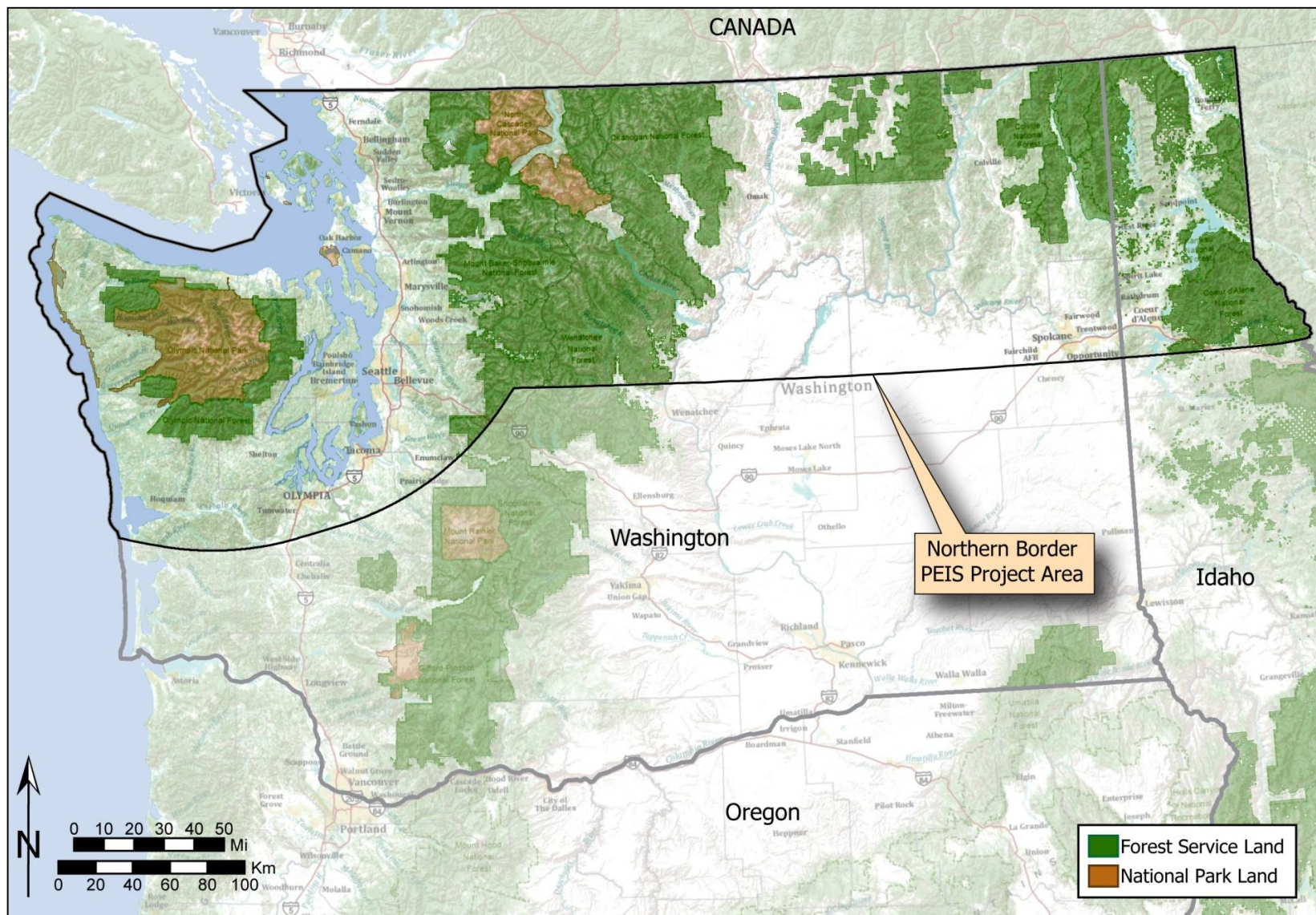
33 Idaho was included in the Territory of Washington beginning in 1853. Later North Idaho
34 residents periodically threatened secession because of the huge distance to the State capital in
35 Boise. An early role of the Federal government was to disburse land to settlers, but gradually the
36 value of preserving some of these lands for National Forests and other public uses changed the
37 government’s focus to stewardship of remaining resources. Forests reserves established in the
38 1890s were precursors to the North Cascades National Park and the Mt. Baker-Snoqualmie
39 National Forest. Similarly the first reserves in northeastern Washington and Idaho evolved into
40 today’s Wenatchee, Colville, and Idaho Panhandle national forests. Today national park and
41 national forest lands in the PEIS project area encompass more than 9.9 million acres in addition

1 to wildlife preserves, parks and protected areas administered by other government and private
2 agencies (Figure H-11) (Steen, 1991:74-75; Holstine, 1978:44, 50; GIS data from Washington
3 Department of Ecology and Idaho Department of Water Resources, 2009).

4 Early provisions that prohibited timber harvests, mining, or grazing on Federal lands eventually
5 led to multiple-use management plans that sought to balance resource protection with public
6 access. Government responsibilities in the national forests, for example, included the
7 development of trails and roads for fire protection and logging but also for recreational use.

8 Government programs, and especially those connected with New Deal measures during the
9 Depression era of the 1930s, also had an important impact on the improvement of public
10 facilities. The CCC, for example, used young, jobless enrollees to work in forest protection and
11 improvement, recreation development, range and wildlife enhancement as well as in emergency
12 work to combat floods, fires, and other disasters. The WPA, among other State and Federal
13 programs, improved additional types of public lands by hiring the unemployed to construct new
14 roadways, bridges and government buildings (Steen, 1991:34-36; Hollenbeck, 1987:284; CCC,
15 1939:73; Otis et al., 1986:9-10).

Figure H-11. Modern National Forests and Parks in Idaho and Washington



1 • Social and Cultural

2 Single men predominated in early migrations, and in some areas Masonic Lodges and other
3 fraternal organizations, in addition to saloons, were among the first social establishments. As
4 women and children followed, a primary emphasis was placed on schools. Parochial and private
5 education remained common in growing communities. Territorial legislation in Idaho initiated
6 tax-supported public education (Schwantes, 1989:222-223).

7 Many of the social institutions that developed also reflected the Northwest's multi-ethnic
8 population base. The wide range of environments within the Northwest contributed to cultural
9 diversity among the region's Native populations, and that diversity continued as newcomers
10 from throughout the world made their way to Idaho. The railroads, in particular, fostered this
11 diversity by hiring huge crews of Chinese, and later Japanese, construction workers and then by
12 promotional efforts in many European countries to encourage immigration on their lines.
13 Hispanic immigration also occurred throughout these periods although most notable are large
14 groups who were drawn to the field of eastern Washington by labor shortages during World War
15 II (Schwantes et al., 1988:70).

16 By 1900, 15 percent of Idaho's population was foreign born, and those numbers continued to
17 grow over the next few decades. Ethnic groups brought with them social and cultural institutions
18 that were often re-established in their new communities. As was the pattern throughout the
19 West, immigrants frequently settled together around their places of work. Whether they included
20 Italian railroad workers in Priest River, Idaho, German-Russian farmers in Ritzville,
21 Washington, or Chinese business owners in Seattle, these ethnic communities developed their
22 own social fabric that was a unique mix of age-old traditions and new practices. Like the rest of
23 the country, racism and nativism were present in the Northwest, resulting in events like the
24 expulsion of Chinese workers from coastal cities in the 1880s, segregated housing for Blacks in
25 many cities, and the internment of Japanese citizens during World War II, but generally the
26 region has recognized and tried to preserve the unique values of diversity (Schwantes,
27 1989:186).

28 **1.2.4.3 State of Washington**

29 • Exploration and Frontier

30 The earliest known explorers to interact with the Native peoples of the Pacific Northwest arrived
31 by sea. Spanish seamen sailed up the Northwest coast as early as 1774, although it was not until
32 1790 that one of their expeditions first entered Puget Sound. The British joined northwest
33 maritime exploration in 1792 when Captain George Vancouver led an expedition that further
34 surveyed what became coastal Washington, mapping and naming a number of its land and water
35 features.

36 Sea traders soon followed these explorers. Initially, the valuable pelts of the sea otter were the
37 most sought-after commodity provided by native hunters. In the early nineteenth century, the
38 high prices paid for beaver and other fur-bearing animals drew representatives of large trading
39 companies in Britain, Canada, and the United States overland. They primarily traveled on rivers
40 and streams and followed Indian trails or blazed their own way through mountains or other
41 terrain where there was no navigable water (Scott and DeLorme, 1988:15; Whitebrook, 1959:65-
42 67; 76-78).

American exploration in the Northwest also expanded after the Lewis and Clark expedition had crossed the continent in 1805. John Jacob Astor's Pacific Fur Company tried to compete in the fur trade by establishing an overland system of posts combined with a maritime trading network. The company sold out to the Northwest Company as a result of the War of 1812, but other independent traders known as mountain men continued to maintain an American presence in the region.

Rivalry between the two largest trading companies, the British Hudson's Bay Company (HBC) and Montreal-based Northwest Company, ended in a merger in 1821, and under the Hudson's Bay name. The new company not only controlled much of the Northwest fur trade but also advanced British dominance in the region. HBC established forts at strategic locations and set up far-reaching networks of exchange throughout the Northwest (see Figure H-9). Fort Vancouver, built near the confluence of the Columbia River and the Willamette River in 1824, became the centerpiece of company operations in the Northwest. Three years later HBC constructed Fort Langley at the mouth of the Fraser River in Canada to anchor the coastal trade on the north and eventually developed a coastal land route between the two outposts (Carpenter, 1986:25, 26, 30).

American exploration of the region also continued after Congress authorized the President to send naval vessels to survey the Pacific. The United States Exploring Expedition, under the command of Lieutenant Charles Wilkes, set out in 1838 on a four-year expedition, which further established American interest in the settlement of the Northwest Coast. Wilkes and his men made detailed surveys throughout Puget Sound and portions of the Columbia River, while other members of the party also traveled inland across the Cascade Mountains (Viola and Margolis, 1985: 9-11; Haskett, 1974:1-3; Tyler, 1968:244-245).

Both Catholic and Protestant missionaries soon followed the commercial ventures, hoping to minister to the Native peoples of the region, but often having more success with the expanding non-Native populations. Some conducted religious services at the fur trade forts, while others established their own missions along important travel routes or near major Indian villages.

The American government had long contested British claims in the Northwest, and both sides signed a joint occupation agreement in 1818, which was renewed indefinitely in 1826. The United States pushed for a boundary between British and American interests running from the Rocky Mountains along the 49th parallel to the Pacific. England stood firm against this proposal, calling for the Columbia River as its suggested boundary. The British finally accepted the 49th parallel as the dividing line between the territories of the two countries in 1946. Each nation selected its own boundary commission, and together they spent a total of six years from 1857 to 1862 surveying, clearing and then marking the final boundary. No agreement could be reached on the location of the offshore line between the mainland and Vancouver Island, and eventually this final portion of the boundary was settled by arbitration in 1872 (Galbraith, 1957:196-199; Hayes, 2000:150, 171-174).

American settlement in the vast region north of the Columbia expanded quickly once the boundary treaty was signed. Oregon Territory was established in 1848 and included all of the land currently encompassed by Oregon, Washington, Idaho, northwestern Montana and western portions of Wyoming. As the territorial population grew, more would-be settlers headed north to

1 the Puget Sound region and a few into the interior. These residents soon felt isolated from the
2 Oregon territorial government based in Salem and petitioned Congress to create a separate
3 northern territory. In March 1853 the Federal government established Washington Territory,
4 which continued to include large portions of present-day Idaho and Montana. A huge mining
5 rush that increased the population of the inland counties ultimately led to the formation of a
6 separate Idaho Territory in 1863 (Ficken, 2002:17-19; ISHS, 1976:36-38).

7 • Transportation

8 Improvements in transportation became the major determinant of growth throughout the region.
9 Most Native peoples as well as outsiders who came into the region initially relied on water
10 travel. The earliest explorers and traders along the coast arrived on sailing vessels but canoes
11 were the preferred method of transportation on Puget Sound as well as most of the navigable
12 rivers and streams throughout the interior. As the fur trade grew, the HBC first introduced steam
13 vessels to carry larger loads on Puget Sound in 1836, but it was a few more decades before
14 steamer traffic became common on inland lakes and rivers.

15 A system of trails established by Native peoples of the region often linked these waterways and
16 became important travel routes for traders and the miners and settlers who followed them into
17 the interior. As early as 1807, Northwest Company traders crossed a centuries-old trail called
18 the Great Road of the Flatheads, which extended from the Spokane River northeastward through
19 Idaho to the Canadian border. By the 1850s the same route became known as the Wild Horse
20 Trail and was used by miners to reach the gold fields of British Columbia. Other important
21 overland routes within the Northern Border PEIS project area included the Kalispel Trail in
22 eastern Washington and trails that linked the Hudson's Bay posts in the interior and along the
23 Pacific coast (Cork, 1991:3-6).

24 American settlers who wanted to claim their own land in the West came in greater numbers with
25 the opening of the Oregon Trail. Most settlers reached Puget Sound by boat, although gradually
26 trails along the coast were expanded into wagon roads. Construction of more permanent roads
27 began once the region attained territorial status and the government needed to provide protection
28 and other services for residents. Military roads connected newly built forts across the region and
29 eventually helped to encourage new settlement. By 1854 one major route connected Fort
30 Steilacoom on Puget Sound to Fort Walla Walla in south-central Washington, while the
31 government-built Mullan Road, which extended west from Fort Benton on the Missouri River
32 through Idaho to Fort Walla Walla, opened in 1861 (Schwantes, 1989:149).

33 Water transport also remained important on inland lakes and rivers, especially when it helped to
34 shorten the journey to remote regions. In the 1860s steamers carried passengers up the Columbia
35 River from Kettle Falls to the British Columbia mines and also on the Pend Oreille River north
36 to the Metaline mining district. A system of small ferries, often cable-driven, also provided
37 passage at deep-water crossings of rivers and streams until bridges were built (Harvey, 1989:6;
38 Holstine, 1978:27-28).

39 Despite improvements in transportation access, Northwest residents also hoped for rail service to
40 connect them to a much broader network of markets across the country (see Figure H-10). In
41 1853 railroad proponents persuaded Congress to appropriate funds for surveys of potential
42 transcontinental routes. The timing of the surveys coincided with the approval of Washington's

1 territorial status, and the newly appointed governor, Isaac Ingalls Stevens, headed the exploring
2 party that surveyed a potential northern route to the Pacific. Politics determined the location of
3 the first transcontinental line through the center of the country, but a second cross-country
4 railroad, the Northern Pacific, was chartered in 1864 (Goetzmann, 1959: 274; Schwantes,
5 1989:142-144; White [Richard], 1991:125; Moody, 1911:141-142).

6 In 1870 the Northern Pacific began construction at Duluth, Minnesota in the east and Kalama,
7 Washington (near Tacoma), in the west. Financial difficulties halted progress but by 1880 work
8 started on the Pend Oreille Division, which ran more than 200 miles from Ainsworth, near the
9 confluence of the Snake and Columbia rivers, to Lake Pend Oreille. Tracks reached Spokane
10 Falls in June 1881 and the south shore of Lake Pend Oreille on January 9, 1882 (Lewty,
11 1987:50-64, 90-92).

12 On the Puget Sound side, railroad officials had chosen Tacoma as the terminus. Disappointed
13 rivals like Seattle responded by raising funds to build their own regional lines that would provide
14 rail connections north to Canada or east to important mining and agricultural areas. The Seattle
15 and Walla Walla and the Seattle, Lakeshore and Eastern as well as the Fairhaven and Southern
16 in Bellingham were just a few of the local railroads that were ultimately absorbed by major lines
17 as competition heated up for access to the Northwest.

18 The first of the transcontinental railroads to challenge the Northern Pacific was the Great
19 Northern Railroad pushed west from the Great Lakes to the Pacific by James J. Hill. The Great
20 Northern route ran through Idaho to the northern shore of the Pend Oreille River, heading to
21 Spokane. The line then proceeded west through Stevens Pass, arriving in Seattle by 1893
22 (Armbruster 1999:163-173).

23 Other regional railroads that crossed through Eastern Washington and North Idaho included the
24 Spokane International, which joined Spokane with the Canadian Pacific Railroad at Eastport,
25 Idaho, in 1906, and the Idaho & Washington Northern Railroad running north from McGuire
26 through Spirit Lake and eventually on to Metaline Falls. Branch lines from the main railroads
27 also spread across the region, joining towns and stimulating industrial growth (Fahey, 1986:195-
28 196; Fahey, 1965:209-218).

29 Rail transport remained important through the World War I era and then experienced decline
30 until World War II. At the same time, improved highway systems provided were increasingly
31 used for both freight and public transportation. As automobile travel increased throughout the
32 early 1900s, Federal, State, and local governments worked to improve the network of roads
33 nationwide. Significant Federal funding first became available with passage of the Federal Road
34 Act of 1916 and both State and Federal legislation over the next few decades provided further
35 support for new highway construction (Dilger, 2003:12-13).

36 Airplanes also offered an alternative to ground, water and rail transportation. During the World
37 War I era, military aircraft were manufactured in the Northwest and the first of a number of
38 airbases were built. In the post-World War I era additional construction of landing strips,
39 airfields and airports was undertaken for military, commercial and fire-prevention purposes.
40 Some Federal funds were made available during the Depression era to build large numbers of

community airfields. By this time, the Forest Service had also begun to use airplanes for spotting fires and later flew smokejumpers into dangerous areas as a rapid response measure.

- Agriculture

Much of the early impetus for settlement in the Northwest was to claim land for agriculture, but it was not until transportation systems were in place by the 1890s that the amount of farm acreage began to rise dramatically and major crops were established. The HBC first introduced European agricultural practices at its posts throughout the Northwest to reduce high food costs and increase self-sufficiency. In addition, the company set up a subsidiary venture, the Puget Sound Agricultural Company, which established agriculture and grazing on company lands along south Puget Sound and on Whidbey Island to produce commodities for sale to Russia, Alaska, and Hawaii. Missionaries also introduced agricultural practices to local Indian populations and developed some of the first small irrigation systems in the region (Gibson, 1968:18).

Congress passed the Donation Land Claim Act of 1850, which made very generous land grants to established residents of the territory. In most of the Northern Border PEIS project area these claims were limited in number and were often made by former HBC employees. The Donation law expired in 1855 and subsequently the majority of Washington settlers filed for land under the Preemption Act, which allowed land purchases for a nominal fee, and the Homestead Act of 1862. Settlers also purchased property from the railroads, which advertised and sold portions of their land grants, or in later years from lumber companies that offered cheap, cut-over lands. In the Colville area large parcels of former Indian lands were also sold in the early twentieth century once allotments had been made under the provisions of the Dawes Act of 1887 (McLaughlin, 1994:64).

The range of crops grown varied with the environment, which was extremely diverse throughout the PEIS project area. One historian has likened the agricultural regions of the Northwest to “islands separated from one another by forests, mountains and vast prairies of sagebrush and native grasses” (Schwantes 1989:167). One of these islands of agriculture was immediately east of Puget Sound where plentiful rainfall and adequate soils encouraged dairying and truck farming. Another was in forested areas of Eastern Washington and North Idaho, where stump ranch pioneers tried to convert cut-over lands into fields and pastures. In semi-arid parts of the interior, much of the land was initially used for grazing of cattle and sheep, while dryland farming techniques enabled some successful grain production. Wheat became Washington’s most important crop by 1910, but its growing area extended only to the southern edges of the PEIS project area (Schwantes, 1989:167-168).

The emergence of irrigation transformed other parts of the semi-arid interior. Apples, cherries and other fruit trees thrived on irrigated lands in the Okanogan and Wenatchee Valleys. In 1908 Washington State planted over a million apple trees in a period known as “apple fever,” and within a decade Washington became the country’s leading producer, although subject to huge market swings. Later, the construction of the Grand Coulee Dam led to the development of the Columbia Basin Project, an ambitious effort to irrigate more than half a million arid acres for alfalfa, sugar beets, potatoes and a variety of other crops. Near the Idaho border, the Rathdrum Prairie was also irrigated for agricultural production, although financed by several private ventures (Schwantes, 1989:167-171, 349; Meinig, 1969:479-480; Schwantes et al., 1988:90, 157, 160; Renk, 2002).

1 • Industry and Manufacturing

2 The northern Puget Sound region and the inland Northwest offered an array of natural resources
3 that could be exploited once transportation systems were in place. After the immediate needs of
4 nearby communities were met, most industrial production and food processing was focused on
5 the export market since the region's initial population was relatively small. The timber industry
6 dominated during the early decades of growth on the Pacific coast, although mining brought the
7 earliest population into the interior. Fish canning, grain milling, lime and concrete manufacture
8 have been other important industries in the project area as has energy production (Chasen,
9 1981:6).

10 Timber was often the first "cash crop" for early settlers who cut railroad ties, shingle bolts and
11 fence posts on their own claims. Like many other Northwest industries, the first sawmill in the
12 region was operated by the HBC, but as more Americans arrived, small water-powered mills
13 sprang up in virtually every settlement to mill lumber for buildings. The region's first steam mill
14 was operating in Seattle by 1853, but it was the Olympic Peninsula that for a time became one of
15 the world's leading lumber-producing regions. Much of the production was sent to California
16 for use in its thriving Gold Rush settlements. Also prevalent in western Washington and parts of
17 northern Idaho were shake and shingle mills that utilized locally available Western Red Cedar
18 for their products. By 1890 Washington provided more than one third of the nation's supply
19 (Hutchison, 1938; Ficken, 1967:60).

20 The timber industry experienced a severe downturn during the 1893 depression but rebounded
21 after 1900 when several giant lumber companies moved into the region, looking for new
22 opportunities as Midwestern reserves of white pine began to dwindle. The largest was the
23 Weyerhaeuser syndicate, which purchased existing mills or started new ones in a number of
24 North Idaho and Washington towns. Competing companies also located in the project area, all
25 supported by lumber camps in the woods that used logging railroads, chutes and flumes and even
26 river drives to remove the timber from often steep and rugged terrain. A unique timber culture
27 also emerged, peopled by itinerant woodsmen and steam donkey engineers, crews of Japanese
28 millworkers and ultimately union organizers trying to protect the interests of many of these
29 laborers. Lumber production peaked in the mid-1920s but experienced a sharp decline with the
30 onset of the Depression, only to recover once more following World War II when the nationwide
31 housing boom led to a renewed demand for lumber products (Hutchison, 1938).

32 The mining industry in the region also experienced similar boom and bust cycles. Once the 1849
33 gold excitement in California began to wane, prospectors fanned out across the west looking for
34 new opportunities. The first rush to the northern Rocky Mountain region came in 1855 with the
35 discovery of gold near Colville, Washington. Similar discoveries followed in British Columbia,
36 central and southern Idaho and Montana, generating considerable traffic across the Idaho
37 panhandle. Eager miners and pack trains carrying supplies often used the Mullan Road or the
38 Wildhorse Trail to reach the latest finds (Cork, 1991:3-6).

39 An overflow of prospectors poked around the southern end of Lake Pend Oreille with little
40 success, although a nearby silver-lead discovery sparked a rush to the new camp of Chloride in
41 1888. The community of Lakeview developed into a more permanent town to serve the
42 surrounding mining region, where some lode mining and exploration continued intermittently

1 until the 1960s (Fahey, 1986:175-176; Dahlgren and Kincaid, 1991:173; Hackbarth, 2003:57;
2 Savage, 1967:90-95).

3 Lime and concrete manufacturing also developed along Lake Pend Oreille and was the basis of
4 important industrial expansion in other parts of the Northwest, including the Baker River
5 drainage and the San Juan Islands in the Western Washington. Coal mining conducted in the
6 Cascade Mountains and in areas south of Seattle contributed to that city's early export base.
7 Food processing began as early as the 1870s as salmon canneries were built in coastal towns like
8 Mukilteo and Anacortes, while the milling of wheat and other grains became an early mainstay
9 of Spokane and other inland communities. The advent of the railroad allowed grain to be
10 shipped to coastal ports like Seattle and Tacoma where it could also be processed and shipped to
11 markets abroad. Energy production also became an important industry in the Northwest, as
12 rivers were harnessed to provide power for growing communities. Private companies built many
13 of the early dams and hydroelectric facilities, but public projects like Seattle's Ross Lake Dam
14 development or the huge, Federally sponsored Grand Coulee Dam on the Columbia River, added
15 significantly to the region's industrial base.

16 • Commerce and Trade

17 Beginning with the shipment of furs, salted salmon and a few agricultural products during the
18 early decades of the nineteenth century, the Northwest coast developed a thriving Pacific trade.
19 For many years California was the region's major commercial partner, and a number of new
20 ports, including Bellingham, Anacortes and Port Gamble, grew up around north Puget Sound to
21 ship out lumber and other wood products. The advent of regional and then transcontinental rail
22 lines not only opened up interior markets by the 1880s and 1890s, but also fostered an expanded
23 trans-Pacific trade with Hawaii, China and other parts of Southeast Asia as well as Central and
24 South America. Seattle became a supply point for the Klondike Gold Rush of 1897, forging
25 stronger trade ties with Alaska and British Columbia (Berner, 1991:22-23).

26 Elsewhere in Washington and northern Idaho, the availability of transportation also frequently
27 dictated the growth of towns and the development of commercial enterprises. Communities
28 usually first evolved around significant industrial or agricultural activities, but location on major
29 road or rail systems helped to ensure longevity. Most of the major Washington cities—
30 Bellingham, Everett, Seattle, Tacoma and Olympia on Puget Sound and Spokane in the
31 interior—are within the Northern Border PEIS project area, and these urban centers generally
32 grew as transportation hubs and commercial entrepôts for resource-rich hinterlands.

33 Depending on their size, smaller towns in northern Idaho, eastern Washington, the Columbia Basin
34 and the interior of northwestern Washington often developed their own commercial districts that
35 included basic banking, retail and supply functions, but also warehousing and storage facilities for
36 the products that were grown, mined or manufactured nearby. Transportation-related activities,
37 including gas stations, auto repair as well as restaurants, taverns and tourist facilities also became
38 established commercial ventures, especially as highway systems improved.

39 • Domestic

40 Population distribution throughout the Northwest has generally been very uneven, with the
41 preponderance of settlement in lowlands along the coastline or on major river drainages. Since

1 early land laws offered relatively large pieces of “free” property in exchange for construction of a
2 dwelling and evidence of working the land, less desirable locations on steep mountainsides or arid
3 bluffs were also settled quickly once the choice options were no longer available. As a result,
4 small single-family dwellings as well as a variety of outbuildings are found throughout the region
5 where such lands were homesteaded. In many of these areas log construction was most prevalent
6 in the early years of development. Frame houses predominated in communities where sawmills
7 provided a ready supply of lumber, and often in more rural areas homeowners progressed from log
8 cabins to larger frame homes as their economic situation or transportation access improved.

9 Towns developed in very different patterns than many areas of the eastern United States. Instead
10 of commercial centers arising naturally out of well-established farming regions or industrial
11 centers, many towns in the Northwest essentially arrived in the wilderness with the railroad. The
12 major lines established stations at regular intervals and these stops became the centers of new
13 communities. In other cases entrepreneurs claimed land at the junction of major roads on
14 potential trade networks and hoped to profit by platting their holdings into town sites.

15 In both Washington and Idaho where extractive industries flourished, many companies built not
16 only mills and manufacturing plants but also employee housing and other standard amenities. In
17 some remote areas, there were no alternatives. In situations like the Puget Sound sawmill town
18 of Port Gamble, built by the Pope and Talbot Lumber Company, small worker houses that
19 reflected the firm’s New England roots were set on tree-lined streets with a community hall,
20 school and hospital nearby. In other industry-dominated communities, the settings were much
21 less picturesque, and often utilitarian company-built housing was merely an addition to an
22 already-established town (Schwantes et al., 1988:113).

23 By the beginning of the twentieth century the leading cities within the PEIS project area—
24 Seattle, Tacoma, and Spokane—initiated most of the economic activity in the region, serving as
25 labor pools, trade and transportation centers, and the principal markets for the production of the
26 rest of Washington and northern Idaho. The rate of growth in these urban centers was dramatic.
27 Spokane, in particular, developed from a backwater of only 350 people in 1880 to a metropolis
28 of over 100,000 in 1920, while during the same period, Seattle’s population increased ten-fold.
29 All these people needed homes and within the growing cities, single-family residences
30 increasingly were built outside the urban core, with neighborhoods defined by socio-economic
31 criteria, ranging from pattern book to architect-designed styles that generally reflected prestige
32 and perceived popular taste rather than a local identity. Multi-family dwellings, residential
33 hotels and tenements marked the city centers until the World War II era, when an influx of war
34 workers led to the construction of defense housing as well as new urban and suburban
35 neighborhoods (Schwantes, 1989:192; Woodbridge and Montgomery, 1980:12-18).

36 • Government

37 The Territory of Washington was first established in 1853 because its far-flung settlers felt that
38 they were being ignored by the Oregon territorial government. Later North Idaho residents
39 periodically threatened secession because of the huge distance to the State capital in Boise. Yet
40 over time, despite some citizen mistrust, Federal, State and local governments played a major
41 role in many aspects of Northwest life, from military operations, resource management and
42 infrastructure development to political organization and protection of citizens.

1 Among the first actions of Washington territorial government were treaty negotiations with
2 Indian tribes and the establishment of a justice system. During what became known as the
3 Treaty War period, small communities feared attack from local tribes after the treaties were
4 negotiated, and the government responded by calling out volunteer militia units and also building
5 a few strategic forts and blockhouses. Naval ships patrolled the Washington coast while in the
6 interior Army troops battled with Indian groups in several interior areas, including Spokane
7 Plains and Four Lakes. In later years, problems with Native peoples no longer threatened, but
8 new military and strategic considerations also prompted the government to locate a number of
9 Army, Navy and Coast Guard facilities around Puget Sound, including several within the PEIS
10 project area. Additional military bases were established near Spokane, including the World War
11 II-era Farragut Naval Station on Lake Pend Oreille in Idaho (Ruby and Brown, 1970:128-133).

12 Another early role of the Federal government was to disburse land to settlers, but gradually the
13 value of preserving some of these lands for National Forests and other public uses changed the
14 government's focus to stewardship of remaining resources. Forests reserves established in the
15 1890s were precursors to the North Cascades National Park and the Mt. Baker-Snoqualmie
16 National Forest. Similarly the first reserves in northeastern Washington and Idaho evolved into
17 today's Wenatchee, Colville, and Idaho Panhandle national forests. Today national park and
18 national forest lands in the PEIS project area encompass more than 9.9 million acres in addition
19 to wildlife preserves, parks and protected areas administered by other government and private
20 agencies (see Figure H-11) (Steen, 1991:74-75; Holstine, 1978:44, 50; GIS data from
21 Washington Department of Ecology and Idaho Department of Water Resources, 2009).

22 Early provisions that prohibited timber harvests, mining, or grazing on Federal lands eventually
23 led to multiple-use management plans that sought to balance resource protection with public
24 access. Government responsibilities in the national forests, for example, included the
25 development of trails and roads for fire protection and logging but also for recreational use.
26 Government programs, and especially those connected with New Deal measures during the
27 Depression era of the 1930s, also had an important impact on the improvement of public
28 facilities. The CCC, for example, used young, jobless enrollees to work in forest protection and
29 improvement, recreation development, range and wildlife enhancement as well as in emergency
30 work to combat floods, fires, and other disasters. The WPA, among other state and federal
31 programs, improved additional types of public lands by hiring the unemployed to construct new
32 roadways, bridges and government buildings (Steen, 1991:34-36; Hollenbeck, 1987:284; CCC,
33 1939:73; Otis et al., 1986:9-10).

34 • Social and Cultural

35 Communities of all sizes needed to address issues related to quality of life and social interactions
36 among its citizens. In this context social and cultural components are broadly defined to include
37 a wide array of activities related to entertainment, health, religious, educational and funerary
38 practices as well as the unique contributions made by the region's widely diverse populations.

39 In communities across the Northwest, social institutions quickly followed settlement. Single
40 men predominated in early migrations, and in some areas Masonic Lodges and other fraternal
41 organizations, in addition to saloons, were among the first social establishments. As women and
42 children followed, a primary emphasis was placed on schools. The early missionaries had
43 integrated education into their religious programs, and parochial and private education remained

1 common in growing communities. Territorial legislation in both Washington and Idaho initiated
2 tax-supported public education and Washington's Organic Law of 1853 reserved two sections of
3 land in each township to support schools (Schwantes, 1989:222-223).

4 Other social institutions evolved with the growth of communities. With limited entertainment
5 options, civic groups provided an opportunity for residents to come together outside of their
6 homes or places of work. Churches often became community centers, while public meeting halls
7 were often privately built or incorporated into the same space as organizations like the Grange or
8 local unions. Entertainment options varied from traveling chautauquas and circuses to
9 vaudeville shows in larger cities, while civic organizations, and particularly women's clubs,
10 sponsored musical and cultural events and raised money to support of libraries, gardens, parks
11 and other civic improvements. Generally it was not until the 1880s that towns or other
12 government entities began to play a role in establishing public amenities like parks, playgrounds
13 and other recreational and social facilities. This mix of private and public responsibility for
14 social needs also extended to health care, where physicians developed practices and even small
15 infirmaries in their homes until public facilities, including hospitals, sanitariums, and
16 orphanages, were established.

17 Many of the social institutions that developed also reflected the Northwest's multi-ethnic
18 population base. The wide range of environments within the Northwest contributed to cultural
19 diversity among the region's Native populations, and that diversity continued as newcomers
20 from throughout the world made their way to Washington and Idaho. The mixed racial fur trade
21 communities introduced by the HBC gave way to new ethnic groups who came for labor or
22 agricultural opportunities. The railroads, in particular, fostered this diversity by hiring huge
23 crews of Chinese, and later Japanese, construction workers and then by promotional efforts in
24 many European countries to encourage immigration on their lines. Scandinavians formed the
25 largest incoming ethnic group, but Great Britain, Italy, and Russia also contributed significant
26 numbers who populated factories and farms between 1880 and 1920. Hispanic immigration also
27 occurred throughout these periods although most notable are large groups who were drawn to the
28 field of eastern Washington by labor shortages during World War II (Schwantes et al., 1988:70).

29 By 1900, 22 percent of Washington's population was foreign born, and those numbers continued
30 to grow over the next few decades. Ethnic groups brought with them social and cultural
31 institutions that were often re-established in their new communities. As was the pattern
32 throughout the West, immigrants frequently settled together around their places of work.
33 Whether they included Italian railroad workers in Priest River, Idaho, German-Russian farmers
34 in Ritzville, Washington, or Chinese business owners in Seattle, these ethnic communities
35 developed their own social fabric that was a unique mix of age-old traditions and new practices.
36 Like the rest of the country, racism and nativism were present in the Northwest, resulting in
37 events like the expulsion of Chinese workers from coastal cities in the 1880s, segregated housing
38 for Blacks in many cities, and the internment of Japanese citizens during World War II, but
39 generally the region has recognized and tried to preserve the unique values of diversity
40 (Schwantes, 1989:186).

2 NATIVE AMERICAN SACRED SITES AND TRADITIONAL CULTURAL PROPERTIES

2.1 INTRODUCTION

This section includes brief descriptions of Native American sacred sites and traditional cultural properties in the four geographic regions (encompassing 13 states) that are within the 100-mile corridor of the Northern Border project area. Much of this information is highly protected and is difficult, and often impossible, to obtain. Additional information about these properties may be obtained during the Section 106 consultation process.

Cultural resources may include traditional cultural places or sacred sites as outlined in National Register Bulletin 38 (cf., Parker and King, 1991, 1992; Hadley, 1993; Staap and Burney, 2002). Additional relevant legislation includes the National Historic Preservation Act, the National Environmental Policy Act (NEPA) Native American Graves Protection and Repatriation Act (NAGPRA), and the American Indian Religious Freedom Act. Native American sacred sites and Traditional Cultural Properties (TCPs) certainly exist within the Northern Border project area. However, these property types present specific challenges in regard to identification, because no single database exists for this purpose. There are also several challenges to ascribing cultural affiliation to a specific sacred site or Traditional Cultural Property for the purposes of consultation.

Examples of some categories of Native American sacred sites and Traditional Cultural Properties that occur within the Northern Border project area include:

- Burials sites
- Notable Places and/or Landmarks

Places of religious significance

Several forms of data can typically be used to ascribe cultural affiliation to a specific sacred site or Traditional Cultural Property for the purposes of consultation. However, in some instances insufficient data may preclude an objective valid conclusion concerning cultural affiliation. Several groups may claim cultural ties to or ownership of a specific sacred site or Traditional Cultural Property. The absence of a sacred sites and Traditional Cultural Properties database might require the collection of some basic information as to the range of resources that are likely to provide information in regard to sacred sites and Traditional Cultural Properties within the Northern Border project area. Some likely archives or organizations to contact to learn of the scope of their holdings for primary, secondary, and ethnographic data include various Native and ethnic cultural groups, local and state libraries, historical societies, and preservation organizations, folklore societies, and universities and colleges. Oral interviews with individuals who may possess firsthand knowledge of or have researched Native American sacred sites and Traditional Cultural Properties might also be productive. Information can be tabulated manually or digitized in a GIS format for more powerful use.

2.1.1 NEW ENGLAND REGION

2.1.1.1 State of Maine

Although Maine's Tribes certainly have locations considered sacred and locations considered to represent Traditional Cultural Properties, none are officially designated with the National Park Service. For instance, the Penobscot Nation considers locations such as Mt. Katahdin, Cadillac Mountain and the historic village of Norridgewock, as sacred sites, but these locations are not formally designated as such and this is not an exhaustive listing of all locations considered sacred to the Penobscot.

2.1.1.2 State of New Hampshire

Native American sacred sites and Traditional Cultural Properties in the New Hampshire portion of the Northern Border project area include, but are not limited to, burials, notable places and/or landmarks, and places of religious significance. In general, human burial sites should be afforded some specific recognition or degree of respect. The manner and degree of treatment ultimately falls upon individual customs and beliefs. Ancient to modern Native American, Euro-American, and other ethnic burials exist across the Northern Border project area of New Hampshire. Burial contexts range widely from isolated unmarked burials to large cemeteries.

It is not unusual for natural landmarks to traditionally mark Native American or Euro-American travel corridors, burials, boundaries, or the places of significant events. Additionally, the places where events occurred may themselves be considered significant. Notable places and landmarks could represent a category of Native American sacred sites and Traditional Cultural Properties within the Northern Border project area of New Hampshire. For example, the Old Man of the Mountain, in Franconia, New Hampshire was a series of five granite cliff ledges on Cannon Mountain in the White Mountains and when viewed from the north, appeared to be the jagged profile of a face. In 2003, the formation collapsed to the ground. The profile has long been a recognizable place and symbol for New Hampshire that could be considered a sacred or Traditional Cultural Place. Special significance might be attributed to places that witnessed important, tragic, or ceremonial events, such as battles, trading spots, or peace ceremonies (Price 1956). Some groups might also consider natural resource areas, where food or medicinal plants were gathered, sacred sites or Traditional Cultural Properties.

Americans generally agree that individuals should be free to worship in any manner that they choose as long as their activities do not infringe upon others. For many cultures throughout time, worship is tied to a specific location. Native peoples of New Hampshire ascribe sacred and traditional significance to places associated with Abenaki mythology and creation stories. Ethnohistorical accounts of Native Americans in New Hampshire specifically identify Mount Washington as a sacred location and attribute spiritual significance to other mountainous areas in general (Bayly 1997). "Today Mt. Washington is nicknamed 'The Rockpile' but to the Native Americans it was Agiocochook, an Abenaki name meaning 'Home of the Great Spirit'" (www.nhmagazine.com 2009).

2.1.1.3 State of Vermont

The United States, Vermont, and local communities within the state encourage preservation of a range of Historic Properties through a variety of means. In addition to federal legislation noted in

1 Section 2.1, state legislation concerning Native American sacred sites and Traditional Cultural
2 Properties in Vermont includes the Vermont Historic Preservation Act and the state's land use
3 law ACT 250, as well as local ordinances. Together with the federal legislation, these state
4 ordinances led to the establishment of state agencies who safeguard archeological sites and
5 historical properties, such as the Vermont Division for Historic Preservation. Other organizations
6 such as Partners for Sacred Places, the only national, non-sectarian, non-profit organization
7 devoted to helping congregations and their communities sustain and actively use older and
8 historic sacred places. <http://www.sacredplaces.org/> may be interested in issues concerning
9 sacred sites. Non-profit organizations such as the Archaeological Conservancy, the Vermont
10 Archaeological Society, the Vermont Historical Society, and the Land Trust of Vermont are key
11 partners toward effective historic preservation. During the last decade, states across the nation
12 have made significant progress toward cultural resource stewardship through programs like
13 Archaeology Week or Month and other public outreach. These exemplary programs discourage
14 unnecessary collecting and excavation of archeological sites, Native American sacred sites, and
15 Traditional Cultural Properties.

16 Native American sacred sites and Traditional Cultural Properties in the New Hampshire portion
17 of the Northern Border project area include, but are not limited to, burials, notable places and/or
18 landmarks, and places of religious significance. In general, human burial sites should be afforded
19 some specific recognition or degree of respect. The manner and degree of treatment ultimately
20 falls upon individual customs and beliefs. Ancient to modern Native American, Euro-American,
21 and other ethnic burials exist across the Northern Border project area of New Hampshire. Burial
22 contexts range widely from isolated unmarked burials to large cemeteries.

23 It is not unusual for natural landmarks to traditionally mark Native American or Euro-American
24 travel corridors, burials, boundaries, or the places of significant events. Additionally, the places
25 where events occurred may themselves be considered significant. Notable places and landmarks
26 could represent a category of Native American sacred sites and Traditional Cultural Properties
27 within the Northern Border project area of Vermont. For example, a Traditional Cultural Place
28 could be the Socialist Labor Party Hall in Barre, Vermont that had special significance to the
29 city's Italian community. This 1900 Labor Hall provided a meeting place for the Italian
30 community. Special significance might be attributed to places that witnessed important, tragic, or
31 ceremonial events, such as battles, trading spots, or peace ceremonies (Price 1956). Some groups
32 might also consider natural resource areas, where food or medicinal plants were gathered, sacred
33 sites or Traditional Cultural Properties.

34 Americans generally agree that individuals should be free to worship in any manner that they
35 choose as long as their activities do not infringe upon others. For many cultures throughout time,
36 worship is tied to a specific location. Native peoples of Vermont ascribe sacred and traditional
37 significance to places associated with Abenaki mythology and creation stories such as those of
38 Odzihózo on Lake Champlain and Bedgwadzo "Round Mountain" (Haviland and Power 1994),
39 perhaps in a manner similar to Roman Catholics of French-Canadian descents who travel to St.
40 Anne's Shrine. Meeks (1986b:241) wrote that in 1976, St. Anne's Shrine ranked seventh of
41 Vermont's summer stopping spots with 56,000 visitors. Modern Abenaki peoples have also
42 regarded petroglyph sites, such as those at Bellows Falls and Brattleboro, Vermont as powerful
43 sacred places.

2.1.2 GREAT LAKES REGION

2.1.2.1 State of New York

This sensitive information is presently unavailable for this area. However, it is hoped that consultation with interested tribal parties, as part of the ongoing Section 106 process, will develop the appropriate information.

2.1.2.2 Commonwealth of Pennsylvania

This sensitive information is presently unavailable for this area. However, it is hoped that consultation with interested tribal parties, as part of the ongoing Section 106 process, will develop the appropriate information.

2.1.2.3 State of Ohio

This sensitive information is presently unavailable for this area. However, it is hoped that consultation with interested tribal parties, as part of the ongoing Section 106 process, will develop the appropriate information.

2.1.2.4 State of Michigan (Lower Peninsula)

There are no Native American sacred sites known although they undoubtedly exist in Michigan's Lower Peninsula. Additional consultation on a project-specific basis will be required.

2.1.2.5 States of Michigan (Upper Peninsula) and Wisconsin

There are no Native American sacred sites known although they undoubtedly do exist in Michigan's Upper Peninsula and northern Wisconsin. Additional consultation on a project-specific basis will be required.

2.1.3 EAST OF THE ROCKIES REGION

2.1.3.1 State of Minnesota

This sensitive information is presently unavailable for this area. However, it is hoped that consultation with interested tribal parties, as part of the ongoing Section 106 process, will develop the appropriate information.

2.1.3.2 State of North Dakota

This sensitive information is presently unavailable for this area. However, it is hoped that consultation with interested tribal parties, as part of the ongoing Section 106 process, will develop the appropriate information.

2.1.3.3 State of Montana

This sensitive information is presently unavailable for this area. However, it is hoped that consultation with interested tribal parties, as part of the ongoing Section 106 process, will develop the appropriate information.

1 **2.1.4 WEST OF THE ROCKIESREGION**

2 **2.1.4.1 States of Washington and Idaho**

3 This sensitive information is presently unavailable for the states of Washington and Idaho.
4 However, it is hoped that consultation with interested tribal parties, as part of the ongoing
5 Section 106 process, will develop the appropriate information.

6

7

3 ABOVE-GROUND HISTORIC PROPERTY TYPES

The National Historic Preservation Act defines a historic property as any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in, the National Register (36 CFR 800.16(1)). For Section 106 review purposes, properties eligible for listing in the National Register are treated the same as properties listed in the National Register.

In order for a property to be eligible for listing in the National Register, and be considered a historic property, it must be:

- A building, site, structure, object, or historic district.
- At least 50 years old. In rare exceptions, a property less than 50 years old may be considered a historic property. These exceptions are for more recent properties of outstanding historical significance (as an example, the Allen Park Veterans Affairs Medical Center in Michigan, built in 1939, was determined eligible for its exceptional architecture in 1981).

Significant within its historic context.

Possessing integrity, meaning maintaining enough of the original qualities that make it significant.

Section 101 of the NHPA and the National Register regulations (36 CFR 60.3) classify historic properties in the following broad types:

- **Building.** A building is a structure that shelters people where they live and work. Historic buildings may be public or private, grand or humble, and reflect the diversity of human activity. Examples include houses, offices, schools, mills, prisons, libraries, and train stations. In addition to buildings with notable architectural features, so-called vernacular buildings may have historic significance because of their association with people's everyday lives. Examples include buildings such as barns, row or tract houses, rural cottages, and diners.
- **Site.** A site is the location of an event or events. It may be historically important regardless of the historic value of any existing building or structure it encompasses. Examples include archaeological sites, whether ancient or relatively recent (historic), battlefields, designed landscapes such as cemeteries or parks, vernacular landscapes, ruins, and places of religious significance. Archaeological sites might include above-ground components such as intaglios or petroglyphs (rock carvings), pictographs (rock paintings), or standing ruins; however the majority are buried in the ground, and require subsurface field testing to locate, identify, and evaluate. Historic landscapes and traditional religious sites may be difficult to identify. Traditional cultural properties such as sites of religious significance may be identified by the THPO, Native Hawaiian organization, or other tribal representative.
- **Structure.** A structure is a functional construction, built for some purpose other than sheltering human activity. Often structures are large-scale engineering projects. Examples include bridges, dams, canals, roads, windmills, signal towers, and air or watercraft.

- Object. An object is defined as a small-scale construction, often of artistic intent, that exists in a setting appropriate to its historic significance. Objects may be small and moveable, but are intended for a specific location. Examples include monuments, statues, boundary markers, and mileposts.
- District. A district may be composed of a variety of property types, unified by their relationships to a historic period or periods. They often contain both “contributing” and “non-contributing” components. That is to say, not all the buildings, sites, structures, etc. within the district contribute to its historical significance. Examples include college campuses, rural estates, rural villages, industrial complexes, commercial centers, concentrations of archaeological sites, areas of traditional cultural significance to Native American tribes, irrigation systems, and transportation systems.

This section includes overviews of the above-ground historic property types found within the four geographic regions (encompassing 13 states) covered by the 100-mile corridor of the Northern Border project area.

3.1 NEW ENGLAND REGION

3.1.1 STATE OF MAINE

Buildings

As a primarily rural, agricultural state, historic buildings in Maine tend overwhelmingly to be residential and small-scale commercial (i.e., smaller downtown business districts). While the earliest houses in the state, from the late seventeenth and early eighteenth centuries, tend to be along the coast, several eighteenth century houses exist in the southern portions of the study area. The highest concentration of eighteenth century houses outside of the coastal counties can be found in Oxford County, where 12 are listed on the National Register of Historic Places (NRHP). Most of the counties in the central and northern parts of the state, however, show few if any eighteenth century buildings. Houses from the early eighteenth century generally are one or one and one-half story buildings, often constructed of logs, while houses from the middle and later parts of the eighteenth century are one, one and one-half, or two stories in height, constructed around a timber frame, and generally with a central brick chimney and unadorned wood siding.

The northern portion of Maine, principally Aroostook County, was in flux through the early nineteenth century as a result of the uncertainty over the border with Canada. The border tensions led to the creation of a blockhouse fort (now located in Fort Kent) along the St. John River. The early architectural traditions in northern Aroostook County along the border remained influenced by the Acadian settlers, whose building technology differed from that of their English counterparts in the lower part of the state. The Acadian vernacular architectural traditions in the eighteenth century included log houses that used tenons at the corners rather than notches.

The rivers that drained from the uplands to the coast provided both a source of power and an easy access route to the markets of Boston; this combination provided great opportunities for entrepreneurs in the early nineteenth century. Railroads first arrived in Maine in the late 1840s, and expanded quickly through the 1850s and 1860s; these provided additional incentives for growth by making the development of factories and larger lumber mills feasible. As a result, the state of Maine saw a period of impressive economic growth in the decades leading up to the

1 Civil War. Much of this development took place in the central portions of the state, where the
2 rivers proved easier to control. New towns emerged to take advantage of this growth, including
3 Auburn, Lewiston Rumford, Farmington, Madison, Skowhegan, Houlton, and were filled with
4 houses reflecting the then-popular residential styles, particularly Greek Revival, Gothic Revival,
5 and, later, variations of the Italianate styles.

6 Further from the new and establishing towns of the central and southern portions of the state, in
7 the St. John River Valley along Maine's northern border with Canada, residential architecture
8 tended to be more conservative in style, and continued to reflect the Acadian origins. Greek
9 Revival influences remained longer in these rural areas, and can be seen the variations of
10 vernacular Acadian house types including the one and one-half story front-gable, half-cape house
11 that is scattered throughout the central and northern portions of the state. By the early and mid-
12 twentieth century, however, examples of high-style residential architecture including variations
13 on the Colonial Revival and Mediterranean styles can be found throughout the State.

14 One of Maine's principal agricultural crops led to the establishment of a particular form of
15 agricultural building: the potato barn. Set partially below grade with only the roof extending
16 above the ground, examples of nineteenth century potato barns can be seen throughout the
17 northern parts of the state, especially in northeastern Aroostook County. Between 1996 and
18 2004, the SHPO conducted surveys of agricultural buildings in Aroostook County, with
19 particular emphasis on potato barns.

20 In the late nineteenth century, as the rail lines extended into the state's northern regions, Maine's
21 lakes and forests drew increasingly large numbers of visitors, or "sports," who sought hunting
22 and fishing vacations. This resulted in one of the important new architectural elements in the
23 state, the "sporting camps." These camps range in scale from simple front-gable frame buildings
24 to elaborate estates designed according to formal national architectural styles. These are found
25 most often in the northwestern parts of the state, in the Moosehead/Rangely Lakes and the
26 Richardson/Mooselookmeguntic Lakes areas. In reviewing projects in these lake and wilderness
27 areas of northern Maine, the SHPO has paid particular attention to sporting camps. The most
28 common theme among the sporting camps is their orientation to water, either rivers or lakes.

29 In addition to residences, Maine's industrial heritage continues to be represented in historic
30 architecture. Some small-scale industrial buildings remain in the southern portion of the study
31 area: small mill buildings that made use of the limited fall of the rivers and their tidal movement
32 as they approached the coast. More common, though, are the large-scale factory buildings
33 relating to the State's industries, principally paper and textiles. By the late nineteenth and early
34 twentieth centuries, these buildings tended overwhelmingly to be built of brick, two to four
35 stories high, with rows of multi-paned metal-framed windows. Like the sporting camps, many of
36 these older factory buildings tended to be located along the State's rivers, to take advantage of
37 the available hydropower. These buildings are found most often in the smaller and mid-sized
38 piedmont cities such as Waterville, Auburn, Madison, and Skowhegan. Maine also has a long
39 history of the use of hydroelectric power. Many of these hydroelectric powerhouses, dating from
40 the 1890s into the mid-twentieth century, remain, and generally are considered historically
41 significant.

Structures

The most imposing historic structures are the various dams on the state's rivers, especially in the southern half of the state. Maine has a long history of hydropower, both in support of small- and large-scale manufacturing and in the generation of electricity. Many of the dams that allowed for the use of that hydropower remain, from small-scale masonry dams, often under 15 feet high, to larger concrete dams that support hydroelectric generation. In addition to dams, the SHPO has in recent years paid attention to the state's bridges. The SHPO, working with the Maine DOT, has completed surveys of the historic bridges in the state in recent years.

Districts

In the central and southern portions of the state, historic districts are located primarily in cities and villages. In addition, however, several farmsteads have been identified as historic districts, particularly in Aroostook County where five of the seven NRHP historic districts are farms. While there are some historic districts that relate primarily to the eighteenth century, particularly in the coastal cities, most urban historic districts in Maine have as a period of significance the late nineteenth and early twentieth centuries. These districts tend to revolve around some combination of residential, commercial, and industrial buildings. Important historic districts can be found in Farmington, Auburn, Lewiston, and Livermore, though many of the smaller cities and villages in the central and northern parts of Maine have not been surveyed and thus may contain significant historic districts.

Objects

Objects that are eligible for the NRHP frequently include public monuments. Like historic districts, NRHP eligible or listed objects are found most frequently in towns and cities, where they commemorate veterans or military endeavors. One type of monument, however, is likely to be found in the extreme northern parts of the state: border monuments. These monuments are small obelisks, approximately three feet high, and are made of either concrete or metal. One border monument identified in a 2009 survey of the Hamlin LPOE at the northeastern corner of Maine was recommended eligible for the NRHP. It is not known how many border monuments are in Maine. However, given the importance of the border dispute with Canada in the history of the state, it is likely that other border monuments may be found eligible for the NRHP as well.

Sites

Sites that are eligible for the NRHP tend overwhelmingly to be archaeological in nature. However, the Maine SHPO takes linear features into account in assessing effects to above-ground resources. Most frequently, these linear features tend to be former railroad rights of way, though historic roads may also be significant. Perhaps the most significant historic linear feature is the Arnold Trail to Quebec, which has been listed on the NRHP. This linear feature represents the route that Benedict Arnold took during the Revolutionary War, leading a force of 1,100 Continental Army troops in a planned assault on the British stronghold at Quebec. Arnold's route passed through the western portions of Maine and crossed into Canada at what is now Coburn Gore.

3.1.2 STATES OF NEW HAMPSHIRE AND VERMONT

The listing of historic properties in Vermont and New Hampshire is an ongoing process and the number of actual inventoried properties and those nominated to the federal register changes. A

1 current listing of historic properties on the National Register by state is maintained by the
2 National Park Service and best accessed online. Information on inventoried properties can be
3 obtained by contacting the state historic preservation office of each state directly.

4 One of the duties of a State Historic Preservation Officer is to prepare a state historic
5 preservation plan and review and revise that plan. In Vermont, the Division for Historic
6 Preservation highlights significant types of sites in *Keeping Vermont A Special World: The*
7 *Vermont Historic Preservation Plan*. This ten-year plan summarizes historic contexts that
8 describe what we know about our past according to important themes types of cultural resources,
9 quantity, and quality. Archaeologists further define significance, as a site's potential to yield
10 important information about the past, despite site size, artifact number, or site notoriety. The
11 National Park service maintains a summary of state plans including the ones for Vermont,
12 <http://www.nps.gov/history/hps/pad/stateplans/vermont.htm> and the New Hampshire 2006-2-10
13 plan is at the state web site <http://www.nh.gov/nhdhr/programs/plan.htm>. Both plans are
14 currently under revision.

15 A state preservation plan is supposed to identify historic preservation contexts and themes. A
16 context is an organizational tool for grouping properties related through their histories by theme,
17 place and time. New Hampshire's list of does not represent all of the historical research topics
18 that could be pursued in New Hampshire. Instead, it reflects the historic contexts illustrated by
19 the properties in the Division of Historical Resources' survey files. Vermont has fewer themes,
20 but they are more developed. The themes of both states are reflected in the context for Vermont
21 and New Hampshire in this document.

22 **3.2 GREAT LAKES REGION**

23 **3.2.1 STATE OF NEW YORK**

24 **National Historic Landmarks**

25 New York State leads the nation in the number of National Historic Landmarks (NHL) with 263
26 designated properties representing more than 10 percent of nearly 2,500 NHLs nationwide. New
27 York State's NHLs include: more than half of the state-owned historic sites; eight National
28 Register listed historic districts; natural and scenic areas such as the Adirondack Forest Preserve,
29 Central Park, and Governors Island; numerous historic vessels; the Erie Canal; several
30 Adirondack camps; prehistoric and historic archeological sites; forts and battlefields associated
31 with the French & Indian War, War of 1812, and Revolutionary War; mansions of New York
32 State's landed gentry; numerous buildings designed by internationally- and nationally-significant
33 architects; and places associated with African American history, women's rights, and gay and
34 lesbian civil rights (NYSHPO 2009). The project area includes the NHL Fort Niagara on Lake
35 Ontario, which contains six of the oldest buildings in the entire Great Lakes region.

36 **Historical Areas of the National Park System in New York State**

37 Approximately 26 units of the National Park System are also located within New York State.
38 These national monuments, national scenic trails, national heritage areas and corridors, and
39 national historic sites depict the diverse history and culture of America through stories of
40 immigrants arriving in America, the nation's only site dedicated to a first lady, life in the
41 eighteenth and nineteenth centuries, memorials to those who led and fought in battles, historical

1 figures, and the women's rights movement (NYSHPO 2009). Five NPS historical areas in the
2 project area include the following:

- 3 • Erie Canalway National Heritage Corridor (Upstate New York)
- 4 • Fort Stanwix National Monument (Rome)
- 5 • Hudson River Valley National Heritage Area
- 6 • Theodore Roosevelt Inaugural National Historic Site (Buffalo)

7 Women's Rights National Historical Park (Seneca Falls)

8 The project area includes historic resources located in the boundaries of two National Heritage
9 Areas, The Erie Canalway National Heritage Corridor (NHC) and the Champlain Valley
10 National Heritage Partnership (NHP). New York State Heritage Areas in the project area include
11 the following:

- 12 • Buffalo
- 13 • Concord Grape Belt
- 14 • Rochester
- 15 • Sackets Harbor
- 16 • Schenectady
- 17 • Seneca Falls
- 18 • Syracuse
- 19 • Mohawk Valley Heritage Corridor (only Oneida and Herkimer counties)
- 20 • Western Erie Canal Heritage Corridor (Erie, Niagara, Orleans, Monroe and Wayne
21 counties) New York

22 New York Heritage Trails in the project area include the following:

- 23 • French and Indian War Heritage Trail
- 24 • Abraham Lincoln Heritage Trail
- 25 • Underground Railroad Heritage Trail
- 26 • Revolutionary War Heritage Trail
- 27 • Women's Heritage Trail

28 Theodore Roosevelt Heritage Trail

29 *Underground Railroad Heritage Trail* honors freedom-seekers (escaped slaves) who journeyed
30 north to New York State and those New Yorkers who helped them achieve their dream. It
31 consists of a network of designated historic sites, and regional and local interpretive centers
32 associated with the Underground Railroad, the anti-slavery movement and slavery. Some of
33 these sites are Listed or Eligible for listing in the NRHP (e.g. NRL properties: Harriet Tubman
34 Home for the Aged, Residence and Thomason AME Zion Church[Auburn]; St. James AME Zion

1 Church[Ithaca; Gerrit Smith Estate and Land Office[Peterboro]; and John Brown Estate and
2 Grave Site [Lake Placid]).

3 *Revolutionary War Heritage Trail* links together 82 significant historic sites to reveal New
4 York's decisive role in America's fight for independence. (e.g. Fort Niagara, Sackets Harbor
5 Fort Stanwix, Oriskany, Herkimer Home State Historic Site, Fort Klock, Crown Point, Fort
6 Ticonderoga)

7 *Women's Heritage Trail*- celebrates the achievements and history of women in New York State.
8 These sites enhance our understanding of the daily life and culture of women, as well as their
9 contributions in the struggle for equal rights, and the success they attained in social reform,
10 business, politics and the arts.

11 The project area includes all of New York State's Seaway Trail a state and national Scenic
12 Byway, which follows 454 miles of the state's northern coastal region along the shores of Lake
13 Erie, Lake Ontario, and the St. Lawrence River. The Great Lakes Seaway Trail is one of
14 America's Byways and is recognized for its unique landscape, scenic freshwater coastline, and
15 historical significance. The Seaway Trail has some 25 historic lighthouses, sites associated with
16 the French and Indian War and Revolutionary War, and 42 War of 1812 sites. The Great Lake
17 Seaway Trail region was the vital transportation and communication link between France and her
18 colonies. In addition, other New York State Scenic Byways cross the North Country region of
19 the state.

20 **3.2.2 COMMONWEALTH OF PENNSYLVANIA**

21 **Representative Architectural Styles**

22 Architectural styles of historic structures and districts vary widely across the large area
23 encompassed by this study (Table H-1). This section briefly outlines the typical architectural
24 styles to be found in Pennsylvania. The PHMC's *Pennsylvania Architectural Field Guide*
25 categorizes architectural styles by key periods of the Commonwealth's development (PHMC,
26 2011). Available online, the guide provides a brief introduction for each period of development
27 with more detailed information about specific styles on separate Web pages. PHMC emphasizes
28 the importance of understanding and recognizing the state's traditional and vernacular building
29 traditions and, as such, vernacular designs transcend an era-based classification and are identified
30 in their own category (PHMC, 2010).

Table H-1. Representative Architectural Styles in Pennsylvania

TRADITIONAL/VERNACULAR		1638 - 1950
Log Buildings		1638 - 1880
Postmedieval English		1682 - 1730
Pennsylvania German Traditional		1700 - 1870
Barns and Outbuildings		1700 - 1930
Meetinghouses		1695 - 1950
TRADITIONAL/VERNACULAR		1638 - 1950
Log Buildings		1638 - 1880
Postmedieval English		1682 - 1730
Pennsylvania German Traditional		1700 - 1870
Barns and Outbuildings		1700 - 1930
Meetinghouses		1695 - 1950
COLONIAL PERIOD		1640 - 1800
Georgian Style		1700 - 1800
EARLY REPUBLIC PERIOD		1780 - 1830
Federal Style		1780 - 1820
Early Classical Revival Style		
Roman Classical Revival Style		1790 - 1830
Greek Revival Style		1820 - 1860
MID 19TH CENTURY PERIOD		1830 - 1860
Gothic Revival Style		1830 - 1860
Exotic Revival/Egyptian Revival Style		1830-1850, 1920-1930
Italianate Villa/Italianate Style		1840 - 1885
Octagon Style		1850 - 1870
LATE VICTORIAN PERIOD		1850 - 1910
Romanesque Revival Style		1840 - 1900
Second Empire/Mansard Style		1860 - 1900
High Victorian Gothic Style		1860 - 1890
Chateausque Style		1860 - 1910
Stick Style		1860 - 1890
Queen Anne Style		1880 - 1900
LATE 19TH & EARLY 20TH CENTURY REVIVAL PERIOD		1880 - 1940

Colonial Revival Style	1880 - 1960
Tudor Revival Style	1890 - 1940
Collegiate Gothic Style	1890 - 1940
Italianate Renaissance Revival Style	1890 - 1935
Classical Revival Style	1895 - 1950
Beaux Arts Classicism Style	1885 - 1930
Spanish Colonial Revival Style	1915 - 1940
MODERN MOVEMENT PERIOD	
	1925 - 1950
Art Deco Style	1925 - 1940
Moderne Style	1930 - 1950
International Style	1930 - 1950

Above Ground Historic Property Types

The PHMC's Web page offers a detailed discussion of the most commonly recognized traditional house forms found in Pennsylvania (PHMC, 2010). Common historic building types in Pennsylvania include mills, agricultural or industrial complexes, railroad related structures, schools, churches, novelty buildings, Lake transport/shipping, forest and extraction industries, state parks, and a wide variety of vernacular domestic forms. These buildings may include details of established historic architectural styles, but their appearance is more dictated by necessity and the function they serve (PHMC, 2010). Other historic resources include burial grounds and cemeteries.

Pennsylvania is widely-recognized for possessing one of the most interesting collections of historic bridges of any state. Its ever-expanding population and consequent transportation requirements made the Keystone State a pioneer in transportation innovation, particularly in the design of bridges. Pennsylvania claims numerous engineering milestones in American bridge-building technology. The isolation of its western counties prompted a Fayette County judge, James Finley (1756–1828) to invent America's first suspension bridge in 1796. As the historic center of the iron and steel industry, Pennsylvania once had several iron-bridge manufacturing companies in the state. In 1996, PennDOT and the Pennsylvania Division, Federal Highway Administration, in cooperation with PHMC, launched an evaluation of all pre-1957 bridges, which includes county and municipality-owned structures, to identify and record even more historic bridges.

Multiple and thematic resource property documentation

PHMC maintains a working list of multiple and thematic resource property documentation through 2010 accepted by or listed in the National Register of Historic Places. One-third of National Register listed properties in the Commonwealth have been submitted under a multiple or thematic context. The developed historic contexts relevant to the project area include the following themes:

Allegheny County Owned River Bridges Thematic Resource (Thematic Resource Documentation Property [TR])

Allegheny Portage Railroad Multiple Property Submission (Multiple Property Submission [MPS])
Allegheny River Navigation System MPS
Aluminum Industry Resources of Southwestern Pennsylvania MPS
Bituminous Coal and Coke Resources of Pennsylvania MPS
Covered Bridges of Erie County TR
Emergency Conservation Work (ECW) Architecture in Pennsylvania State Parks: 1933--1942, TR
Highway Bridges Owned by the Commonwealth of Pennsylvania, Department of Transportation TR
Historic Agricultural Resources of Pennsylvania (available on the PHMC's website)
Historic Educational Resources of Pennsylvania (available on the PHMC's website)
Iron and Steel Resources of Pennsylvania MPS
Oil Industry Resources in Western Pennsylvania MPS
Pennsylvania National Guard Armories MPS
Pennsylvania Railroad Rolling Stock TR
U.S. Coast Guard Lighthouses and Light Stations on the Great Lakes TR
Whiskey Rebellion Resources in Southwestern Pennsylvania MPS

The project area includes the 64-mile long Pennsylvania Great Lakes Seaway Trail, which is one of America's Byways recognized for its unique landscape, scenic freshwater coastline, and historical significance. The Pennsylvania section of the Great Lakes Seaway Trail offers rural agricultural landscape, historic downtowns, and historic sites related to events of the French and Indian War (Fort de la Presque Isle and Fort Sur La Rivere aux Boeufs) and the War of 1812. The City of Erie section includes Presque Island State Park and three mid-to-late nineteenth century historic lighthouses.

Pennsylvania further recognizes historic resources and sites in its Trails of History program. The project area includes portions of the following Trails: Military History Trail; Industrial Heritage Trail; and Rural Farm and Village History Trail. These trails represent some of Pennsylvania's most historic sites.

3.2.3 STATE OF OHIO

Representative Architectural Styles

Architectural styles of historic buildings and districts vary widely across the large area encompassed by this study (Table H-2). This section briefly outlines the architectural styles identified in Ohio. Architectural styles in Ohio range from roughly 1790 to the present. The dates provided for each style represent a frequency range in Ohio based on surveys, observation, and archival research (Gordon, 1992). The list of representative styles is not definitive. For further information on how to identify Ohio's architectural styles and historic building types (i.e. the structure's function, floor plan, configuration, etc.) consult *How to Complete the Ohio Historic Inventory* (Gordon, 1992).

Table H-2. Representative Architectural Styles in Ohio

Federal (1790-1840)	Craftsman/Arts and Crafts (1900-1925)
Greek Revival (1835-1860)	Mission (1900-1930)
Gothic Revival (1835-1870)	Dutch colonial Revival (1900-1925)
Romanesque Revival (1850-1880)	Late Gothic Revival (1900-1930)
Exotic Revivals (1830-1855; 1920-30)	Jacobethan (1900-1935)
Italianate (1850-1880)	Prairie (1905-1930)
Second Empire/Mansard (1855-1885)	Bungalow (1910-1935)
High Victorian Gothic (1870-1885)	Tudor/English Revival (ca. 1910-1940)
Stick (1870-1890)	French Colonial/Norman Revival (1910-1940)
Eastlake (1880-1890)	Mediterranean (1915-1940)
Queen Anne (1880-1905)	Art Deco (1927-1940)
Chateausque (1885-1905)	International (1932-1960)
Shingle Style (1885-1890)	Art Moderne (1935-1950)
Richardsonian Romanesque (1885-1895)	Modern Movement (1945-1990)
Sullivanese (1890-1920)	Miesian (1945-1970)
Commercial Chicago Style (1890-1910)	New Formalism (1955-1970)
Beaux Arts (1890-1910)	Postmodernism (1970-present)
Second Renaissance Revival (1890-1925)	Neo-expressionism (1950-1970)
Neo-classical Revival (1895-1950)	Brutalism (1960-1970)
Colonial Revival (1895-present)	Deconstructivism (1988-present)
Georgian Revival (1895-present)	

3.2.4 STATE OF MICHIGAN (LOWER PENINSULA)

Property Types by Theme

Perhaps because of the wealth brought to Michigan's citizens by the automobile industry, the most common building type across the state is the single-family home. Blocks of houses occupy most of southeast Michigan; apartments and condominiums are present primarily in Michigan's urban areas. In more rural areas, houses are surrounded by agricultural buildings, forming farmstead complexes. Scientific farming has resulted in the decline of family-owned farms, but many complexes still survive in areas where scientific farming is impractical. Because of the large number of recreational opportunities associated with lakes, waterways, and hundreds of miles of lakeshore, Michigan boasts a large number of cottages and retreats. These same shorelines also contain lighthouses, docks, piers, and harbors. Early industrial buildings line many of the waterways in the state, particularly near harbors and shipping ports. This trend has changed over the last half-century, moving parklands to these areas and creating "parks" of industrial buildings in less desirable locations.

Commercial centers are situated in most downtown areas, from the tiniest community with a single gas station to the largest cities. Historically, these commercial centers consisted of multi-story buildings packed side-by-side. In the mid-twentieth century, the nationwide trend of indoor shopping centers made its way to the state. More recently, ready vehicular transportation has contributed to the success of strip malls.

Architectural Styles/Forms

Buildings of most styles and forms established across the country exist in Michigan. Perhaps the earliest building style constructed in Michigan was Greek Revival. Cobblestone houses or commercial buildings (often in Greek Revival style) are also present in the lower part of the peninsula. In Michigan, some variations on building forms, such as the Hen-and-Chicks, are present, particularly in the southern part of the state where settlement occurred earlier. The I-House is also present in the state. Mid-Century Modern homes are present across the state, although more are present in urban areas than in rural areas. Rustic-style homes and commercial buildings are often associated with the resort areas of northern Michigan, as are large-scale Victorian era hotels and lodges.

Building materials include everything from stone and wood to metal and porcelain enameled panels. Cobblestone construction tends to be found in southern Michigan, while fieldstone sheathing is common in northern parts of the state. A local manufacturer has developed concrete “logs” featured on some rustic buildings, and three well-known catalog house companies were located in Bay City, shipping their products across the state and nation.

3.2.5 STATES OF MICHIGAN (UPPER PENINSULA) AND WISCONSIN

Property Types by Theme

The most prevalent above-ground resource in the northern portions of Michigan and Wisconsin is the single-family house. These buildings are found in both urban areas and in rural portions of the region, with a greater trend toward higher style buildings in urban areas. Houses tend to be smaller than in the southern portions of Michigan or Wisconsin. Apartments and condominiums may be present but tend to be found in urban areas rather than small towns and rural areas. In rural areas, buildings may be part of a farmstead complex or a camp associated with logging or mining. Because of the large number of recreational opportunities associated with lakes, waterways, and hundreds of miles of lakeshore, the area boasts a large number of cottages and retreats, including housekeeping cabins in motel-like settings, first popularized in the 1930s, with the advent of motor travel. Lighthouses, docks, piers, and harbors are situated along lakeshores.

Early industrial buildings line waterways, particularly near harbors and shipping ports. This trend has changed over the last half-century, moving parklands to these areas and creating “parks” of industrial buildings in less desirable locations. Other extant industrial buildings include modern and historic mining facilities.

Commercial centers are situated in most downtown areas, from the tiniest communities with a single gas station, to the larger cities with many storefronts. Historically, these commercial centers consisted of multi-story buildings packed side-by-side. In the mid-twentieth century, the nationwide trend of indoor shopping centers made its way to the larger cities within the region. Even in the smallest community, commercial development tends to mean the construction of strip malls, where automobile access drives the success.

Architectural styles/forms

Perhaps the earliest building style constructed in Michigan was Greek Revival; however, because settlement came much later to the northern portion of Michigan’s Lower Peninsula and to the Upper Peninsula, there are few buildings of this style present. Although distinctly more rural

1 than the southern part of the Lower Peninsula, this area does include historic wealth and
2 communities of sufficient size to permit construction of high-style buildings; Second Empire,
3 Italianate, Gothic Revival, Beaux Arts, and Tudor Revival styles all exist there. Richardson
4 Romanesque buildings constructed from local red sandstone are scattered across the Upper
5 Peninsula and along Wisconsin's southern Lake Superior shore.

6 While examples of the Art Deco and Art Moderne styles are less frequent in the northern region,
7 the Craftsman style Bungalow is found in virtually every community. Rustic style homes and
8 commercial buildings are often associated with the resort areas of northern Michigan. Large-
9 scale Victorian era hotels and lodges constructed to serve those seeking the pleasant summers
10 away from allergens and city heat dot major tourist areas such as Mackinac Island, Michigan,
11 and Bayfield, Wisconsin.

12 **3.3 EAST OF THE ROCKIES REGION**

13 **3.3.1 STATE OF MINNESOTA**

14 This section briefly outlines the typical architectural styles to be found throughout the large area
15 encompassed by this study. The wide area subsumed by the project in Minnesota includes a
16 wide range of architectural types such as agricultural, commercial, industrial, residential,
17 tourism/recreation, religious, transportation, and civic/governmental. Architectural styles
18 represented include all popular national styles ranging from frontier-type resource through the
19 popular Craftsman and Prairie styles. Minnesota has distinctive grand lodges, hotels, resorts,
20 health spas, camp facilities, dude ranches. These tourism/recreation resources include architect-
21 designed buildings executed in rustic/park, frontier revival, and simple wood frame. One of the
22 few residential examples of the Streamline Modern style in the state is located in study area
23 (David and Wanda Park House, in Bemidji, Beltrami County). Other property types include
24 agriculture, agricultural process, and resources related to the state's lumber industry. Examples
25 of all popular national architectural styles are represented in the state. Distinctive architectural
26 styles include log, subsistence (non-log early settlement structures), and rustic. Four National
27 Historic Landmarks are located in the study area (Hull-Rust-Mahoning Mine, Soudan Mine, and
28 Mountain Iron Mine in St. Louis County; Rabideau Civilian Conservation Corps Camp in
29 Beltrami County). The harbor city of Duluth is the largest city in the northeastern region of the
30 state and in the study area. Historic lighthouses are located on the northern shore of Lake
31 Superior in Cook and Lake counties.

32 Northeastern Minnesota is known for its rich supply of iron ore and its historic mining industry.
33 Historic resources associated with the mining industry remain in Minnesota's Iron Range region.
34 The iron mining communities were developed by entrepreneurs and mining companies. The
35 companies used standard designs for their mining operations as evidenced in company general
36 offices. These model communities were established throughout in the northeastern region of the
37 state. The northeastern region has abundant wilderness and lakes. Superior National Forest, with
38 four million acres of woods and lake, and Chippewa National Forest are located in the study
39 area. The Northwest region of Minnesota, where the north woods meet the western prairie,
40 includes the state's largest lakes and the headwaters of the Mississippi River. The Red River
41 Valley flows along the far northwest border of the state through a fertile agricultural region.
42 Fargo-Moorhead and Grand Forks-East Grand Forks are the cultural and commercial centers of
43 the valley. Vernacular and Queen Anne farmhouses are found in the Red River Valley.

Numerous historic-era lodges, resorts, and campgrounds are found in the northern part of the state. Northern Minnesota also has several scenic byways, which are dotted by small towns.

3.3.2 STATE OF NORTH DAKOTA

Architectural styles of historic structures and districts vary widely across the large area encompassed by this study. As North Dakota is a rural, agriculturally dependent state the majority of types of historic resources embraced by the project will likely be associated with farms and ranches. In the 1920s, North Dakota like other agricultural areas experienced economic failure and a decade-long draught. During the Great Depression of the 1930s, numerous federal relief construction work programs were initiated in the state resulting in projects located in the area of the project. Two main stylistic tendencies, the Art Deco and WPA-Rustic, characterize most Depression-era architecture in North Dakota. One of the prominent historic industries in the state is the extraction industry (e.g. lignite), examples of which can be found in the project boundaries.

North Dakota's earliest industries were fur trading and agriculture. Nearly ninety percent of its land area is agricultural, which is reflected in the study area. Historic resources found in the study area will be associated with homesteads and the state's agricultural heritage. Grand Forks and Minot are the largest cities in the study area. Minot was founded in 1886 during the construction of the Great Northern Railway. Grand Forks was historically dependent on local agriculture and quickly expanded after the railroad's construction. These two cities hold the widest range of architectural styles in the study area spanning the period from ca. 1870 through the mid-twentieth century.

The northern part of North Dakota contains several scenic byways and backways. The Rendezvous Region Scenic Backway in northeastern portion of the state features historic and natural sites along the winding Pembina River. The Gingras Trading Post State Historic Site preserves the 1840s home and trading post of Métis legislator and businessman Antoine Blanc Gingras, northeast of Walhalla, Pembina County. The Turtle Mountain Scenic Byway in the north west-central part of the state passes farmsteads, pasture land, prairie, lakes, and wildlife and nature areas. A mill (Danish Mill) used by farmers to grind grains in the northwest region was constructed 1902 on a homestead eleven miles north of Kenmare.

3.3.3 STATE OF MONTANA

The study area in Montana embraces portions of three distinct ecological regions which include the following: grasslands of the east; high plains and isolated mountains of the central region; and rugged mountains and forested ridges of the west. Montana's distinctive geography, climate, and resources have shaped a varied history and culture in each region. A section of the Lewis and Clark Trail and its associated historic sites are located in the study area along the Missouri River and in northwestern Montana. In the 1830s, trading posts and missions began to raise cattle in Montana.

By the 1880s, all of the Montana's industries boomed (i.e. railroads, mines, smelters, logging, lumber, open range cattle raising). Montana's development corresponded with the country's westward expansion and the construction of railroad in the late nineteenth century. Historic ranches typically consisted of large homesteads with log structures, associated resources, and ranges. Numerous boom towns in the state which formed from mining and cattle industries

diminished in the first half of the twentieth century. Remnants of these so called ghost towns are found across the state. From 1909 to 1917, Montana experienced a population surge with the arrival of homesteaders from Missouri, Pennsylvania, and Minnesota. Homesteaders brought generations of agricultural knowledge and transformed the landscape of the plains. Farms were established and small communities developed. School buildings and community halls were constructed. Other community establishments included volunteer fire departments and cooperatives. School buildings were often the first public building constructed in Montana towns in all settings (i.e. booming mining towns, rural ranching communities, prosperous merchant cities) and served as the central meeting place for social functions.

Missoula and Great Falls are the largest cities in the study area. Most of the communities in the Montana study area are located on U.S. Route 2, the primary east-west road across the northern portion of the state, and the smaller state and county roads off of this main transportation corridor. Northwestern Montana contains Glacier National Park as well as Flathead, Kaniksu and Lolo National Forests. Glacier National Park consists of over one million acres along the International Border; it is the National Park in the Montana section of the study area. Historic hotels and chalets in the park were constructed by the Great Northern Railway and are listed as National Historic Landmarks. A total of 350 locations in the park are listed on the National Register of Historic Places. The park also has several National Register Listed Ranger Station Historic Districts such as the Belly River Ranger Station Historic District.

3.4 WEST OF THE ROCKIES REGION

3.4.1 STATES OF WASHINGTON AND IDAHO

Historic property types include are categorized in Washington and Idaho under Contact and Exploration, Frontier Transportation, Agriculture, Industry and Manufacturing, Commerce and Trade , Domestic, Government, and Social and Cultural. During the Contact and Exploration period in the inland areas of Washington and northern Idaho, early traders often followed well-established overland routes and interacted with Native peoples of the region, sometimes establishing semi-permanent occupation sites that could include cabins as well as caches and storage structures. During this period any building construction most likely consisted of logs either laid horizontally or in the Hudson's Bay Style with vertical log posts and horizontal log infill mortised to uprights. Property types relating to early exploration of the region include both temporary camps that would likely have only archaeological components and semi-permanent occupation sites that may consist of above-ground contributing resources such as caches, sheds or wooden shelters.

In the frontier period, fur trade companies erected a number of forts and smaller outposts to conduct the trade and provide a base of operations for employees. Missionaries sometimes built mission complexes at strategic locations. Semi-permanent and permanent occupation sites are property types that could include forts, trading posts, cabins and missions as well as associated storage, domestic and food-processing structures. Property types associated with the American Boundary Commission's survey and marking of the border along the 49th parallel include temporary camp sites as well as markers, stone cairns and other transportation features.

The development of various transportation networks brought new settlement to Washington and Idaho and ultimately encouraged the growth of industry and commerce as improved water routes,

1 roads and rail lines connected the region to the outside world. Property types in this section are
2 divided into modes of transportation that correspond to travel by water, land and air. These
3 categories are further subdivided, when appropriate, by the functions of construction (processes
4 and equipment required to produce the transportation feature), engineering (the product of
5 construction) and operation (features associated with use or continued operation of the
6 transportation mode).

7 Agricultural property types reflect the environmental and geographic conditions that dictate the
8 kinds of farming, grazing or other agricultural activities taking place in a specific area. Property
9 types related to this theme include animal husbandry, grazing, and crop production properties as
10 well as storage, processing and maintenance facilities associated with agricultural pursuits.
11 Among the prominent features of animal-related agricultural properties are barns, corrals,
12 birthing sheds and small animal pens. Grazing properties may include stock driveways, holding
13 pens and chutes, fencing and pastures as well as salting areas. Contributing to crop-related
14 properties are fields, orchards, gardens and fences. Storage properties are represented by barns,
15 hay sheds, silos, granaries, and milk houses, while smokehouses and stills are examples of
16 common processing properties. In addition, irrigation systems are a type of agricultural property
17 prevalent in the arid and semi-arid portions of the region and contributing features may include
18 dams, reservoirs and pump facilities as well as systems of ditches, canals, flumes and pipes.
19 Many of these agricultural property types may also be associated with domestic buildings and
20 structures such as dwellings, privies or other outbuildings that frequently characterize small
21 farmsteads or independently run agricultural operations.

22 The early economies of Washington and Idaho relied on logging and mining as their primary
23 industries, although fish and grain processing, concrete manufacturing and energy production
24 were among a number of other industries that made use of the region's rich natural resources.
25 Properties for each of these industries can be related to extraction, processing, maintenance,
26 storage, and manufacture. A number of coastal cities as well Spokane in the interior became
27 commercial centers not only for regional but also international trade. Towns of all sizes also
28 developed commercial districts that provided retail, supply and storage facilities. Historic
29 property types associated with commerce and trade include retail, wholesale, and professional
30 properties as well as organizational and storage facilities

31 Early settlement in Idaho and Washington focused on river drainages and coastal lowlands, but
32 generous land laws also encouraged claims in more remote areas and early dwellings were often
33 built as a requirement for "proving up" on these properties. Many towns grew on transportation
34 routes or were built by companies for their workers, and as cities grew, neighborhood
35 development was often based on a variety of socio-economic factors. Domestic property types
36 in the PEIS project area include single-family and multiple-occupancy dwellings as well as
37 hotels, institutional housing and camps.

38 Various levels of government have affected life in the Northern Border PEIS project area and
39 played a role in military defense, resource management, infrastructure development and political
40 organization. Historic property types associated with the government's military functions
41 include fortifications, battle sites, and arms storage as well as naval, air, coast guard and army
42 facilities. Resource management functions are related to the operation of national parks, national
43 forests, wildlife refuges and other public lands managed by federal, state and local governments.

1 Historic property types include administrative facilities, fire protection facilities, maintenance
2 and work facilities, recreational facilities, interpretive features and landscape features. Among
3 the property types associated with infrastructure development are post offices, custom houses,
4 correctional facilities, fire protection facilities and public works, which are represented by
5 generating plants, sewer systems, and dam sites as well as other types of features.

6 Social and cultural properties are broadly defined to include a range of types related to
7 organizations, recreation, health, culture, education, religion and funerary practices as well as the
8 contributions of the region's diverse population groups. Historic property types associated with
9 social activities include organization facilities with contributing features such as meeting halls,
10 clubhouses and civic facilities.

11