

4.0 ENVIRONMENTAL SETTING

The project area lies within Minnesota SHPO Archaeological Region 4: Central Lakes Deciduous Region. These regions are based on Dr. Scott Anfinson's (1990) archaeological regions, which help us to understand the prehistoric environment and better understand where archaeological sites may be located. Region 4: Central Lakes Deciduous is located in central and east central Minnesota. Its topography consists of a patchwork of moraines, till plains, and outwash plains (Anfinson 1990).

4.1 SOILS

Within Region 4, Soils reflect a diverse glacial and vegetational history. "Most of the soils have medium to coarse textures with prairie soils in the south and west and forest soils in the north and east" (Anfinson 1990). The majority of soils in the project area are described as part of the Zimmerman series, fine sand on 1-6 percent slopes and loamy fine sand and fine sand on 7 to 12 percent slopes. The Zimmerman series of fine sand consists of somewhat excessively drained soils found on rises. The Zimmerman series of loamy fine sand consists of excessively drained soils found on outwash plains (NRCS 2014).

4.2 ENVIRONMENTAL LANDSCAPE

Anfinson (1990) tells us numerous lakes are found throughout the region, some reaching depths of 30 meters. The Mississippi River flows through the eastern and central parts of the region with the St. Croix River forming the eastern boundary. The western part is drained by rivers that flow into the Red River. F.J. Marschner (1930) describes the natural vegetation as mostly Oak Openings and Barrens. Today the area is located on the edge of the Mille Lacs Uplands and Anoka Sand Plain Ecological Subsections, Western Superior Uplands and Northern Minnesota and Ontario Peatlands Sections, and Laurentian Mixed Forest and Eastern Broadleaf Forest Ecological Provinces of the Department of Natural Resources Ecological Classification System (DNR ECS). The project area is a slightly rolling landscape with areas of wetland and grassland interspersed with trees, adjacent to three lakes- Mud Lake to the northeast, Horseleg Lake to the west, and Horseshoe Lake to the south.

4.3 GEOLOGICAL BACKGROUND

H.E. Wright (1972) identifies the physiographic regions overlaying the state. Overlaying the project area are the Brainerd-Automba Drumlin Area (#11) and Anoka Sand Plain (#12). Wright goes on to describe the Brainerd-Automba Drumlin Area as being "most of the round moraine of the Rainy and Superior lobes inside the arch of the St. Croix moraine and not buried by the Anoka Sandplain on the south or by younger drift on the north" (Wright 1972:569). Wright explains that much of the area is marked by drumlin fields interrupted in numerous places by outwash plains. He states that the Anoka Sand Plain is an area "formed largely by glacial drainage from the north and west that was held back by the moraine" (Wright 1972:569-570). Wright reminds us that the Anoka Sandplain is not featureless but offers examples of low regions of upland, patches of sand dunes, and lakes and marshes.

4.4 PREHISTORIC FLORA AND FAUNA

Anfinson tells us that early prehistoric subsistence resources of the area may have included tundra species such as musk ox, and barren ground caribou. As much of the area was covered by pine forests, large herds of megafauna were rare. As prairies began to enter the southeastern portion of the region, large bison herds followed. Bison were common in all but the northeastern third of the region by about 7,000 years ago (Anfinson 1990). As prairie retreated in the late Middle Prehistoric, faunal resources including beaver, moose, and black bear became abundant. Also, fish and waterfowl became common in the region's numerous lakes and rivers. Wild Rice was an important food source and economic resource during the Late Prehistoric and Early Historic periods (Anfinson 1990).

5.0 CULTURAL HISTORY

Statewide contexts have been developed by the Minnesota SHPO, which examines Minnesota's recent Prehistoric through Historic past. These contexts are based on archaeological and historic research. They describe the history of the state and assist in predicting where specific types of sites may occur.

American Indian contexts are commonly divided into three major traditions: Paleoindian, Archaic, and Woodland based on significant changes in how these communities lived and in what they ate. Historic contexts are generally divided into Contact and Post-Contact periods. The Contact period begins with early European exploration of the state and continues through the Post-Contact period including settlement and statehood.

5.1 PRE-CONTACT PERIOD

5.1.1 Paleoindian Tradition (12,000 to 8,000 Before Present [B.P.]

The Paleoindian Tradition begins at the close of the Pleistocene era and beginning of the Holocene era. American Indian Communities are small, mobile, and focused on hunting. During this period, the glacial ice retreats, Lake Agassiz (located on the edge of Traverse County, Minnesota) drains, and prairie vegetation advances into western Minnesota. Archaeological evidence from Paleoindian sites in Minnesota includes the Browns Valley Site, 21TR0005. They reflect the same general characteristics and patterns noted for Paleoindian sites throughout the central United States and Canada. Based on the small number of artifacts recovered from these sites, it can be assumed that these communities hunted a limited number of large animals, mainly mammoth and mastodons. As the Pleistocene era ended and the Holocene era began, these mega fauna gradually died out. Ancient species of bison followed the advance of prairie vegetation, giving Paleoindian peoples a new species to hunt. In addition to hunting large and small game, it is likely that gathering wild plant foods supplemented the diet of Paleoindian peoples. Paleoindian peoples are known for their distinctive stone tools. Projectile points of this period show advanced craftsmanship and include large lanceolate projectile points. Because Paleoindian communities were small and nomadic, archaeologists have found only sparse, scattered evidence of Paleoindian peoples throughout the region.

5.1.2 Archaic Tradition (8,000 to 2,800 B.P.)

The beginning of the Archaic period is marked by a shift in diet and settlement patterns that represent an adaptation to environmental changes. Archaic peoples begin to use more diverse plant and animal resources. A broader range of tools including new projectile point forms, copper tools, and ground and pecked stone tools appear. Archaeological research does not present a clear picture of community size during this time. Research suggests both that community size increased and remained small with day-to-day activities taking place at a series of seasonal camps (Anfinson 1987; 1997). Bison hunting remained an integral part of life for Archaic peoples. As with known Paleoindian sites, Archaic sites are relatively small and sparse.

5.1.3 Woodland Tradition (2,800 B.P. to European Contact)

In the Midwest region, archaeologists tend to divide the Woodland Tradition into three periods: Early, Middle, and Late. However Anfinson (1987) suggests that in Minnesota it is more appropriate to divide the era into Initial and Terminal Woodland periods. Manufacturing ceramic vessels, utilizing bows and arrows, building burial mounds, and cultivating specific plant species, all mark the transition from the Archaic to the Woodland Tradition. Overall, subsistence during the Woodland Tradition remained similar to that of the Archaic period with communities dependent upon a diverse, seasonal resource base of plants and animals (Johnson 1988; Anfinson 1987). Although community sizes have many similarities between the Early Woodland and Late Archaic period, by the Late Woodland period, populations are on the rise. This may be due to increased efficiency in food acquisition. Woodland period sites include burial mounds, small, limited-use sites, and large village and habitation sites. Sites are located either in areas where a community could focus on a specific resource or in environments capable of sustaining larger communities over longer periods of time.

5.1.4 Plains Village & Mississippian/Oneota Traditions (1,100 B.P. to European Contact)

Terminal Woodland period sites in Minnesota exhibit significant changes in subsistence and settlement patterns. Ceramic vessels with different form and decoration, settlement patterns shifting to larger and more permanent villages (usually near river settings) mark the change archaeologists refer to as the Plains Village and Mississippian/Oneota Traditions. Archaeological evidence indicates that both the Plains Village and Mississippian complexes relied heavily on bison hunting and intensive corn horticulture. Archaeologists are unsure how the Oneota complexes developed. There are two common theories. The first suggests that groups migrating into the Upper Midwest brought with them new cultural traditions. The second theory proposes that people already living in the area began to adopt cultural changes different from groups around them. Plains Village and Oneota site types are similar to those associated with the Woodland Tradition. The archaeological remains of these complexes range from burial mounds to small, limited-use sites and extensive habitation sites. Site location remains consistent with the Woodland Period.

5.2 CONTACT/POST-CONTACT PERIOD (1630 TO PRESENT)

This period generally refers to the span of time extending from the first European explorations until intensive Euro-American settlement of the region. Minnesota's historical period began in 1673 when French explorers Marquette and Joliet discovered the upper portion of the Mississippi River. Ten years later, Catholic Missionary Father Louis Hennepin told his story of exploring Minnesota and being held captive by the Dakota Indians in the first book written about Minnesota, *Description de la Louisiane*. The territory containing modern-day Minnesota was claimed by Spain, France, Great Britain, and the United States. Lieutenant Zebulon Montgomery Pike led the first United States expedition through Minnesota in 1805. Fort St. Anthony (later Ft. Snelling) was completed between 1819 and 1824, and in 1836 the Wisconsin Territory including a portion of Minnesota, was formed. Minnesota became a territory in 1849 and achieved statehood on May 11, 1858. The fur trade drove much of the European exploration and settlement in Minnesota through the mid-1800s. While the fur trade impacted the American Indian communities throughout all of Minnesota, the heaviest impacts came with European settlement after the 1860s. At that time, intensive settlement and agriculture dramatically transformed the landscape, displacing a large number of American Indians. In 1862 tensions between white settlers and American Indians resulted in the Dakota Conflict. Ultimately, this war left 462 whites and "an unknown but substantial number" of American Indians dead (Anderson and Woolworth 1988). This conflict concluded with the hanging of 38 Dakota Indians in Mankato and the deportation of many others to Santee, Nebraska. As white settlers made Minnesota their home, farming became the predominant industry. Wheat was the cash crop, and mills sprang up along major waterways across the state, notably in Minneapolis. Minnesota dominated the world in wheat processing until the 1930s. In addition to milling, Minnesota was also a leader in lumbering and iron mining. Lumbering played a significant role in the development of northern Minnesota, with the industry peaking between 1899 and 1905. Iron mining began affecting the state's economy in 1884, when the Soudan Mine began shipping ore. The development of the Soudan Mine opened the Vermilion Iron Range, one of Minnesota's three iron ranges. Over the next two decades, mines sprang up across northern and central portions of the state. The Mesabi, Cuyuna, and Vermilion Iron Ranges employed thousands of people and brought millions of dollars into Minnesota's economy. Minnesota's iron industry spurred the rapid growth of mining cities such as Evelyth, Chisholm, Virginia, and Hibbing, as well as the port cities of Duluth, Minnesota and Superior, Wisconsin" (Minnesota State University-Mankato 2007). American Indian archaeological site types associated with this period are generally consistent with those of earlier periods, but European and Euro-American traders, missionaries, settlers, and industries affect the locations of these sites. This period also includes Euro-American immigrant settlement patterns, subsistence activities, and economic strategies. Sites associated with Euro-American immigrants appear in the mid-nineteenth century. Associated archaeological and historic site types categorized in the Contact/Post-Contact period include standing structures as well as archaeological sites. A number of these sites can be found within the project area and include schools and farms.