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Interpreting the Buffalo Lake Locality: Analysis of Projectile Point and Ceramic Assemblages Recovered from the Kratz Creek (47MQ39), Neale (47MQ49), and McClaughry (47MQ42) Sites

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Interpreting the Buffalo Lake Locality: Analysis of Projectile Point and Ceramic Assemblages Recovered from the Kratz Creek (47MQ39), Neale (47MQ49), and McClaughry (47MQ42) Sites

by

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Abstract

This research comprises the analysis of artifacts recovered during archaeological investigations at Buffalo Lake in 1917 and 1925 at Kratz Creek (47MQ0039), Neale (47MQ0049), and McClaughry (47MQ0042) mound group sites. The purpose of this thesis is to further define the cultural history of occupation at Buffalo Lake. Analysis was performed on 258 projectile points to determine point types and associate cultural time periods. Furthermore, raw material analysis was performed to provide data on socio-economic connections between Buffalo Lake and other regions outside its vicinity. Additionally, 179 ceramic rim sherds have been assessed to determine their type. This enforces the distribution areas of different ceramic types through the Woodland Tradition and Buffalo Lake's association with these areas. Analysis of projectile point types reflects occupation from Late Paleoindian up through Late Woodland, a span of over 10,000 years. Moreover, people regularly depended on locally available lithic source materials, such as Prairie du Chien chert. As time progressed, non-local materials used for manufacturing points became more evident at Buffalo Lake. By the Late Woodland, silicified sandstone sourced from western Wisconsin was more utilized than locally available sources. Ceramic types reflect that Buffalo Lake initially had more affiliation with groups who derived from southerly regions of Wisconsin. Gradually, Buffalo Lake went from neighboring edges of distribution areas to transcending into the epicenter of different ceramic distribution areas. This likely indicates that Buffalo Lake went from neighboring territorial boundaries to a more centralized location for exchange of goods, ideas, and establishment of burial practice customs.

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Chapter 1: Introduction

Thesis Statement

This thesis is a comprehensive analysis of lithic and ceramic materials recovered during the 1917 and 1925 archaeological investigations at Buffalo Lake, a dammed water source located in south-central Wisconsin and consequently part of the Fox River. The 1917 investigation was led by Samuel Barrett and Ethan Hawkes who excavated the Kratz Creek Mound Group (47MQ0039). Furthermore, the 1925 field season was performed by William C. McKern, with excavations taking place at both the Neale (47MQ0049) and McClaughry (47MQ0042) mound groups.

The purpose of this research is to help further establish the cultural history of occupation of the Buffalo Lake locality through diagnostic projectile points and pottery. During this project, 258 projectile points and 179 rim sherds representing all three sites and shoreline surveys of Buffalo Lake were analyzed. The presence of unique point and pottery types will be used to develop a proxy measure of occupation intensity through time at Buffalo Lake and connect the locality into broader pre-contact cultural patterns of landscape use for the Upper Midwest. In addition, a raw material analysis of the projectile points will also provide data on socio-economic connections between Buffalo Lake and the region. These results will be accumulated and interpreted through a settlement pattern approach that shall further address the socio-economic patterns through used lithic resources and varying ceramics styles that reflect distribution areas. Moreover, the research will attempt to understand how resources may influence territorial behavior within the area through time.

Background of Previous Investigations

Buffalo Lake is located in central Marquette County, Wisconsin (Figure 1.1). The lake is approximately 12 miles in length and a part of the Fox River. Prior to being dammed in the late-19th Century, Buffalo Lake was initially a vast marshland area. In addition, this segment of the Fox River was more of a smaller stream. While it originally provided an abundance of wild rice at one point in time, this watershed environment continues to provide plenty of aquatic resources including fish, turtle, and waterfowl.

The Fox River flows diagonally across the state from the southwest to northeast, fed by natural springs in present-day Columbia County, eventually draining into Lake Butte de Mortes located in Winnebago County. The river continues northeast until dispersing into Green Bay and Lake Michigan.

Figure 1.1. Wisconsin with known major rivers and tributaries. Reproduced from Google.

Because of Buffalo Lake's unique setting consisting of both natural and cultural features, the Board of Trustees of the Milwaukee Public Museum entrusted Samuel Barrett and colleague Ethan Hawkes to make exploration of this region an initial first step toward a development of a systematic series of Wisconsin excavations (Barrett and Hawkes 1919; Hurley 1975). From July to September in 1917, Samuel Barrett and Ethan Hawkes began their archaeological excavations on the Kratz Creek Mound Group (Barrett and Hawkes 1919: 8) (Figure 2). The mound group is composed of 51 mounds; of these 29 were conical, 4 were linear, and 18 were effigy. The mound group is parallel along the south shore and Barrett divided the mounds into four subgroups. The

first is the main subgroup, located at the mouth of a small creek and contains 36 mounds. The second subgroup consists of five mounds and located east of Kratz Point. The third subgroup consists of four mounds and rests to the west of the small creek. The fourth and final subgroup was composed of solely six conical mounds and located further west of the small creek and along the lakeshore (Barrett and Hawkes 1919: 8). Barrett's goals were to: 1) gain a better interpretation of the effigy mound culture through the analysis of stratigraphy that would enhance the views of mound construction; 2) interpret mortuary practices through the study of human skeletal remains exposed during the excavations; and 3) recover artifacts.

In addition to excavating mounds at Kratz Creek, Barrett conducted a pedestrian survey directly along the shoreline of Buffalo Lake to assess other cultural activities. Barrett recorded roughly 200 additional mounds situated along the shoreline of Buffalo Lake. In addition, he recovered a number of diagnostic artifacts ranging from ceramic sherds to projectile points. Within the accession log books stored at the Milwaukee Public Museum, Barrett mentions particular places where the artifacts were recovered from. Such places include: "Buffalo Lake", "Buffalo Lake Survey," "North Shore," "Campsite," "Royce Workshop," and "Opposite Kratz Creek." Due to the lack of information regarding the accurate location of these places, I have categorized these locations as merely being recovered during the Buffalo Lake pedestrian survey.

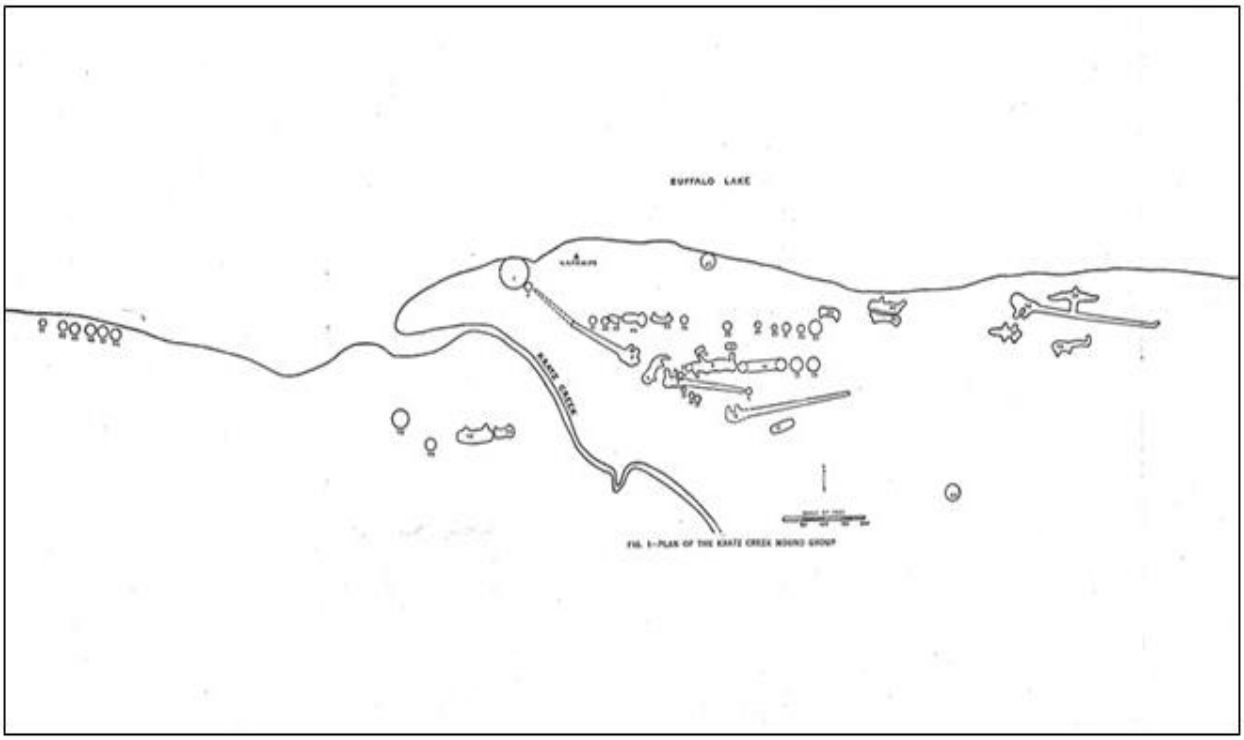

Figure 1.2. Kratz Creek Mound Group (47MQ0039). Reproduced from Barrett and Hawkes 1919. Figure used with permission from the Milwaukee Public Museum.

In 1925, Samuel Barrett (then Director of the Department of Anthropology at the Milwaukee Public Museum) advised William McKern to further the investigations previously conducted. During the summer of 1925, McKern conducted field investigations of mound groups in both Green Lake and Marquette counties. The emphasis on mound groups located along Buffalo Lake was to distinguish whether the mounds were unique or rather part of a wide, local distribution (McKern 1928: 226). At Buffalo Lake, McKern investigated two sites: the Neale and McClaughry mound groups. The Neale mound group is along the south shore of Buffalo Lake and directly opposite of the town of Packwaukee. The site was composed of 88 mounds of which there were 47 conical, 28 effigy, and 13 undetermined due to human destruction (McKern 1928: 229-230). McKern was able to excavate 24 out of the 88 mounds at the Neale group (Figure 3).

McKern managed to assess the artifacts recovered from the sites in more detail when compared to Barrett's previous investigations. The Neale mound group had very few artifacts compared to that of the Kratz Creek site. Artifacts found associated with the mounds were lithic tools such as scrapers and a celt found associated with a burial in mound 50, as well as a cache of net sinkers in Mound 8. No projectile points were found associated with the mounds. There is some evidence of small ceramic sherds that were found associated with a flexed burial in Mound 11 that showed traits of Madison Ware decorations (McKern 1928: 306-307).

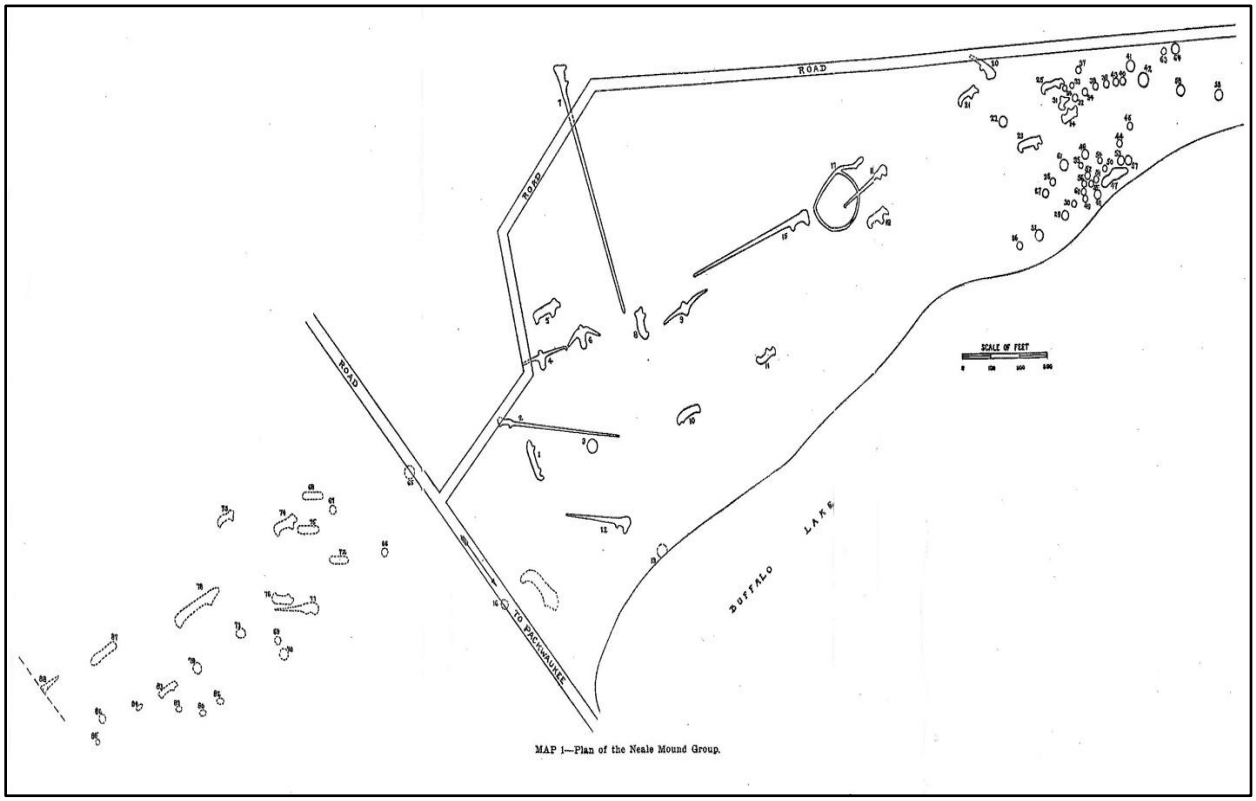

Figure 1.3. Neale Mound Group (47MQ0049). Reproduced from McKern 1927. Figure used with permission from the Milwaukee Public Museum.

In addition to excavations at the Neale mound site in the summer of 1925, Will McKern also excavated the McClaughry mound group. The McClaughry Mound Group site is situated the along the north shore of Buffalo Lake and subsequently a small natural stream running from the

north into the lake. The mound group was divided into two sites. The first site was composed of 60 mounds of which 47 were conical, five bi-conical, three linear, and five effigy mounds (Figure 1.4). Thirty-six out of the 60 mounds were excavated from Site I. The second site was composed solely of 22 conical mounds, of which three were excavated (Figure 5). Of the artifacts found at McClaughry Site I, few were found being associated with burials. Artifacts consisted of copper such as float copper and a copper chisel in Mound 28 as well as copper awls were seen in Mound 49 and Mound 54 (McKern 1928: 258-259). Few lithic artifacts were recovered from both McClaughry sites. The only lithic artifacts were derived from McClaughry Site I. Only 16 chert points and three quartzite points were recovered and most were not associated with burials. Three points were found in association with an adult male flexed and child burial. These points were located near the male's skull (McKern 1928: 259). For ceramic artifacts, there is a high concentration of pottery sherds (over 800 pottery fragments) as well as evidence of pipes. Elbow clay pipes were found associated with bundle burials in both Mounds 16 and 51.

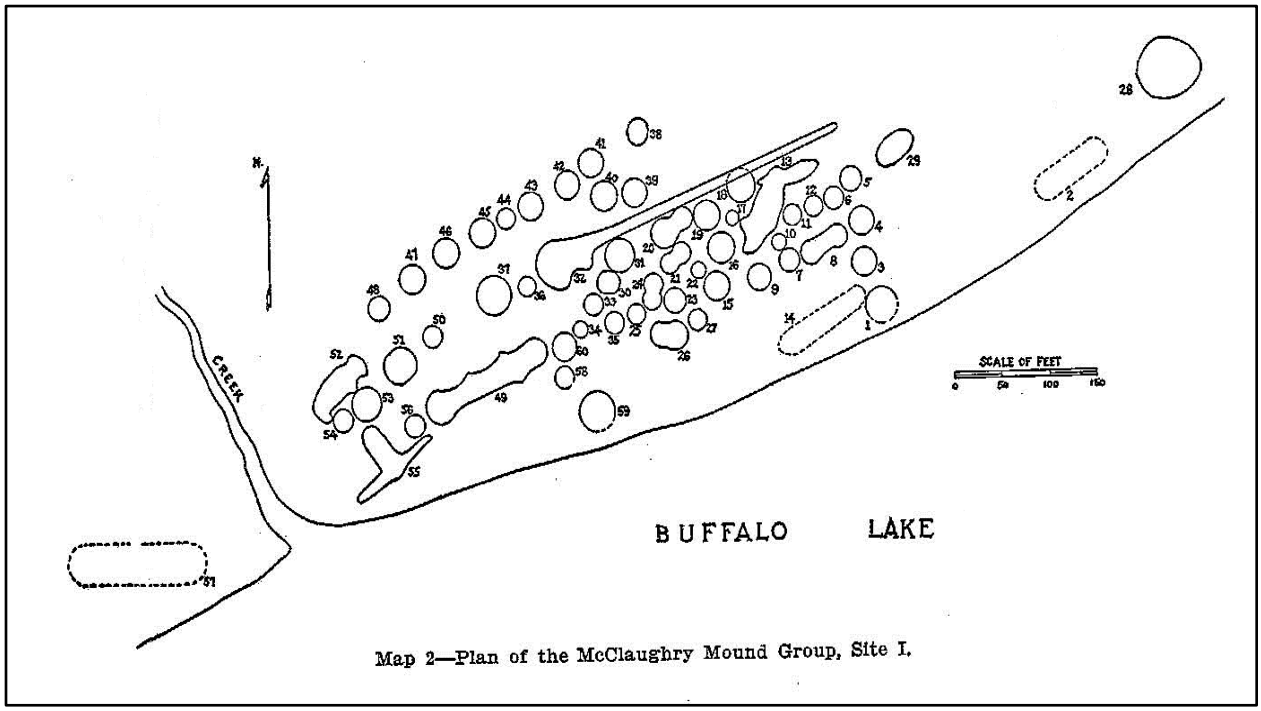

Figure 1.4. McClaughry Mound Group, Site I (47MQ0042). Reproduced from McKern 1927. Figure used with permission from the Milwaukee Public Museum.

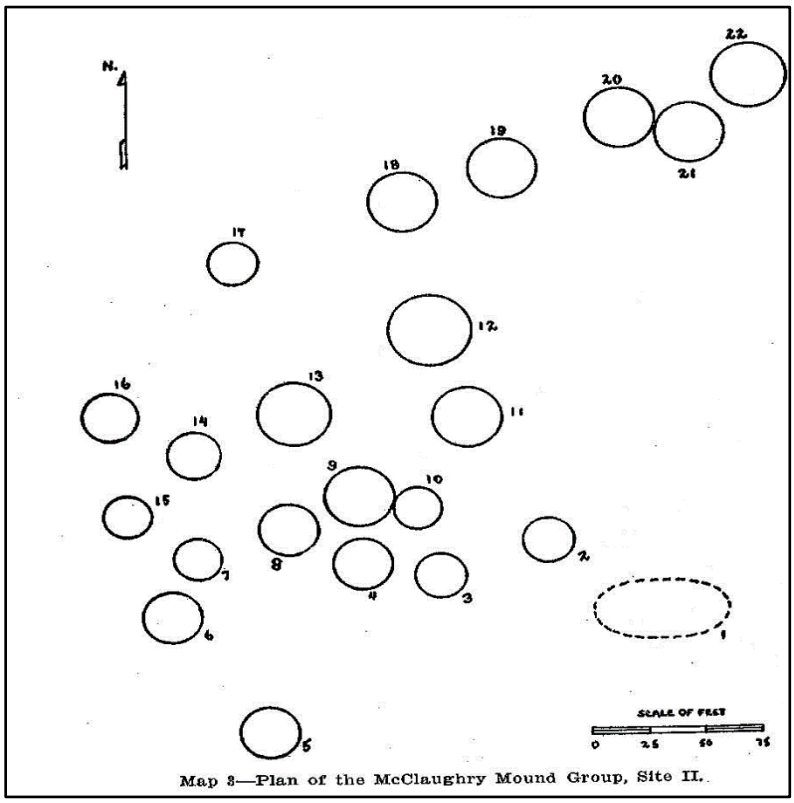

Figure 1.5. McClaughry Mound Group, Site II (47MQ0042). Reproduced from McKern 1927. Figure used with permission from the Milwaukee Public Museum.

The artifacts recovered from the archaeological investigations at Kratz Creek, Neale, and McClaughry mound groups were curated at the Milwaukee Public Museum. Projectile points from Samuel Barrett's investigations in 1917 were analyzed by the author in 2012 (Taft 2013).

More recently, two dissertations were published focused on analysis of Buffalo Lake artifact assemblages. The first applied bioarchaeology analysis of human skeletal remains (Lackey-Cornelison 2012). The author's study of human remains was to determine whether the patterning of human burials contributed to either creation of individual identity, denoted social inequality, or a combination of both (Lackey-Cornelison 2012). The results from the analysis indicated that mortuary practices most likely had a role in creating individual identity during ceremonies. Furthermore, Lackey-Cornelison suggests that burial within the mounds themselves

was a form of communication to those responsible for mound construction and symbolic of collective identity creation for participants (Lackey-Cornelison 2012).

The second dissertation focused on social organization of populations of the Effigy Mound Culture in southern Wisconsin (Cornelison 2013); additionally, comparing the known Buffalo Lake sites to other mound group sites. Cornelison analyzed several variables ranging from mound form, features, and biological distance analyses (i.e., addressing if mounds constructed and maintained by lineal groups through analyzing phenotypic traits) to interpret the structure of Effigy Mound societies (Cornelison 2013). The results of the research confirmed that the mound groups were maintained by particular groups that were likely lineage based (Cornelison 2013). Moreover, the landscape represented by the mound groups asserted a lineage's control as well as access to resources located within the area.

Summary

Overall, the Buffalo Lake area is rich in natural and cultural history. Prior to being dammed in the late-19th Century, the lake was a steady stream of the Fox River surrounded by a vast marshland with smaller tributaries attached. Occupants both human and non-human that resided along the shorelines more than likely thrived on the abundance of a variety of natural and aquatic resources.

Following the turn of the 20th Century, when mounds throughout Wisconsin sparked curiosity and wonder of many, Samuel Barrett arrived to Buffalo Lake to advance archaeological studies in the state. His careful recordings of mound profiles and burial placement gave new light on past populations and their influence on mound construction and burial practices. Furthermore, Will McKern returned nearly a decade later to continue archaeological investigations at Buffalo Lake and further study the elaborate mounds situated along its shorelines. McKern managed to

excavate and record many more mound groups at Buffalo Lake than his predecessor; gaining more insight into past populations interaction with this section of the Fox River.

This thesis will continue the work previously accomplished by Barrett and McKern (and others). It will focus on the artifacts accumulated by their previous investigations by analyzing projectile points and the raw materials used to manufacture them, as well as the ceramics. This approach will help better understand the culture history of occupation at Buffalo Lake prior to European contact, and the interaction among groups across the landscape.

Chapter 2 provides an overview of the Wisconsin archaeological timeline, including emphasis on the diagnostic projectile points in each temporal period. There will be additional description of ceramic styles seen throughout the Woodland tradition. Furthermore, chapter 2 will provide an overview of Effigy Mound Culture. Chapter 3 lays out the research design for this thesis and reviews the methods as well as the specific theoretical approach of landscape archaeology being incorporated into this study. Chapter 4 presents the artifact analysis data and statistical analyses performed after accumulating the data. Chapter 5 takes the results accumulated from the artifact analyses and statistical testing and incorporates the results with landscape archaeology theory, with focus on settlement patterns. Chapter 6 summarizes the findings of the research for this thesis, and provides discussion and interpretation regarding the culture history of past human occupation at Buffalo Lake, and suggestions on directions for further research.

Chapter 2: Background Research

Wisconsin Archaeological Timeline Overview

This section provides an overview of the Wisconsin archaeological timeline sequence, including emphasis on the diagnostic projectile points indicated in each temporal period, with description of ceramics seen throughout the Woodland tradition. The interpretation of these temporally diagnostic artifact types will help in creating an accurate culture history for the Buffalo Lake locality. Various sources will be used in providing an overview of the cultural temporal periods: The Wisconsin Archeologist volume 78 (1997), *Twelve Millennia: Archaeology of the Upper Mississippi River Valley* by James L. Theler and Robert F. Boszhardt (2003), *A Projectile Point Guide for the Upper Mississippi River Valley* by Boszhardt (2003), and *Common Woodland Period Prehistoric Ceramics of Western Wisconsin* by Ryan J. Howell (2001). The dates indicated for each tradition within the Wisconsin archaeological time sequence is provided from *The Wisconsin Archeologist* volume 78.

Paleoindian Tradition (approximately 10,000 B.C. thru 8,000 B.C.)

The Paleoindian Tradition is the earliest known indication of human occupation within Wisconsin beginning at approximately 10,000 B.C. (Mason 1997: 85). The lifestyles of these individuals were organized into highly mobile, small group hunters-and-gatherers that relied on hunting large megafauna such as mammoths and mastodons (Theler and Boszhardt 2003: 57). Environments were very different compared to present day Wisconsin, as a large glacial ice sheet covered a vast majority of the state. To the south of the ice sheet, various megafauna and flora lived where environments were exposed (Theler and Boszhardt 2003: 57).

The strongest characteristic attribute to define the Paleoindian tradition was the manufacturing of fluted and non-fluted spear points. The characteristics of these points during

this time divide the Paleoindian tradition into two stages: the Early Paleoindian stage (EPI) and the Late Paleoindian stage (LPI) (Mason 1997: 81).

The EPI stage is known for three distinctive fluted points in Wisconsin: Clovis, Folsom, and Gainey (Figure 2.1). Clovis points, as defined by Boszhardt (2003: 14), are medium to large lanceolate spear points with a distinctive concave base. The most notable characteristic of the Clovis point is the flute shooting up nearly halfway up the length of both surfaces of the blade. The distribution of Clovis points in Wisconsin has been seen throughout the state (Boszhardt 2003: 13). Folsom spear points are relatively similar to Clovis, except they are medium-sized, thin and finely made, with a concave base and have distinct channel flake scars that extend nearly the full length of the blade (Boszhardt 2003: 16). Folsom points are relatively rare to find within Wisconsin. Finally, Gainey (or Eastern Fluted) points are described to have long, Folsom-like flutes that run just well beyond half of the length of the blade, in addition to a more distinct trait of a central basal striking platform that was intended to remove the flute (Boszhardt 2003: 18).

Figure 2.1: Clovis (three left), Gainey (three lower right), and Folsom (three upper right). Reproduced from *The Wisconsin Archeologist* 78 (1/2): Fig. 5.2, pg. 83. Figure used with permission from the editors of *The Wisconsin Archeologist*.

The LPI stage points are different than the EPI points in regards to the absence of fluting (Mason 1997: 98). There are various distinct spear point styles during the LPI in Wisconsin: Agate Basin, Scottsbluff, and Hi-Lo/Price Stemmed (Mason 1997: 101). Agate Basin are medium to large size lanceolate spear points, with a reasonably wide midsection halfway along the blade and convex, narrow base and horizontal flake scars and a straight base (Boszhardt 2003: 23). Agate Basin points are typically seen in southern Wisconsin (Boszhardt 2003: 23) (Figure 2.2). Scottsbluff spear points are described as medium to large spear points with parallel blade edges and small but angular shoulders (Boszhardt 2003: 30) (Figure 2.3). In addition, the stem portion of the Scottsbluff point is typically straight but may expand slightly and has a

generally straight base. Scottsbluff points have been recovered in various regions of Wisconsin, ranging from the northeast to south-central Wisconsin. Hi-Lo/Price Stemmed are small to medium in size, with long and narrow blades and concave bases and stems and varying degrees of basal ears (Boszhardt 2003: 34) (Figure 2.4). Hi-Lo/Price Stemmed points have been recovered within the southern part of Wisconsin.

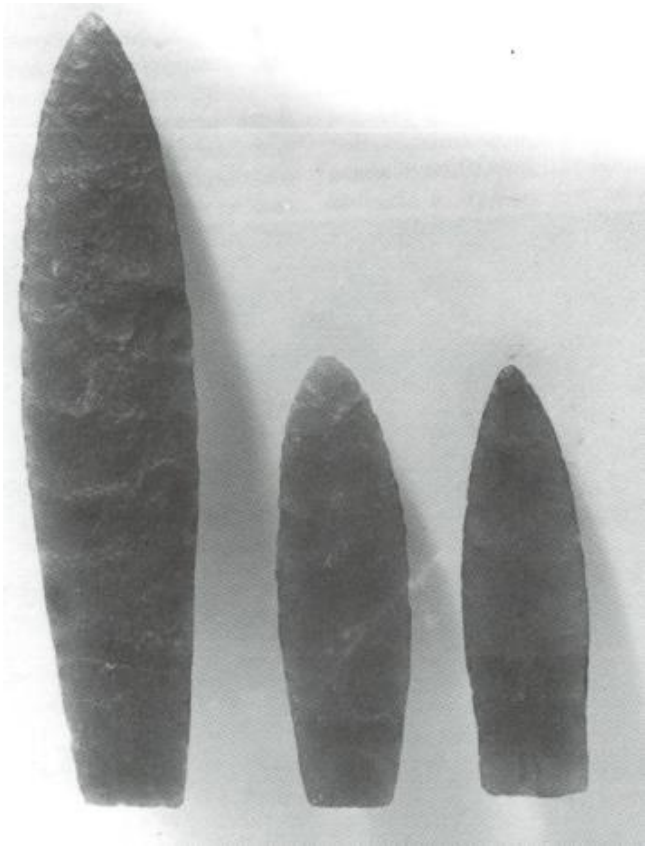

Figure 2.2: Agate Basin points. Reproduced from *The Wisconsin Archeologist* 78 (1/2): Fig. 5.12, pg. 100. Figure used with permission from the editors of *The Wisconsin Archeologist*.

Figure 2.3: Scottsbluff point. Reproduced from *The Wisconsin Archeologist* 78 (1/2): 5.15, pg. 104. Figure used with permission from the editors of *The Wisconsin Archeologist*.

Figure 2.4: Hi-Lo point. Reproduced with permission from projectilepoints.com.

The Archaic Tradition (approximately 8,000 B.C. thru 500 B.C.)

The Archaic Tradition is the longest known tradition in the Wisconsin archaeological timeline. During the transition from the end of the Paleoindian tradition and into the beginning of the Archaic tradition at approximately 8,000 B.C., environments were rapidly changing, accompanying the retreat of the glacial ice sheets to the north, thus marking the end of the Pleistocene and beginning of the Holocene (Stoltman 1997: 116). During the early time of postglacial at around 8,000 B.C., new plant communities expanded northward into Wisconsin, in addition to fluctuating water levels in the Lake Michigan basin (Pleger and Stoltman 2009: 699). The following 4,000 years became a time of warming temperatures and moist climatic conditions. This moist climate during the mid-postglacial made some environments situated within the Lake Michigan basin a less attractive and suitable location for human occupation (Pleger and Stoltman 2009: 700). Megafauna populations persisting during this time include

bison, moose, elk, caribou and deer, with natural habitats eventually becoming more modern (Theler and Boszhardt 2003: 69).

The Archaic tradition is separated into three distinct stages based on technological innovations and socio-economic patterns. Groups were still mobile hunters and gatherers, but would begin to utilize new environments and habitats for seasonal occupations as well as subsistence practices (Stoltman 1997: 115). Technological innovations include the manufacturing of ground stone tools, use of copper, and change in projectile point styles (Stoltman 1997: 113). In addition, new patterns include evidence for the burial of the dead, further promoting a more complex lifeway system (Pleger and Stoltman 2009; Stoltman 1997: 113, Theler and Boszhardt 2003: 80).

The projectile point styles establish the distinction of three separate stages throughout the Archaic tradition. The Early Archaic stage (approximately 8,000 B.C. thru 4,000 B.C.) is characterized through three diagnostic stemmed and corner-notched projectile points: Hardin-Barbed, Thebes, and Kirk-Corner Notched (Stoltman 1997: 116). Hardin-Barbed are medium to large points, and the blade shapes range from lanceolate to triangular, often beveled. Shoulders expand outward, with an expanding stem underneath with the addition of a slightly concave or straight base (Boszhardt 2003: 37) (Figure 2.5). Hardin-Barbed points are usually seen throughout southern Wisconsin, but rare north of the Wisconsin River (Boszhardt 2003: 37). Thebes are medium to large points, with blades having a triangular shape with beveling and well-rounded shoulders with broad and parallel-sided notches, directed inward at a slightly upward angle (Justice 1987: 54, Boszhardt 2003: 39) (Figure 2.6). In addition, stems are relatively large but are not as wide as the blade shoulders (Boszhardt 2003: 39). The distribution of Thebes points are mainly seen throughout the central Midwest, but are rare north of the Wisconsin River.

Finally, Kirk-Corner Notched points have triangular blades with wide shoulders, sometimes serrated, deep corner-notches, and a straight base (Boszhardt 2003: 45). Kirk-Corner Notched points have been seen in south-central Wisconsin (Boszhardt 2003: 45).

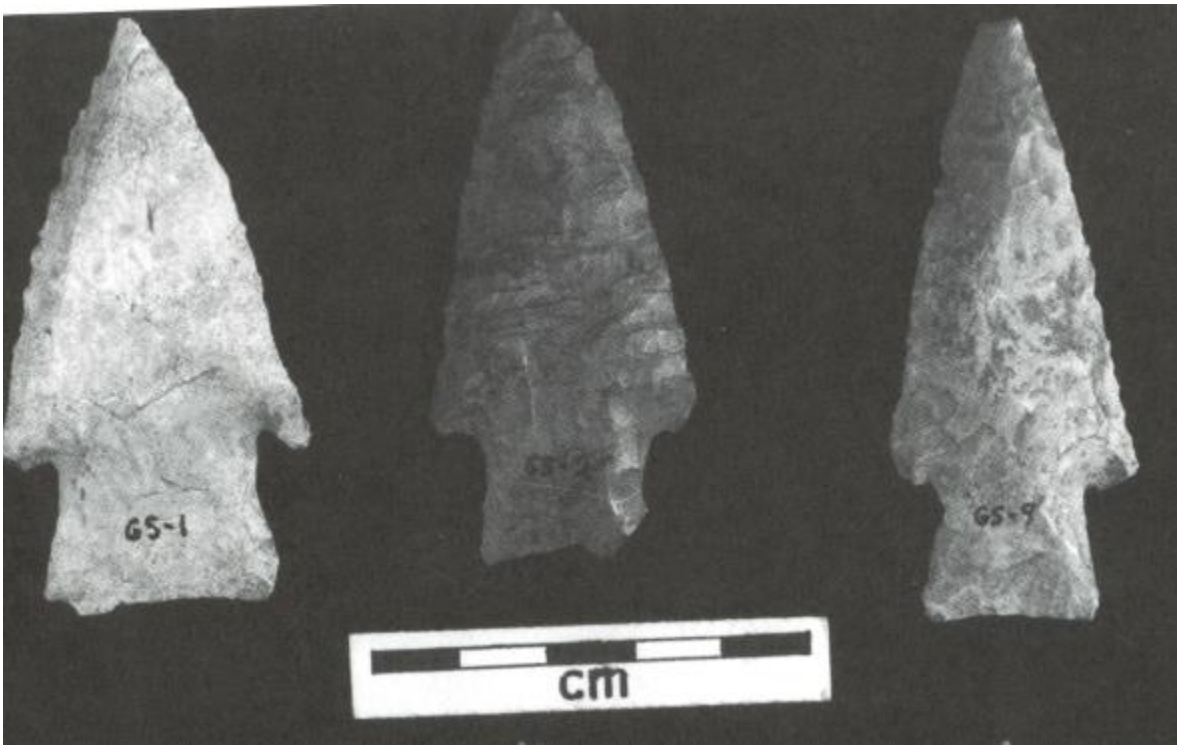

Figure 2.5: Hardin-Barbed points. Reproduced from *The Wisconsin Archeologist* 78 (1/2): Fig. 6.3, pg. 118. Figure used with permission from the editors of *The Wisconsin Archeologist*.

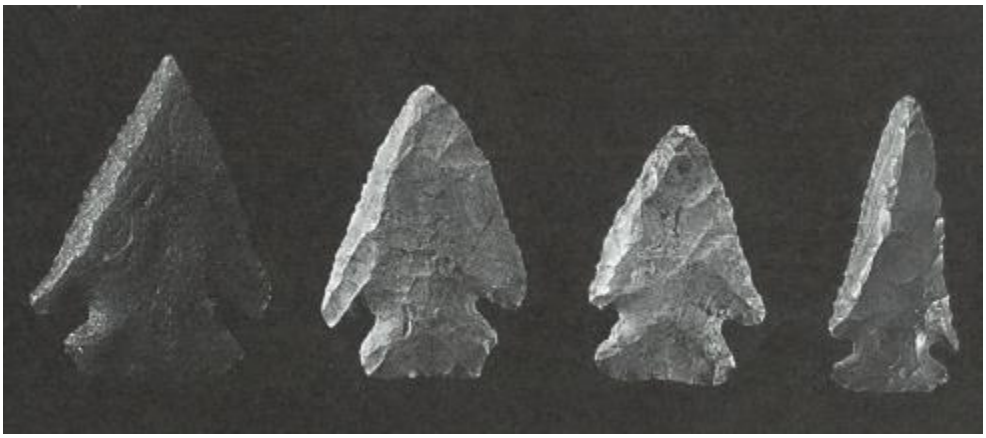

Figure 2.6: Thebes points. Reproduced from *The Wisconsin Archeologist* 78 (1/2): Fig. 6.2, pg. 117. Figure used with permission from the editors of *The Wisconsin Archeologist*.

The Middle Archaic stage (approximately 4,000 B.C. thru 1,200 B.C.) is well defined by the use and distribution of copper known as the "Old Copper Culture" (Pleger and Stoltman 2009; Theler and Boszhardt 2003: 77). This distinct complex exposed copper to extensive use through manufacturing of a wide range of different utilitarian tool forms that would be essential in everyday tasks. Copper tools took the form of spear points, axes, knives and drills (Stoltman 1997: 127) (Figure 2.7). Moreover, copper was also used to manufacture personal adornments including necklaces, bracelets, and beads. In addition, projectile point styles drastically changed through distinct stemmed and side-notched points such as Matanzas and Raddatz Side-Notched. Matanzas are relatively small to medium in size, with the blades having long and narrow parallel sides, short stems, and shallow side notches, with straight to slightly concave bases (Boszhardt 2003: 49) (Figures 2.8 and 2.9). Matanzas are rare in Wisconsin, but have been seen in the southwestern part of the state (Stoltman 1997: 123). Raddatz Side-Notched and Osceola are similar enough in characteristic attributes that I have chosen to put Osceola points within the Raddatz category (Justice 1987: 60) (Figure 2.10). Raddatz points are medium in size, relatively triangular in blade shape, with U-shaped notches and slightly concave or straight bases (Boszhardt 2003: 51). Raddatz Side-Notched points are very common throughout Wisconsin and the Midwest (Stoltman 1997: 124, Boszhardt 2003: 51). Reigh Side-notched points are relatively medium in size, with a more triangular blade shape, sharp shoulders, shallow U-shaped side notching, and a slightly convex base, and are often seen distributed in eastern Wisconsin (Stoltman 1997: 125-126) (Figure 2.11).

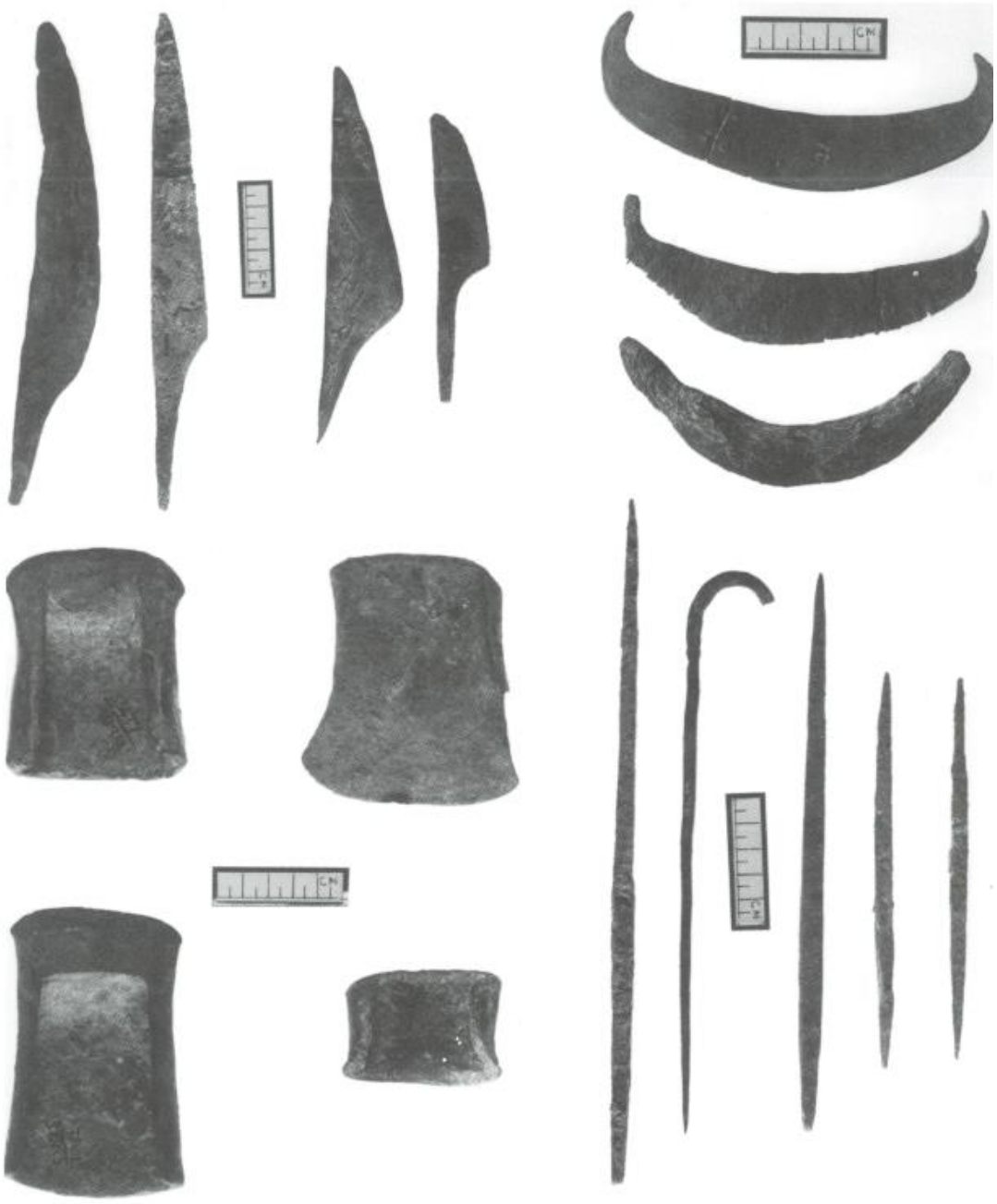

Figure 2.7: Assortment of copper artifacts. Reproduced from *The Wisconsin Archeologist* 78 (1/2): Fig. 6.9, pg. 128. Figure used with permission from the editors of *The Wisconsin Archeologist*.

Figure 2.8: Matanza points. Reproduced from *The Wisconsin Archeologist* 78 (1/2): Fig. 6.5, pg. 123. Figure used with permission from the editors of *The Wisconsin Archeologist*.

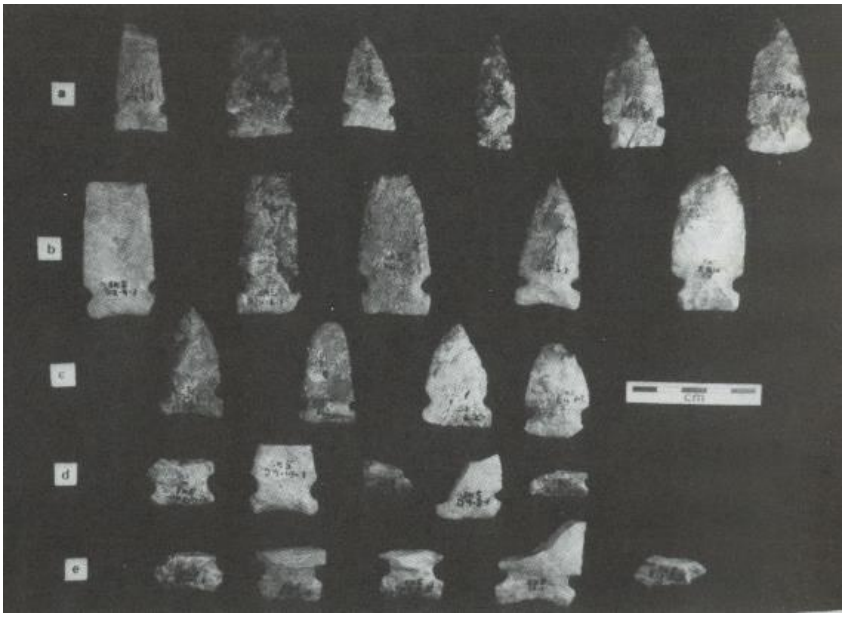

Figure 2.9: Raddatz points. Reproduced from *The Wisconsin Archeologist* 78 (1/2): Fig. 6.6, pg. 124. Figure used with permission from the editors of *The Wisconsin Archeologist*.

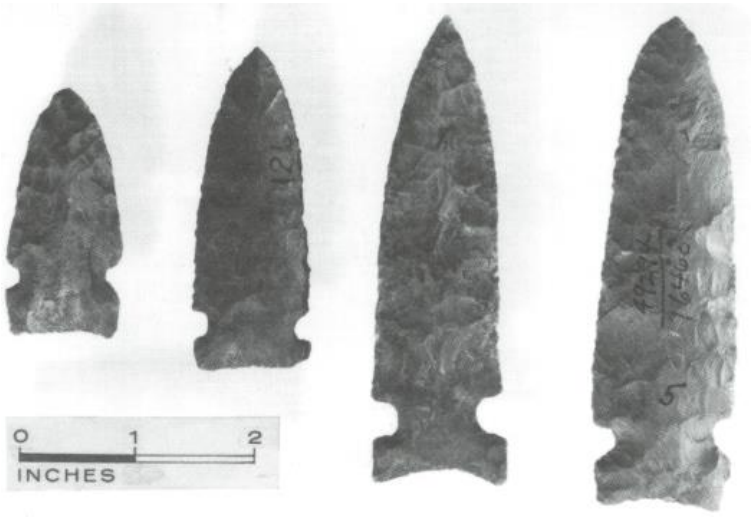

Figure 2.10: Osceola points. Reproduced from *The Wisconsin Archeologist* 78 (1/2): Fig. 6.7, pg. 125. Figure used with permission from the editors of *The Wisconsin Archeologist*.

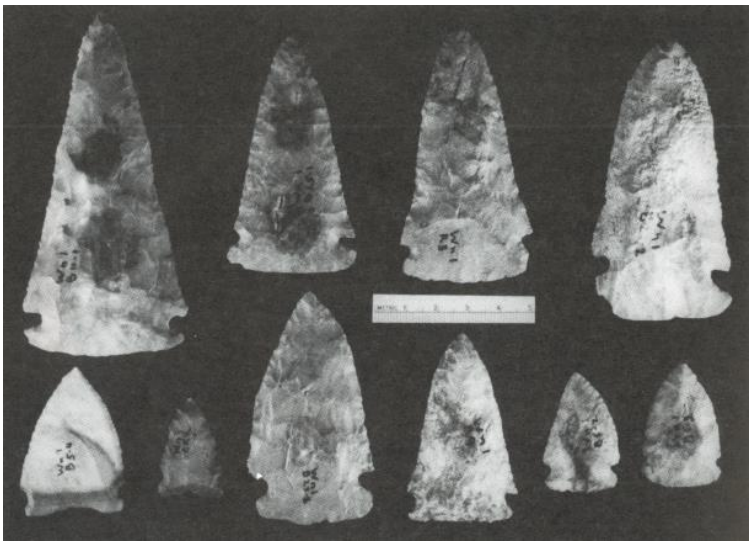

Figure 2.11: Reigh Side-notched points. Reproduced from *The Wisconsin Archeologist* 78 (1/2): Fig. 6.8, pg. 126. Figure used with permission from the editors of *The Wisconsin Archeologist*.

The Late Archaic stage (approximately 1,200 B.C. thru 100 B.C.) sees a return to corner-notching on projectile points, however the overall size of the point sizes continue to decrease when compared to their predecessors (Stoltman 1997: 134). The common projectile point types during this time in Wisconsin are Preston Corner-Notched, and Durst and Monona Stemmed

(Stoltman 1997: 134). Preston Corner-Notched can be described as small in size with a triangular-shaped blade, sharp shoulders, and an expanding stem with straight base (Boszhardt 2003: 55) (Figure 2.12). Preston Corner-Notched points are evident in southern and southwestern Wisconsin (Stoltman 1997: 134). Durst Stemmed points are crude in shape, ranging from a triangular or slightly ovate blade, rounded shoulders, and an expanding stem with a well-rounded base (Boszhardt 2003: 57) (Figure 2.13). The Durst Stemmed point is very common throughout Wisconsin (Boszhardt 2003: 57, Stoltman 1997: 136).

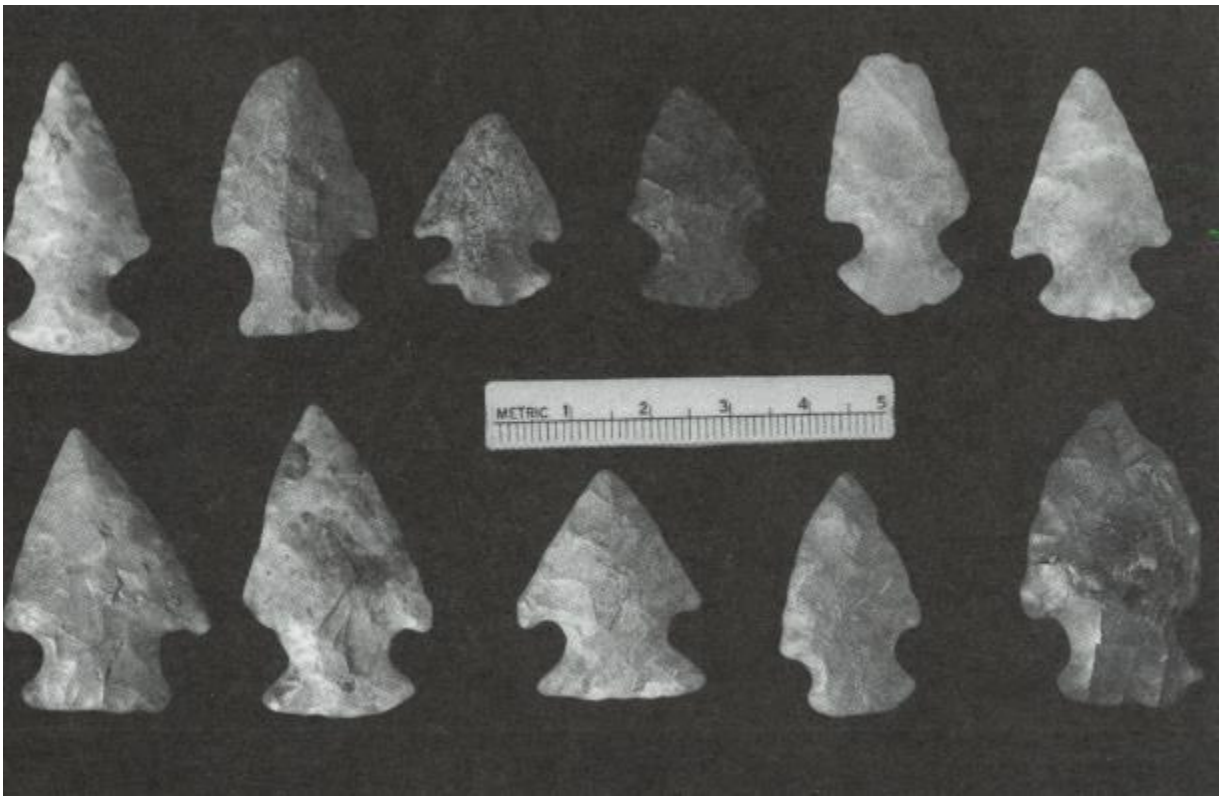

Figure 2.12: Monona and Preston notched points. Reproduced from *The Wisconsin Archeologist* 78 (1/2): Fig. 6.14, pg. 135. Figure used with permission from the editors of *The Wisconsin Archeologist*.

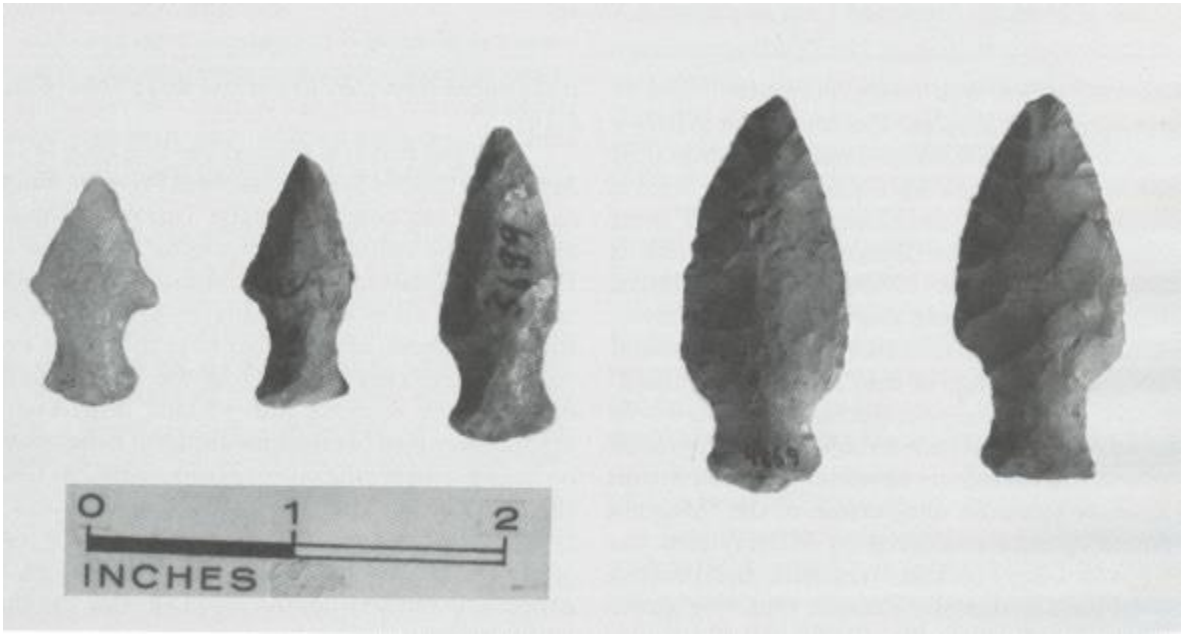

Figure 2.13: Durst points. Reproduced from *The Wisconsin Archeologist* 78 (1/2): Fig. 6.15, pg. 136. Figure used with permission from the editors of *The Wisconsin Archeologist*.

The Woodland Tradition (approximately 500 B.C. thru A.D. 1250)

Similar to the preceding Archaic Tradition, the Woodland Tradition was also divided into three stages based on the increasing changes in technology and social customs. The gradual transition into the Woodland tradition eventually began at approximately 500 B.C. and saw shifts in lifeways with the creation and use of pottery, change in projectile point styles, and practice of horticulture (Stevenson et al. 1997:141). Moreover, the Woodland Tradition was known be the advent of the construction of burial mounds, but previous investigations throughout the Upper Midwest have indicated that populations representative of the Late Archaic were performing artificial mound construction (Alex 2000: 79 - 82). Additionally, these mounds were constructed where cemeteries were placed on natural knolls or rises (Ritzenthaler and Niehoff 1958).

People during the Woodland tradition began as egalitarian bands of hunters and gatherers. These bands focused on a combination of both upland and water sources depending on

the season (Theler and Boszhardt 2003: 104). With populations rising, some groups would take up year-round residence (Theler and Boszhardt 2003: 138). This resulted in territorial boundaries and, consequently, conflict among groups over resources.

The unique trait of the Woodland tradition is the rise in burial complexity. The elaboration of burial mounds was seen during the Early and Middle Woodland stages in the form of conical and linear mounds throughout the southern half of Wisconsin (Stevenson et al. 1997: 143). This occurred in conjunction with the Hopewell Interaction Sphere with elaborate complex mound building (Birmingham and Eisenberg 2000: 84-85).

Over time there is an increase in elaborate decoration styles for ceramics ranging from lines and fingernail impressions to later use of various tools such as notched sticks to create stamps. The earliest form of ceramic style in the Woodland tradition is Marion Thick (Stevenson et al. 1997: 150, Theler and Boszhardt 2003: 101) (Figure 2.14). This ceramic vessel is defined as having straight walls with flat bottoms and having cord marking on both the inside and outside surfaces. Another type of Early Woodland pottery is Prairie Cord-Stamped, a Prairie Ware variety that is commonly seen in southwestern Wisconsin (Stoltman 1986). This pottery has characteristics of a series of cord-wrapped stick impressions on both the interior and exterior sides.

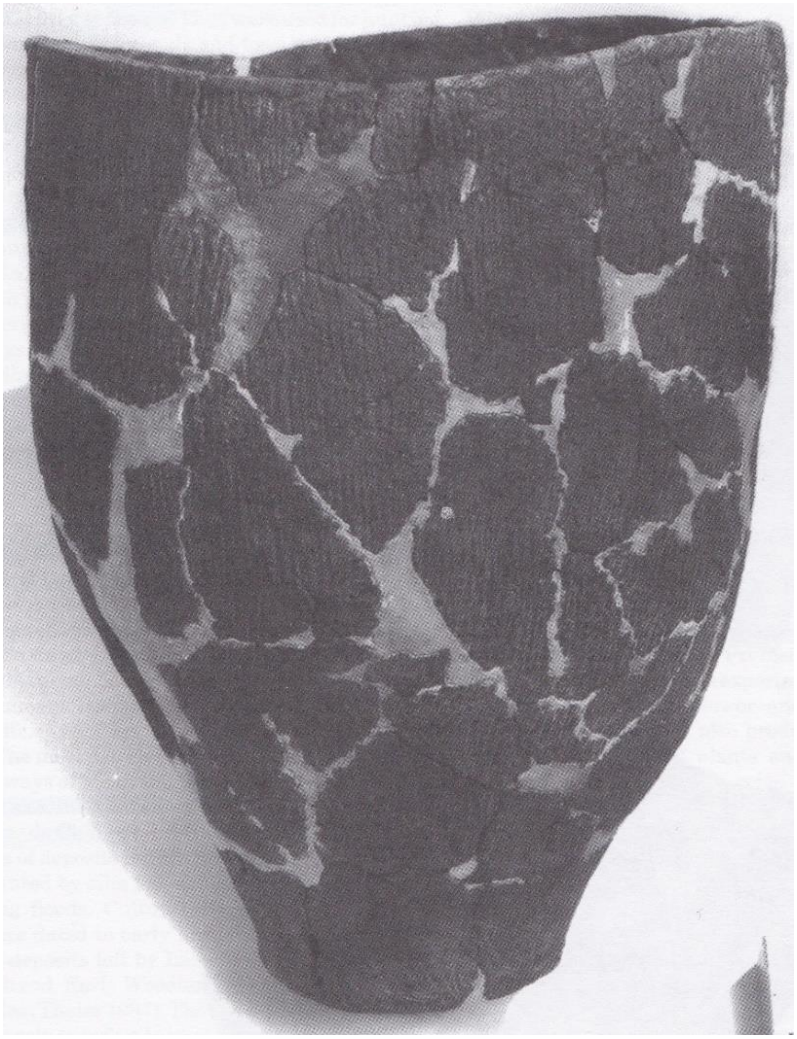

Fig 2.14. Marion Thick vessel. Reproduced from *The Wisconsin Archeologist* 78 (1/2): Fig. 7.5, pg. 151. Figure used with permission from the editors of *The Wisconsin Archeologist*.

Another diagnostic trait of the Woodland tradition is the modification of the projectile point form. The earliest forms seen are straight and contracting stemmed. There were two common types of projectile points during the Early Woodland stage. The first is the Kramer point that is characterized as having straight stems with a straight base and sloping shoulders (Boszhardt 2003: 61) (Figure 2.15). The Kramer point is commonly associated with Marion Thick pottery. The second point found during the Early Woodland stage is the Waubesa point.

This is characterized as having a contracting stem with a rounded base and the blade is more triangular (Boszhardt 2003: 64) (Figure 2.16). The purpose of manufacturing a contracting stem projectile point is suggested for the intended use of easy removal and replacement in order to not have to make another spear shaft due to breakage after impact.

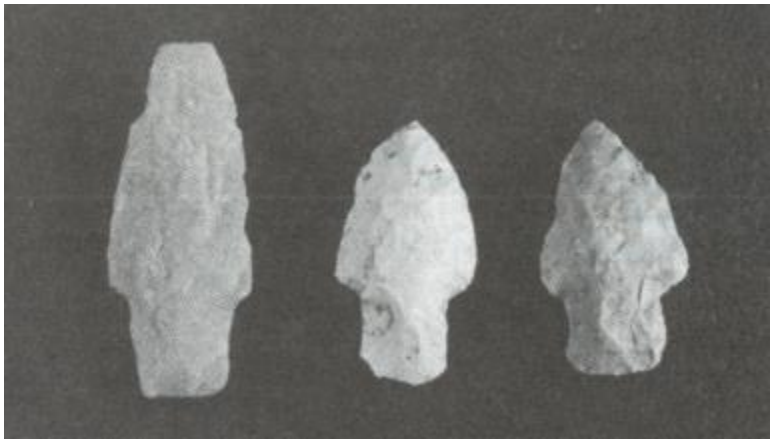

Figure 2.15: Kramer points. Reproduced from *The Wisconsin Archeologist* 78 (1/2): Fig. 7.7, pg. 154. Figure used with permission from the editors of *The Wisconsin Archeologist*.

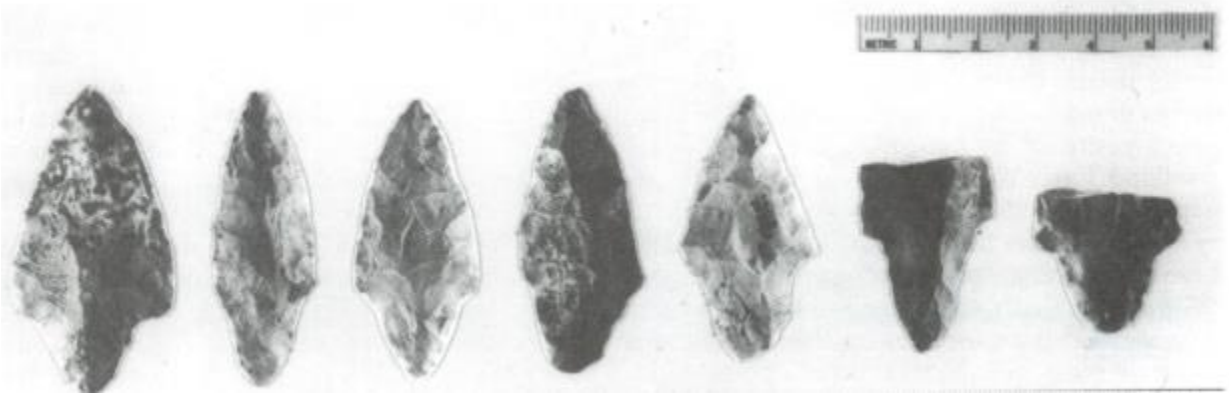

Figure 2.16. Waubesa points. Reproduced from *The Wisconsin Archeologist* 78 (1/2): Fig. 7.8, pg. 154. Figure used with permission from the editors of *The Wisconsin Archeologist*.

The Middle Woodland stage made a significant change towards projectile point manufacturing and ceramic style. Points were moving away from the straight- and contracting-stem types to corner-notched and expanding stemmed points (Stevenson et al. 1997: 157). Two

common types of corner-notched and expanding stem points were found in Wisconsin during this time; the first being the Snyders corner-notched. The Snyders point is commonly found in southern Wisconsin and characterized as having large, broad corner notching with a convex base and a wide, oval biface blade (Boszhardt 2003: 67-68) (Figure 2.17). The expanding stem found during the Middle Woodland stage is the Steuben (Figure 2.18). The traits for the Steuben are triangular blades with the stems expanding from behind the sharply defined shoulders and commonly have a straight base (Boszhardt 2003: 69-70).

Figure 2.17: Snyders point. Reproduced from Justice 1987. Plate 8. Figure used with permission from Indiana University Press.

Figure 2.18: Steuben point. Reproduced from Justice 1987. Plate 8. Figure used with permission from Indiana University Press.

The new ceramic vessel style to follow during the Middle Woodland is Havana Ware (Figure 2.19). Havana Ware is characterized as having dentate designs and rocker-stamped designs with thin walls (Theler and Boszhardt 2003: 110-111). Another Middle Woodland stage pottery that is seen towards the beginning is Steuben Punctated. This style is affiliated with the Havana Ware variety that has a distribution ranging from the Illinois River Valley as well as potential distribution in southern Wisconsin near the Rock River (Howell 2000: 83). The decoration varies depending on the locality, but in Wisconsin it consists of a smoothed surface with slight cord-markings and two rows of circular punctations. Shorewood Cord-Roughened is a pottery style related to the Havana Ware variety (Figure 2.20). The Shorewood style seems to have a common distribution throughout western Wisconsin, but also has been seen distributed throughout southern Wisconsin (Howell 2000: 96). The decoration has a distinct cord-roughening to the exterior and interior surface and a series of "nodes" just below the lip. Little Eau Pleine Punctated is reminiscent of the Shorewood Cord-Roughened style. It has a distribution in south-central Wisconsin (Howell 2000: 186) (Figure 2.21). The decoration is a vertical cord-marked surface with single row of punctates placed just below the lip. Spring Hollow Plain style is a part of the Linn Ware variety, and has a broad distribution amongst southwestern Wisconsin, southeastern Minnesota, northeastern Iowa, and northwestern Illinois (Howell 2000: 126). The surface is generally undecorated and smoothed with some slight indications of cord-markings prior to smoothing with some rims having channeling and/or punctates. Spring Hollow Cross-Hatched is also related to Spring Hollow Plain and a part of the Linn Ware variety. It has only been known to have been recovered in places located in southwestern Wisconsin and eastern Iowa (Howell 2000: 124). Both the exterior and interior surfaces are generally smoothed over with the exterior having incised, cross-hatched lines near

the rim. The Linn Ware variety defines a group of ceramic types that have associations within northeastern Iowa and southwestern Wisconsin (Figure 2.22). Levsen Stamped is affiliated with the Linn Ware variety, with similar distribution to Spring Hollow Plain (Figure 2.23). There are different styles of Levsen Stamped, but the one that is distinct and evidenced in the data relates to the dentate decoration, with a smoothed surface treatment. Levsen Punctated is also a relation to the Linn Ware variety, along with the same distribution within the quad state region in the upper Mississippi River valley (Howell 2000: 112) (Figure 2.24). Two styles are evident: one as plain, smoothed surface treatment and the second having a cord-marked surface treatment. Both styles are known to have a common distribution during the same temporal period (Howell 2000: 113).

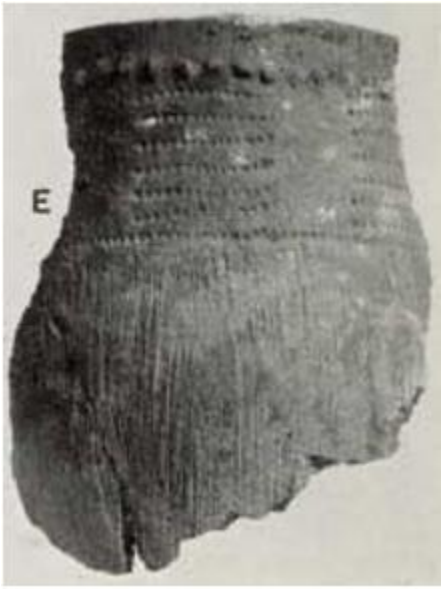

Figure 2.19: Havana Ware pottery. Reproduced from Griffin 1952: Plate 32, pg. 109. Figure used with permission from Illinois State Museum.

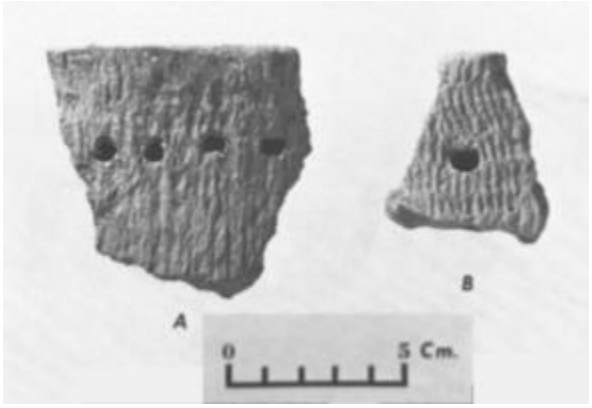

Figure 2.20: Shorewood Cord-Roughened rim sherds. Reproduced from Hurley 1975: Plate 20. Figure used with permission from the University of Michigan Anthropology Department.

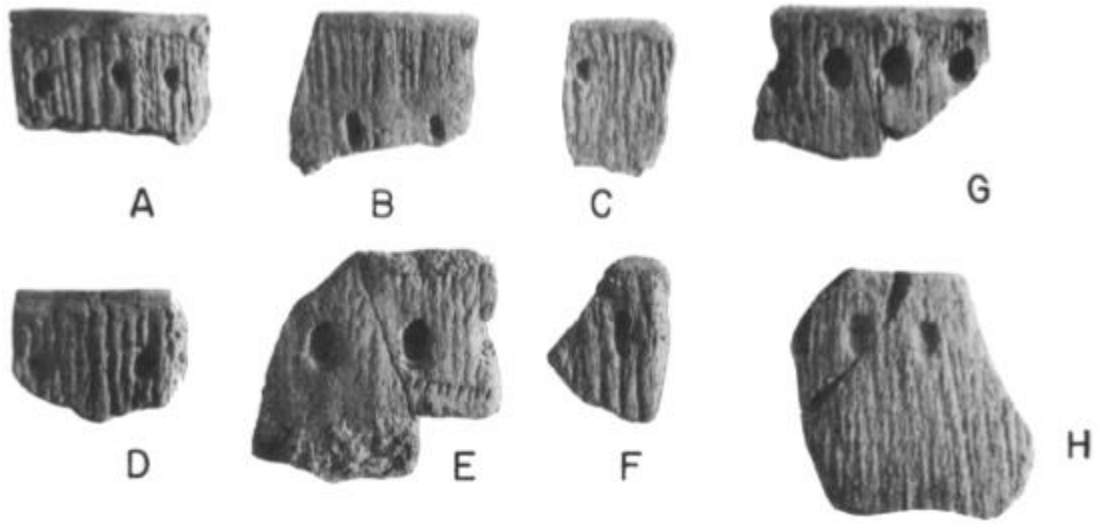

Figure 2.21: Little Eau Pleine Punctated rim sherds. Reproduced from Mason 1981: Fig. 4, pg. 91. Figure used with permission from the editors of *The Wisconsin Archeologist*.

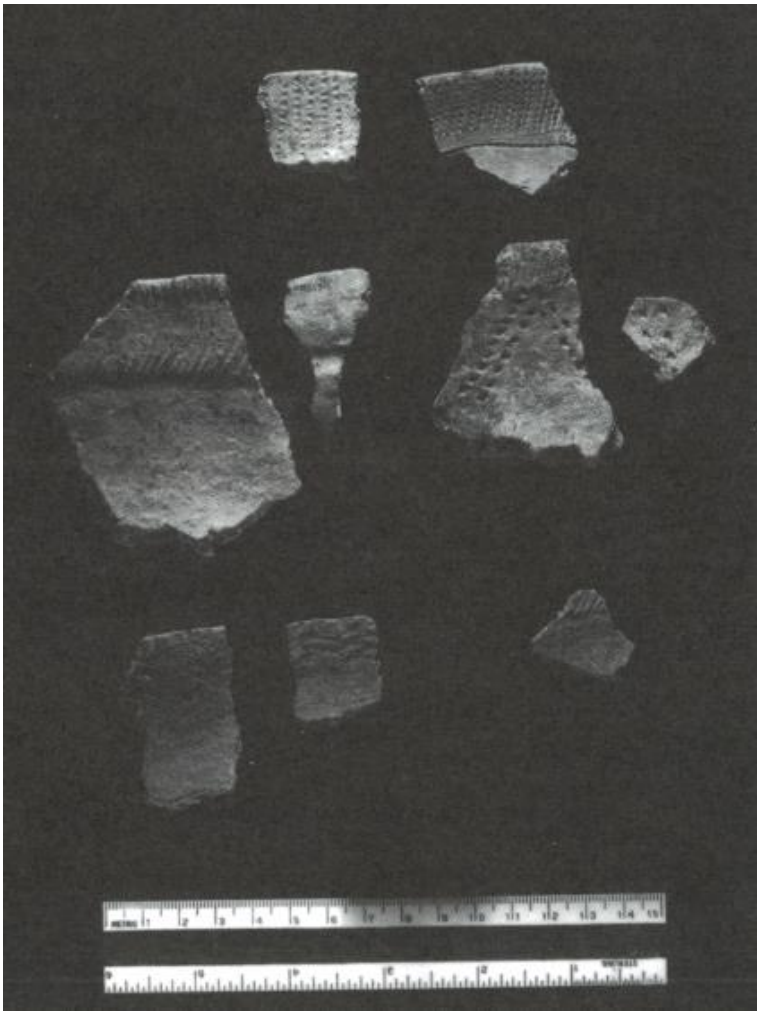

Figure 2.22: Linn Ware rim sherds. Reproduced from *The Wisconsin Archeologist* 78 (1/2): Fig. 7.14, pg. 163. Figure used with permission from the editors of *The Wisconsin Archeologist*.

Figure 2.23: Levsen Stamped vessel. Reproduced from Logan 1976: Fig. 40, pg. 48.
Figure used with permission from the Midwest Archaeology Center of the National Park Service.

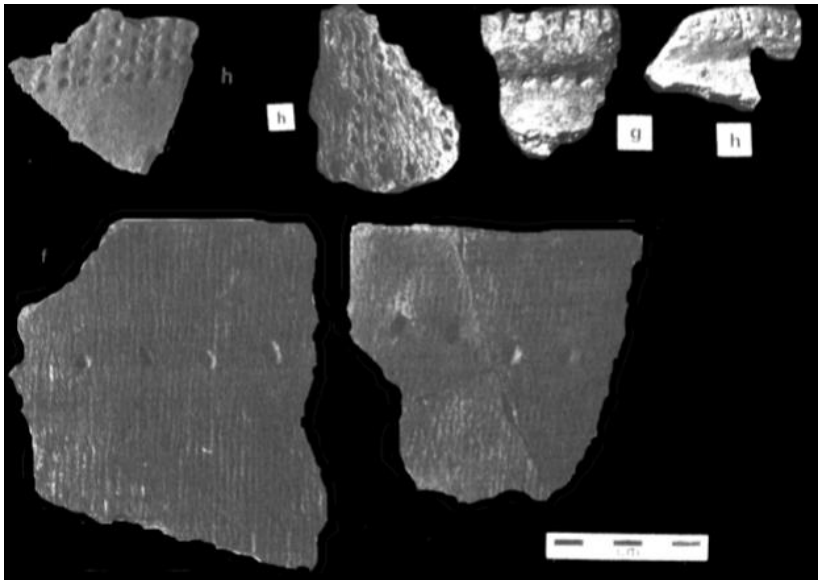

Figure 2.24: Levsen Punctated. Reproduced from Stoltman 1979: Fig. 18.7, pg. 135.
Figure used with permission from Kent State University Press.

As the Woodland tradition transitioned into the Late Woodland stage, the development of projectile points and ceramics took another significant change. The Late Woodland points become increasingly smaller than seen in the previous stages and are associated with the

development and use of the bow and arrow (Stevenson et al. 1997: 166). Corner notching is still seen in the form of the Honey Creek point. The blade is triangular with very small corner notching and the base being slightly convex (Boszhardt 2003: 74). The next projectile point seen in the Late Woodland stage is Madison Triangular (Figure 2.25). This point is very small and unnotched with no stem, varying in different triangular forms such as isosceles and equilateral. Madison triangular points are the most commonly found type throughout the Midwest (Boszhardt 2003: 77).

Figure 2.25: Madison Triangular points. From the Kratz Creek collection at the Milwaukee Public Museum.

The most common vessel found from the Late Woodland stage is Madison Ware (Stevenson et al. 1997: 171) (Figure 2.26). This vessel is globular in form, thin-walled and cord-

marked on the outside surface with a rounded body and came in many forms such as dentate, plain, and punctate (Stevenson et al. 1997: 171). The hallmark of this ceramic tradition is the use of twisted cords and fabrics in various geometric forms to decorate the rim exterior. Douglass Net-Marked is a unique ceramic style that is poorly defined regarding what ware variety it belongs to (Figure 2.27). The Douglass Net-Marked style has been recovered throughout south-central Wisconsin and within the Driftless region of the state (Howell 2000: 180). It has a smoothed surface followed by indication of net markings throughout. Grant Collared ceramics are designated with the Grant Ware variety, with an exclusive distribution within southwestern Wisconsin and northwestern Illinois (Howell 2000: 159). The decoration is known as having cord-marked surface treatment and cord-impressions along the lip within the interior and exterior (Howell 2000: 159).

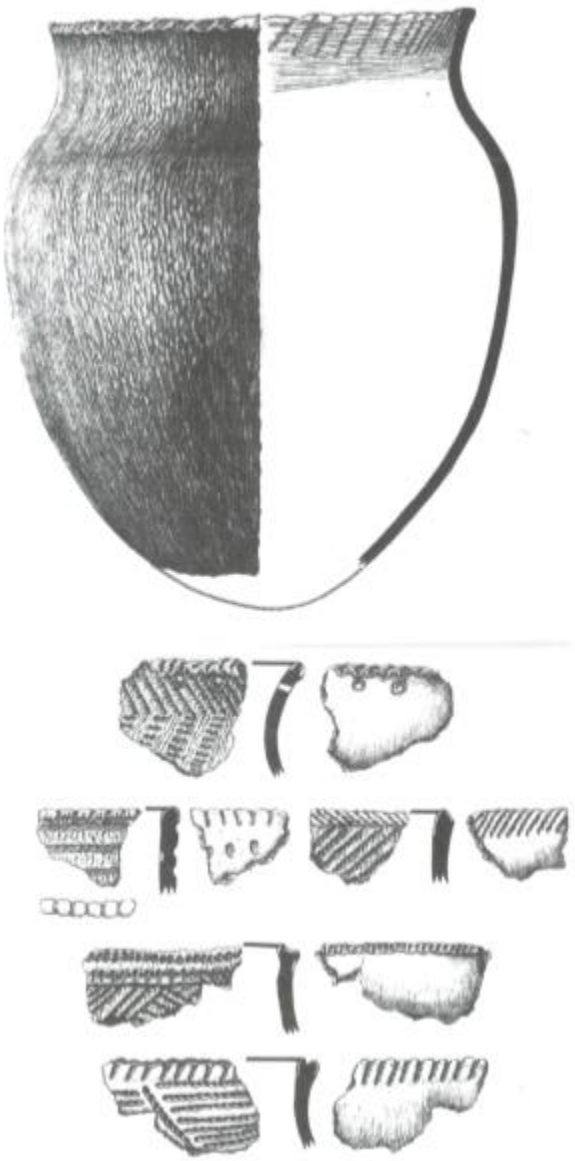

Figure 2.26: Madison Ware pottery. Reproduced from *The Wisconsin Archeologist* 78 (1/2): Fig. 7.21, pg. 172. Figure used with permission from the editors of *The Wisconsin Archeologist*.

Figure 2.27: Douglas Net-Marked rim sherds. Reproduced from Hall 1962 (Vol. 2): Plate 41, pg. 59. Figure used with permission from The University of Wisconsin Press.

Hahn Cord-Impressed is a ceramic style also considered having a relationship with the Madison Ware variety (Figure 2.28). This style has been evident in Late Woodland stage sites in eastern and central Wisconsin (Howell 2000: 135). The decoration is known to have the body covered with cord-wrapped paddle impressions, with vertical cord-marks along the neck and horizontal cord-impressions below the rim with a single series of punctates.

Figure 2.28: Hahn Cord-Impressed rim sherds. Reproduced from *The Wisconsin Archeologist* 39(4): Plate 5, pg. 223. Figure used with permission from the editors of *The Wisconsin Archeologist*.

Aztalan Collared is considered a ceramic style under the Madison Ware variety (Figure 2.29). It is known from collections recovered from the Aztalan site, located along the Crawfish River and having been seen elsewhere in southeastern Wisconsin during the Late Woodland stage (Howell 2000: 133). Aztalan Collared has different collared characteristics. Baraboo Cord-Marked is known to be of the poorly defined Baraboo/Douglass Ware variety. It was first recovered during the initial Durst Rockshelter investigations in Sauk County, Wisconsin. Since then, it has been sporadically recovered from places throughout south-central Wisconsin (Howell 2000: 173). The surface has a cord-wrapped paddle impression finish and the rim is pinched with nodes placed just below the lip (Howell 2000: 174). Baraboo Net-Marked is reminiscent to the

Baraboo Cord-Marked style and placed with the poorly defined Baraboo/Douglass Ware variety. Its distinction is having shell temper and the exterior surface having frequent net-markings everywhere (Howell 2000: 176). Point Sauble Collared is considered a member of the Madison Ware variety (Figure 2.30). Initially recovered from the Point Sauble site in Green Bay, Wisconsin, it has also been recovered from the Aztalan site in limited occurrences, giving it an eastern Wisconsin distribution (Howell 2000: 139). Parallel and diagonal cord-impressions are seen under the collar, with punctates along the exterior underneath the collar (Howell 2000: 140).

Figure 2.29: Aztalan Collared vessel. Reproduced from *The Wisconsin Archeologist* 78 (1/2): Fig. 9.8, pg. 234. Figure used with permission from the editors of *The Wisconsin Archeologist*.

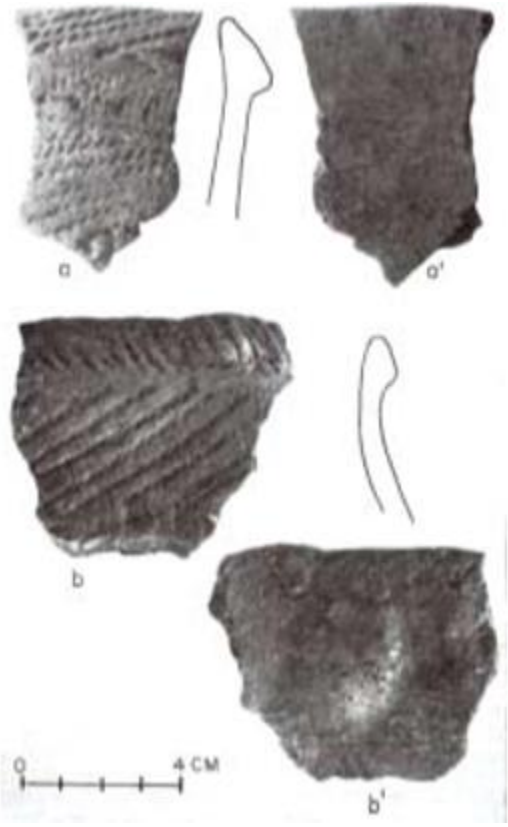

Figure 2.30: Point Sauble Collared rim sherds. Reproduced from Baerreis and Freeman 1958: Fig. 8, pg. 57. Figure used with permission from the editors of *The Wisconsin Archeologist*.

Effigy Mound Culture

The Late Woodland stage is recognized for its vast complexity. It was an unstable period represented by dramatic population growth which ultimately resulted in stress on resources and increase in warfare among communities. Furthermore, this meant rapid change in social and economic practices. These implications played a factor in the evolution of people's ideology and burial customs. While mound construction was still relevant and exploding, mound forms began to reflect new beliefs. Burial mounds evolved from conical and linear shapes, to the creation of elaborately complex sculptures representing animals, humans, and other geomorphological

forms. This unique style of mound construction and cultural lifeway is known as the Effigy Mound Culture.

Beginning at approximately A.D. 700, this phenomenon dominates the Late Woodland stage with these earthen monuments being built in a region composed of Wisconsin as well as neighboring edges of Illinois, Iowa, and Minnesota (Figure 2.31). Effigy mound forms are difficult to classify, but have been generally grouped into simple categories: bird, mammal, human, geomorphic, and problematical (Birmingham and Rosebrough 2017: 128-130) (Figure 2.32). Specific locations on the landscape were chosen for mound placement. Notably, mounds were placed on high elevated areas such as bluff tops and/or terraces that overlook major rivers and waterways. Consequently, mounds were also strategically constructed along said water resources including natural springs, marshes and large wetlands (Birmingham and Rosebrough 2017: 126-128).

Figure 2.31: Distribution of Effigy Mound Culture. Reproduced from *The Wisconsin Archeologist* 78 (1/2): Fig. 9.8, pg. 234. Figure used with permission from the editors of *The Wisconsin Archeologist*.

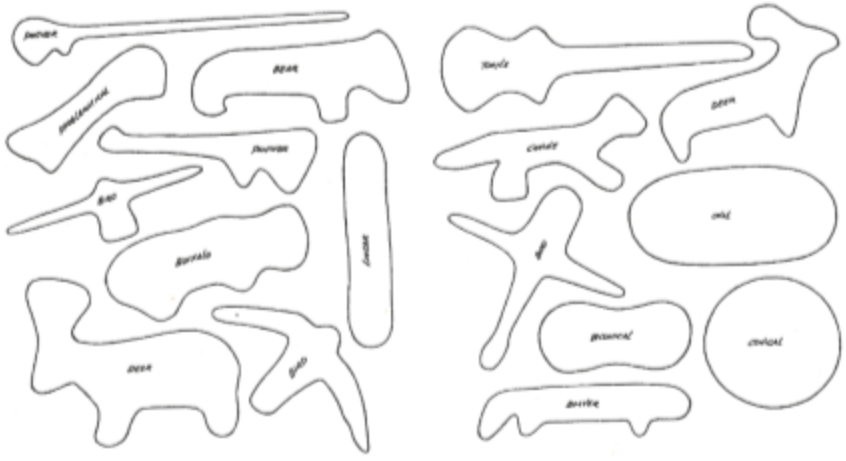

Figure 2.32: Outline of various mound forms representing the Effigy Mound Culture. Reproduced from *The Wisconsin Archeologist* 78 (1/2). Figure used with permission from the editors of *The Wisconsin Archeologist*.

In addition to the unique placement of effigy forms, it is recognized that effigy mound builders returned to locations previously utilized by earlier peoples to construct their effigy mounds and perform their ceremonies (Birmingham and Rosebrough 2017: 118-119). This indicates that people of the Late Woodland stage had a desire to have a connection with their ancestors or perhaps sacred places. These ceremonies were also a way for differing bands to come together and maintain order and balance among one another through means of burial practices, trade, and potentially marriage between groups (Birmingham and Rosebrough 2017: 147-149).

Previous research has provided insight that the effigy forms may represent one of the three natural realms: earth, water, and air (Mallam 1979). Classification of mounds into these categories postulates that they were built to symbolize and ritually maintain balance and harmony with the natural world (Birmingham and Rosebrough 2017). Furthermore, effigy mounds not only represented the natural realms, but also divisions of spiritual worlds (Hall 1993). Bird effigy forms represent the air or upper world; water spirits (i.e., turtles, long-tailed mounds) depict the lower water world; and finally mammals such as bears and deer represent the earth world, another subdivision of the lower world. Furthermore, differing effigy forms also likely represented markers of territory for one or more bands of people.

Amy Rosebrough conducted an examination of all effigy mound groups in the effigy mound region (Rosebrough 2010). The region can be divided into 25 subregions, each with their own blend of effigy mound forms. Rosebrough's results from assessing these subregions indicates that regardless of what effigy was most common, forms representing opposing spiritual/natural worlds are almost always present in the area (Rosebrough 2010). This is likely to provide a sense of equal balance between the two worlds. Furthermore, studies have noted

difference in the distribution of effigy mound forms (Birmingham and Eisenberg 2000). The eastern part of Wisconsin has a higher frequency of water spirit forms. This is due in large part to eastern Wisconsin having a landscape dominated by rivers, lakes and marshes. In addition, birds and bears as well as small-tailed animal effigy forms prevailed among the Driftless Area. However, bird forms are seen combined with water spirits along portions of the Rock River valley in southern Wisconsin.

By A.D. 1200, the Effigy Mound Culture was abandoned. The abrupt departure from constructing elaborate mounds is still a mystery. Research has postulated various theories (Hall 1993). This includes the emergence of Mississippians from the American Bottom populating the Wisconsin landscape, thereby replacing the Late Woodland ideologies and practices. Sites across southern Wisconsin reflect a blend of Middle Mississippian and Late Woodland influences. This combination of cultures likely resulted in a new cultural formation; some suggesting it being the emergence of the "Oneota" (Birmingham and Roserbough 2017; Maxwell 1950). Some effigy mound building persisted, but not as heavily as prior. Instead, sedentary villages shifted to the placement of large cemeteries. Some individual graves were situated under house floors.

The Oneota Tradition (approximately A.D. 1250 thru A.D. 1650)

The Oneota tradition is the last period prior to European contact. The origins of the Oneota tradition are often debated considering the abrupt abandonment of distinct traits that defined the Woodland tradition (Overstreet 1997: 251). Some suggest that Oneota was a combination of both Late Woodland stage and Middle Mississippian ideas (Theler and Boszhardt 2003: 157). Groups were more populated and sedentary and established village farming communities. Oneota villages were typically situated along water sources such as marshes, lakes, and rivers. Consequently, Oneota groups depended on the aquatic resources that such

environments provided such fish, turtles, and mussels. Furthermore, Oneota populations practiced agriculture, with their economy focused on corn, beans, and squash (Overstreet 1997: 251, Theler and Boszhardt 2003: 157).

The material culture of the Oneota tradition shows continued complexity in technological and characteristic styles, with pottery styles providing the most defined characteristics. Diagnostic traits for ceramics include shell-temper, round-to-globular form, and a variety of different decoration styles. Analysis on ceramic decorations has helped provide an understanding of the contemporary shifts in culture, thus subdividing the Oneota tradition into a series of horizons (Theler and Boszhardt 2003: 163). The first horizon is known as the "Emergent Oneota Horizon" and is hallmarked by distinct pottery decorations with Ramey Incised-like motifs, which are curvilinear trailed lines for decoration (Overstreet 1997: 257). The second horizon is the "Developmental Oneota Horizon," and the pottery styles begin to incorporate new design elements outside of Ramey Incised. These traits include meandering trailed lines often bordered by punctation (Overstreet 1997: 266). Classic Oneota Horizon ceramics had the most profound changes in decoration. These decorations consist of sharp everted rim forms and the creation of strap handles, along with more emphasis on shoulder decoration (Overstreet 1997: 276). In regards to projectile point types, small, triangular points are still manufactured, indicating that Oneota groups were still using the bow and arrow for hunting (Overstreet 1997: 251).

Summary

An overview of the Wisconsin archaeological timeline has allowed not only to showcase the evolution of technology through time, but how people adapted to a changing world. Projectile points in the Paleoindian tradition began as lanceolate forms to hunt megafauna. Gradually, points decreased in size and shape through Archaic and into Woodland times as strategies to

acquire food changed. Furthermore, the emergence of pottery represents more sedentary practices and growing populations. Consequently, ideas and beliefs grew more complex with evidence of decorating ceramics. Burial and ceremonial practices advanced as fast as the growing populations. Mounds evolved from simple geomorphological shapes to elaborate forms that resulted in the Effigy Mound Culture.

This understanding of human lifeways through time allow the cultural materials deposited at the sites situated along Buffalo Lake to gain a better understanding of how people interacted not only with each other, but with the landscape. The focus on culture history at Buffalo Lake will aid in interpreting the intensity and function in human occupation and connections to groups outside of the locality.

Chapter 3: Research Design

Overview

While it is evident that the basis for this thesis is gathering data to develop a culture history for the Buffalo Lake locality, this approach will then be integrated into interpreting long-term trends of landscape use by different groups through time. Focus on culture history of the Buffalo Lake locality will be vital to document changes of intensity and function in human occupation as well as the external connections between groups residing at Buffalo Lake and associated neighbors. The Buffalo Lake locality will be established by beginning to analyze diagnostic artifacts recovered from Kratz Creek, Neale and McClaughry sites**.**

Theoretical Models

The concept of landscape archaeology theory does not have a relatively long history, but has several supporting themes. Initially, landscape archaeology was mainly focused on human populations and their impacts on and interactions with the surrounding physical landscape (David and Thomas 2008: 28). Consequently, this meant an approach derived from the environmental disciplines. Furthermore, this facilitated research on past human populations in different ways such as: economic strategies across geographic regions, site distributions, and other forms of social complexities, among others. Additionally, other kinds of landscape archaeology have been produced over time.

Another form of investigating past landscapes is through the means of phenomenology. This unique approach towards landscape archaeology theory is done through utilizing sensory experiences (i.e., touch, smell, hearing) to experience how past human populations interacted with their surrounding environments (Tilley 1994). Furthermore, phenomenology aims to break

the subject-object divide to indicate the notion that “we makes things, and things make us” (Brück 2005: 45).

In order to understand the chronological time sequence of the Buffalo Lake locality through the culture history, it is equally vital to interpret past population’s interactions and their ever-changing social boundaries across the landscape. Therefore, when reviewing the data, a landscape archaeology theory shall be implemented with a settlement pattern approach (Sears 1968; Trigger 1968; Ucko and Layton 1999). Using this approach of landscape archaeology can help understand the spatial organization with Buffalo Lake as a fixed place in relation to other regional areas of the Wisconsin landscape.

The importance of resources that influence territorial and socio-economic boundaries can be evidenced through spatial analysis of the projectile point types to identify regions of interaction and distance of culturally diagnostic characteristics based on type and raw materials (Butzer 1982: 228). These interpretations can be furthered with interpreting pottery styles. The specific ware styles present at Buffalo Lake through time can indicate shifts in relationships among different groups who lived there - whether local or from outside of the Buffalo Lake area.

Overall, this approach relies on the concept of settlement patterns by placing the Buffalo Lake locality within a larger regional context. This study takes steps towards establishing a cultural construction of space by combining environmental variables based on raw materials distributions as seen in the projectile points, in addition to geographic distribution of ceramic styles, and integrating these dynamics with landscape history to understand the social and economic territorial boundaries of the groups that occupied the Buffalo Lake locality.

Logistics

Through cooperation with Dawn Scher-Thomae, Curator of Collections/Senior Collections Manager at the Milwaukee Public Museum, I received permission to access the collections in December 2015. I worked with the collections in the anthropology lab at the Milwaukee Public Museum during this time with the assistance of a museum intern.

An artifact spreadsheet for each site was created using Microsoft Excel and organized to manage the projectile point types and rim sherd styles. In addition, the spreadsheet aided in listing the locations or context from which the artifacts were derived. Overall, the spreadsheet is vital in statistical analyses to help determine the frequency patterns of the temporal periods in the Buffalo Lake locality of the Fox River region.

Methods

Artifact analysis was conducted on projectile points and ceramic (solely diagnostic rim sherds) parts of the collections recovered during the 1917 and 1925 archaeological investigations at Kratz Creek, Neale, and McClaughry mound group sites. Based on both previous research conducted on projectile points from the Kratz Creek assemblage (Taft 2013; 2015) as well as information provided by McKern on his excavations (McKern 1927), combining the projectile point types and rim sherd assemblages from all three sites together makes a total of 437 artifacts to analyze. There are 258 projectile points types and 179 decorated rim sherds from all three collections.

Projectile points were analyzed based on point types. Projectile points were assigned into their respective temporal prehistoric periods through comparisons with published Wisconsin projectile point typologies (Boszhardt 2003) as well as cluster types based from Noel Justice (1987). If any points were difficult to distinguish their type, morphological characteristics, based

on framework by both Justice (1987) and Boszhardt (2003), were recorded in order to make a better determination of the projectile point style. Such morphological attributes include: blade shape, haft-shape (tang and stem), lateral stem grinding, notch grinding, presence of notch type and barbed shoulders, beveling, basal grinding and thinning, basal notch (if present), basal bifurcation, and presence of serration.

Consequently, the analysis of raw materials utilized for the manufacturing of lithic artifacts in the collections is also addressed. The analysis of local versus exotic raw materials helps determine the patterns of social and economic interaction with other groups to trade for raw materials from sources much further away as well as change in lithic material selection through time. The use of Winkler and Blodgett's (2004) Wisconsin lithic resources guide helped in the identification of what raw materials were utilized in the manufacturing of projectile points. The distance and direction between the Buffalo Lake locality and raw material resources were then determined and patterns were compared through time.

To understand if there are differences in patterns of raw material use or styles of projectile points, statistical testing was conducted. Chi-square was used to understand if there are statistically significant differences in the proportions of points across temporal periods and the three site collections. This, in return, provided more insight into the intensity of occupation at the Buffalo Lake locality and its implications for socio-economic interactions between people living at the locality with a broader region.

Ceramics in the collections were analyzed based primarily on characteristic attributes noted on the rim sherds. This stylistic analysis provided information regarding temporal and cultural group affiliations**.** A comparative reference collection from the Archaeological Research Laboratory at the University of Wisconsin-Milwaukee was used to determine proper ceramic

types. Distinct attributes analyzed within the ceramic collections include: vessel forms (as best can be determined from rim sherds), surface treatment, decorating techniques, as well as temper used in the manufacturing of the ceramic. Rim and wall thickness were measured with a digital handheld metric caliper in millimeters (mm).

Like projectile points, chi-square testing was used to indicate if there are any meaningful differences in pottery styles through time and between the three sites. While it is understood that a single pot may produce many rim sherds, statistical analysis of changes in proportions of pottery styles over time may produce unique results that could lead to new interpretations of how intensely the three sites were occupied relative to each other. The larger spatial distribution of the pottery styles was also mapped along with projectile points and lithic raw materials to better understand where Buffalo Lake was physically situated within the various cultural landscapes of the people who resided there over time.

The matter of context from which the artifacts derived is important in interpreting the occupational intensity of the Kratz Creek, Neale, and McClaughry sites over time. Establishing whether the artifacts were recovered from burial or non-burial contexts (i.e., mound fill) helps in determining approximate time of occupation and use of the landscape throughout temporal periods.

Furthermore, background archival literature research was conducted. This included reading of field notes written during the excavations, and accession and curation logs located at the Milwaukee Public Museum in order to determine the proper context of the artifacts. In addition, it is important to understand how much of each site was originally excavated. This will allow for the adjustment of different sample sizes and also help properly interpret the results of

statistical analyses aimed at looking for significant differences in the proportions of various lithic raw materials as well as projectile point and pottery styles.

More archived materials are stored in the archives section at the Wisconsin State Historical Society in Madison, Wisconsin, and were also investigated. Seeing that collections were recovered from known Native American burial sites, the issue regarding whether or not the artifacts have been repatriated under the Native American Graves and Repatriation Act (NAGRPA) was assessed. This included consultation with the Milwaukee Public Museum Curator of Collections as well as investigation of the NAGPRA online database. Moreover, digital photographs were taken of each artifact during laboratory analysis.

Chapter 4: Artifact Analysis

Before getting into the data, it must be first addressed that when working with old collections from investigations conducted long ago, it's a massive challenge without field notes. This research had difficulties in determining provenience for most, if not all, projectile points. Field notes are missing. Consequently, the accession logs for the collections were vague in providing detail. For example, Barrett's published report on Kratz Creek Mound Group mentions five quartzite points being associated with a human burial from the conical mound No. 1 (Barrett and Hawkes: 1919). However, there is no listing of projectiles points being associated with human remains in Mound No. 1 within the accession logs. Most of the projectile points are listed plainly as coming from "Buffalo Lake", "Buffalo Lake Survey," "North Shore", "Campsite", "Royce Workshop", and "Opposite Kratz Creek." As stated earlier, I have placed these groups as plainly coming from Barrett's pedestrian survey directly along the Buffalo Lake shoreline.

Projectile Point Analysis

A total of 258 projectile points made up the collection (Chart 1). Projectile points are given established point types. Out of the 258 projectile points, nearly 42 percent of the collection was Madison Triangular (n=108), a point type representative of the Late Woodland stage. Other types that make up most of the collection include Raddatz of the Middle Archaic stage at 10 percent (n=27), Durst, a Late Archaic point type at 9 percent (n=22), Kramer at 8 percent (n=20), and Waubesa at 7 percent (n=18), both representative of the Early Woodland stage. The unidentifiable group consists of projectile points that are broken and missing important attributes to determine type, but also made up 10 percent of the collection (n=27). Other point types are evident within the collection and make up 3 percent or less of the collection. An Agate Basin of the Late Paleoindian stage was also recovered but its provenience is unknown. This distinction of

projectile point types reveals a Late Paleoindian through Late Woodland chronological cultural sequence. Figure 4.1 illustrates the overall frequency through time with the oldest cultures at the bottom and the youngest at the top of the chart. Although numbers of projectile points do not represent numbers of people, the changes in frequency may give an idea of different occupation through time.

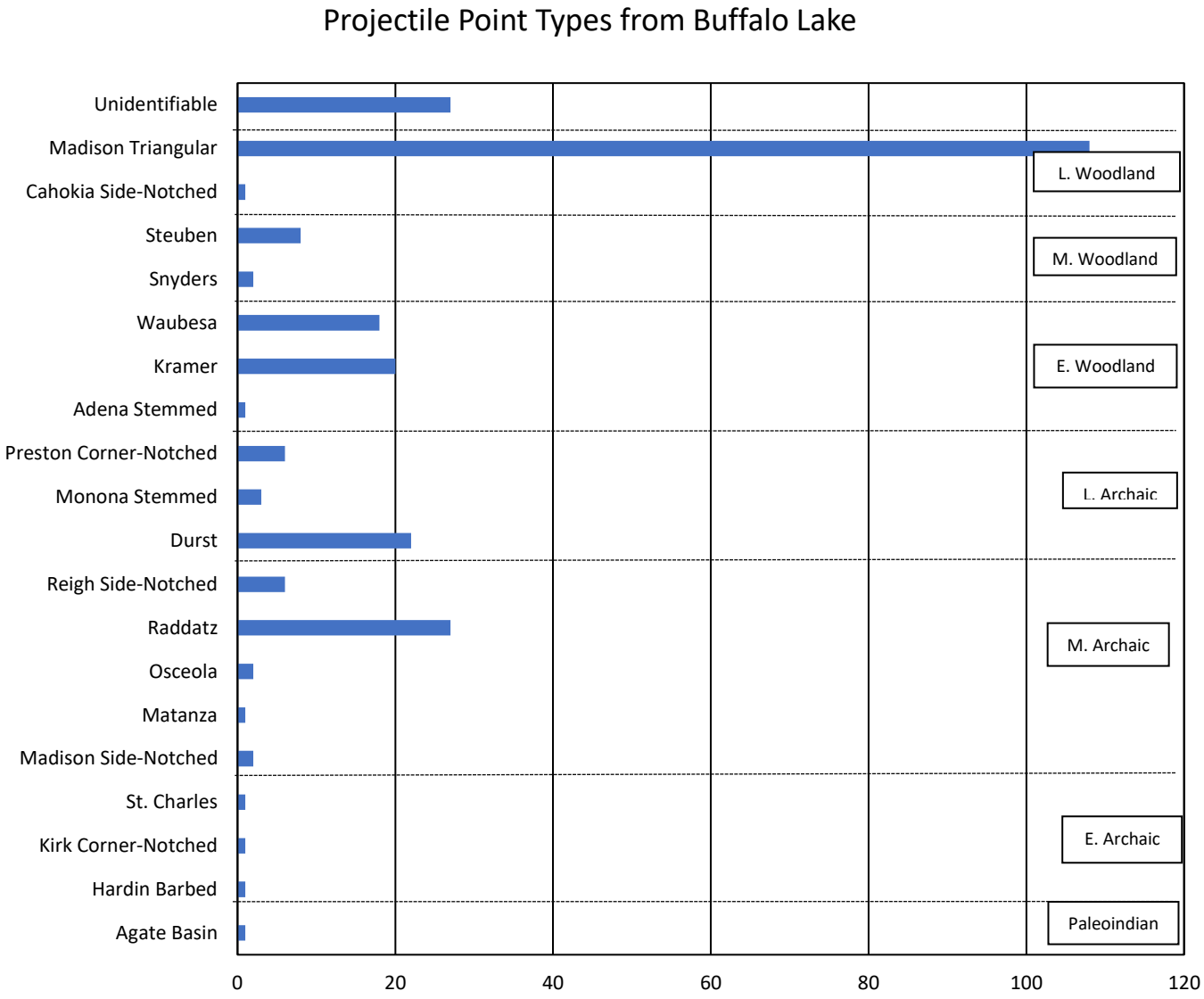

Figure 4.1: Bar graph of projectile point frequency ordered with the oldest cultures on the bottom and most recent on the top.

Raw Material Analysis

Analysis of raw materials utilized for the manufacturing of projectile points in the collections is also addressed (Figure 2). Winkler and Blodgett's (2004: 4) lithic resource map indicates approximate provenience of lithic materials (Figure 6). The analysis of local versus exotic raw materials can help determine the patterns of social and economic interaction with

other groups to trade for raw materials from sources much further away as well as change in lithic material selection through time. Any raw material sources located within less than 50 kilometers (km) from Buffalo Lake is considered “local,” whereas all sources greater than 50km is classified as “exotic” (Lambert and Loebel 2015: 284). The most utilized raw material was Prairie du Chien chert (38 percent, n=99). Following right behind Prairie du Chien chert was silicified sandstone (31 percent, n=80). The third most recognized raw material was Galena chert (23 percent, n=58). Other materials were evident in the collections but in smaller populations. This includes Marquette rhyolite (2 percent, n=6), a material located in exposed outcrops just east of Buffalo Lake. One projectile point made from obsidian was discovered at Buffalo Lake, in addition to two projectile points made from Cochrane chert and a form of Knife River flint. When looking at the raw materials and the projectile points together, it can be indicated that as time progressed there became more use of Galena and Prairie du Chien cherts as well as a variety of silicified sandstone materials (Figure 4.4).

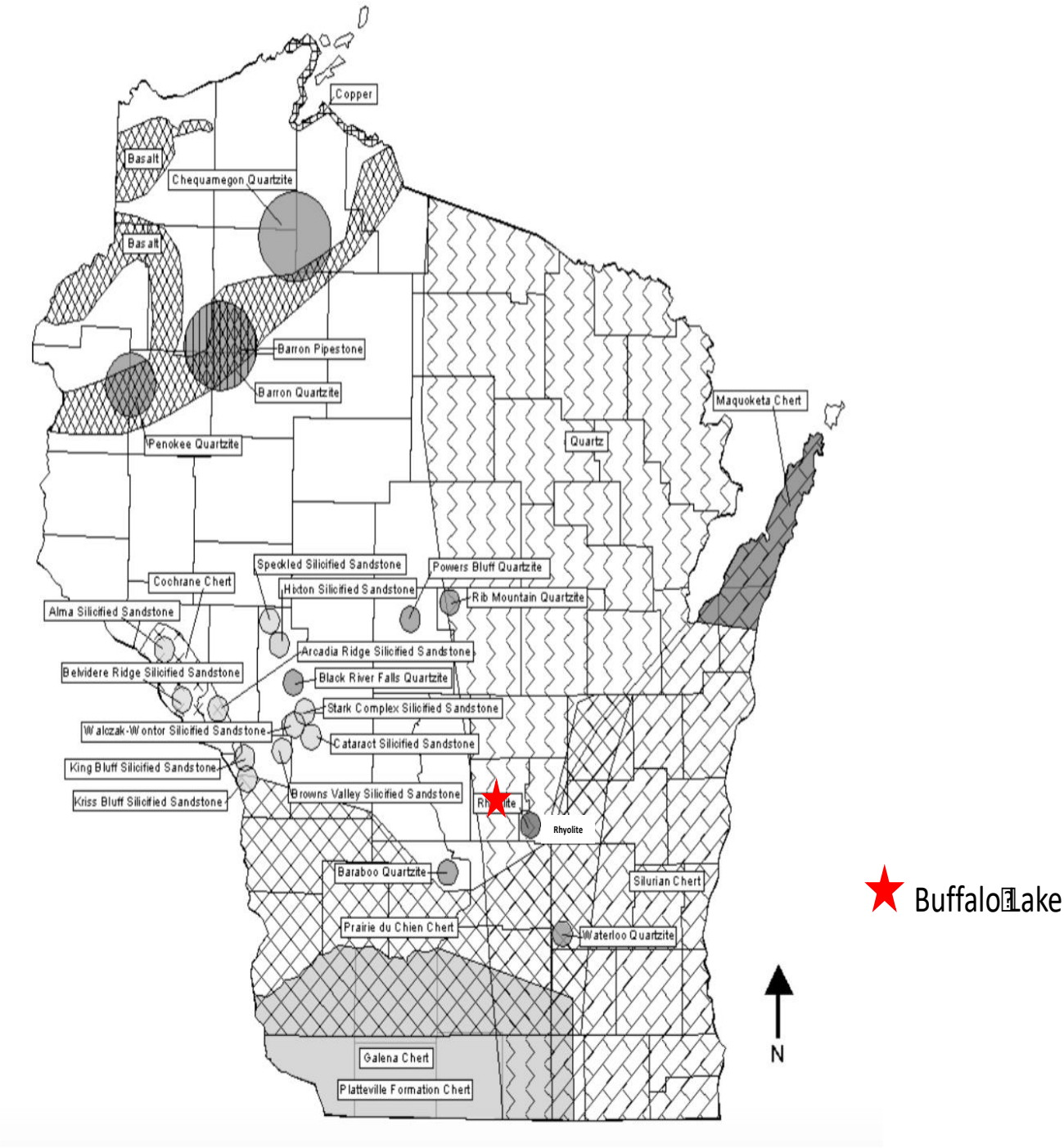

Figure 4.2. Wisconsin Lithic Sources. Star represents Buffalo Lake location. Reproduced from Winkler and Blodgett (2004: 4).

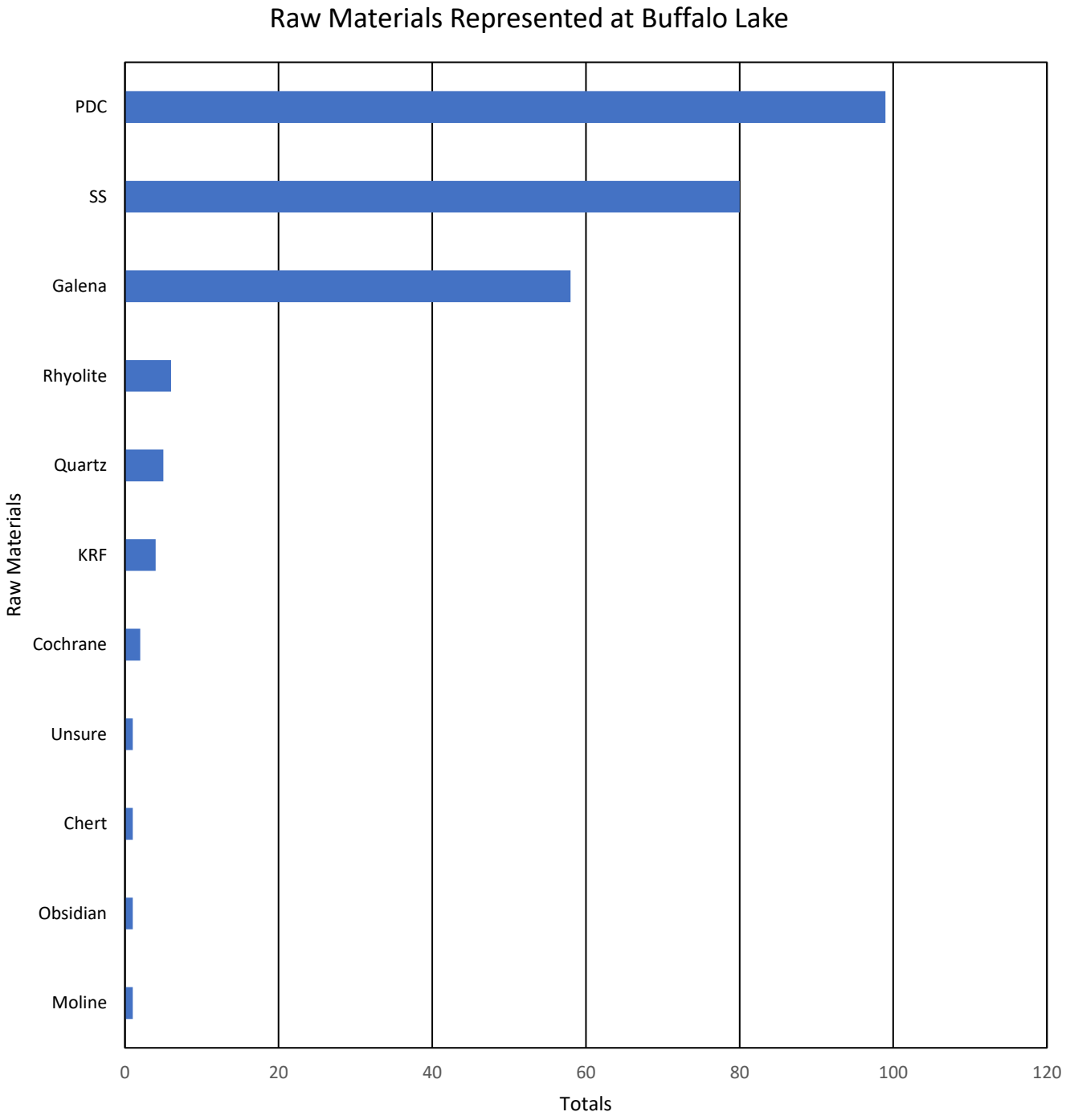

Figure 4.3. Frequency of Raw Materials Seen in Buffalo Lake Collection.

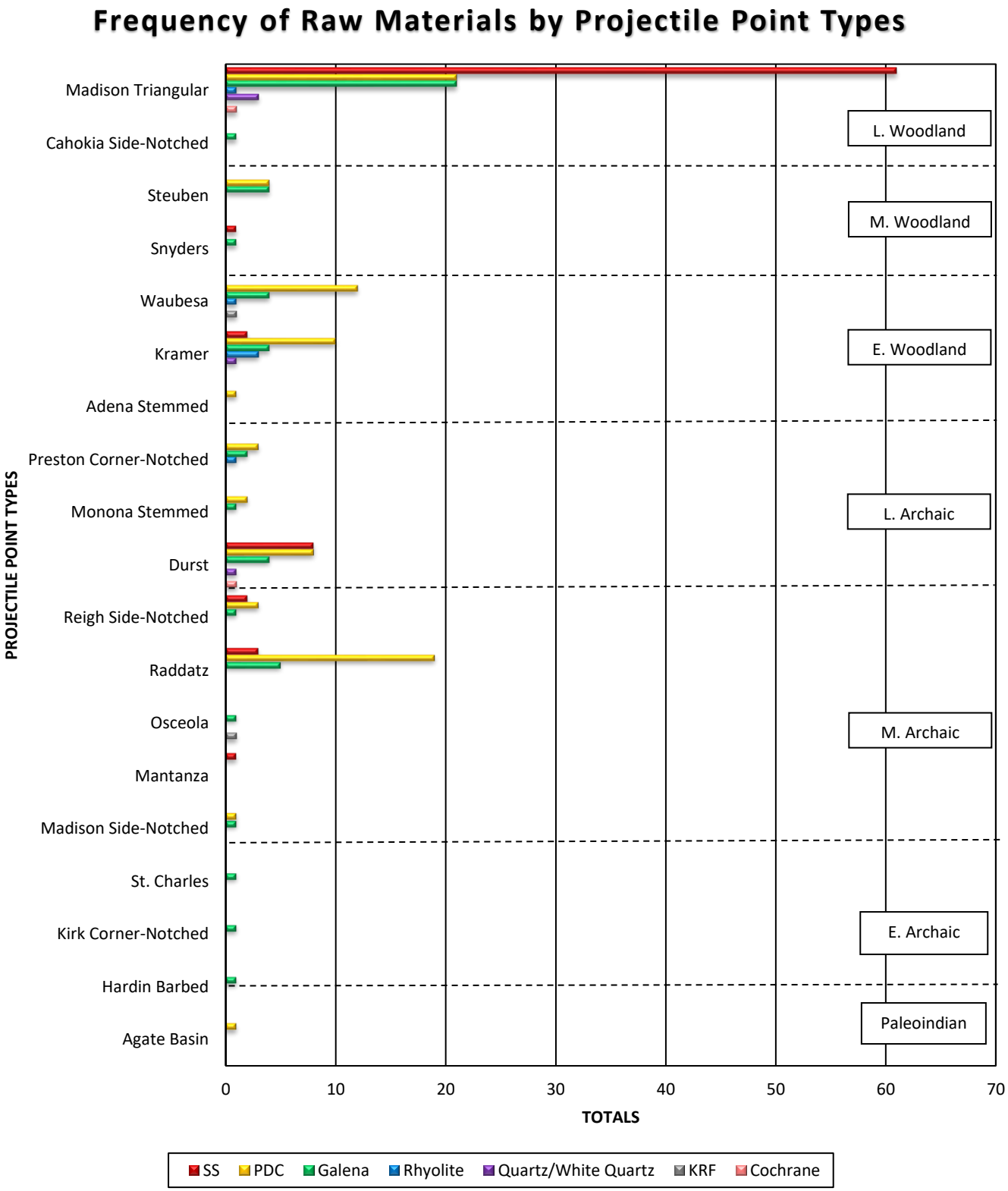

Figure 4.4. Frequency of Raw Materials for Each Projectile Point Type.

Statistical Analysis

Chi-square testing was done on the three most utilized raw materials to determine their patterns of use over time. Based on the observed and expected results, it can be surmised with 95% confidence that there is an extremely high significance in the change of use for Galena, PDC, and Silicified Sandstone over time (p = .0000000037, χ^2 = 55.417) (Table 4.1).

	Galena	PDC	Sili Sand	*Totals*
M. Archaic	**O:8 E:8.77**	**O:23 E:14.55**	**O:6 E:13.68**	***37***
L. Archaic	**O:6 E:6.40**	**O:13 E:10:62**	**O:8 E:9.98**	***27***
E. Woodland	**O:8 E:7.58**	**O:22 E:12.59**	**O:2 E:11.83**	***32***
M. Woodland	**O:6 E:2.61**	**O:4 E:4.33**	**O:1 E:4.07**	***11***
L. Woodland	**O:22 E:24.64**	**O:21 E:40.91**	**O:61 E:38.45**	***104***
Totals	***50***	***83***	***78***	***211***

p = 0.0000000037
Chi² 55.417

Table 4.1. Observed and expected values with p-value and chi-square values.

Additionally, performance of adjusted standardized residual (ASR) analysis was implemented to assess which cells were causing the extremely high significance previously established by the results of the chi-square analysis (Sharpe 2015). Moreover, the ASR analysis was enhanced with the Bonferonni correction to control for the high number of cells in the chi square test. The ASR and Bonferonni correction reveals that with 95% confidence, there are ten cells causing the significance (Table 4.2). The number observed is nearly double the number of what was expected of silicified sandstone in the Late Woodland stage; more than what was expected for silicified sandstone usage during this time. Galena during the Late Woodland stage

seems to have an indication for influencing the significance, as the number for Galena far exceeds the z-score for that time period.

During the Middle Archaic stage, it was observed that 23 points were made out of Prairie du Chien chert and six points manufactured from silicified sandstone. The Prairie du Chien chert observed figure was higher than initially expected during this time. More interestingly, the observed silicified sandstone was much lower than expected during the Middle Archaic. Similarly, as populations moved from Middle Archaic through the Late Archaic and into the Early Woodland, an equivalent trend can be seen for the same raw materials.

As populations along Buffalo Lake transition into the Middle Woodland stage, there is a gradual shift towards utilization of Galena chert. The observed number of points manufactured from Galena during this time period is higher than what was initially expected. The trend for silicified sandstone continues: one projectile point made from this raw material was observed, with there being a higher expected value.

By the Late Woodland stage, sudden changes occur. Prairie du Chien chert is observed but half the number of what was initially expected. Furthermore, silicified sandstone makes a drastic change in being the more utilized raw material. The observed number of points made out of silicified sandstone is nearly twice what was expected during this time.

Based on known locations for these commonly utilized lithic resources, Prairie du Chien chert can be considered a locally available resource. Projectile points are continuously manufactured out of this chert. The only time that people seem to be less dependent on it is during the Middle Woodland stage. Galena chert, an exotic resource of lithic material, is also seen as a steady source to construct projectile points through time. Known sources of Galena can be seen from the Buffalo Lake area as far as approximately 76 kilometers south. Silicified

sandstone, another exotic material, can be sourced roughly 144 kilometers northwest of Buffalo Lake. Based on these distances, it seems to support that through time as populations grew, it consequently meant interaction among groups that span from different locales across the landscape. In addition, this meant that direct interaction among people included trade of goods. Based on the statistical analysis of raw materials and diagnostic projectile point types, Buffalo Lake can be seen as a location in direct interaction among groups representing different regions from across the landscape. During the Middle Woodland stage, the interaction contracted. This may reflect a time when the Hopewell Interaction Sphere deterred groups going to other locations for ceremonies and direct trade. By the Late Woodland stage, the interaction between groups peaked at the Buffalo Lake area, as varying raw materials and projectile point forms are evident at Kratz Creek, Neale, and McClaughry sites.

	Galena	PDC	Sili Sand
M. Archaic	4.26715867	17.6061169	0.87033568
L. Archaic	2.8991107	8.51927532	3.7387631
E. Woodland	4.57735571	17.0543456	-2.7033921
M. Woodland	4.10156979	1.2568053	-1.6088196
L. Woodland	14.0193535	9.46812119	50.0330089
z-score	**2.94**		

Table 4.2. Results from performance of adjusted standardized residual analysis and Bonferonni correction.

Ceramic Analysis

Ceramics in the collections were analyzed based primarily on characteristic attributes noted on the rim sherds. This includes stylistic analysis that can provide information regarding

temporal and cultural group affiliations**.** A total of 179 rim sherds were analyzed that were recovered from Samuel Barrett's pedestrian survey as well as the excavations at the three sites. A bar graph indicates the frequency of different pottery types at each site and provides an understanding of the time periods at Buffalo Lake (Figure 4.5). Several different ceramic types were identified throughout each collection, each representing a style period within the Woodland Tradition as well as indications of connections with geographic distribution areas.

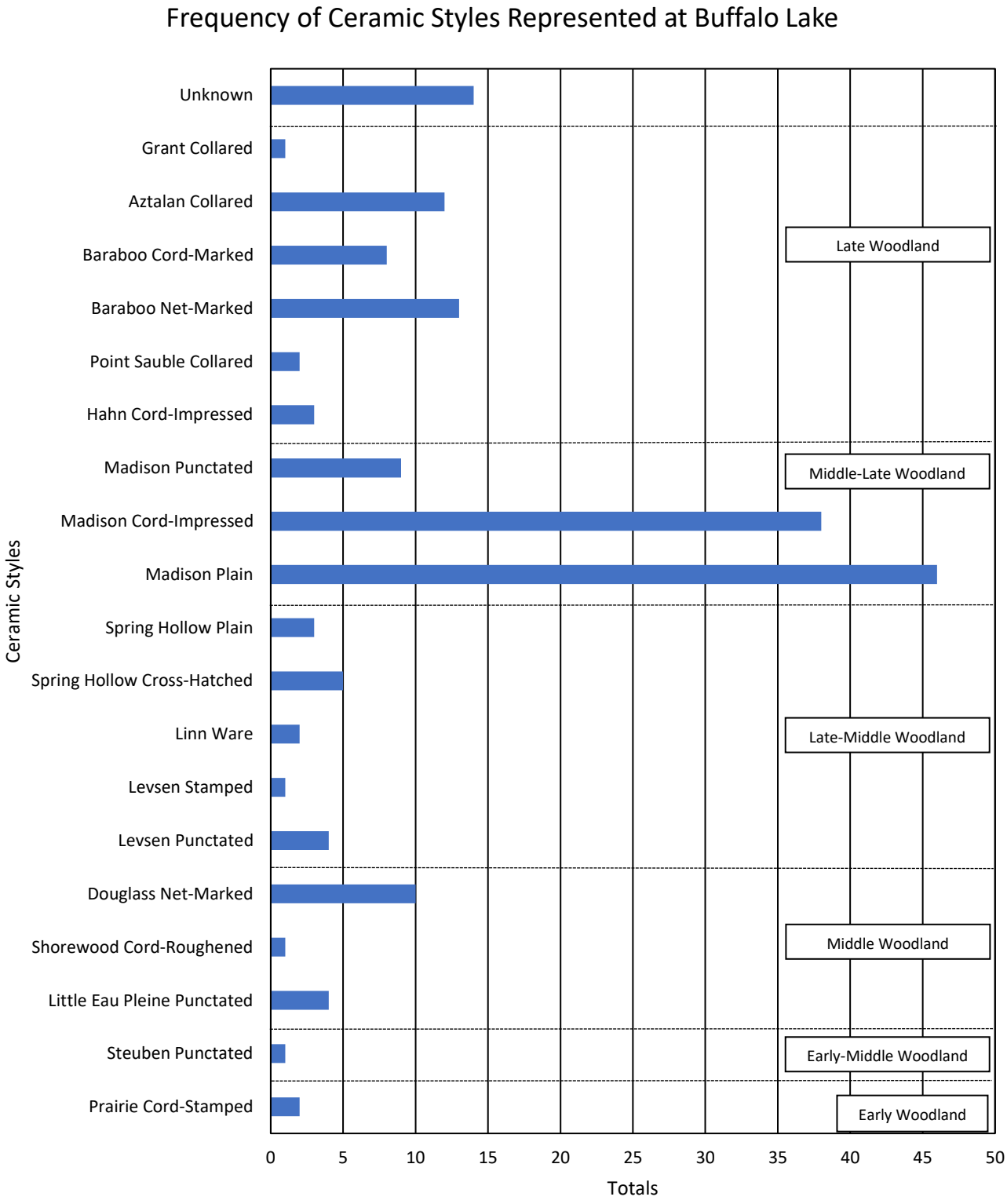

Figure 4.5. Bar Graph representing all ceramic types recovered during pedestrian survey and

excavations at all three sites at Buffalo Lake.

A total of 25 rim sherds were collected during Samuel Barrett's pedestrian survey along the shorelines at Buffalo Lake. Six different pottery types represent the collection (Prairie Cord-Stamped, Shorewood Cord-Roughened, Spring Hollow Cross-Hatched, Madison Plain, Madison Cord-Impressed, and Aztalan Collared). These ceramic types also represent an Early Woodland through Late Woodland cultural sequence. When looking at the frequency of ceramic styles through time, the sample recovered from the pedestrian survey shows no significant overlap in time. A single rim sherd represents the Early Woodland stage, then immediately jumps forward with a higher concentration of sherds representing the Middle-Late Woodland stage. This then gradually merges into the remainder of the Late Woodland stage with the five Aztalan Collared sherds.

The rim sherd population from the Kratz Creek excavations is smaller than what was recovered from the pedestrian survey. A total of 13 rim sherds were recovered, representing eight different ceramic styles: Steuben Punctated, Douglass Net-Marked, Levsen Stamped, Spring Hollow Plain, Madison Cord-Impressed, Baraboo Net-Marked, and two unknown styles. Based on the interpretation of these ceramic forms, this collection represents a gradual overlap over time beginning in the Early-Middle Woodland stage and up through the Late Woodland stage. Five of the 13 rim sherds were associated with a child's burial, though it is unclear as to which one and from which burial mound based on the lack of detailed provenience data.

When assessing the frequency of styles through time, the styles showcase a small representation (one Prairie Cord-Stamped) beginning in the Early Woodland stage. It remains consistent as styles change with one Shorewood Cord-Roughened representing the Middle Woodland stage. As time and styles progress, a higher representation of styles is evident in the

Late-Middle Woodland stage Madison Plain and Madison Cord-Impressed styles. Eventually, only one style, Aztalan Collared, represents the remainder of the Late Woodland stage, indicating a decline in frequency of styles.

The Neale site also has a relatively small collection. A total of 11 rim sherds were recovered from the 1925 excavations, representing seven different ceramic types. These include: Douglass Net-Marked, Levsen Punctated, Madison Plain, Madison Cord-Impressed, Point Sauble Collared, Baraboo Net-Marked, and Aztalan Collared. The sherds from the Neale mound group represent a time affiliation beginning in the Late-Middle Woodland stage up through the Late Woodland stage. Furthermore, nine out of the 11 rim sherds were found within a mound, but it is unknown whether they were associated with a human burial. The remaining rim sherds were associated with what McKern described as a "neighboring campsite" (McKern 1927).

While a relatively small sample of rim sherds, it does have a relatively moderate frequency through time. The only significant rise is with the four Levsen Punctated rimsherds that represent the Late-Middle Woodland stage. Two Madison Plain sherds represent the Middle-Late Woodland stage. The other remaining styles are represented by a single sherd.

The McClaughry site had the highest number of rim sherds recovered. A total of 130 rim sherds were uncovered from the site, all representing 14 different pottery styles. These styles are: Prairie Cord-Stamped, Little Eau Pleine Punctated, Douglass Net-Marked, Linn Ware, Spring Hollow Cross-Hatched, Spring Hollow Plain, Madison Plain, Madison Cord-Impressed, Madison Punctated, Hahn Cord-Impressed, Point Sauble Collared, Baraboo Net-Marked, Baraboo Cord-Marked, Aztalan Collared, Grant Collared, and a set of unknown styles. This collection of sherds represent an Early Woodland through Late Woodland cultural sequence.

The frequency of ceramics from the McClaughry site is unique. A small sample made up the Early and Middle Woodland stages. Once populations gradually transcend into the Late Woodland stage, there is a sudden surge in Madison ware styles. Madison Plain (n=32), followed closely by Madison Cord-Impressed (n=30) and Madison Punctated (n=9). The number of styles declines as groups progress later through the Late Woodland stage. However, six different styles (Hahn Cord-Impressed, Point Sauble Collared, Baraboo Net-Marked, Baraboo Cord-Marked, Aztalan Collared, and Grant Collared) represent this later time period, indicating a higher frequency of styles.

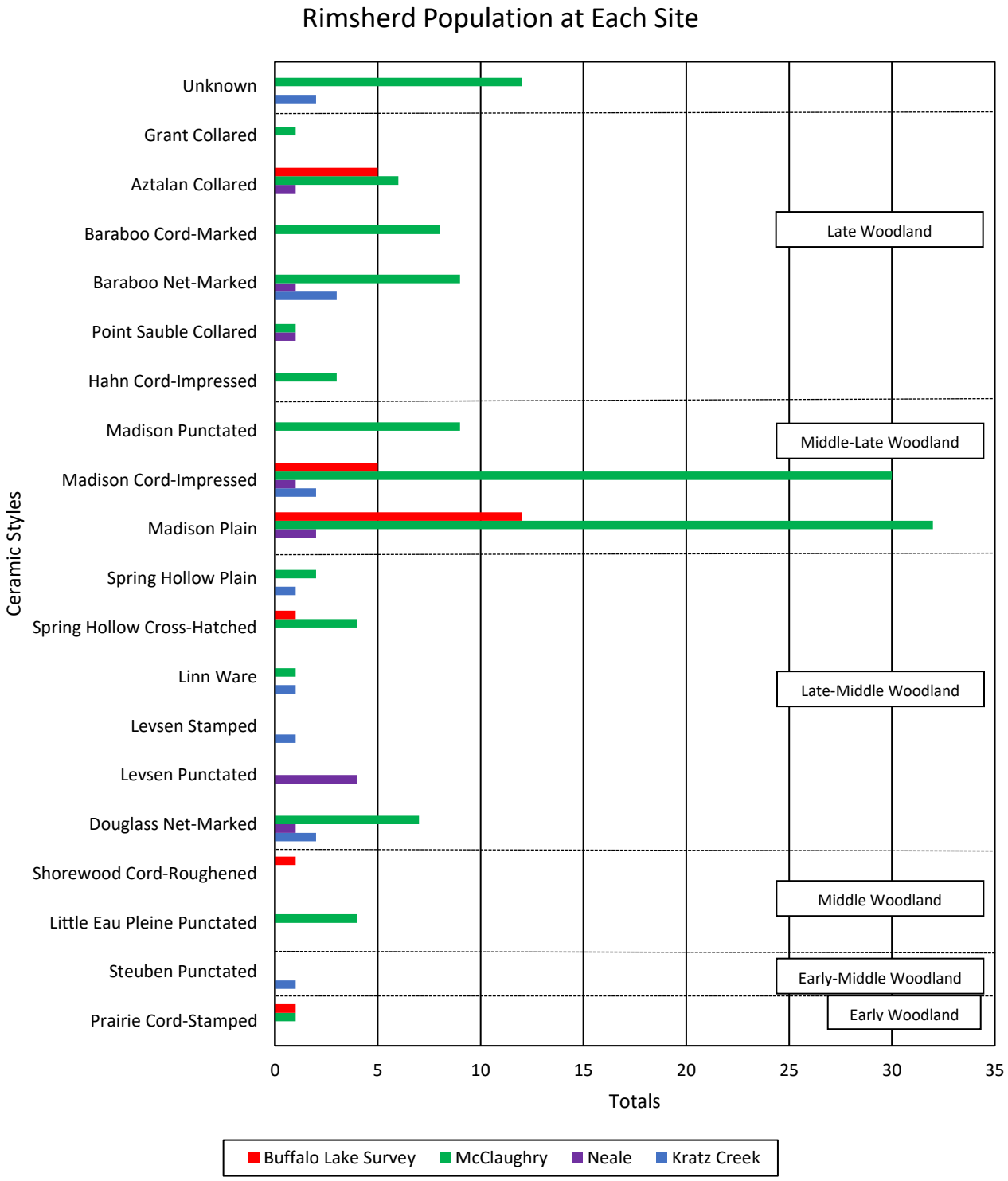

Figure 4.6. Bar Graph Indicating Ceramic Types Represented at Each Site.

Based on Figures 4.5 and 4.6 that illustrate the ceramic types represented from the collections combined, it is evident that the Madison Ware variety (Madison Plain, Punctated, and Cord-Impressed) dominates the collections. The rim sherd sample for the McClaughry site far exceeds what was recovered from both the Kratz Creek and Neale sites combined, thus giving it more bias when comparing the site collections together.

The identified ceramic styles also represent different geographical distributions (Figure 4.7 and 4.8; also see Figures 4.9 through 4.13). Eight styles (Steuben Punctated, Spring Hollow Plain, Spring Hollow Plain, Spring Hollow Cross-Hatched, Prairie Cord-Stamped, Linn Ware, Levsen Stamped, Levsen Punctated, and Grant Collared) have a common distribution area in southwest Wisconsin. Five (Shorewood Cord-Roughened, Baraboo Net-Marked, Baraboo Cord-Marked, Little Eau Pleine Punctated, and Douglass Net-Marked) have a general distribution area within the south-central Wisconsin landscape (where Buffalo Lake is located). Two, Point Sauble Collared and Hahn Cord-Impressed, have common distribution from northeastern Wisconsin. Finally, the Madison Ware group and Aztalan Collared have a broad, southern distribution across the Wisconsin landscape. Nearly 59 percent of ceramic types from the combined collections are from the southern Wisconsin distribution and are common in the Late Woodland stage. The smallest distribution comes from the northeast with nearly three percent of ceramic styles in the collection coming from that area. Ceramic styles in the collections coming from the south-central Wisconsin area make up approximately 20 percent, and ceramic types with a southwest distribution make up nearly 11 percent.

Based on this accumulated data, it seems evident of that there is a pattern of change with ceramic distribution areas over time during the Woodland Tradition. Distribution areas of ceramic styles associated with the Early Woodland stage indicate that Buffalo Lake neighbors

edges to the north of these distributions. The Middle Woodland stage reflects ceramic distribution areas of this period are overlapping with Buffalo Lake now situated within these areas. During the gradual transition from the end of the Middle Woodland stage and into the Late Woodland stage, ceramic distribution areas shifting further away from Buffalo Lake to the south. However, by the time the Late Woodland stage is in full flux, various ceramic styles and their general distribution areas are overlapping with Buffalo Lake situated in the center.

Discussion

Based on the distribution of ceramic styles at the sites and the Buffalo Lake area, it is noted that there is a trend over time and from different geographical areas of the landscape. The Early Woodland stage towards the end of the Middle Woodland stage reflects distribution of styles from regions such as central, southern, and southwestern areas of Wisconsin. However, by the Late Woodland stage there is a major overlap of distribution areas reflected in the archaeological record at Buffalo Lake including northern, southern, south-central, and southwestern areas of the Wisconsin landscape.

When focusing on distribution areas represented at each site, the McClaughry site has the largest representation (Figure 4.8). The ceramics largely come from southern Wisconsin. Furthermore, the ceramic styles recovered from the McClaughry site indicate a timespan from Early Woodland up until the Late Woodland stage. Ceramics recovered from the Neale site come in a distant second with representation of four distribution areas. Ceramic styles at the Neale site reflect a time period of the Late-Middle Woodland stage through the Late Woodland stage. Ceramic styles found during the Buffalo Lake survey represent three distribution areas. However, the Buffalo Lake survey recovered more ceramic styles that have a distribution across southern Wisconsin. Additionally, the Buffalo Lake survey recovered ceramic styles indicative

of the Early Woodland stage through the Late Woodland stage. The Kratz Creek site has three distribution areas represented based on ceramics and the smallest ceramic population of all the sites. Kratz Creek has a slightly larger representation of ceramics from the south-central Wisconsin area, and less from southern Wisconsin overall. The ceramics represent a time frame ranging from the Early-Middle Woodland stage through the Late Woodland stage.

While there are various styles representing a large time span, it's interesting to note the small population during the Middle Woodland stage. It's not until transitioning into the Late Woodland stage that a surge in styles and distribution areas is evidenced in the archaeological record at Buffalo Lake, particularly during the Middle-Late Woodland stage. This reflection of a smaller population during the Middle Woodland may reflect people deferring to different areas on the landscape for interaction and direct trading of goods.

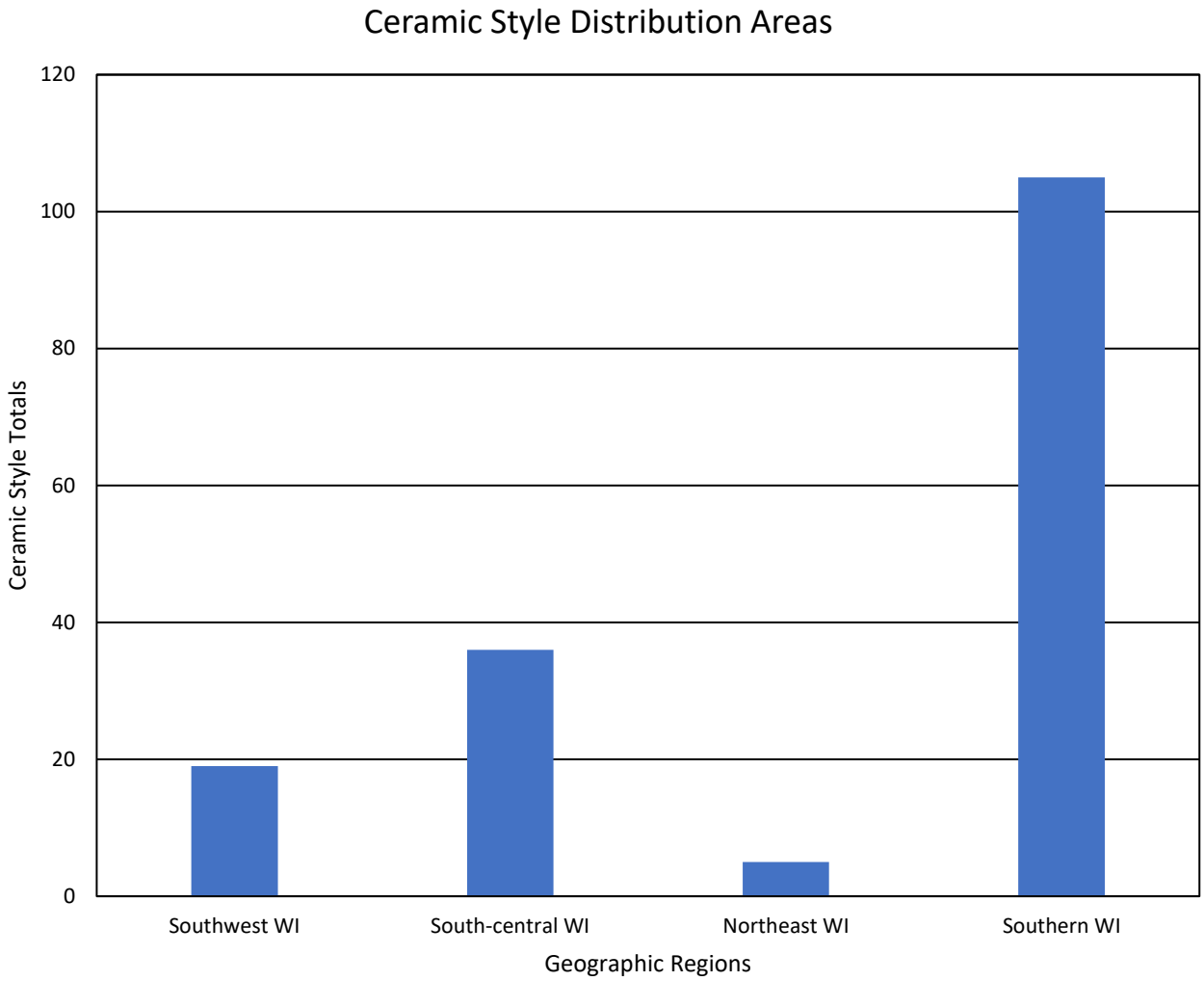

Figure 4.7. Ceramic Style Distribution Areas from the site collections.

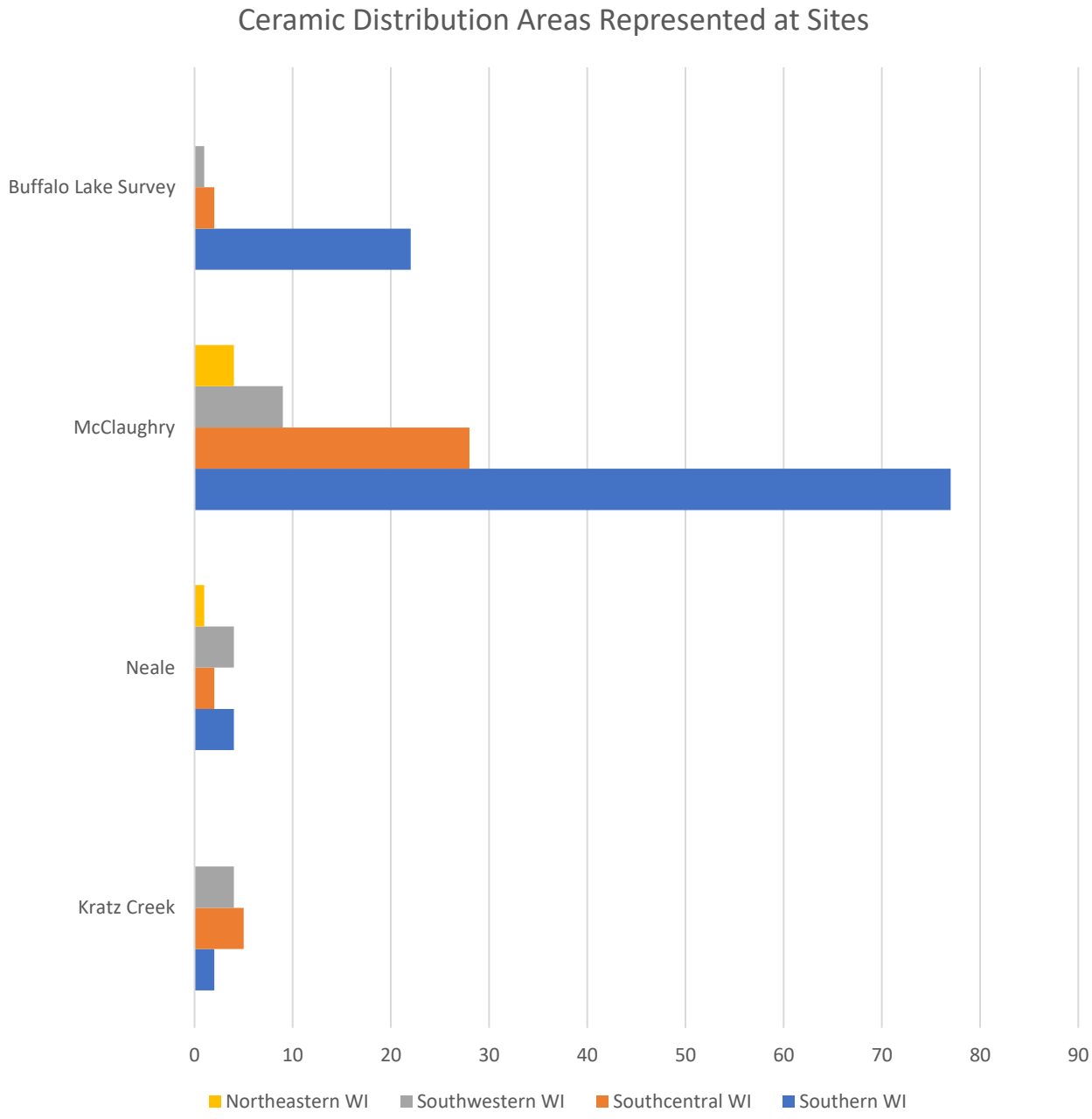

Figure 4.8. Ceramic Distribution Areas Represented at Sites.

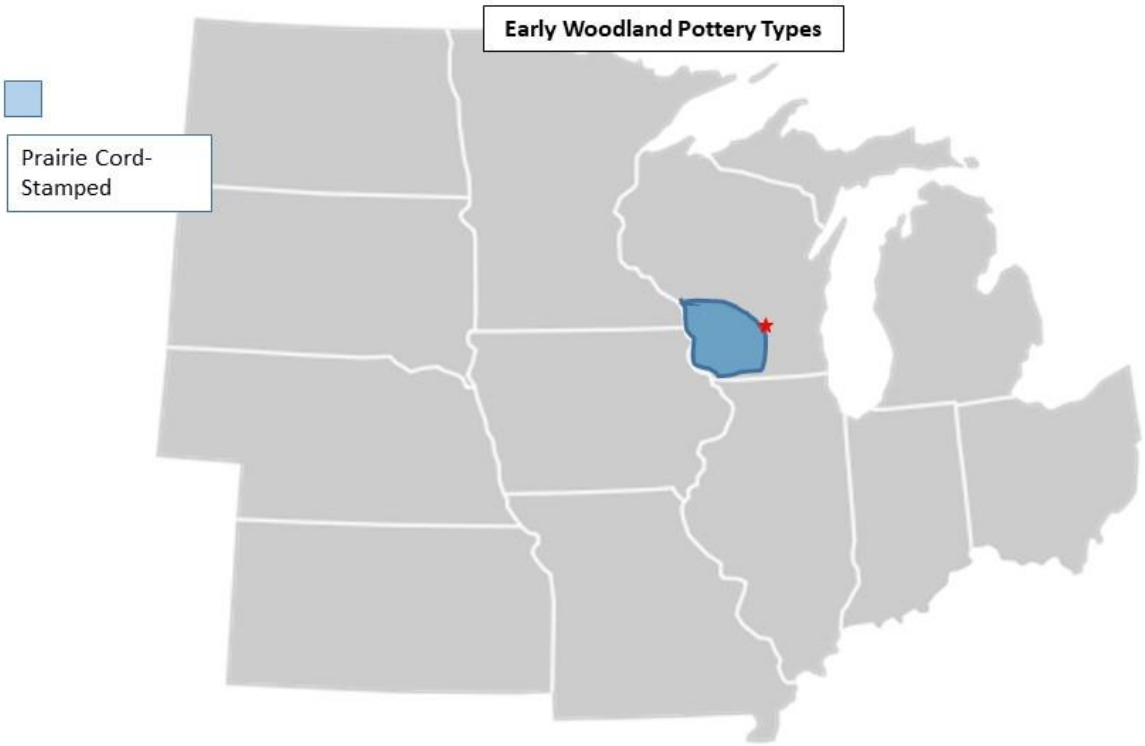

Figure 4.9. Early Woodland Ceramic Type Distribution in Relation to Buffalo Lake.

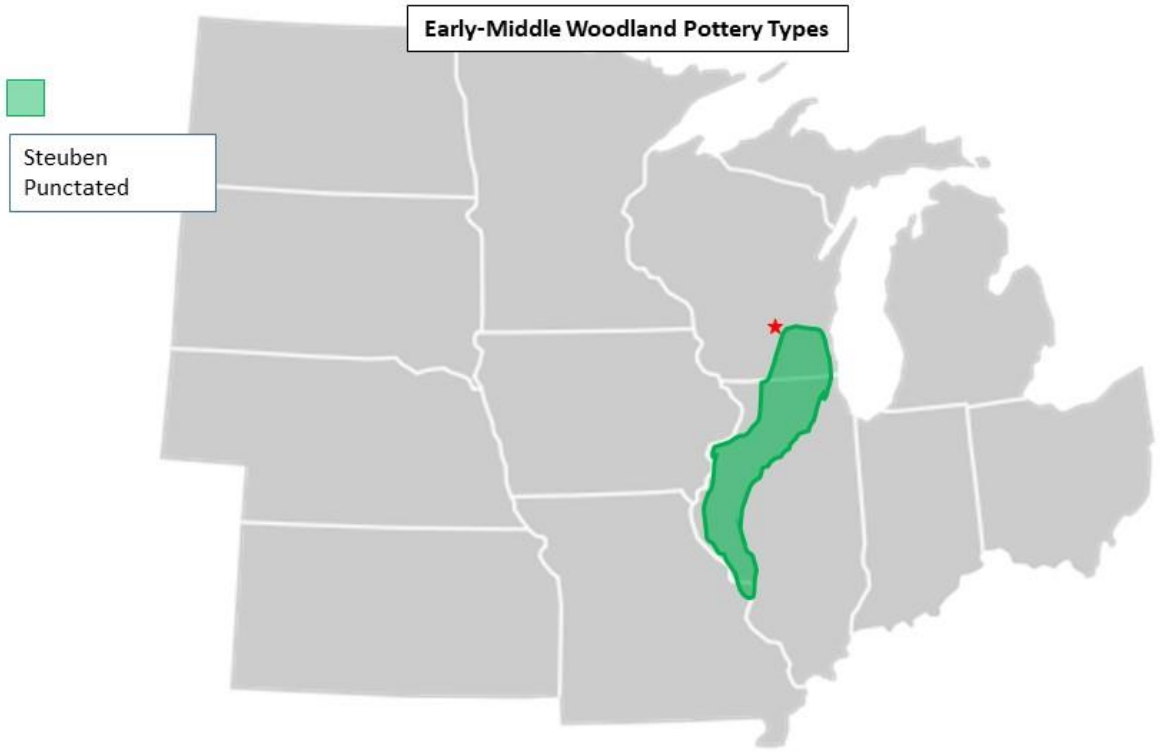

Figure 4.10. Early-Middle Woodland Ceramic Type Distribution in Relation to Buffalo Lake.

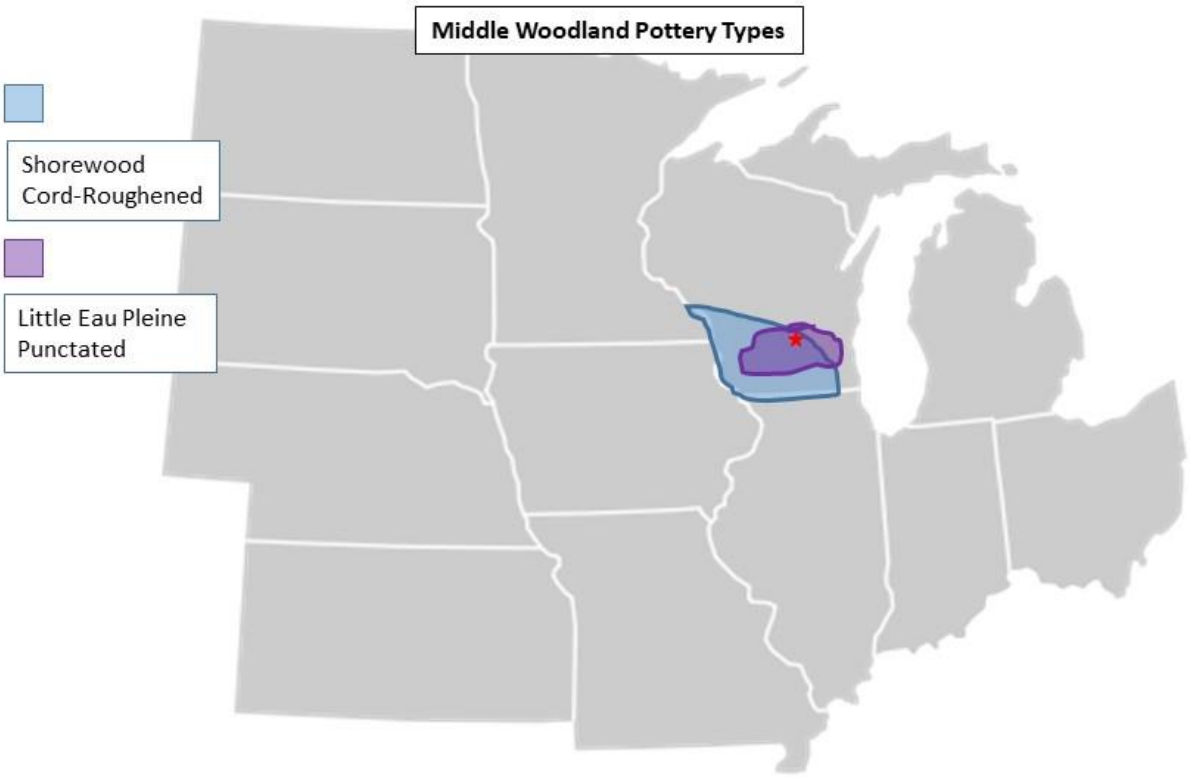

Figure 4.11. Middle Woodland Ceramic Type Distribution in Relation to Buffalo Lake.

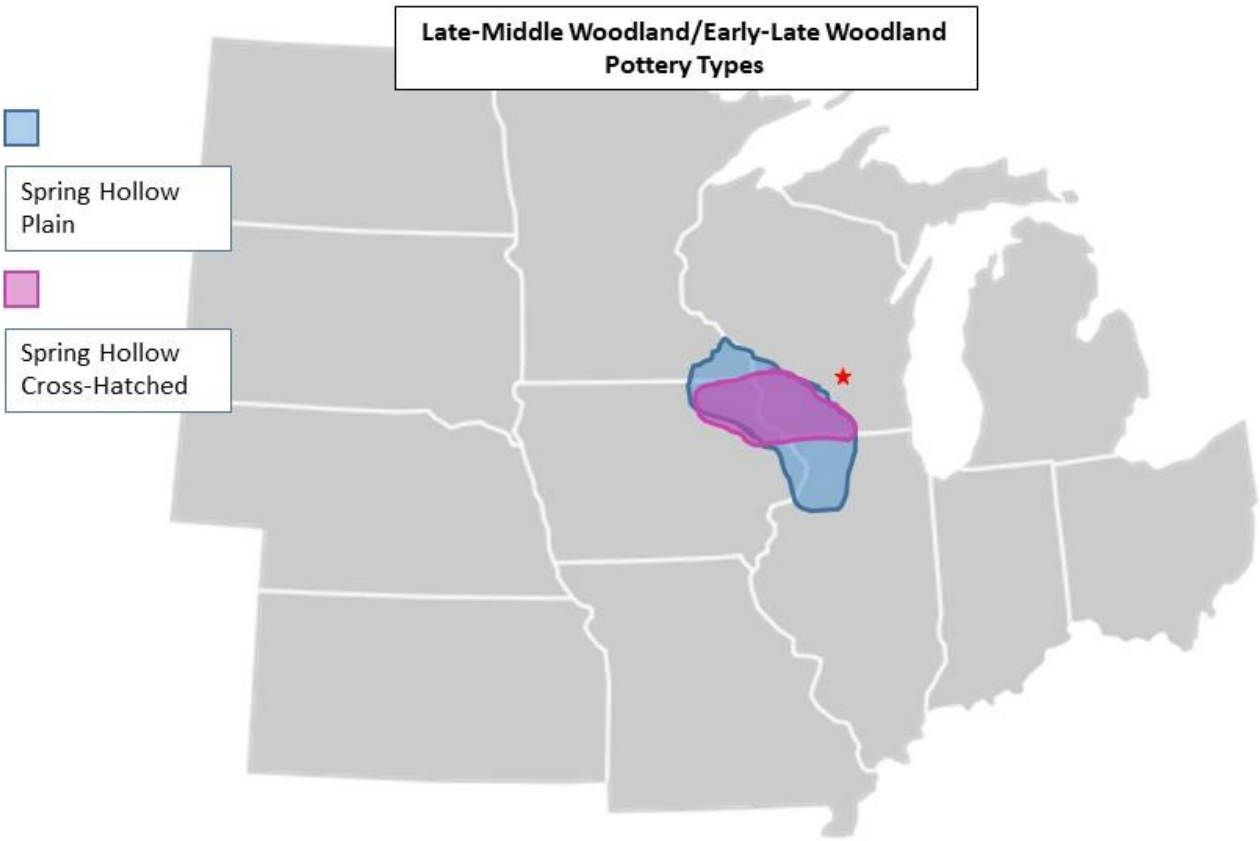

Figure 4.12. Late-Middle and Early-Late Woodland Ceramic Type Distribution in Relation to Buffalo Lake.

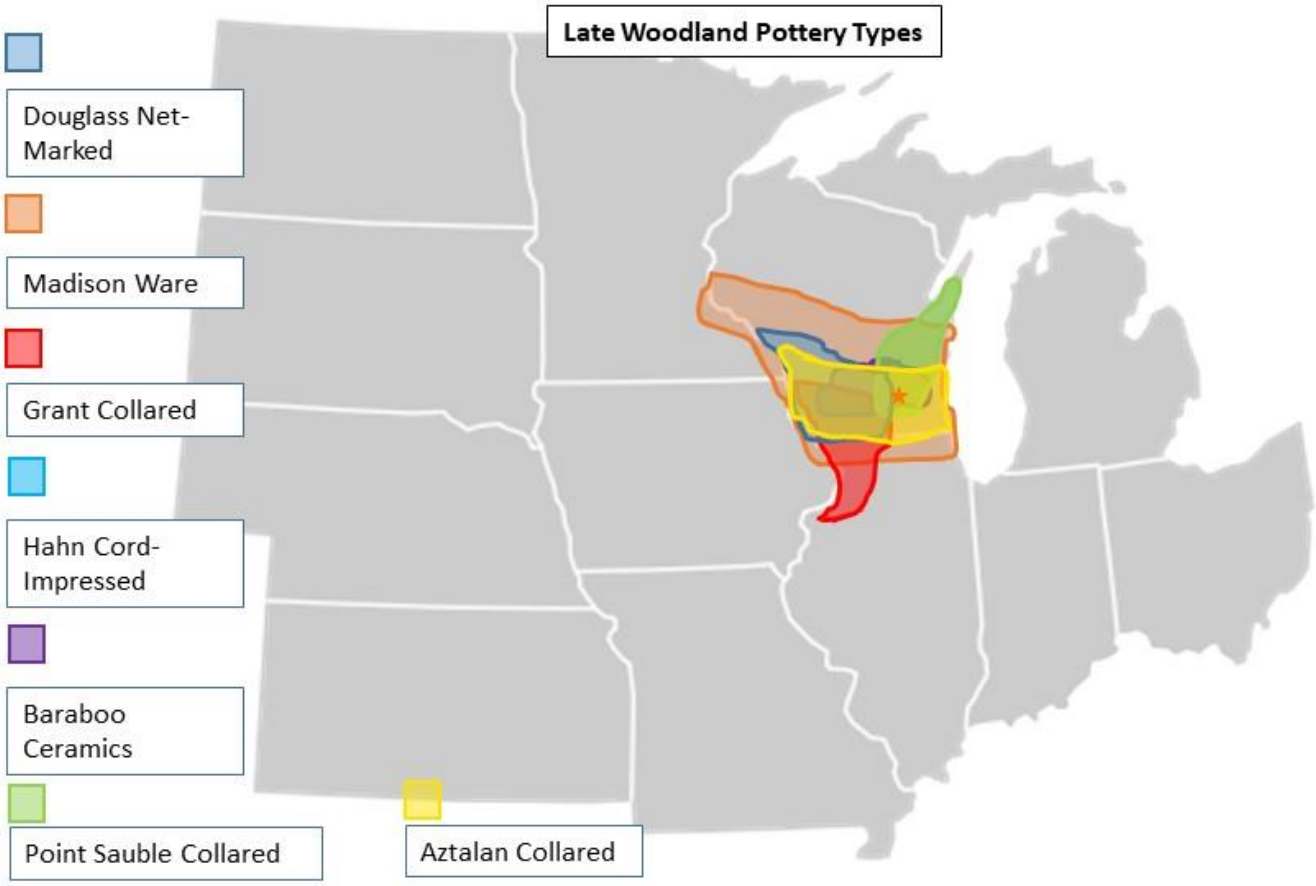

Figure 4.13. Late Woodland Ceramic Type Distribution in Relation to Buffalo Lake.

Summary

Projectile point analysis represents human occupation on the landscape of the Buffalo Lake area ranging from Late Paleoindian through Late Woodland stages, a span of approximately 10,000 years. The best represented time period is the Late Woodland stage, with just less than half of the point totals being Madison Triangular. Furthermore, analysis of raw materials utilized to manufacture projectile points help determine the patterns of social and economic interaction. A radius of 50km was established to indicate the difference between local and exotic raw materials. It is noted that Prairie du Chien chert was the most utilized in the overall point population as well as through time. Based on the known lithic sources, Prairie du Chien chert can be considered a local material. Consequently, Galena chert is represented adequately through time. Galena is considered an exotic raw material that derives from the south-southwest part of Wisconsin. As time progresses, the utilization of Galena is slowly more utilized to manufacture points, which is consistent with directional trends in pottery as well. Moreover, exotic raw materials outside of the 50km radius grows over time. By the Middle and Late Archaic stages, there are points manufactured out of materials from sources as far west as the Great Plains (Knife River Flint and Obsidian). By the Late Woodland stage, the most dependent utilized raw material is silicified sandstone sourced in western Wisconsin.

The progression through time of a growing diversity of products manufactured from different raw materials represents key features. Human populations continued to grow and exploited more resources. Moreover, ceramic styles recovered from Buffalo Lake add more in the understanding of interactions among people. The final products could then serve as a trade good or ceremonial item to construct a relationship among different groups. This can be

constituted as a form of an “interaction sphere” among different populations that represent different regions. This cultural sphere seems to be prominent during the Late Archaic with the diverse set of raw materials indicated above. However, by the Middle Woodland stage the interaction sphere is contracted as there are less exotic materials evidenced in the collections. It could be postulated that the flourishing Hopewell Interaction Sphere during the Middle Woodland stage influenced populations to focus more on other areas for direct trade of goods and ideas. Eventually, the Late Woodland stage reflects a larger interaction sphere than before, as indicated by various raw materials and different ceramic styles that have broad distribution areas. The inclusion of different effigy mound forms constructed along the Buffalo Lake landscape strengthens the notion that the location was a place for sacred ceremonies and for groups to come together during particular times of the year to connect and interact with one other through means of trade, burials, and possibly marriage to establish strong relationships. This will be discussed further in the next chapter.

Chapter 5: Review and Conclusion

Theoretical Interpretation

As highlighted in the previous chapter, the analysis of point types, raw materials, and ceramic styles provides a look at the social interactions at Buffalo Lake through time. Consequently, this allows us to assess population movements across the landscape in distinctive overlapping cultural periods. Previously in chapter three, the concept of landscape archaeology theory was summarized. This was established to implement this theoretical model into the research.

In this chapter, the results from research and analysis performed on diagnostic projectile points and ceramic sherds will be used to understand the broader scope of the people and their use of the Buffalo Lake locality in association with other geographic regions in the Upper Midwest through time. This will determine the notion of how Buffalo Lake was a location for groups to come together and facilitate unique relationships using resources from further away.

The results from the lithic data indicate that populations at Buffalo Lake continued to regularly rely on locally accessible raw materials, notably Prairie du Chien chert, over time. However, as time progressed so too did the interaction and targeting of lithic source areas. Notably, raw materials commonly found to the west such as silicified sandstone became a regularly utilized material. This is most notable during the Late Woodland stage, when the number of projectile points manufactured out of silicified sandstone far exceeded other point types made from the other raw materials. In addition, different lithic materials fluctuate through time. The oldest known evidence from the Late Paleoindian stage is solely locally derived material (Prairie du Chien chert) that has exposed sources to the south of Buffalo Lake. Eventually, by the Early Archaic stage a nonlocal material, Galena chert, is the only material

used to manufacture projectile points. Furthermore, Galena chert implies that there is a movement from its source in the south to the north towards Buffalo Lake. As time transgresses into the Middle and Late Archaic stages, multiple local and nonlocal lithic sources are being used to construct points. The sources mainly derive from geographic locations situated to the south and west. Most interesting is the evidence of Knife River Flint, which is commonly sourced in the Plains area of present-day southwestern North Dakota; although there are known glacial till sources of the material located in the north and western Iowa (Lithic Raw Material Assemblage Database at the University of Iowa Office of the State Archaeologist). This indicates that groups were possibly establishing interactions with others from considerably further distances west and south.

By the Woodland Tradition, similar use of multiple raw material sources is consistent as seen prior during the Archaic Tradition. However, a surge in silicified sandstone is evident by the Late Woodland stage, overshadowing materials such as the consistently utilized Prairie du Chien chert. This seems to indicate a major shift in increasing relationships among groups with access to silicified sandstone sources that are generally located approximately 143 kilometers northwest of Buffalo Lake.

Upon interpreting the results from the ceramic analysis, populations at Buffalo Lake had consistent interactions among groups who generally occupy the southerly part of the Wisconsin landscape. As ceramic styles changed through time, their distribution areas tend to remain south, with Buffalo Lake most often remaining just on the northern edge of these boundaries. This could illustrate that the Buffalo Lake locality facilitated as a form of a transition zone for groups with homelands centered to the south. The Early-Middle Woodland stage is represented solely by the Steuben Punctated ceramic style, which has a distribution from southeastern Wisconsin and

extends into the Illinois River valley much farther to the south. It is only by the Late Woodland stage that several different ceramic style distribution areas overlap, with Buffalo Lake more or less at the center. One particular ceramic style, Point Sauble Collared of the Late Woodland stage, has a distribution ranging from the northeast to south-central Wisconsin. This pattern suggests a decisive change in ways that groups from both the Early-Middle Woodland and Late Woodland stages used Buffalo Lake, with the distinct possibility that people had different uses for the landscape; gradually shifting from a borderland to a more centralized and sedentary homeland.

It is interesting to note that these distribution areas representing ceramic styles have relations with major river ways that either come into proximity of Buffalo Lake, or channel into Buffalo Lake itself. Much of these styles overlap the navigable southern part of the Wisconsin River. The Wisconsin River comes into near-contact of the Fox River in present-day Columbia County. This location can make it easy to portage roughly 2.15 kilometers from the Wisconsin River and into the Fox River to the Buffalo Lake area, meandering along the river route northward approximately 27.1 kilometers (north from the portage). Moreover, Madison Ware styles have a distinct distribution region that has a similar distribution boundary as the Effigy Mound Culture. Madison Ware pottery is the highest represented style from the sites located at Buffalo Lake. This style is commonly associated with groups affiliated with the Effigy Mound Culture. It is noted that there were originally 481 mounds constructed around Buffalo Lake, 68 of which are indeed effigy mounds.

Overall, it seems apparent from the artifact analysis that groups living at Buffalo Lake largely depended on more locally available lithic resources. It was not until the Late Woodland that populations turned to utilize the nonlocal material (i.e., silicified sandstone sourced to the

west) more than locally available resources. Moreover, interpreting the ceramic data indicates that Buffalo Lake had more affiliation with groups from the southern part of Wisconsin. Buffalo Lake commonly sat along the edge of many ceramic distribution regions and could have been part of a border zone through time. The most evident change occurs during the Late Woodland stage when Buffalo Lake was no longer neighboring the edges of distribution areas, but residing within numerous overlapping ceramic distribution areas. This seems to indicate that many groups throughout Wisconsin had some representation at this location. This could indicate that Buffalo Lake shifted into a strategic locale for trade of goods and ideas, burial practices, and/or establishing (or strengthening) relationships between different groups from other geographic locations throughout the Wisconsin landscape. As previously mentioned before, Buffalo Lake (and the Fox River overall) could have transitioned from being the edge of cultural territorial borders and gradually merged into being a regularly utilized homeland. Moreover, the Fox River with its unique northward flowage, also served as a transportation corridor between cultural territories over time. While this cannot be fully addressed within this current research, it allows the opportunity for further research of the broader region surrounding the Buffalo Lake landscape.

Review

This thesis is a comprehensive analysis of artifacts recovered from archaeological investigations at Buffalo Lake conducted in 1917 and 1925. The inaugural investigation was led by Samuel Barrett of the Milwaukee Public Museum. He performed a pedestrian survey along the shorelines of Buffalo Lake, and established excavations at the Kratz Creek Mound Group (47MQ0039). The second field investigation was led by William C. McKern, also of the Milwaukee Public Museum, and performed excavations at both the McClaughry (47MQ0042)

and Neale Mound Group (47M0049) sites. The purpose of the current research was to study the projectile point styles and ceramic materials to further establish the culture history of Buffalo Lake. Furthermore, styles will help determine occupation intensity through time and connect the locality into broader pre-contact landscape use for the Upper Midwest.

Artifacts recovered from the 1917 and 1925 field investigations are curated at the Milwaukee Public Museum. Projectile points and ceramics (solely diagnostic rim sherds) were analyzed. Projectile points were classified by style then assigned to their respective cultural temporal period. Additionally, raw materials used for manufacturing points were analyzed. This method of analysis helps determine use of local and nonlocal materials, patterns of social and economic interactions, and change in lithic material selection through time. Furthermore, statistical testing using chi-square was performed to further assess if there are any statistically significant differences of using lithic sources through time. Rim sherds from ceramics were analyzed primarily on stylistic attributes seen on the rim sherds. This method aids in obtaining information pertaining to temporal and cultural group affiliations. Statistical testing was also applied to rim sherds to interpret interactions among groups from different geographic regions.

A total of 258 projectile points was documented within the collection and given established point types. A total of 19 different point styles have been document within the collections from Barrett's Buffalo Lake survey and excavations at Kratz Creek Mound Group, as well as McKern's investigations at Neale and McClaughry Mound Group sites. These point types within the collection represent a chronological cultural sequence that dates from the Late Paleoindian stage up through the Late Woodland stage. Certain point types have better representation than others. The Raddatz point, a Middle Archaic stage point, makes for 10 percent of the collection. This is followed by Durst from the Late Archaic stage at nine percent.

Others include Kramer at eight percent and Waubesa at seven percent. Both distinctive of the Early Woodland stage. The point type that has the most representation is Madison Triangular, a point type commonly associated with the Late Woodland stage, at 42 percent.

Raw material analysis used for manufacturing the projectile points was also performed. Materials noted as having a source less than 50 kilometers from Buffalo Lake are considered local sources, with any exceeding that distance being deemed nonlocal. A total of 10 different lithic materials are noted. Approximately 38 percent of the points are manufactured out of Prairie du Chien chert. This was followed by silicified sandstone at 31 percent, and Galena chert at 23 percent. Other raw materials to note include a form of Knife River Flint, obsidian, and Moline chert. When assessing the frequency of raw materials on projectile point types, the raw materials grow more diverse through time. A single Agate Basin point from the Late Paleoindian stage is made of Prairie du Chien chert. Eventually by the Middle Archaic stage, there are four different raw materials represented. The Woodland Tradition has the most diverse collection of raw materials represented. Furthermore, statistical analyses in the form of chi-square was performed on the three most utilized raw materials: Prairie du Chien chert, silicified sandstone, and Galena chert. This was conducted to determine their patterns through time. Based on observed and expected results, it is with 95% confidence that there is an extremely high significance in change of use for these raw materials through time. An adjusted standardized residual (ASR) analysis was implemented in order to assess which cells were causing these extremely high significance results. This was enhanced by the Bonferonni correction to control the high number of cells within the chi-square test. Ten cells are seen causing the significance. Most notably, the number observed is nearly double what was expected for silicified sandstone during the Late Woodland stage.

A total of 179 ceramic rimsherds were analyzed within the collections. The analysis indicated that 19 different styles of ceramics are represented from Samuel Barrett's pedestrian survey and the three archaeological excavations. The McClaughry site has the highest representation of different ceramic styles. This is due in large part to having the most ceramics recovered. Moreover, identified ceramic styles represent different geographic distribution areas. When assessing the distribution areas through time, it indicates that Buffalo Lake had interactions with populations who generally occupy southerly parts of the Wisconsin landscape. Towards the end of the Woodland Tradition, there are overlapping distribution areas of ceramic styles, with Buffalo Lake generally within the center.

The data accumulated from the projectile point and ceramic analysis was then interpreted with a settlement pattern theoretical approach. This form of landscape archaeology theory is used to determine population movements across the geographic landscape to and from Buffalo Lake in overlapping temporal periods. The lithic materials indicate that people regularly tended to rely on local sources. As time proceeded, interaction and utilization of lithic sources also proceeded to change. By the Early Archaic, nonlocal material such as Galena chert, sourced to the south of Buffalo Lake, was being used to construct points. Middle and Late Archaic stages reflect multiple different local and nonlocal raw material sources are used, with sources deriving both from the south and west of Buffalo Lake. Most unique during this time of the Archaic Tradition is Knife River Flint that can be sourced as far west as North Dakota. By the Woodland Tradition, multiple raw material sources are still being used to construct points. By this time, silicified sandstone is the dominant source. This seems to reflect an increasing relationship with people to the west of Buffalo Lake. Ceramic styles indicate that Buffalo Lake had steady relationships with groups from southerly geographic regions of Wisconsin. As styles of ceramics evolved over

time, the distribution areas also changed. Early on, Buffalo Lake tended to sit on the edge of these boundaries. This suggests that Buffalo Lake initially served as a territorial zone for people early on during the Woodland Tradition. Eventually by the Late Woodland stage, and the peak of the Effigy Mound Culture, groups shifted from perceiving Buffalo Lake as a boundary to more as a centralized homeland. It can also be perceived that the Fox River became a transportation corridor between cultural territories.

Conclusion

The analysis of diagnostic projectile points and ceramic rimsherds with stylistic attributes has strengthened the scope of understanding past people and the socio-economic interactions at Buffalo Lake besides the mound construction and burial activities. The Buffalo Lake area has been a prime environment filled with abundance of rich resources comprised of various mammalian and aquatic species, abundant vegetation, as well as exposed geologic materials for tool use in daily activities.

The premise of this thesis was to deepen the understanding of the culture history of occupation of Buffalo Lake. Analysis of 258 projectile points collected during field investigations by the Milwaukee Public Museum in 1917 and 1925 has aided in understanding of raw material use and geographic distribution patterns over time. Determining typologies for projectile points revealed occupation at Buffalo Lake as far back as the Late Paleoindian stage, and consistently up through the Late Woodland stage. Furthermore, the analysis of raw materials used to produce projectile points helped illustrate the changes in source materials over time. Populations tended to rely on more locally available resources consistently. This remained true with the number of points made from Prairie du Chien chert, which has sources to the south of Buffalo Lake. Diversity in sources grew over time, with more lithic materials from non-local

areas finding their way onto the Buffalo Lake landscape. By the Late Woodland stage, Prairie du Chien chert was no longer the dominant material, with silicified sandstone becoming the most dominant source.

Ceramic analysis on 179 rimsherds recovered from the aforementioned archaeological investigations also provided an understanding of culture history and societal interactions at Buffalo Lake. The rimsherds indicated that there are 19 different types represented that consequently reflect different cultural periods and distribution areas. This analysis reflected that Buffalo Lake had association with groups mainly from southerly regions of Wisconsin. Furthermore, Buffalo Lake had initially resided on the edge of these distribution areas. By the Late Woodland stage, the location had become immersed within overlapping areas. Deducing from this analysis, it seems apparent that Buffalo Lake was at one time a place for neighboring territorial zones, then transitioned over time into a more centralized homeland.

Altogether, Buffalo Lake grew into a complex cultural landscape for groups to inhabit. The location was used as a means for interaction of trade goods and ideas, perhaps even inter-marriage among different clans to establish peace and initiate relationships. Furthermore, mound construction activities for the dead, beginning with conical shapes then gradually transcending into the “Effigy Mound Culture”, indicates a complexity of ideas and strengthening of relationships with many other people in the much larger surrounding landscape.

Future Research

This research on artifacts recovered during the 1917 and 1925 archaeological investigations has provided additional insight into the lifeways of past peoples at Buffalo Lake. The analysis has aided in understanding the utilization of lithic materials that are from local and non-local sources. Furthermore, the analysis of stylistic rimsherds of ceramics aided in situating

Buffalo Lake within the broader scope of ceramic distribution areas through the Woodland Tradition.

The current results and information allow more opportunities for research. Using the data from these artifact assemblages recovered from Buffalo Lake can facilitate clearer interpretations of this locality with others during different temporal periods. It can aid in understanding social and economic interactions among populations across variable landscapes and other neighboring regions, as well as ever-changing technological advancements and ideological practices (i.e, communal burials and use of nonlocal goods).

Moreover, an unknown artifact collection that was recovered from Buffalo Lake has come to light. A recent visit to the Logan Museum of Anthropology located at Beloit College in Beloit, Wisconsin revealed an investigation took place sometime in the mid-20th century at a different location at Buffalo Lake. The artifacts are composed of different projectile point types, various stone tools, and an array of unique ceramic styles. Using similar analyses performed for this thesis, the Buffalo Lake collection at the Logan Museum will bolster the knowledge of past lifeways at Buffalo Lake.

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Appendix I. Projectile Point Data

Drawer	Catalog Number	Site	Locality	PP Type	Time Period	Raw Material	Heat Treated?
D2-47-10	20003	Buffalo Lake	Loc. 22, Bird Mound	Madison Triangular	L. Woodland	Silicified Sandstone	No
D2-47-10	20004	Buffalo Lake	Loc. 20, Mound 8	Blade	n/a	Galena	No
D2-47-10	20018	Buffalo Lake	Buffalo Lake	Waubesa Contracting Stem	E. Woodland	Galena	No
D2-47-10	20019	Buffalo Lake	Buffalo Lake	Madison Triangular	L. Woodland	Silicified Sandstone	No
D2-47-10	20020	Buffalo Lake	Buffalo Lake	Madison Triangular	L. Woodland	Silicified Sandstone	No
D2-47-10	20023	Buffalo Lake	Buffalo Lake	Blade	n/a	PDC Chert	Yes
D2-47-10	20024	Buffalo Lake	Buffalo Lake	Scraper	n/a	Galena	Yes
D2-47-10	20025	Buffalo Lake	Buffalo Lake	Scraper	n/a	Galena	No
D2-47-10	20026	Buffalo Lake	Buffalo Lake	Scraper	n/a	Quartz	No
D2-47-10	20027	Buffalo Lake	Buffalo Lake	Madison Triangular	L. Woodland	Galena	No
D2-47-10	20028	Buffalo Lake	Buffalo Lake	Blade	n/a	Galena	Yes
D2-47-10	20029	Buffalo Lake	Buffalo Lake	Scraper	n/a	Galena	Yes
D2-47-10	20030	Buffalo Lake	Buffalo Lake	Madison Triangular	L. Woodland	Galena	Yes
D2-47-10	20031	Buffalo Lake	Buffalo Lake	Madison Triangular	L. Woodland	Rhyolite	No
D2-47-10	20032	Buffalo Lake	Buffalo Lake	Raddatz	M. Archaic	PDC Chert	Yes
D2-47-10	20033	Buffalo Lake	Buffalo Lake	Madison Triangular	L. Woodland	PDC Chert	Yes
D2-47-10	20034	Buffalo Lake	Buffalo Lake	Madison Triangular	L. Woodland	Galena	Yes

Drawer	Catalog Number	Site	Locality	PP Type	Time Period	Raw Material	Heat Treated?
D2-47-10	20035	Buffalo Lake	Buffalo Lake	Madison Triangular	L. Woodland	Galena	No
D2-47-10	20036	Buffalo Lake	Buffalo Lake	Scraper	n/a	PDC Chert	Yes
D2-47-10	20037	Buffalo Lake	Buffalo Lake	Raddatz	M. Archaic	Galena	Yes
D2-47-10	20038	Buffalo Lake	Buffalo Lake	Blade	n/a	Rhyolite	No
D2-47-10	20039	Buffalo Lake	Buffalo Lake	Scraper	n/a	Moline Chert	No
D2-47-10	20040	Buffalo Lake	Buffalo Lake	Madison Triangular	L. Woodland	Silicified Sandstone	No
D2-47-10	20041	Buffalo Lake	Buffalo Lake	Madison Triangular	L. Woodland	Silicified Sandstone	No
D2-47-10	20042	Buffalo Lake	Buffalo Lake	Blade	n/a	Silicified Sandstone	No
D2-47-10	20043	Buffalo Lake	Buffalo Lake	Madison Triangular	L. Woodland	Silicified Sandstone	No
D2-47-10	20044	Buffalo Lake	Buffalo Lake	Madison Triangular	L. Woodland	Silicified Sandstone	No
D2-47-10	20045	Buffalo Lake	Buffalo Lake	Madison Triangular	L. Woodland	Silicified Sandstone	No
D2-47-10	20046	Buffalo Lake	Buffalo Lake	Madison Triangular	L. Woodland	Silicified Sandstone	No
D2-47-10	20047	Buffalo Lake	Buffalo Lake	Madison Triangular	L. Woodland	Silicified Sandstone	No
D2-47-10	20048	Buffalo Lake	Buffalo Lake	Madison Triangular	L. Woodland	Silicified Sandstone	No
D2-47-10	20049	Buffalo Lake	Buffalo Lake	Madison Triangular	L. Woodland	Silicified Sandstone	No
D2-47-	20050	Buffal	Buffalo	Madison	L.	Silicified	No

Drawer	Catalog Number	Site	Locality	PP Type	Time Period	Raw Material	Heat Treated?
10		o Lake	Lake	Triangular	Woodland	Sandstone	
D2-47-10	20051	Buffalo Lake	Buffalo Lake	Madison Triangular	L. Woodland	Silicified Sandstone	No
D2-47-10	20052	Buffalo Lake	Buffalo Lake	Madison Triangular	L. Woodland	White Quartz	No
D2-47-10	20053	Buffalo Lake	Buffalo Lake	Madison Triangular	L. Woodland	Silicified Sandstone	No
D2-47-10	20054	Buffalo Lake	Buffalo Lake	Madison Triangular	L. Woodland	Silicified Sandstone	No
D2-47-10	20055	Buffalo Lake	Buffalo Lake	Madison Triangular	L. Woodland	Silicified Sandstone	No
D2-47-10	20056	Buffalo Lake	Buffalo Lake	Madison Triangular	L. Woodland	Silicified Sandstone	No
D2-47-10	20057	Buffalo Lake	Buffalo Lake	Madison Triangular	L. Woodland	Silicified Sandstone	No
D2-47-10	20058	Buffalo Lake	Buffalo Lake	Madison Triangular	L. Woodland	Silicified Sandstone	No
D2-47-10	20059	Buffalo Lake	Buffalo Lake	Madison Triangular	L. Woodland	Silicified Sandstone	No
D2-47-10	20060	Buffalo Lake	Buffalo Lake	Madison Triangular	L. Woodland	Silicified Sandstone	No
D2-47-10	20061	Buffalo Lake	Buffalo Lake	Madison Triangular	L. Woodland	Silicified Sandstone	No
D2-47-10	20062	Buffalo Lake	Buffalo Lake	Madison Triangular	L. Woodland	Silicified Sandstone	No
D2-47-10	20063	Buffalo Lake	Buffalo Lake	Madison Triangular	L. Woodland	Silicified Sandstone	No
D2-47-	20064	Buffal	Buffalo	Madison	L.	Silicified	No

Drawer	Catalog Number	Site	Locality	PP Type	Time Period	Raw Material	Heat Treated?
10		o Lake	Lake	Triangular	Woodland	Sandstone	
D2-47-10	20065	Buffalo Lake	Buffalo Lake	Madison Triangular	L. Woodland	Silicified Sandstone	No
D2-47-10	20066	Buffalo Lake	Buffalo Lake	Madison Triangular	L. Woodland	Silicified Sandstone	No
D2-47-10	20067	Buffalo Lake	Buffalo Lake	Madison Triangular	L. Woodland	Silicified Sandstone	No
D2-47-10	20068	Buffalo Lake	Buffalo Lake	Madison Triangular	L. Woodland	Silicified Sandstone	No
D2-47-10	20069	Buffalo Lake	Buffalo Lake	Madison Triangular	L. Woodland	Silicified Sandstone	No
D2-47-10	20070	Buffalo Lake	Buffalo Lake	Madison Triangular	L. Woodland	Silicified Sandstone	No
D2-47-10	20071	Buffalo Lake	Buffalo Lake	Madison Triangular	L. Woodland	Silicified Sandstone	No
D2-47-10	20072	Buffalo Lake	Buffalo Lake	Madison Triangular	L. Woodland	Silicified Sandstone	No
D2-47-10	20073	Buffalo Lake	Buffalo Lake	Madison Triangular	L. Woodland	Silicified Sandstone	No
D2-47-10	20074	Buffalo Lake	Buffalo Lake	Madison Triangular	L. Woodland	Silicified Sandstone	No
D2-47-10	20075	Buffalo Lake	Buffalo Lake	Madison Triangular	L. Woodland	Silicified Sandstone	No
D2-47-10	20076	Buffalo Lake	Buffalo Lake	Madison Triangular	L. Woodland	Silicified Sandstone	No
D2-47-10	20077	Buffalo Lake	Buffalo Lake	Madison Triangular	L. Woodland	Silicified Sandstone	No

Drawer	Catalog Number	Site	Locality	PP Type	Time Period	Raw Material	Heat Treated?
D2-47-10	20078	Buffalo Lake	Buffalo Lake	Madison Triangular	L. Woodland	Silicified Sandstone	No
D2-47-10	20079	Buffalo Lake	Buffalo Lake	Madison Triangular	L. Woodland	Silicified Sandstone	No
D2-47-10	20080	Buffalo Lake	Buffalo Lake	Madison Triangular	L. Woodland	Silicified Sandstone	No
D2-47-10	20081	Buffalo Lake	Buffalo Lake	Madison Triangular	L. Woodland	Silicified Sandstone	No
D2-47-10	20082	Buffalo Lake	Buffalo Lake	Madison Triangular	L. Woodland	Silicified Sandstone	No
D2-47-10	20083	Buffalo Lake	Buffalo Lake	Madison Triangular	L. Woodland	Silicified Sandstone	No
D2-47-10	20084	Buffalo Lake	Buffalo Lake	Madison Triangular	L. Woodland	Silicified Sandstone	No
D2-47-10	20085	Buffalo Lake	Buffalo Lake	Madison Triangular	L. Woodland	Silicified Sandstone	No
D2-47-10	20086	Buffalo Lake	Buffalo Lake	Madison Triangular	L. Woodland	Silicified Sandstone	No
D2-47-10	20087	Buffalo Lake	Buffalo Lake	Madison Triangular	L. Woodland	Silicified Sandstone	No
D2-47-10	20088	Buffalo Lake	Buffalo Lake	Madison Triangular	L. Woodland	Silicified Sandstone	No
D2-47-10	20089	Buffalo Lake	Buffalo Lake	Madison Triangular	L. Woodland	Silicified Sandstone	No
D2-47-10	20090	Buffalo Lake	Buffalo Lake	Madison Triangular	L. Woodland	Silicified Sandstone	No
D2-47-10	20091	Buffalo Lake	Buffalo Lake	Madison Triangular	L. Woodland	Silicified Sandstone	No

Drawer	Catalog Number	Site	Locality	PP Type	Time Period	Raw Material	Heat Treated?
D2-47-10	20092	Buffalo Lake	Buffalo Lake	Madison Triangular	L. Woodland	Silicified Sandstone	No
D2-47-10	20093	Buffalo Lake	Buffalo Lake	Madison Triangular	L. Woodland	Silicified Sandstone	No
D2-47-10	20094	Buffalo Lake	Buffalo Lake	Madison Triangular	L. Woodland	White Quartz	No
D2-47-10	20095	Buffalo Lake	Buffalo Lake	Madison Triangular	L. Woodland	White Quartz	No
D2-47-10	20096	Buffalo Lake	Buffalo Lake	Madison Triangular	L. Woodland	PDC Chert	No
D2-47-10	20097	Buffalo Lake	Buffalo Lake	Madison Triangular	L. Woodland	Galena	No
D2-47-10	20098	Buffalo Lake	Buffalo Lake	Madison Triangular	L. Woodland	PDC Chert	Yes
D2-47-10	20099	Buffalo Lake	Buffalo Lake	Madison Triangular	L. Woodland	PDC Chert	Yes
D2-47-10	20100	Buffalo Lake	Buffalo Lake	Madison Triangular	L. Woodland	Galena	No
D2-47-10	20101	Buffalo Lake	Buffalo Lake	Madison Triangular	L. Woodland	PDC Chert	Yes
D2-47-10	20102	Buffalo Lake	Buffalo Lake	Madison Triangular	L. Woodland	PDC Chert	Yes
D2-47-10	20103	Buffalo Lake	Buffalo Lake	Madison Triangular	L. Woodland	PDC Chert	Yes
D2-47-10	20104	Buffalo Lake	Buffalo Lake	Madison Triangular	L. Woodland	PDC Chert	No
D2-47-10	20105	Buffalo Lake	Buffalo Lake	Madison Triangular	L. Woodland	PDC Chert	Yes
D2-47-10	20106	Buffalo Lake	Buffalo Lake	Madison Triangular	L. Woodland	Galena	Yes
D2-47-10	20107	Buffalo Lake	Buffalo Lake	Madison Triangular	L. Woodland	Galena	Yes
D2-47-10	20108	Buffalo Lake	Buffalo Lake	Madison Triangular	L. Woodland	PDC Chert	Yes
D2-47-10	20108	Buffalo Lake	Buffalo Lake	Madison Triangular	L. Woodland	PDC Chert	Yes
D2-47-10	20109	Buffalo Lake	Buffalo Lake	Madison Triangular	L. Woodland	Galena	Yes
D2-47-	20110	Buffal	Buffalo	Madison	L.	PDC	Yes

Drawer	Catalog Number	Site	Locality	PP Type	Time Period	Raw Material	Heat Treated?
10		o Lake	Lake	Triangular	Woodland	Chert	
D2-47-10	20111	Buffalo Lake	Buffalo Lake	Madison Triangular	L. Woodland	Galena	Yes
D2-47-10	20112	Buffalo Lake	Buffalo Lake	Madison Triangular	L. Woodland	Galena	No
D2-47-10	20113	Buffalo Lake	Buffalo Lake	Madison Triangular	L. Woodland	Galena	Yes
D2-47-10	20114	Buffalo Lake	Buffalo Lake	Madison Triangular	L. Woodland	PDC Chert	Yes
D2-47-10	20115	Buffalo Lake	Buffalo Lake	Madison Triangular	L. Woodland	Galena	No
D2-47-10	20116	Buffalo Lake	Buffalo Lake	Madison Triangular	L. Woodland	PDC Chert	Yes
D2-47-10	20117	Buffalo Lake	Buffalo Lake	Madison Triangular	L. Woodland	Galena	Yes
D2-47-10	20118	Buffalo Lake	Buffalo Lake	Madison Triangular	L. Woodland	Galena	No
D2-47-10	20119	Buffalo Lake	Buffalo Lake	Madison Triangular	L. Woodland	Galena	Yes
D2-47-10	20120	Buffalo Lake	Buffalo Lake	Kramer Straight Stem	E. Woodland	Galena	No
D2-47-10	20120	Buffalo Lake	Buffalo Lake	Madison Triangular	L. Woodland	Galena	No
D2-47-10	20121	Buffalo Lake	Buffalo Lake	Madison Triangular	L. Woodland	Galena	Yes
D2-47-10	20122	Buffalo Lake	Buffalo Lake	Madison Triangular	L. Woodland	Galena	Yes
D2-47-10	20123	Buffalo Lake	Buffalo Lake	Madison Triangular	L. Woodland	PDC Chert	No
D2-47-10	20124	Buffalo Lake	Buffalo Lake	Kramer Straight Stem	E. Woodland	Galena	Yes
D2-47-10	20125	Buffalo Lake	Buffalo Lake	Kramer Straight Stem	E. Woodland	Galena	No
D2-47-10	20126	Buffalo Lake	Buffalo Lake	Waubesa Contracting Stem	E. Woodland	Galena	No
D2-47-10	20127	Buffalo Lake	Buffalo Lake	Blade	n/a	PDC Chert	Yes
D2-47-10	20128	Buffalo Lake	Buffalo Lake	Waubesa Contracting Stem	E. Woodland	PDC Chert	Yes

Drawer	Catalog Number	Site	Locality	PP Type	Time Period	Raw Material	Heat Treated?
D2-47-10	20129	Buffalo Lake	Buffalo Lake	Blade	n/a	Galena	No
D2-47-10	20131	Buffalo Lake	Buffalo Lake	Kramer Straight Stem	E. Woodland	PDC Chert	No
D2-47-10	20132	Buffalo Lake	Buffalo Lake	Kramer Straight Stem	E. Woodland	PDC Chert	No
D2-47-10	20133	Buffalo Lake	Buffalo Lake	Blade	n/a	PDC Chert	Yes
D2-47-10	20134	Buffalo Lake	Buffalo Lake	Waubesa Contracting Stem	E. Woodland	Galena	No
D2-47-10	20135	Buffalo Lake	Buffalo Lake	Waubesa Contracting Stem	E. Woodland	PDC Chert	Yes
D2-47-10	20136	Buffalo Lake	Buffalo Lake	Scraper	n/a	PDC Chert	Yes
D2-47-10	20137	Buffalo Lake	Buffalo Lake	Preston Corner-Notched	L. Archaic	Galena	No
D2-47-10	20138	Buffalo Lake	Buffalo Lake	Kramer Straight Stem	E. Woodland	PDC Chert	Yes
D2-47-10	20139	Buffalo Lake	Buffalo Lake	Waubesa Contracting Stem	E. Woodland	Galena	No
D2-47-10	20140	Buffalo Lake	Buffalo Lake	Kramer Straight Stem	E. Woodland	PDC Chert	No
D2-47-10	20141	Buffalo Lake	Buffalo Lake	Unidentifiable	n/a	Galena	No
D2-47-10	20142	Buffalo Lake	Buffalo Lake	Snyders	M. Woodland	Galena	Yes
D2-47-10	20143	Buffalo Lake	Buffalo Lake	Kramer Straight Stem	E. Woodland	PDC Chert	Yes
D2-47-10	20144	Buffalo Lake	Buffalo Lake	Scraper	n/a	PDC Chert	Yes
D2-47-10	20145	Buffalo Lake	Buffalo Lake	Waubesa Contracting Stem	E. Woodland	PDC Chert	Yes
D2-47-10	20146	Buffalo Lake	Buffalo Lake	Waubesa Contracting Stem	E. Woodland	PDC Chert	Yes
D2-47-	20147	Buffal	Buffalo	Scraper	n/a	Rhyolite	No

Drawer	Catalog Number	Site	Locality	PP Type	Time Period	Raw Material	Heat Treated?
10		o Lake	Lake				
D2-47-10	20148	Buffalo Lake	Buffalo Lake	Kramer Straight Stem	E. Woodland	Rhyolite	No
D2-47-10	20149	Buffalo Lake	Buffalo Lake	Durst	L. Archaic	Silicified Sandstone	No
D2-47-10	20150	Buffalo Lake	Buffalo Lake	Madison Side-Notched	M. Archaic	Galena	No
D2-47-10	20151	Buffalo Lake	Buffalo Lake	Durst	L. Archaic	Silicified Sandstone	No
D2-47-10	20152	Buffalo Lake	Buffalo Lake	Kramer Straight Stem	E. Woodland	PDC Chert	No
D2-47-10	20153	Buffalo Lake	Buffalo Lake	Kramer Straight Stem	E. Woodland	Galena	Yes
D2-47-10	20154	Buffalo Lake	Buffalo Lake	Waubesa Contracting Stem	E. Woodland	PDC Chert	Yes
D2-47-10	20155	Buffalo Lake	Buffalo Lake	Waubesa Contracting Stem	E. Woodland	PDC Chert	Yes
D2-47-10	20156	Buffalo Lake	Buffalo Lake	Blade	n/a	PDC Chert	Yes
D2-47-10	20157	Buffalo Lake	Buffalo Lake	Kramer Straight Stem	E. Woodland	Rhyolite	No
D2-47-10	20158	Buffalo Lake	Buffalo Lake	Kramer Straight Stem	E. Woodland	Chert	No
D2-47-10	20159	Buffalo Lake	Buffalo Lake	Madison Triangular	L. Woodland	Galena	No
D2-47-10	20160	Buffalo Lake	Buffalo Lake	Waubesa Contracting Stem	E. Woodland	PDC Chert	Yes
D2-47-10	20161	Buffalo Lake	Buffalo Lake	Blade	n/a	Rhyolite	No
D2-47-10	20162	Buffalo Lake	Buffalo Lake	Snyders	M. Woodland	Silicified Sandstone	No
D2-47-10	20163	Buffalo Lake	Buffalo Lake	Unidentifiable	n/a	Silicified Sandstone	No
D2-47-	20164	Buffal	Buffalo	Unidentifiabl	n/a	n/a	No

Drawer	Catalog Number	Site	Locality	PP Type	Time Period	Raw Material	Heat Treated?
10		o Lake	Lake	e			
D2-47-10	20165	Buffalo Lake	Buffalo Lake	Madison Triangular	L. Woodland	Silicified Sandstone	No
D2-47-10	20166	Buffalo Lake	Buffalo Lake	Hardin Barbed	E. Archaic	Galena	Yes
D2-47-10	20167	Buffalo Lake	Buffalo Lake	Steuben	M. Woodland	Galena	No
D2-47-10	20168	Buffalo Lake	Buffalo Lake	Raddatz	M. Archaic	Galena	No
D2-47-10	20169	Buffalo Lake	Buffalo Lake	Raddatz	M. Archaic	PDC Chert	Yes
D2-47-10	20170	Buffalo Lake	Buffalo Lake	Durst	L. Archaic	Galena	No
D2-47-10	20171	Buffalo Lake	Buffalo Lake	Blade	n/a	PDC Chert	Yes
D2-47-10	20172	Buffalo Lake	Buffalo Lake	Reigh Side-Notched	M. Archaic	Galena	Yes
D2-47-10	20173	Buffalo Lake	Buffalo Lake	Unidentifiable	n/a	Galena	Yes
D2-47-10	20174	Buffalo Lake	Buffalo Lake	Steuben	M. Woodland	Galena	No
D2-47-10	20175	Buffalo Lake	Buffalo Lake	Monona Stemmed	L. Archaic	PDC Chert	No
D2-47-10	20176	Buffalo Lake	Buffalo Lake	Durst	L. Archaic	PDC Chert	Yes
D2-47-10	20177	Buffalo Lake	Buffalo Lake	Raddatz	M. Archaic	PDC Chert	Yes
D2-47-10	20178	Buffalo Lake	Buffalo Lake	Steuben	M. Woodland	Galena	Yes
D2-47-10	20179	Buffalo Lake	Buffalo Lake	Kramer Straight Stem	E. Woodland	Silicified Sandstone	No
D2-47-10	20180	Buffalo Lake	Buffalo Lake	Preston Corner-Notched	L. Archaic	Rhyolite	No
D2-47-10	20181	Buffalo Lake	Buffalo Lake	St. Charles	E. Archaic	Galena	No
D2-47-10	20182	Buffalo Lake	Buffalo Lake	Durst	L. Archaic	Galena	No
D2-47-	20183	Buffal	Buffalo	Durst	L. Archaic	Galena	Yes

Drawer	Catalog Number	Site	Locality	PP Type	Time Period	Raw Material	Heat Treated?
10		o Lake	Lake				
D2-47-10	20184	Buffalo Lake	Buffalo Lake	Durst	L. Archaic	Cochrane Chert	Yes
D2-47-10	20185	Buffalo Lake	Buffalo Lake	Preston Corner-Notched	L. Archaic	Galena	Yes
D2-47-10	20186	Buffalo Lake	Buffalo Lake	Durst	L. Archaic	PDC Chert	No
D2-47-10	20187	Buffalo Lake	Buffalo Lake	Raddatz	M. Archaic	PDC Chert	Yes
D2-47-10	20188	Buffalo Lake	Buffalo Lake	Durst	L. Archaic	PDC Chert	Yes
D2-47-10	20189	Buffalo Lake	Buffalo Lake	Blade	n/a	Silicified Sandstone	No
D2-47-10	20190	Buffalo Lake	Buffalo Lake	Durst	L. Archaic	Silicified Sandstone	No
D2-47-10	20191	Buffalo Lake	Buffalo Lake	Durst	L. Archaic	Silicified Sandstone	No
D2-47-10	20192	Buffalo Lake	Buffalo Lake	Durst	L. Archaic	Silicified Sandstone	No
D2-47-10	20193	Buffalo Lake	Buffalo Lake	Kramer Straight Stem	E. Woodland	Quartz	No
D2-47-10	20194	Buffalo Lake	Buffalo Lake	Reigh Side-Notched	M. Archaic	Silicified Sandstone	No
D2-47-10	20195	Buffalo Lake	Buffalo Lake	Raddatz	M. Archaic	Silicified Sandstone	No
D2-47-10	20196	Buffalo Lake	Buffalo Lake	Reigh Side-Notched	M. Archaic	Silicified Sandstone	No
D2-47-10	20197	Buffalo Lake	Buffalo Lake	Unidentifiable	n/a	Galena	Yes
D2-47-10	20198	Buffalo Lake	Buffalo Lake	Raddatz	M. Archaic	PDC Chert	Yes
D2-47-10	20199	Buffalo Lake	Buffalo Lake	Madison Side-Notched	M. Archaic	PDC Chert	Yes

Drawer	Catalog Number	Site	Locality	PP Type	Time Period	Raw Material	Heat Treated?
D2-47-10	20200	Buffalo Lake	Buffalo Lake	Kirk Corner Notched	E. Archaic	Galena	No
D2-47-10	20201	Buffalo Lake	Buffalo Lake	Cahokia Side-Notched	L. Woodland	Galena	No
D2-47-10	20202	Buffalo Lake	Buffalo Lake	Monona Stemmed	M. Woodland	Galena	No
D2-47-10	20203	Buffalo Lake	Buffalo Lake	Raddatz	M. Archaic	PDC Chert	No
D2-47-10	20204	Buffalo Lake	Buffalo Lake	Unidentifiable	n/a	Galena	No
D2-47-10	20205	Buffalo Lake	Buffalo Lake	Steuben	M. Woodland	PDC Chert	Yes
D2-47-10	20206	Buffalo Lake	Buffalo Lake	Raddatz	M. Archaic	Galena	No
D2-47-10	20207	Buffalo Lake	Buffalo Lake	Durst	L. Archaic	Silicified Sandstone	No
D2-47-10	20208	Buffalo Lake	Buffalo Lake	Mantanza	M. Archaic	Silicified Sandstone	No
D2-47-10	20209	Buffalo Lake	Buffalo Lake	Scraper	n/a	Galena	No
D2-47-10	20210	Buffalo Lake	Buffalo Lake	Raddatz	M. Archaic	PDC Chert	No
D2-47-10	20211	Buffalo Lake	Buffalo Lake	Raddatz	M. Archaic	Silicified Sandstone	No
D2-47-10	20212	Buffalo Lake	Buffalo Lake	Raddatz	M. Archaic	PDC Chert	No
D2-47-10	20213	Buffalo Lake	Buffalo Lake	Raddatz	M. Archaic	Galena	No
D2-47-10	20214	Buffalo Lake	Buffalo Lake	Unidentifiable	n/a	Galena	No
D2-47-10	20215	Buffalo Lake	Buffalo Lake	Raddatz	M. Archaic	PDC Chert	No
D2-47-10	20216	Buffalo Lake	Buffalo Lake	Scraper	n/a	Galena	Yes
D2-47-10	20217	Buffalo Lake	Buffalo Lake	Reigh Side-Notched	M. Archaic	PDC Chert	Yes
D2-47-10	20218	Buffalo Lake	Buffalo Lake	Raddatz	M. Archaic	Silicified Sandston	No

Drawer	Catalog Number	Site	Locality	PP Type	Time Period	Raw Material	Heat Treated?
						e	
D2-47-10	20219	Buffalo Lake	Buffalo Lake	Durst	L. Archaic	Silicified Sandstone	No
D2-47-10	20220	Buffalo Lake	Buffalo Lake	Blade	n/a	Silicified Sandstone	No
D2-47-10	21083	Buffalo Lake	Buffalo Lake	Waubesa Contracting Stem	E. Woodland	PDC Chert	No
D2-47-10	21084	Buffalo Lake	Buffalo Lake	Waubesa Contracting Stem	E. Woodland	PDC Chert	Yes
D2-47-10	21086	Buffalo Lake	Buffalo Lake	Waubesa Contracting Stem	E. Woodland	Knife River Flint	No
D2-47-10	21087	Buffalo Lake	Buffalo Lake	Monona Stemmed	L. Archaic	PDC Chert	Yes
D2-47-10	21088	Buffalo Lake	Buffalo Lake	Madison Triangular	L. Woodland	Silicified Sandstone	No
D2-47-10	21089	Buffalo Lake	Buffalo Lake	Raddatz	M. Archaic	PDC Chert	No
D2-47-10	21090	Buffalo Lake	Buffalo Lake	Agate Basin	L. Paleoindian	PDC Chert	No
D2-47-10	23278	Buffalo Lake	Buffalo Lake	Blade	n/a	PDC Chert	Yes
D2-47-10	23279	Buffalo Lake	Buffalo Lake	Scraper	n/a	Silicified Sandstone	No
D2-47-10	23280	Buffalo Lake	Buffalo Lake	Unidentifiable	n/a	PDC Chert	Yes
D2-47-10	23281	Buffalo Lake	Buffalo Lake	Scraper	n/a	PDC Chert	Yes
D2-47-10	23282	Buffalo Lake	Buffalo Lake	Scraper	n/a	PDC Chert	Yes
D2-47-10	23283	Buffalo Lake	Buffalo Lake	Scraper	n/a	Knife River Flint	No
D2-47-	23284	Buffal	Buffalo	Scraper	n/a	PDC	Yes

Drawer	Catalog Number	Site	Locality	PP Type	Time Period	Raw Material	Heat Treated?
10		o Lake	Lake			Chert	
D2-47-10	23287	Buffalo Lake	Buffalo Lake	Unidentifiable	n/a	PDC Chert	Yes
D2-47-10	23288	Buffalo Lake	Buffalo Lake	Scraper	n/a	PDC Chert	Yes
D2-47-10	23289	Buffalo Lake	Buffalo Lake	Scraper	n/a	PDC Chert	Yes
D2-47-10	23291	Buffalo Lake	Buffalo Lake	Durst	L. Archaic	PDC Chert	No
D2-47-10	23292	Buffalo Lake	Buffalo Lake	Scraper	n/a	Galena	No
D2-46-31	29614	Neale	Mound 4, near burial	Kramer Straight Stem	E. Woodland	PDC Chert	No
D2-46-31	29621	Neale	Mound 15	Raddatz	M. Archaic	PDC Chert	No
D2-46-31	29851	Neale	near Mound 11	Madison Triangular	L. Woodland	Cochrane Chert	Yes
D2-51-19	46757	Kratz Creek	Child's Burial, Dart's Place	Unidentifiable	n/a	Obsidian	No
D2-47-10	48033	Buffalo Lake Survey	Buffalo Lake area	Madison Triangular	L. Woodland	PDC Chert	No
D2-47-10	48036	Buffalo Lake Survey	Buffalo Lake area	Triangular point	L. Woodland	Silicified Sandstone	No
D2-47-10	48038	Buffalo Lake Survey	Buffalo Lake area	Unidentifiable	n/a	PDC Chert	Yes
D2-47-10	48054	Buffalo Lake Survey	Buffalo Lake area	Raddatz	M. Archaic	PDC Chert	No
D2-47-10	48057	Buffalo Lake Survey	Buffalo Lake area	Unidentifiable	n/a	Moline Chert	No
D2-47-10	48062	Buffalo Lake Survey	north shore	Madison Triangular	L. Woodland	PDC Chert	No

Drawer	Catalog Number	Site	Locality	PP Type	Time Period	Raw Material	Heat Treated?
D2-47-10	48063	Buffalo Lake Survey	north shore	Madison Triangular	L. Woodland	PDC Chert	No
D2-47-10	48064	Buffalo Lake Survey	north shore	Madison Triangular	L. Woodland	Silicified Sandstone	No
D2-47-10	48065	Buffalo Lake Survey	north shore	Madison Triangular	L. Woodland	Silicified Sandstone	No
D2-47-10	20009(c)	Buffalo Lake	opposite Kratz Creek	Raddatz	M. Archaic	PDC Chert	Yes
D2-47-10	20009(a)	Buffalo Lake	opposite Kratz Creek	Adena Stemmed	E. Woodland	PDC Chert	Yes
D2-47-10	20009(b)	Buffalo Lake	opposite Kratz Creek	Blade	n/a	Knife River Flint	No
D2-47-10	20009(d)	Buffalo Lake	opposite Kratz Creek	Steuben	M. Woodland	PDC Chert	No
D2-47-10	20009(e)	Buffalo Lake	opposite Kratz Creek	Raddatz	M. Archaic	PDC Chert	No
D2-47-10	20009(f)	Buffalo Lake	opposite Kratz Creek	Osceola	M. Archaic	Knife River Flint	No
D2-47-10	20009(i)	Buffalo Lake	opposite Kratz Creek	Durst	L. Archaic	Galena	No
D2-47-10	20009(k)	Buffalo Lake	opposite Kratz Creek	Blade	n/a	Silicified Sandstone	No
D2-47-10	20009(l)	Buffalo Lake	opposite Kratz Creek	Waubesa Contracting Stem	E. Woodland	Rhyolite	No
D2-47-10	20009(m)	Buffalo Lake	opposite Kratz Creek	Steuben	M. Woodland	Galena	Yes
D2-47-10	20013(a)	Buffalo Lake	Royce Workshop Sites,	Madison Triangular	L. Woodland	Galena	Yes

Drawer	Catalog Number	Site	Locality	PP Type	Time Period	Raw Material	Heat Treated?
			Buffalo Lake				
D2-47-10	20013(b)	Buffalo Lake	Royce Workshop Sites, Buffalo Lake	Madison Triangular	L. Woodland	PDC Chert	No
D2-47-10	20016(a)	Buffalo Lake	Royce Workshop Sites, Buffalo Lake	Raddatz	M. Archaic	Galena	Yes
D2-47-10	20016(b)	Buffalo Lake	Royce Workshop Sites, Buffalo Lake	Osceola	M. Archaic	Galena	Yes
D2-47-10	20016(d)	Buffalo Lake	Royce Workshop Sites, Buffalo Lake	Raddatz	M. Archaic	PDC Chert	Yes
D2-47-10	20230(a)	Buffalo Lake	Buffalo Lake	Unidentifiable	n/a	Knife River Flint	No
D2-47-10	20230(b)	Buffalo Lake	Buffalo Lake	Unidentifiable	n/a	Knife River Flint	No
D2-47-10	20230(g)	Buffalo Lake	Buffalo Lake	Scraper	n/a	Silicified Sandstone	No
D2-47-10	48034 (1)	Buffalo Lake Survey	Buffalo Lake area	Unidentifiable	n/a	PDC Chert	No
D2-47-10	48034 (10)	Buffalo Lake Survey	Buffalo Lake area	Unidentifiable	n/a	PDC Chert	Yes
D2-47-10	48034 (12)	Buffalo Lake Survey	Buffalo Lake area	Steuben	M. Woodland	PDC Chert	No
D2-47-10	48034 (13)	Buffalo Lake	Buffalo Lake area	Madison Triangular	L. Woodland	PDC Chert	Yes

Drawer	Catalog Number	Site	Locality	PP Type	Time Period	Raw Material	Heat Treated?
		Survey					
D2-47-10	48034 (14)	Buffalo Lake Survey	Buffalo Lake area	Raddatz	M. Archaic	PDC Chert	Yes
D2-47-10	48034 (15)	Buffalo Lake Survey	Buffalo Lake area	Durst	L. Archaic	PDC Chert	Yes
D2-47-10	48034 (16)	Buffalo Lake Survey	Buffalo Lake area	Kramer Straight Stem	E. Woodland	PDC Chert	Yes
D2-47-10	48034 (16)	Buffalo Lake Survey	Buffalo Lake area	Unidentifiable	n/a	PDC Chert	No
D2-47-10	48034 (17)	Buffalo Lake Survey	Buffalo Lake area	Reigh Side-Notched	M. Archaic	PDC Chert	No
D2-47-10	48034 (18)	Buffalo Lake Survey	Buffalo Lake area	Preston Corner-Notched	L. Archaic	PDC Chert	No
D2-47-10	48034 (18)	Buffalo Lake Survey	Buffalo Lake area	Unidentifiable	n/a	PDC Chert	No
D2-47-10	48034 (19)	Buffalo Lake Survey	Buffalo Lake area	Raddatz	M. Archaic	PDC Chert	Yes
D2-47-10	48034 (2)	Buffalo Lake Survey	Buffalo Lake area	Madison Triangular	L. Woodland	PDC Chert	Yes
D2-47-10	48034 (20)	Buffalo Lake Survey	Buffalo Lake area	Unidentifiable	n/a	PDC Chert	Yes
D2-47-10	48034 (21)	Buffalo Lake Survey	Buffalo Lake area	Unidentifiable	n/a	PDC Chert	No
D2-47-10	48034 (22)	Buffalo Lake Survey	Buffalo Lake area	Reigh Side-Notched	M. Archaic	PDC Chert	No
D2-47-10	48034 (23)	Buffalo Lake Survey	Buffalo Lake area	Unidentifiable	n/a	PDC Chert	Yes
D2-47-	48034	Buffal	Buffalo	Preston	L. Archaic	PDC	No

Drawer	Catalog Number	Site	Locality	PP Type	Time Period	Raw Material	Heat Treated?
10	(24)	o Lake Survey	Lake area	Corner-Notched		Chert	
D2-47-10	48034 (25)	Buffalo Lake Survey	Buffalo Lake area	Durst	L. Archaic	PDC Chert	No
D2-47-10	48034 (26)	Buffalo Lake Survey	Buffalo Lake area	Unidentifiable	n/a	PDC Chert	No
D2-47-10	48034 (27)	Buffalo Lake Survey	Buffalo Lake area	Unidentifiable	n/a	PDC Chert	No
D2-47-10	48034 (28)	Buffalo Lake Survey	Buffalo Lake area	Durst	L. Archaic	PDC Chert	No
D2-47-10	48034 (29)	Buffalo Lake Survey	Buffalo Lake area	Unidentifiable	n/a	PDC Chert	Yes
D2-47-10	48034 (3)	Buffalo Lake Survey	Buffalo Lake area	Steuben	M. Woodland	PDC Chert	No
D2-47-10	48034 (30)	Buffalo Lake Survey	Buffalo Lake area	Waubesa Contracting Stem	E. Woodland	PDC Chert	Yes
D2-47-10	48034 (32)	Buffalo Lake Survey	Buffalo Lake area	Unidentifiable	n/a	Silicified Sandstone	No
D2-47-10	48034 (33)	Buffalo Lake Survey	Buffalo Lake area	Durst	L. Archaic	PDC Chert	No
D2-47-10	48034 (34)	Buffalo Lake Survey	Buffalo Lake area	Unidentifiable	n/a	PDC Chert	Yes
D2-47-10	48034 (35)	Buffalo Lake Survey	Buffalo Lake area	Waubesa Contracting Stem	E. Woodland	PDC Chert	No
D2-47-10	48034 (37)	Buffalo Lake Survey	Buffalo Lake area	Preston Corner-Notched	L. Archaic	PDC Chert	No
D2-47-10	48034 (39)	Buffalo Lake Survey	Buffalo Lake area	Durst	L. Archaic	White Quartz	No

Drawer	Catalog Number	Site	Locality	PP Type	Time Period	Raw Material	Heat Treated?
D2-47-10	48034 (4)	Buffalo Lake Survey	Buffalo Lake area	Kramer Straight Stem	E. Woodland	PDC Chert	No
D2-47-10	48034 (5)	Buffalo Lake Survey	Buffalo Lake area	Raddatz	M. Archaic	PDC Chert	No
D2-47-10	48034 (6)	Buffalo Lake Survey	Buffalo Lake area	Unidentifiable	n/a	PDC Chert	No
D2-47-10	48034 (7)	Buffalo Lake Survey	Buffalo Lake area	Kramer Straight Stem	E. Woodland	Rhyolite	No
D2-47-10	48034 (8)	Buffalo Lake Survey	Buffalo Lake area	Raddatz	M. Archaic	PDC Chert	No
D2-47-10	48034 (9)	Buffalo Lake Survey	Buffalo Lake area	Waubesa Contracting Stem	E. Woodland	PDC Chert	Yes
D2-47-10	48035 (c)	Buffalo Lake	Buffalo Lake area	Durst	L. Archaic	Silicified Sandstone	No
D2-47-10	48035 (a)	Buffalo Lake	Buffalo Lake area	Madison Triangular	L. Woodland	Silicified Sandstone	No
D2-47-10	48035 (b)	Buffalo Lake	Buffalo Lake area	Kramer Straight Stem	E. Woodland	Silicified Sandstone	No

Appendix II. Ceramic Rimsherd Data

Drawer Number	Catalog Number	Site Number	Location	Name (Type)	Time Period
D2-46-31	29984	Neale Group	Mound 10	Madison Cord-Impressed	L. Woodland
D2-46-31	30217	Neale Group	Mound 15	Levsen Punctated	M. Woodland
D2-46-31	29969	Neale Group	Mound 10 A	Madison Plain	L. Woodland
D2-46-31	41334/11133a	Neale Group	Neale Campsite	Aztalan Collared	L. Woodland
D2-46-31	41334/11133b	Neale Group	Neale Campsite	Madison Plain	L. Woodland
D2-46-31	30220	Neale Group	Mound 15	Levsen Punctated	M. Woodland
D2-46-31	29815	Neale Group	Mound 10	Point Sauble Collared	L. Woodland
D2-46-31	30221	Neale Group	Mound 15	Levsen Punctated	M. Woodland
D2-46-31	30221	Neale Group	Mound 15	Levsen Punctated	M. Woodland
D2-47-10	20007a	Buffalo Lake Survey	Opposite Kratz Creek	Prairie Corded Stamped	E. Woodland
D2-47-10	20007b	Buffalo Lake Survey	Opposite Kratz Creek	Madison Cord-Impressed	L. Woodland
D2-47-10	48053	Buffalo Lake Survey	Buffalo Lake area	Aztalan Collared	L. Woodland
D2-47-10	48070a	Buffalo Lake Survey	North Shore, Lake	Aztalan Collared	L. Woodland

Drawer Number	Catalog Number	Site Number	Location	Name (Type)	Time Period
D2-47-10	48070b	Buffalo Lake Survey	North Shore, Lake	Aztalan Collared	L. Woodland
D2-47-10	21091a	Buffalo Lake Survey	Buffalo Lake	Madison Plain	L. Woodland
D2-47-10	21091b	Buffalo Lake Survey	Buffalo Lake	Madison Plain	L. Woodland
D2-47-10	48051	Buffalo Lake Survey	Buffalo Lake area	Madison Cord-Impressed	L. Woodland
D2-47-10	48060a	Buffalo Lake Survey	North Shore, Lake	Aztalan Collared	L. Woodland
D2-47-10	48060b	Buffalo Lake Survey	North Shore, Lake	Madison Plain	L. Woodland
D2-47-10	48060c	Buffalo Lake Survey	North Shore, Lake	Spring Hollow Cross Hatched (Linn Ware)	M. Woodland
D2-47-10	48060d	Buffalo Lake Survey	North Shore, Lake	Madison Plain	L. Woodland
D2-47-10	48060e	Buffalo Lake Survey	North Shore, Lake	Madison Plain	L. Woodland
D2-47-10	48060f	Buffalo Lake Survey	North Shore, Lake	Madison Plain	L. Woodland
D2-47-10	48060g	Buffalo Lake Survey	North Shore, Lake	Madison Plain	L. Woodland
D2-47-10	48060h	Buffalo Lake Survey	North Shore, Lake	Madison Plain	L. Woodland
D2-47-10	48052a	Buffalo Lake Survey	Buffalo Lake area	Madison Cord-Impressed	L. Woodland

Drawer Number	Catalog Number	Site Number	Location	Name (Type)	Time Period
D2-47-10	48052b	Buffalo Lake Survey	Buffalo Lake area	Madison Plain	L. Woodland
D2-47-10	48052d	Buffalo Lake Survey	Buffalo Lake area	Shorewood Cord-Roughened	M. Woodland
D2-47-10	48052e	Buffalo Lake Survey	Buffalo Lake area	Madison Cord-Impressed	L. Woodland
D2-47-10	48052f	Buffalo Lake Survey	Buffalo Lake area	Aztalan Collared	L. Woodland
D2-47-10	48052g	Buffalo Lake Survey	Buffalo Lake area	Madison Cord-Impressed	L. Woodland
D2-47-10	48052h	Buffalo Lake Survey	Buffalo Lake area	Madison Plain	L. Woodland
D2-47-10	48052i	Buffalo Lake Survey	Buffalo Lake area	Madison Plain	L. Woodland
D2-51-19	46757/12747a	Kratz Creek Group	child's burial near Dart's place	Douglass Net-Marked	L. Woodland
D2-51-19	46757/12747b	Kratz Creek Group	child's burial near Dart's place	Steuben Punctated	M. Woodland
D2-51-19	46757/12747c	Kratz Creek Group	child's burial near Dart's place	Levsen Stamped	M. Woodland
D2-51-19	46757/12747d	Kratz Creek Group	child's burial near Dart's place	Unknown	n/a

Drawer Number	Catalog Number	Site Number	Location	Name (Type)	Time Period
D2-51-19	46757/12747d	Kratz Creek Group	child's burial near Dart's place	Unknown	n/a
D2-51-19	48040/14201	Kratz Creek Group	location 36	Linn Ware	M. Woodland
D2-51-19	48050/14201	Kratz Creek Group	mound 31	Spring Hollow Plain	M. Woodland
D2-47-10	20012/5869	Buffalo Lake Survey	Buffalo Lake area	Madison Plain	L. Woodland
D2-46-26 (McClaughry)	29954/8171	McClaughry	Mound 8	Little Eau Pleine Punctated	M. Woodland
D2-46-26 (McClaughry)	29956/8171	McClaughry	Mound 8	Hahn Cord Impressed	L. Woodland
D2-46-26 (McClaughry)	29947/8171	McClaughry	Mound 8	Douglass Net-Marked	L. Woodland
D2-46-26 (McClaughry)	29982/8171	McClaughry	Mound 37	Spring Hollow Cross Hatched (Linn Ware)	M. Woodland
D2-46-26 (McClaughry)	29962/8171	McClaughry	Mound 8	Madison Cord-Impressed	L. Woodland
D2-46-26 (McClaughry)	29974/8171	McClaughry	Mound 43, loose	Madison Cord-Impressed	L. Woodland
D2-46-26 (McClaughry)	29997/8171	McClaughry	Mound 49	Madison Cord-Impressed	L. Woodland
D2-46-26 (McClaughry)	30208/8171	McClaughry	Mound 3	Baraboo Cord-Marked	L. Woodland

Drawer Number	Catalog Number	Site Number	Location	Name (Type)	Time Period
D2-46-26 (McClaughry)	30228/8171	McClaughry	Mound 49	Madison Plain	L. Woodland
D2-46-26 (McClaughry)	30234/8171	McClaughry	Mound 49	Spring Hollow Cross Hatched (Linn Ware)	M. Woodland
D2-46-26 (McClaughry)	30231/8171	McClaughry	Mound 49	Madison Plain	L. Woodland
D2-46-26 (McClaughry)	30235/8171	McClaughry	Mound 49	Aztalan Collared	L. Woodland
D2-46-26 (McClaughry)	30312/8171 (May be 30212)	McClaughry	Mound 57	Little Eau Pleine Punctated	M. Woodland
D2-46-26 (McClaughry)	30214/8171	McClaughry	Mound 3	Madison Cord-Impressed	L. Woodland
D2-46-26 (McClaughry)	30209/8171	McClaughry	Mound 3	Madison Punctated	L. Woodland
D2-46-26 (McClaughry)	30237/8171	McClaughry	Mound 49	Madison Cord-Impressed	L. Woodland
D2-46-26 (McClaughry)	30213/8171	McClaughry	Mound 3	Madison Cord-Impressed	L. Woodland
D2-46-26 (McClaughry)	30230/8171	McClaughry	Mound 49	Aztalan Collared	L. Woodland
D2-46-26 (McClaughry)	30233/8171	McClaughry	Mound 49	Spring Hollow Cross Hatched (Linn Ware)	M. Woodland
D2-46-26 (McClaughry)	29860/8171	McClaughry	Surface	Madison Cord-Impressed	L. Woodland

Drawer Number	Catalog Number	Site Number	Location	Name (Type)	Time Period
D2-46-26 (McClaughry)	29994/8171	McClaughry	Mound 49	Madison Cord-Impressed	L. Woodland
D2-46-26 (McClaughry)	29995/8171	McClaughry	Mound 49	Madison Cord-Impressed	L. Woodland
D2-46-26 (McClaughry)	29891/8171	McClaughry	Campsite I,surface	Madison Punctated	L. Woodland
D2-46-26 (McClaughry)	29888/8171	McClaughry	Campsite I,surface	Madison Punctated	L. Woodland
D2-46-26 (McClaughry)	29861/8171	McClaughry	Mound 57	Madison Plain	L. Woodland
D2-46-26 (McClaughry)	29852/8171	McClaughry	Mound 51	Unknown	n/a
D2-46-26 (McClaughry)	29838/8171	McClaughry	Mound 38	Madison Cord-Impressed	L. Woodland
D2-46-26 (McClaughry)	29825/8171(a)	McClaughry	Mound 15	Madison Punctated	L. Woodland
D2-46-26 (McClaughry)	29825/8171(b)	McClaughry	Mound 15	Madison Cord-Impressed	L. Woodland
D2-46-26 (McClaughry)	29850/8151	McClaughry	Surface	Madison Plain	L. Woodland
D2-46-26 (McClaughry)	30270/8171	McClaughry	Mound 28	Baraboo Cord-Marked	L. Woodland
D2-46-26 (McClaughry)	30248/8171	McClaughry	Mound 32	Little Eau Pleine Punctated	M. Woodland
D2-46-26 (McClaughry)	30241/8171	McClaughry	Mound 28	Madison Plain	L. Woodland
D2-46-26 (McClaughry)	30259/8171	McClaughry	Mound 16	Baraboo Cord-Marked	L. Woodland

Drawer Number	Catalog Number	Site Number	Location	Name (Type)	Time Period
D2-46-26 (McClaughry)	30262/8171	McClaughry	Mound 16	Little Eau Pleine Punctated	M. Woodland
D2-46-26 (McClaughry)	30263/8171	McClaughry	Mound 16	Douglass Net-Marked	L. Woodland
D2-46-26 (McClaughry)	30247/8171	McClaughry	Mound 32	Madison Cord-Impressed	M. Woodland
D2-46-26 (McClaughry)	30291/8171	McClaughry	Mound 23	Madison Plain	L. Woodland
D2-46-26 (McClaughry)	30286/8171	McClaughry	Mound 17	Douglass Net-Marked	L. Woodland
D2-46-26 (McClaughry)	30285/8171	McClaughry	Mound 17	Unknown	n/a
D2-46-26 (McClaughry)	30289/8171	McClaughry	Mound 20	Linn Ware	M. Woodland
D2-46-26 (McClaughry)	30250/8171	McClaughry	Mound 21	Madison Cord-Impressed	L. Woodland
D2-46-26 (McClaughry)	30294/8171	McClaughry	Mound 13	Madison Cord-Impressed	L. Woodland
D2-46-26 (McClaughry)	30264/8171	McClaughry	Mound 16	Unknown	n/a
D2-46-26 (McClaughry)	30292/8171	McClaughry	Mound 23	Madison Plain	L. Woodland
D2-46-26 (McClaughry)	30249/8171	McClaughry	Mound 32	Madison Plain	L. Woodland
D2-46-26 (McClaughry)	29952/8171	McClaughry	Mound 8	Prairie Corded Stamped	E. Woodland
D2-46-26 (McClaughry)	29953/8171	McClaughry	Mound 8	Madison Cord-Impressed	L. Woodland

Drawer Number	Catalog Number	Site Number	Location	Name (Type)	Time Period
D2-46-26 (McClaughry)	29996/8171	McClaughry	Mound 49	Unknown	n/a
D2-46-26 (McClaughry)	29895/8171	McClaughry	Campsite I,surface	Douglass Net-Marked	L. Woodland
D2-46-26 (McClaughry)	30318/8171	McClaughry	Mound 57	Douglass Net-Marked	L. Woodland
D2-46-26 (McClaughry)	30304/8171	McClaughry	Mound 4	Unknown	n/a
D2-46-26 (McClaughry)	30322/8171	McClaughry	Mound 57	Baraboo Cord-Marked	L. Woodland
D2-46-26 (McClaughry)	30335/8171	McClaughry	Mound 57	Spring Hollow Plain	M. Woodland
D2-46-26 (McClaughry)	30317/8171	McClaughry	Mound 57	Douglass Net-Marked	L. Woodland
D2-46-26 (McClaughry)	30315/8171	McClaughry	Mound 57	Unknown	n/a
D2-46-26 (McClaughry)	30330(28)/8171	McClaughry	Mound 57	Unknown	n/a
D2-46-26 (McClaughry)	30326/8171	McClaughry	Mound 57	Unknown	n/a
D2-46-26 (McClaughry)	30314/8171	McClaughry	Mound 57	Madison Plain	L. Woodland
D2-46-26 (McClaughry)	30334/8171	McClaughry	Mound 57	Madison Plain	L. Woodland
D2-46-26 (McClaughry)	30337/8171	McClaughry	Mound 57	Spring Hollow Plain	M. Woodland
D2-46-26 (McClaughry)	29946/8171	McClaughry	Mound 8	Madison Cord-Impressed	L. Woodland

Drawer Number	Catalog Number	Site Number	Location	Name (Type)	Time Period
D2-46-26 (McClaughry)	29907/8171	McClaughry	Campsite I,surface	Grant Collared	L. Woodland
D2-46-26 (McClaughry)	unlabled A	McClaughry	n/a	Madison Plain	L. Woodland
D2-46-26 (McClaughry)	unlabled B	McClaughry	n/a	Madison Plain	L. Woodland
D2-46-26 (McClaughry)	30284/8171	McClaughry	Mound 17	Unknown	n/a
D2-46-26 (McClaughry)	30283/8171	McClaughry	Mound 18	Madison Plain	L. Woodland
D2-46-26 (McClaughry)	3024/8171	McClaughry	n/a	Point Sauble Collared	L. Woodland
D2-46-26 (McClaughry)	30232/8171	McClaughry	Mound 49	Madison Plain	L. Woodland
D2-46-26 (McClaughry)	30274/8171	McClaughry	Mound 28	Douglass Net-Marked	L. Woodland
D2-46-26 (McClaughry)	30239/8171	McClaughry	Mound 28	Baraboo Cord-Marked	L. Woodland
D2-46-26 (McClaughry)	30287/8171	McClaughry	Mound 11	Madison Plain	L. Woodland
D2-46-26 (McClaughry)	30342/8171	McClaughry	Mound 13	Madison Plain	L. Woodland
D2-46-26 (McClaughry)	30324/8171	McClaughry	Mound 57	Aztalan Collared	L. Woodland
D2-46-26 (McClaughry)	30312/8171	McClaughry	Mound 57	Aztalan Collared	L. Woodland
D2-46-26 (McClaughry)	30307/8171	McClaughry	Mound 4	Madison Plain	L. Woodland

Drawer Number	Catalog Number	Site Number	Location	Name (Type)	Time Period
D2-46-26 (McClaughry)	30319/8171	McClaughry	Mound 57	Madison Cord-Impressed	L. Woodland
D2-46-26 (McClaughry)	30300/8171	McClaughry	Mound 37	Madison Plain	L. Woodland
D2-46-26 (McClaughry)	30308/8171	McClaughry	Mound 4	Madison Plain	L. Woodland
D2-46-26 (McClaughry)	30311/8171	McClaughry	Mound 4	Madison Plain	L. Woodland
D2-46-26 (McClaughry)	30305/8171	McClaughry	Mound 9	Madison Cord-Impressed	L. Woodland
D2-46-26 (McClaughry)	30309/8171	McClaughry	Mound 4	Madison Cord-Impressed	L. Woodland
D2-46-26 (McClaughry)	29970/8171	McClaughry	Mound 28	Madison Cord-Impressed	L. Woodland
D2-46-26 (McClaughry)	29912/8171	McClaughry	Campsite I,surface	Baraboo Cord-Marked	L. Woodland
D2-46-26 (McClaughry)	29916/8171	McClaughry	Campsite I,surface	Madison Cord-Impressed	L. Woodland
D2-46-26 (McClaughry)	29918/8171	McClaughry	Campsite I,surface	Aztalan Collared	L. Woodland
D2-46-26 (McClaughry)	29936/8171	McClaughry	Campsite I,surface	Madison Plain	L. Woodland
D2-46-26 (McClaughry)	29922/8171	McClaughry	Campsite I,surface	Madison Punctated	L. Woodland
D2-46-26 (McClaughry)	29964/8171	McClaughry	Mound 47	Madison Cord-Impressed	L. Woodland
D2-46-26 (McClaughry)	29972/8171	McClaughry	Mound 28	Madison Plain	L. Woodland

Drawer Number	Catalog Number	Site Number	Location	Name (Type)	Time Period
D2-46-26 (McClaughry)	29987/8171	McClaughry	Mound 13	Madison Punctated	L. Woodland
D2-46-26 (McClaughry)	29906/8171	McClaughry	Campsite I,surface	Madison Punctated	L. Woodland
D2-46-26 (McClaughry)	29937/8171	McClaughry	Campsite I,surface	Madison Plain	L. Woodland
D2-46-26 (McClaughry)	29920/8171	McClaughry	Campsite I,surface	Baraboo Net-Marked	L. Woodland
D2-46-26 (McClaughry)	29925/8171	McClaughry	Campsite I,surface	Madison Punctated	L. Woodland
D2-46-26 (McClaughry)	29973/8171	McClaughry	Mound 28	Madison Plain	L. Woodland
D2-46-26 (McClaughry)	29904/8171	McClaughry	Campsite I,surface	Baraboo Cord-Marked	L. Woodland
D2-46-26 (McClaughry)	29928/8171	McClaughry	Campsite I,surface	Spring Hollow Cross Hatched (Linn Ware)	M. Woodland
D2-46-26 (McClaughry)	29915/8171	McClaughry	Campsite I,surface	Baraboo Cord-Marked	L. Woodland
D2-46-26 (McClaughry)	29920/8171	McClaughry	Campsite I,surface	Madison Plain	L. Woodland
D2-46-26 (McClaughry)	29913/8171	McClaughry	Campsite I,surface	Madison Plain	L. Woodland
D2-46-26 (McClaughry)	29930/8171	McClaughry	Campsite I,surface	Baraboo Net-Marked	L. Woodland
D2-46-26 (McClaughry)	29939/8171	McClaughry	Campsite I,surface	Baraboo Net-Marked	L. Woodland

Drawer Number	Catalog Number	Site Number	Location	Name (Type)	Time Period
D2-46-26 (McClaughry)	29909/8171	McClaughry	Campsite I,surface	Madison Punctated	L. Woodland
D2-46-26 (McClaughry)	29940/8171	McClaughry	Campsite I,surface	Madison Cord-Impressed	L. Woodland
D2-46-26 (McClaughry)	29920/8171	McClaughry	Campsite I,surface	Madison Cord-Impressed	L. Woodland
D2-46-26 (McClaughry)	29938/8171	McClaughry	Campsite I,surface	Madison Plain	L. Woodland
D2-46-26 (McClaughry)	29989/8171	McClaughry	Mound 13	Madison Plain	L. Woodland
D2-46-26 (McClaughry)	29955/8171	McClaughry	Mound 8	Baraboo Net-Marked	L. Woodland
D2-46-26 (McClaughry)	29948/8171	McClaughry	Mound 8	Unknown	n/a
D2-46-26 (McClaughry)	29951/8171	McClaughry	Mound 8	Madison Cord-Impressed	L. Woodland
D2-46-26 (McClaughry)	29901/8171	McClaughry	Campsite I,surface	Baraboo Net-Marked	L. Woodland
D2-46-26 (McClaughry)	29988/8171	McClaughry	Mound 13	Madison Plain	L. Woodland
D2-46-26 (McClaughry)	29961/8171	McClaughry	Mound 8	Unknown	n/a
D2-46-26 (McClaughry)	29863/8171	McClaughry	Mound 57	Madison Cord-Impressed	L. Woodland
D2-46-26 (McClaughry)	29864/8171	McClaughry	Mound 57	Madison Cord-Impressed	L. Woodland
D2-46-26 (McClaughry)	29887/8171	McClaughry	Group II, surface	Aztalan Collared	L. Woodland

Drawer Number	Catalog Number	Site Number	Location	Name (Type)	Time Period
D2-46-26 (McClaughry)	29866/8171	McClaughry	Mound 57	Hahn Cord Impressed	L. Woodland
D2-46-26 (McClaughry)	29869/8171	McClaughry	Mound 57	Madison Cord-Impressed	L. Woodland
D2-46-26 (McClaughry)	29859/8171	McClaughry	Mound 55	Hahn Cord Impressed	L. Woodland
D2-46-26 (McClaughry)	29855/8171	McClaughry	Mound 51	Baraboo Net-Marked	L. Woodland
D2-46-26 (McClaughry)	29869/8171	McClaughry	Mound 57	Madison Plain	L. Woodland
D2-46-26 (McClaughry)	29898/8171	McClaughry	Campsite I,surface	Madison Plain	L. Woodland
D2-46-26 (McClaughry)	29896/8171	McClaughry	Campsite I,surface	Madison Cord-Impressed	L. Woodland
D2-46-26 (McClaughry)	29884/8171	McClaughry	Group II, surface	Madison Plain	L. Woodland
D2-46-26 (McClaughry)	29893/8171	McClaughry	Campsite I,surface	Baraboo Net-Marked	L. Woodland
D2-46-26 (McClaughry)	29878/8171	McClaughry	Mound 57	Baraboo Net-Marked	L. Woodland
D2-46-26 (McClaughry)	29862/8171	McClaughry	Mound 57	Madison Cord-Impressed	L. Woodland
D2-46-26 (McClaughry)	29857/8171	McClaughry	Mound 55	Baraboo Net-Marked	L. Woodland
D2-46-26 (McClaughry)	29877/8171	McClaughry	Mound 54	Unknown	n/a
D2-46-31	29851	Neale	near Mound 11	Douglass Net-Marked	L. Woodland

Drawer Number	Catalog Number	Site Number	Location	Name (Type)	Time Period
D2-46-31	29851	Neale	near Mound 11	Baraboo Net-Marked	L. Woodland
D2-51-19	48050	Kratz Creek	Mound 31	Madison Ware	L. Woodland
D2-51-19	46951 (a)	Kratz Creek	Large conical mound	Baraboo Net-Marked	L. Woodland
D2-51-19	46951 (b)	Kratz Creek	Large conical mound	Douglass Net-Marked	L. Woodland
D2-51-19	46871(a)	Kratz Creek	Large conical mound	Baraboo Net-Marked	L. Woodland
D2-51-19	46871(b)	Kratz Creek	Large conical mound	Baraboo Net-Marked	L. Woodland
D2-51-19	46871(c)	Kratz Creek	Large conical mound	Madison Ware	L. Woodland