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Southwestern Blackduck: Political Boundaries Versus Archaeological Reality

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UNIVERSITY OF CALGARY

Southwestern Blackduck:
Political Boundaries Versus Archaeological Reality

by

Jackson Carr

A THESIS
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Abstract

Late Woodland Blackduck ceramics are a highly recognizable and well-documented phenomenon in the archaeological record of Minnesota, Ontario, and Manitoba. The presently acknowledged southwestern boundary for Blackduck ceramics, is the Red River of the North in Minnesota and the southern border of Manitoba. This rather strict, classically held boundary fails to recognize western Blackduck cultural adaptation within the current understanding of this archaeological culture, in addition to promoting erroneous classifications of Woodland-affiliated ceramics in North Dakota. The research herein details the presence of Blackduck in the western margins of Minnesota and the prairies of North Dakota by examining 19 sites believed to contain Blackduck ceramics. This thesis expands knowledge of the Late Woodland Period throughout the Northeastern Plains by delineating the southwestern boundary for Blackduck through basic ceramics analysis. A summarization and reconstruction of the Late Woodland Period in North Dakota is supported by the presentation of a new ceramic ware for the state. Previous models for the movement and interaction of Blackduck makers will also be examined and recontextualized within theoretical paradigms that seek to unify people and their environment into one entity.

Keywords: Northeastern Plains, Blackduck, ceramic analysis, North Dakota, Minnesota, Late Woodland Period

Preface

This thesis is an original, unpublished, independent work by the author, Jackson Carr.

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1. Introduction

1.1 Identifying the Question

The Blackduck culture complex is one of the most easily recognized archaeological ceramic cultures in Minnesota, Manitoba, and Ontario. Though highly identifiable, archaeologists' understanding of Blackduck is regionalized between Canada and the United States, as well as Woodland-focused and Plains-focused archaeologists. Since the first identification of the pottery near Blackduck Lake in Minnesota (Jenks 1935), much ink has been spilled exploring the heavily decorated ceramics - the only current way of identifying Blackduck- and nearly as much attempting to explain how "Blackduck people" occupied a large geographic range and interacted with one another. However, throughout the lengthy explorations of Blackduck, the highly regionalized approach to handling Blackduck has spawned one primary question:

Is the documented geographic and modeled patterning of Blackduck ceramics in western Minnesota and southern Manitoba a function of archaeological reality or geopolitical boundaries?

Maps intended to illustrate the geographical range of Blackduck (Figure 1) show a clear boundary for Blackduck along the Red River in Minnesota and the 49th parallel separating Canada and the United States along the boundary between North Dakota and Manitoba, leaving a lacuna in northeastern North Dakota. A deeper dive into the literature behind these maps (Anfinson 1979; Graham 2005; Syms 1977) suggests that the question of whether Blackduck expanded into North Dakota has curiously gone unaddressed. Little to no mention is also made for those Blackduck sites in the western reaches of Minnesota, though the range maps produced typically extend to the Red River of the North as a buffer rather than a definitive boundary

constructed based upon known and explicated evidence. For those archaeologists working in areas of relative Blackduck richness such as Minnesota, Ontario, and Manitoba, the paucity of published reports of Blackduck in North Dakota has been sufficient to interpolate a dearth of artifactual material on the ground. To make matters worse, archaeologists on the true short-grass Plains of North Dakota and tall-grass Prairies of Minnesota have labeled any ceramics that loosely resemble Blackduck as such, creating the appearance of a definitive Blackduck presence in North Dakota and Minnesota. The reporting of these findings has been confined primarily to grey literature, and no examination of the relationships among ceramics from western Minnesota, North Dakota, and the core areas of Blackduck has been conducted.

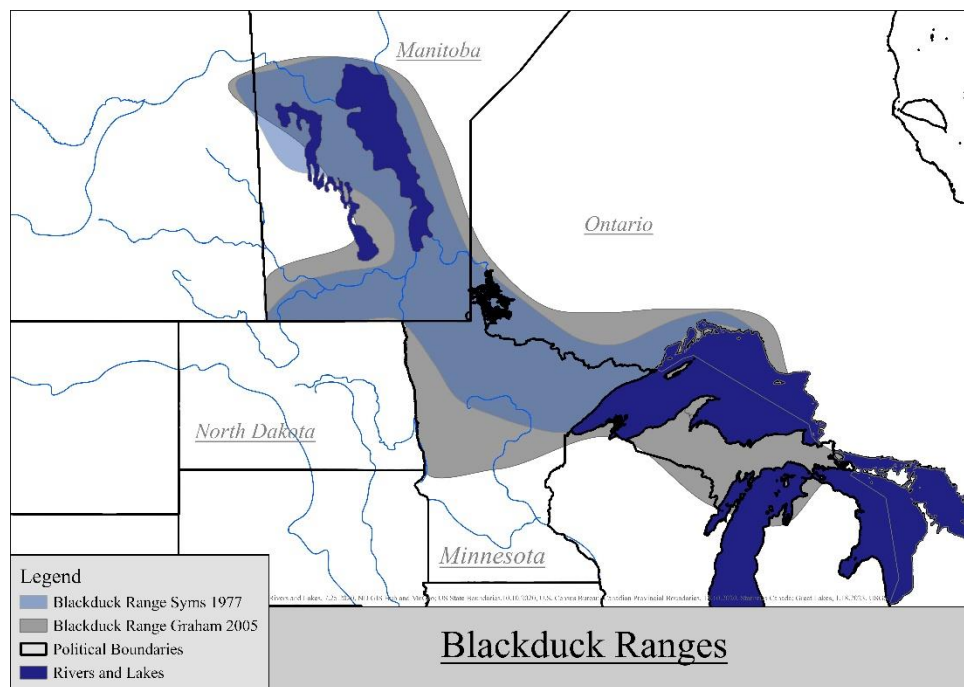


Figure 1 Previous Blackduck Boundaries (Adapted from Graham 2005 and Syms 1977)

Exploring the geographical extent of Blackduck is a simple enough project to undertake. All Blackduck labeled sites in North Dakota and the western reaches of Minnesota must be compiled and their ceramics examined for consistency with the corpus of known traits for

Blackduck ceramics. The question, “is this site Blackduck?” is based on select traits ceramics specimens yield. Sites containing ceramics consistent with Blackduck are mapped in their respective locations, revealing a range of Blackduck ceramics.

The mere presence of Blackduck ceramics is not the only factor to consider in evaluating the western extent of Blackduck as a cultural complex. Multiple theoretical tools are required to arrive at the chosen destination of demonstrating the actual western extent of Blackduck. Producing interpretation based on the analysis conducted is a product of inductive reasoning in the analysis of both the ceramics, Blackduck sites across the known range and the cultural sequence of the study region. Inductivity in archaeology is based upon the notion that data can be collected, classified, and then explained (Trigger 1996:5), building from the lowest level of archaeological theory based on the artifacts themselves to the highest, which focuses on generalizing human behavior into a definable cluster of traits. While Trigger (1996:35) correctly notes that the division between inductive and deductive approaches is blurry, as any question asked implies the existence of a theoretical framework, the reality of archaeology within the study region examined here dictates that an inductive framework is necessary

The wider purview of identifying and explicating a boundary for Blackduck in North Dakota and western Minnesota is comprised of a primary and secondary component. The first, and most important, component is a clearer understanding of what Blackduck ceramics is at its most basic level. While the typologies produced for Blackduck have attempted to identify variation within assemblages or over time, the analysis of the ceramic type presented here will be focused on noting the primary elements of Blackduck over space with the intent of honing in on what exactly the ceramic culture is at its most basic. This analysis will examine the variation of ceramic traits over space, putting firm spatial limits on what can be considered Blackduck. A

primary concern is therefore the execution of ceramics labeled as Blackduck, but deviant from the type as defined by the wider compendium of knowledge on the subject. Ceramics in the extreme southwestern ranges of Blackduck may yield some traits of Blackduck vessels but do not demonstrate the proper execution of manufacture in conjunction with decorative elements. Research in the past has focused on the different ways Blackduck ceramics can be decorated in its core areas, but the major concern here is if the basic elements of ceramics called Blackduck in southwestern locations follow the rules of eastern Blackduck, or are instead experimentations with diffused ceramics traits over time and space. The product of such an analysis demonstrates connections between different communities of potters over space, the movement of Blackduck people themselves, and the fundamental difference in change over time within certain areas of the study region.

A relatively classical approach to ceramic analysis will be used to achieve an analysis of the first component of concern. This perspective, which focuses on traits of ceramic vessels including morphology and decoration, has formed the basis for the creation of typologies since the earliest days of true archaeology (Trigger 1996:225). The ordering of such traits implies a structure of successive cultures that follow different rules for how ceramics are manufactured and decorated. Often, this perspective leads to a “pots equal people” view wherein the archaeological cultures produced through ceramic seriation and the typology of artifacts found with them are assumed to be a bounded, stable entity. Blackduck itself is a prime example, wherein discovering ceramics consistent with the Blackduck type implies the existence of Blackduck people and Blackduck culture in that location. Archaeologists elsewhere have moved away from the notion that pots are people, favoring more complex notions of identity and interaction (e.g. Croucher and Wynne-Jones 2006) but ceramic typology creation remains a key tool for archaeologists of the

Northeastern Plains. Therefore, ceramic typologies are used in this work with the understanding that finding nuance within ceramic collections and attempting to convey that nuance in typology works to find detailed explanations for ceramics, the people that made them, and how they interacted with others. A more detailed examination of typologies and Blackduck can be found in Chapter 3, wherein the utility and flaws apparent in such a system are detailed in specific reference to Blackduck.

The secondary component of concern is how archaeologists model the movements and actions of the Blackduck people. Hampered in large part by the lack of a known southwestern edge to Blackduck, numerous researchers have put forth different models of understanding Blackduck movement throughout the Boreal Forest, Parkland, and Prairies, each of which falls short when the true extent of the ceramic complex is identified. Problems classifying Blackduck sites are discussed in the following section, but a basic summary indicates that the sheer variation of Blackduck “culture” outside of ceramics over space has caused significant classificatory issues when assessing sites on the western and southern edge. Neighboring spatial and temporal archaeological entities have been part of analyses handling the geographic core of Blackduck (Lenius and Olinyk 1990; Lugenbeal 1976) as well as the northern peripheries (Hamilton et al. 2011), but searching for and explaining the relationship between Plains entities and Blackduck based on artifactual evidence has seldom been sought, barring allusions to movement onto the Plains by select ceramic decorative elements (Holley and Michlovic 2017).

Previously, archaeological cultures like Blackduck were subject to explanation within frameworks that saw the producers of ceramics as highly economic or ecologically bound entities focused on specific locales on the landscape that fit their preexisting repertoire of skills (Nicholson 1987). Blackduck has then often been referenced in generalization with an avoidance

of the potential individuality of small groups, the landscape history present in the study area, or the multitudes of interactions necessary to develop skillsets to thrive within an area. Instead of attempting to shoehorn the data presented here on southwestern Blackduck into outdated models and paradigms, a new method of considering Blackduck based on Tim Ingold's (2000) "Ecology of life" is presented. This new approach attempts to forgo generalized explanations in favor of detailed and site-specific explorations of the "why" people in the past did what they did. This theoretical orientation also places high value on understanding the environment and how cultures before Blackduck shaped and ingrained themselves within certain landscapes, setting precedents for those after them. Therefore, instead of attempting to model Blackduck in its newest documented ranges, these approaches offer considerations for assessing Blackduck and how it may have ended up within specific locations. Data is no longer crammed into spaces or assigned to certain movement "styles" based on a list of traits. Rather, it allows the latitude to encompass the full potential of an archaeological culture composed of distinct people over hundreds of years by explaining variation with a potential worldview rather than a model.

It is felt that, while modeling is inherently useful for explaining broad phenomena over space after large amounts of data have been gathered, there has been a developmental step missing in the process of arriving at model-based conclusions. Rather than extrapolating from material evidence to models directly, the approach put forth here seeks to add a level of individuality between the material evidence and a larger model. The conclusions arrived at by previous models are generally correct, but they lack an attempt to narrow down to a group or individual scale how interaction and movement could have possibly occurred in the past. By looking at processes of learning and development, additional context is constructed for the material evidence on the ground, leading to more productive understandings of the past by

searching for nuance and everyday processes. While still tentative in many aspects, the start of a search for this perspective lays the groundwork for further explorations into its validity.

The two-part approach to handling the research question of addressing southwestern Blackduck is necessary insofar as Blackduck needs to be identified within the study region (ceramics) and explained within the context of previous posturing about the subject (models). Models produced about Blackduck, and Ingold's (2000) approach add the people back into the ceramic analysis portion of the following work. While it may be felt that more social theory is needed, detailing the variation present within ceramic assemblages, coupled with a change in modeling perspective, is a sufficient manner with which to explore interactions across space in the past.

1.2 What is Blackduck?

The archaeological phenomenon of concern here referenced previously as Blackduck is known variably as the Blackduck Complex (Arzigian 2008, 106), the Blackduck archaeological entity (Hamilton, Graham, and Nicholson 2007, 94), the Blackduck ceramic Horizon (Lenius and Olinyk 1990:78) or simply as the Blackduck Culture (Graham 2005). The terminology used is predicated upon whether the author believes Blackduck to be a purely ceramic phenomenon or a clustering of specific artifact types within a time and region that is definable from those bordering it (effectively, a culture). Hamilton, Graham, and Nicholson (2007) are perhaps the closest to the descriptive truth by suggesting that Blackduck is an "entity" that is somewhat nebulous from a cultural standpoint, but clear in its ceramic affiliation. While Lugenbeal saw it inappropriate to "speak of a single Blackduck culture" (Lugenbeal 1976:185), it will be demonstrated that the production of a specific style of ceramics is perhaps not tied to other distinct artifact styles, but rather associated with a keen ability to thrive in a wide range of

environments while maintaining ceramic continuity. As it is currently understood, Blackduck (as it will be simply referred to from this point forward), is a truly massive archaeological phenomenon characterized by highly decorated, globular ceramics.

The geographical range of Blackduck spans from Quebec through Ontario, Michigan, Minnesota, Wisconsin, Manitoba, and Saskatchewan (Figure 1). Blackduck has persistently evaded concise description, as cultural materials specific to the environments and fauna in which they are found like harpoon points and fish bones or lithic projectile points and bison bones, are documented with ceramics that could exist at any Blackduck site across a wide range. Arzigian's (2008) review of Blackduck reinforces Lugenbeal's (1976) statement of disbelief in a single Blackduck culture, while also providing a means of considering the additional material culture found at a Blackduck site.

Arzigian (2008:113) describes the projectile points found at Blackduck sites to be Prairie/Plains side-notched and triangular notched and unnotched points. She continues by stating "these stone tools are not necessarily diagnostic of Blackduck-Kathio, but are shared with other Late Woodland cultures"(Arzigian 2008:113). Compounding this issue is the presence of worked faunal remains with tools such as unilaterally barbed harpoons, bear canine ornaments, and other tools present at Blackduck sites in the Boreal Forest (Arzigian 2008:113) but absent at sites in the Prairie/Parkland region of Manitoba containing Blackduck ceramics. The same issues plague the identification of a single subsistence style for Blackduck. Sites in the central portion of the Blackduck range, situated firmly in the Boreal Forest, yield primarily diversified faunal assemblages consisting of a variety of fish such as sturgeon, suckers, pike, and bullheads combined with small fur-bearing mammals, ducks, and larger fauna like deer, moose, and elk. (Arzigian 2008:114). This is in great contrast to Blackduck sites along the Prairie/Parkland

boundary such as the Stott Site in Manitoba (Hamilton et al. 1981, 2011) and the Ponderosa III site in western Minnesota (Michlovic 2004) which produced an overwhelming abundance of bison when excavated. Sites with mixes between the two have been documented, such as the Dead River site in Otter Tail county, Minnesota, where fish, ducks, and bison are present in the same assemblage (Michlovic 1979).

A component of Blackduck culture, and one that poses an ethical challenge to the archaeologist, is the proliferation of burial mounds associated with Blackduck habitation sites. Along the Rainy River that borders northern Minnesota and southern Ontario, a great number of Blackduck-affiliated mounds have been documented. Indeed, a “Blackduck burial form” consisting of primary, flexed burials within mounds is identified by Arzigian (2008:117). Sites that form key parts of understanding Blackduck such as Osufsen, Smith, and White Oak (Lugenbeal 1978:72) were mounds excavated, albeit often haphazardly, in the name of finding archaeological data. The excavation of these mounds added significantly to the trait list for Blackduck, with certain decorative artifacts distinct to the culture identified. The issue remains, however, that the excavations at these locations were conducted with little regard for the past or current Indigenous inhabitants of the region. Indeed, Lugenbeal’s (1976) dissertation work, conducted at the Smith site along the Rainy River in Minnesota, was met with resistance from local Indigenous groups who felt it inappropriate to excavate near the largest burial mound in Minnesota, The Grand Mound (Mather 2015).

Mounds containing ceramics identified as Blackduck exist within the geographical bounds of this analysis. While they have been traditionally related to a burial complex specific to the Northeastern Plains named the Arvilla Complex (Johnson 1973), there is little difference between the Blackduck-affiliated portions of the Arvilla Complex and Blackduck burial mounds

in northern Minnesota, Ontario, and Manitoba, or even much relation between Arvilla Mounds themselves (Syms 1982). Out of respect for the inhabitants of the mounds that were disturbed and the Indigenous people whose ancestors were exhumed; no discussion of the burials will be provided here. Where a ceramic vessel or sherd identified to be Blackduck is noted within the original assessment of these mounds is necessary, only the ceramics will be described. It is felt that, though these data were found under the auspices of direct colonial oppressive archaeology, a failure to analyze the ceramics noted mutes the potential for highlighting diversity and complexity within the archaeological record.

The only artifact holding together the diverse subsistence systems and geographic range of Blackduck sites are the ceramics recovered within sites. While the reader is directed to Chapter 3 for an in-depth discussion of Blackduck ceramics and their history, it is worth noting the basics of a Blackduck pot. These vessels are adorned with an array of cordwrapped stick impressions located on the lip and rim which are generally horizontal and oblique, punctates located amidst the



Figure 2 Typical Blackduck Rim sherd (from site 21BK1)

horizontal cordwrapped stick impression, and cord-impressed bodies (Figure 2). The rim is typically outflaring, and the lip is thickened, producing a wedge shape in profile. The general shape is globular, though different sizes and variants are found in burial contexts (Arzigian 2008:112).

Blackduck is only truly understood within its core area of north-central Minnesota, Manitoba, and Ontario (though still separated by the international border)(Arzigian 2008:106). This distribution is driven in large part by a disconnect between American and Canadian research on Blackduck. American work on Blackduck has been relatively site-specific, with few attempts to synthesize information across different geographical areas. One notable comparison of Blackduck ceramic material between Canadian and American sites in the U.S. is Lugenbeal's (1976) dissertation, however, the range was still confined to north-central Minnesota and select sites along the Rainy River in Ontario. One of the strengths of American research, however, has been the focus on the ceramics themselves. Though relatively stagnated in terms of true ceramic analysis publications since the turn of the century, Blackduck ceramics have been touched upon by a select few researchers (Buhta et al. 2014; Holley et al. 2021) with allusions made to potential differences in assemblages across space.

Research conducted on Blackduck in Canada has taken a slightly different path than on the southern side of the border. Sites excavated with Blackduck components have been the subject of numerous publications analyzing and interpreting the findings within the context of sites from across Manitoba ((Hamilton et al. 1981, 2011; Meyer and Hamilton 1994; Carmichael 1977; B. A. Nicholson et al. 2003; Hamilton, Graham, and Nicholson 2007; Hamilton, Nicholson, and Wiseman 2006), Ontario (Dawson 1974; Hamilton, Graham, and Nicholson 2007), Saskatchewan (Meyer, Hanna, and Frey 1999), and Quebec (Côté and Inksetter 2001). While this

wealth of articles concerning Blackduck has been quite successful at comparing the archaeological phenomenon over space in Canada, it remains relatively disjointed from work conducted in the United States, leading to the problem of synthesizing information from both sides of the border into a coherent notion of what defines Blackduck. This is compounded by the lack of recent analyses of Blackduck ceramics themselves from Canadian sources, with attention directed towards the proliferation of different types of subsistence styles (Hamilton et al. 2011) instead of teasing apart the variation of ceramic assemblages to search for definable local variation. Some researchers are paralleling the attempt to tease apart variation in the ceramic record (Hyslop 2021), but the direction most recently taken is one of more generalized ceramic approaches with presentations of ceramic identifications that lack typological reinforcement through previous analyses (Côté and Inksetter 2001).

1.3 The Study Region

The primary geographic area of focus for this thesis is both an area with definable physical traits, and an archaeological culture region. The Northeastern Plains (NEP) are defined as the physiographic region northeast of the Missouri Coteau, west of the Eastern Woodlands, and south of the true Boreal Forest in Canada. The region primarily drains into

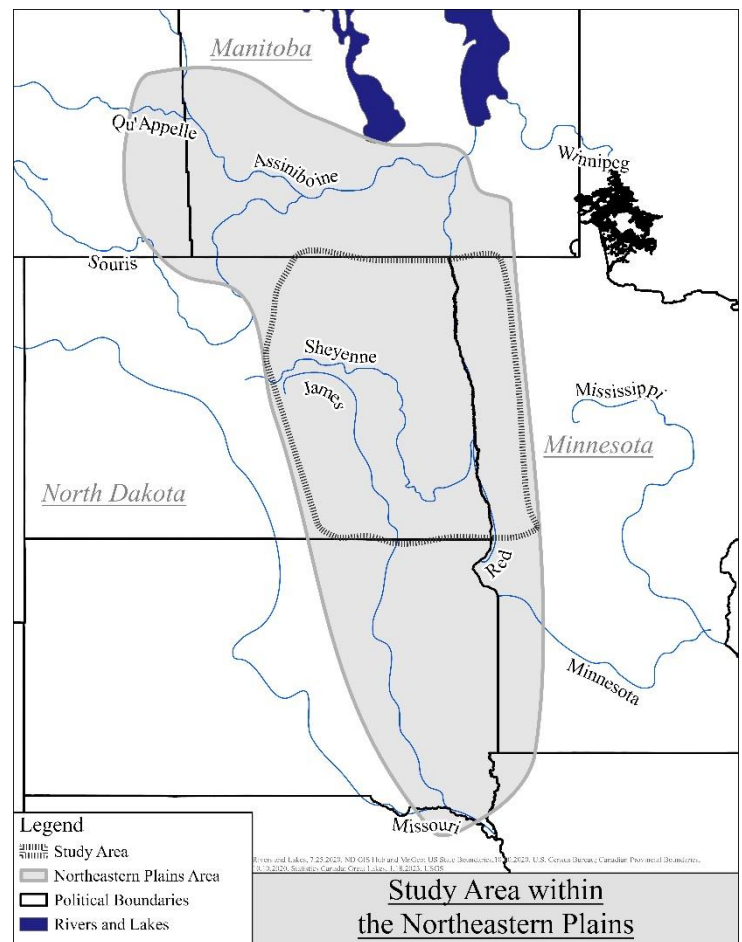


Figure 3 The Study Area and the Northeastern Plains

the Missouri or Red Rivers, which flow into the Mississippi to the south or north to Lake Winnipeg respectively. Other notable rivers include the Sheyenne, James, Souris, and Assiniboine. The flora consists of primarily tall grass prairie with shades of deciduous forest and Aspen Parkland bordering the eastern and northern boundaries. Considering modern geographic bounds, the region encompasses western Minnesota, northeastern South Dakota, eastern North Dakota, and the majority of southwestern and south-central Manitoba (Figure 3).

Archaeologically, this region gained prominence for its description by Waldo Wedel (1961:210) as the “Northeastern Periphery”. It was described as such because Wedel felt that both archaeologically and geographically, the region was on the fringe of the true Plains. While a true statement for his analysis, archaeologists working in the geographic region described above have railed against the implication that the region is an archaeological backwater with no real precontact developments of its own. It is now understood through the work of several generations of archaeologists (Graham 2005; Hamilton et al. 1981; Holley et al. 2021; MacNeish 1958; Michlovic 1988; Michlovic et al. 2016; Schneider 1982; Syms 1977; Toom 2004) that the Northeastern Plains is a highly complex region of interaction and in situ development of archaeological cultures wherein people local to the region interacted with people from the Plains and from the forests to the east.

This analysis will stay in the physiographic region known as the Northeastern Plains, which is also considered a cultural boundary by archaeologists. For this thesis, ceramics from the American portion will be examined and then compared with previous studies in both Canada and the US. Because there is no evidence that Blackduck extends into South Dakota, only the Northeastern Plains in Minnesota and North Dakota will be addressed. While possible that Blackduck ceramics are identified to the west of the northeastern Plains, the geographic qualities

of these areas do not figure prominently in the investigations or conclusions directly about Blackduck. Their mention forms a necessary part of the larger picture of development and interaction within the Northeastern Plains. These areas include the upper Missouri region of North Dakota, the Plains west of the Missouri, and the forests of west-central Minnesota. The NEP in Manitoba will not be considered, for the presence and bounding of Blackduck in this location is the product of the previously noted divergent perspective on ceramics. Retaining an American NEP focus, the search for movement in the past in this location has effectively turned the tables (1961). It is time for areas outside of the NEP to become peripheral to understanding this archaeologically diverse region.

1.4 The Structure of the Thesis

The following chapters are organized to provide background, present data, and expand upon that data meaningfully. Chapter 1 details the main question of the thesis, and background information on the archaeological subject of choice, and offers a brief introduction to the theoretical foundations underlying the thesis. Chapter Two expands upon the theoretical background used in the thesis and outlines previous models for Blackduck. Chapter 3 presents the archaeological and environmental history of the study region leading up to the Blackduck presence on the Plains and Prairies. Chapter 4 outlines the history of ceramic analysis in Blackduck and details the methodology used to conduct the ceramic analysis undertaken here. Chapter 5 presents the data collected on Blackduck sites in western Minnesota and North Dakota moving from east to west, and describes the ceramic assemblages labeled as Blackduck at each site. Chapter 6 synthesizes the data presented in Chapter 5 by looking for the true boundary of Blackduck on the Northeastern Plains. In addition, Chapter 6 serves to delineate a new ceramic ware for North Dakota to replace its inclusion within Blackduck. Chapter 7 frames the findings

of Chapter 5 within a novel framework for the region by examining the relationship between multiple Blackduck sites in Minnesota and North Dakota. Finally, Chapter 8 serves as the conclusions chapter, wherein the sum of the findings from this thesis will be presented.

2 Theory

2.1 Introduction

Contextualizing the information provided in the succeeding chapters requires a process of extracting the impacts of movement and interaction embodied by Blackduck ceramics, the newly defined Coteau Ware (Chapter 6), and other ceramic classificatory groups and applying them to a higher-level theoretical framework. This framework provides a means of understanding material data as a product of specific human actions.

Archaeology has moved through various theoretical frameworks for conceptualizing human lifeways since its inception as a discipline in North America. As one of the oldest named archaeological entities in Minnesota and the surrounding region, Blackduck has often been the subject of these changing perspectives. Specifically, archaeological modeling of Blackduck and, on a larger scale, the Northeastern Plains has served as an interpolation device. A dearth of artifacts recovered in excavations, as well as a wide diversity of the material recovered, has elicited a need to connect and explain both movement and change over space with a paucity of information. Archaeologists and ethnohistorians (Graham 2005; Nicholson 1987; Ray 1974) have chosen modeling as the most concise and manageable way to achieve these ends, sacrificing detail throughout the process, as each model requires reducing the behaviors of pre-contact Indigenous groups to a definable set of movements and traits. This approach remains an accepted method with which to handle the complexity of the Northeastern Plains. The critique that follows seeks to address the shortcomings of modeling while proposing a new method of attending to movement, settlement, and ceramic trait diffusion during the span of Blackduck existence in central North America.

The approach of an “Ecology of Life” by Tim Ingold (2000) offers one path forward to allow for the retention of the descriptive tools archaeologists have wielded successfully in the past while beginning to negate the effects of essentializing generalization. Ingold seeks an “Ecology of Life” that does not separate humans from their environment rather than the common notion of a culture that overlays a specific environment. Ingold explains actions within environments as choices of “perceptually skilled agents” (2000:24) who learn to interact with their surroundings through education from previous generations. By considering how the perspective Ingold offers can apply to archaeological phenomena, an “Ecology of Life” on the Northeastern Plains is possible.

Two influential post-processual theories are worth noting before exploring the full implications of Ingold’s perspective. The first is agency, or the turn towards understanding how people and their motivations, choices, and beliefs all play a role in the production of the wider society in which a person is a part (Trigger 1996:467). This relates directly to the notion of the Ecology of Life, as the actors, their unique interactions, and decision-making processes are the direct subject of analysis when utilizing this perspective. By assuming that people are not mechanistically subservient to a culture that is imposed upon them at birth, the possibility of understanding decision-making as an act derived from learning becomes a viable option. The second theory worth considering is the notion of the *Chaîne Opératoire*. This concept was developed to understand the reflection of thought processes apparent in the manufacturing steps of material culture (Trigger 1996:464). This concept is especially pertinent for a stepped process like ceramic manufacture, wherein choices made by actors like clay selection (Gosselain 1999), ceramic change over time (Gosselain 2018), and decoration (Krause 2019) can all be abstracted to more definitive understandings of skill replication and perspectives. The Ecology of Life

builds upon both Agency and the Chaîne Opératoire by adding and often prioritizing the relationship between people and the locations they live to assert that agents and their actions are learned within and shape their understanding of the world around them.

Dissecting the modeling of the Northeastern Plains, as well as applying Ingold's "Ecology of Life" orientation, requires an explanation of the idea that nature is separate from culture which has permeated archaeology since its inception. The early days of archaeology on the Northeastern Plains were rife with discussions of archaeological cultures effectively placed essentially on top of the geographical areas they were found within (Johnson 1973). Achieving a unified notion of an archaeological phenomenon in an ecologically complex area such as the Northeastern Plains necessitates the assertion that every archaeological phenomenon is connected to the location and environment in which it is found. Indeed, common topics of concern when describing change over space include subsistence and the material adaptations required to use identified subsistence resources. This separation of "culture" or those material differences between different archaeological phenomena, and their environments is folly, for it does not conceive of each practice that produces artifacts to simultaneously be a product and modifier of the environment. Understanding the archaeological record in this manner will be demonstrated to be a fundamentally different perspective than the environmental determinism espoused by processual archaeologists (Binford 1962, 1980; Steward 1955; Winterhalder 1981), which sees archaeological material as highly predicated upon the environment with little to no assignment of agency to the groups or people producing the record. Blackduck research is at a stage where a critical reassessment of previous archaeological perspectives is necessary and eminently possible. As previously noted, Blackduck has often been the archaeological

phenomenon of choice for archaeologists in the Northeastern Plains to exercise their power to explain human behavior, often through modeling.

Under the auspices of Ingold's (2000) "Ecology of Life", a critical examination of the archaeological modeling of Blackduck on the Northeastern Plains, will be offered here. First, an exploration of the development of modeling and culture construction in archaeology is necessary to provide background. Then, five models proposed to encompass Blackduck movement in Southwestern Manitoba will be examined. Each has valuable elements to retain, but the current state of research necessitates an additional level of complexity be adopted. Following this analysis of previous modeling, a new method of understanding the expansion of Blackduck onto the prairies will be suggested based on Ingold's "Ecology of Life" with examples for its direct applicability to Blackduck archaeological sites in Minnesota.

2.2 A Brief Exploration of Generalization and Modeling Impacts.

The notion of modeling and the construction of bounded culture areas that follow prescribed movement patterns is the result of processual archaeology and particularly its developmental neo-evolutionary stage that focuses on generalizations that could be made about groups who shared similar environmental conditions (Trigger 1996:389). The framework for these generalizations was laid by Julian Steward, who championed a shift in perspective from culture history to one named "Cultural Ecology" (Steward 1955:12). Steward's (1955) Cultural Ecology would go on to form the basis for later considerations about hunter-gatherers by establishing an environmentally centered framework from which to assess cultures. Steward focuses his discussion on the idea of a "culture core" (1955:12), which he identifies to be an assortment of features directly connected to subsistence practices and the economy of a given group. This culture core, Steward asserts, must be analyzed under specific procedures, moving from one

level of analysis to the next in a hierarchical pattern. These “steps” include an identification of the relationship between the environment and technology (Steward 1955:15), the “behavioral patterns” specific to a particular area and accompanying the technology utilized (Steward 1955:15), and how these behavioral patterns affect other parts of culture (Steward 1955:16). Finally, Steward indicates that Cultural Ecology is not only for looking at the adaptation of cultures to their environments but “to determine whether similar adjustments occur in similar environments”(1955:17), which is a demonstration of adherence to generalization.

Steward’s perspective is an important development to understand for three reasons. First, he establishes the primacy of the environment when analyzing culture by indicating that culture is a direct product of the environment. He states that “ the environment is not only permissive or prohibitive concerning (these) technologies, but special local features may require social adaptations which have far-reaching consequences”(Steward 1955:13). Therefore, the structure of life wherever people live is directly subject to the environment in which they exist. Second, he establishes a concise and systematic way to analyze any given culture by looking first at the tools produced within an environment, then the behaviors associated with the use of these tools, and how these behaviors affect more peripheral aspects of culture. There is no leeway for the perspectives of those analyzed to explain how or why they might be undertaking a specific manner of interacting with the environment. The third reason Steward’s assessment is vital to understand is his belief that the findings of Cultural Ecology can be compared and combined to delineate generalizations about how humans adapt to their respective environments. Steward, with these three points, laid the groundwork for the development of more complex perspectives about relations with the environment still to come.

Steward's Cultural Ecology does not explicitly name hunter-gatherer archaeological groups as its target of focus. Yet, the contributions it made to theory in the processual period were often targeted directly at living hunter-gatherer communities. This had much to do with generalizations that were believed to be possible, and what they offered archaeologists. Trigger notes that by assuming some regularity between hunter-gatherer communities in the past and present, ethnology and ethnoarchaeology would allow for inferences to be made in the archaeological record (Trigger 1996:400). Therefore, all one had to do was find a "modern" hunter-gatherer group relatively unaffected in their subsistence style to observe.

The systems approach that Steward (1955) espouses also does not handle the archaeological record explicitly. The application of the systems approach in archaeological contexts is best represented by the work of Lewis Binford (1980). Binford's (1980) work focuses on how systems derived from ethnographic observation can be applied to the material remains of the past to understand systems. Using the Nunamiut and San people of Africa, Binford begins with an explanation of two different "subsistence-settlement" systems, foragers and collectors, and their respective uses of the environments they inhabit (Binford 1980:5). Binford asserts that foragers do not store food, and settle in only two types of locations that could be visible in the archaeological record; residential bases and locations (Binford 1980:9). These areas represent the locales in which the San live (residential) and hunt or forage (location). Under these conditions, the San "map onto" (Binford 1980:10) the available resources by moving around to find the best locations. Social complexity and the use of the environment increase with collectors. Instead of mapping onto resources, collectors "logistically organize" (Binford 1980:10) to procure resources in groups. In addition, three additional types of settlement are added to the notion of a residential base and location. These are the field camp, station, and cache (Binford 1980:10), at

which specific tasks related to the procurement of resources for people outside the logistically organized group are carried out. Therefore, collectors are more complex users of their environments than foragers. This hierarchy of interrelated parts fulfills the call of Steward (1955) admirably by analyzing behaviors as a system with discernable parts and behaviors. Binford, however, elects to kill two birds with one stone to accomplish the task of expressing environmental determinism and generalization. Binford rightfully asks “what causes the variability between collectors and foragers?”(1980:13). His answer rests in what he describes as the “energy-capturing” system that is a culture (Binford 1980:13). These energy-capturing systems are directly related to what resources the environment has to offer. Therefore, the San are foragers because their near-equatorial location predisposes them to acquire and use resources in a specific manner, while the Nunamiut are predisposed to organize themselves logistically because of their northern latitude. Thus, Binford accomplishes generalization and environmental determinism in one blow while simultaneously amplifying the impact by relating the notion of “mapping on” and “logistic organization” to their potential organization in the archaeological record.

The perspectives outlined above all follow a similar systems framework to that espoused by Steward (1955). They seek to explain how the environment shapes the subsistence systems of specific groups with little regard to how humans may influence or assert agency in these situations. This treatment of people as organisms within specific environments that are biologically determined to make choices is most evident in the work of Winterhalder (1981). Whereas Binford (1980) couched his systems with discussions of human cultures, Winterhalder takes a more direct approach to assessing the adaptive strategies of people with the development of Optimal Forager Theory, for which “ the most general assumption invoked here is that the

adaptive processes produce behaviors which allow organisms to achieve specified goals efficiently and effectively” (1981:67). Winterhalder’s time amongst the Cree of Ontario was spent assessing the models of diet breadth, movement among habitats, and patch selectivity compared to that carried out by people. Therefore, generalizations are being taken from an abstract level and tested with actual people to see how they perform. This again follows the environmentally deterministic viewpoint expressed above, as well as, without a doubt, indicating that the Cree are conditioned by their environments. The Cree are little more than a set of statistics with which to test models. This is representative of the pinnacle of mechanistic processual views of hunter-gatherers, in which, decisions made by people are nothing more than environmentally conditioned responses that can be picked apart and labeled with careful analysis.

The three assumptions that form the basis for the articles above, namely prioritizing the environment, mechanized analysis of subsistence, and the importance placed on generalization, are problematically intertwined with one another. One cannot be explained without the other, leading to a runaway theoretical train that cannot be stopped without addressing the root cause of the issue, namely the adherence to the notion of a “high degree of regularity in human behavior”(Trigger 1996:400). This assumption is compounded by the primacy assigned to the environment present in each paper described above. By asserting that people are constrained by their environment, the task of systemic analysis and generalization is eased by eliminating the need to consider idiosyncratic actions on the part of archaeological actors. By completely rejecting inductive methods (Trigger 1996:401), processual archaeologists miss actions that may be explained best purely within the contexts they study. The latitudinal generalizations asserted by Lee (1968) and Binford (1980) do not account for the groups within those latitudes that do not

conform to the pattern they assert. This leads to erroneous deductive results or even sheer oversight on the part of the archaeologist, as no emphasis is placed on considering the foundation on which certain archaeological cultures manifest themselves.

Moving away from the notion of easily modeled archaeological cultures requires two steps to be taken by archaeologists. The first is a healthy dose of skepticism with working with traditional anthropological ethnography. As noted above, the notion of a model and its development was composed in large part of anthropological assessments of living hunter-gatherer groups (Kelly 2013). Martin Wobst (1978) indicates that ethnography produces bounded cultural units for two reasons. The first is what he titles the “parochial model”(Wobst 1978:303), in which ethnography, due to its early salvage focus and short fieldwork duration, only notes those features of culture that are significantly different. This separates the research entity from both their history of interaction, as well as any modern influence from outside groups. The second reason is based on the manner research concerning “culture” and “society” is undertaken (Wobst 1978:306). Research projects seek to be different from one another to satisfy discipline requirements and carve niches for themselves within the profession. Therefore, researchers go looking for, and describe on unique terms, groups that are dissimilar from any that have been previously analyzed in a given region. These two issues are amplified archaeologically as researchers attempt to operationalize ethnography to explain the archaeological record, creating their bounded entities. Though problematic, Wobst indicates that archaeology is well suited to dispel these notions, as archaeologists “are the only anthropologists whose data contain information about behavioral variance in all of its dimensions”(1978:307). This means that, instead of only focusing on bounded entities, archaeologists must understand how the material relates at both the local, regional, and continental scales to fully grasp the dynamics of certain

groups over time. In theory, the application of Wobst's framework offers the opportunity to avoid isolation and reduction of hunter-gatherers in the archaeological record. Using anthropological evidence necessitates a deductive approach to understanding groups in the archaeological record. Indeed, Kelly (2013:4) goes so far as to assert that this is a "useful" way to understand hunter-gatherers. Yet, committing to a deductive and anthropologically based approach flies in the face of productive archaeology, by attempting to drive square pegs (sites) into round holes (ethnographic analogy), instead of taking each site as a unique opportunity to assess the interplay of the environment, people, and the variation produced within that specific context.

The second step, connected to the first, is a change in how archaeologists think about the scale of the groups they wish to analyze. By casting aside deductive methods, a return must be made to regional inductive reasoning that seeks to understand archaeological phenomena within the contexts they are recorded, not within a predefined framework tailored for hunter-gatherers. The four-prism critique provided by Warren (2021) demonstrates why this approach may allow for more meaningful research. Discontinuity on a large scale between methodological approaches, data recovery, research questions, and the lack of general similarities between hunter-gatherers necessitates that a researcher must be intimately familiar with their own data and regional contexts to make full sense of the archaeological record. Any turn to a large scale before all available avenues are considered introduces the possibility of erroneous conclusions. Indeed, only when an archeologist has a sufficient understanding of both the material from the site of concern and a general view of what archaeological material has been recovered in the region previously, can considerations stray to areas outside of the region. This practice may

demonstrate that the archaeological entity of concern was not a “typical” hunter-gatherer, but intertwined with trade networks, landscape modification, and highly varied subsistence systems.

2.2.1 The Way Forward

Previous archaeological and ethnohistoric models on the Northeastern Plains were forged within the social and historical contexts of modeled hunter-gatherer archaeology outlined in the previous section. The shortcomings of these perspectives are clear. By operating under the assumption that humans and the environment are separate, archaeologists do not heed potentially important information contained within the relationship between artifacts and where they are found. Instead, the relationship is viewed as being predicated upon culture or nature with explanation sought in top-down generalization in which to pack data. The presentation of new data concerning any archaeological phenomenon offers a chance to reconsider previous frameworks. Blackduck is especially favorable for this reassessment, as the wide geographic range it is found within has posed issues for an explanation since its inception. Tim Ingold, in his 2000 book *The Perception of the Environment*, provides a fresh perspective that offers a shift in viewpoint from environmentally deterministic, cohesive archaeological “cultures” to one of the individuals who selectively act and produce the archaeological record from these actions. Ingold’s (2000) orientation is complex, yet the benefit of such intricacy is versatility in its application and adaption to scenarios previously unaddressed.

The foundation of Ingold’s orientation, which forms the basis of the critique of models suggested here, is the union between humans and their environment which he calls an “indivisible totality”(2000:19). This idea, while appearing to be rather self-explanatory, is a lifelong process perpetually shaped through day-by-day actions and interactions. Ingold identifies a few important components of this indivisibility that shed light on how it is

propagated. The first concerns the environment itself. The environment in which someone lives, and therefore perceives, cannot exist without them. An extension of this is the consideration that the environment is continually constructed along with the person within it. As the person moves and shapes their world, the environment simultaneously changes and influences the actions of the person within it (Ingold 2000:20). Archaeologically, this is significant, as it suggests that any archaeological material recovered at a site is the product of a complex interplay between individuals and the immediate environment in which it was recovered wherein people affect and conceptualize of the environment while simultaneously being influenced by the conditions of the environment itself.

Transitioning from the environment to the individual, the second component focuses on how interactions with the environment are transferred into knowledge by the individual. While typical western perspectives suggest that information is “written” on a landscape in some form of text (Duncan and Duncan 1988) to be extracted and extrapolated to some truth, Ingold suggests that to understand the environment as unified with people, “revelation” is a more appropriate perspective (2000:20). Ingold argues information is not, by itself, useful. Instead, information can only make the transition to knowledge by situating it within “a direct perceptual engagement with our environment”(2000:21). In addition to being inextricable from the environment, this process does not occur independently of others. It is intimately intertwined with other people demonstrating the transition of information to knowledge through an “education of attention”(Ingold 2000:22), executed when a more experienced person, already versed in a specific group’s manner of acquiring knowledge, aids a younger or more inexperienced member towards knowledge through awareness. This education furnishes one with the “clues” to a greater meaning. Clues, as Ingold puts it, are “a landmark that condenses otherwise disparate strands of

experience into a unifying orientation which, in turn, opens up the world to the perception of greater depth and clarity”(2000:22). By indicating to the more inexperienced member certain clues, situated within a specific environment, knowledge is passed from one generation to the next.

This learning progression Ingold develops is not a mechanistic process. Revelation, or the development of knowledge from clues acquired in the environment, is bound up with feeling. When encountering a clue, it is not a sign indicating one should experience a particular feeling. Rather, it is that feeling. “When you yell in anger, the yell is your anger, it is not a vehicle that carries your anger”(Ingold 2000:24). Though abstract, what Ingold states here is that once knowledge has been acquired, it is not used matter-of-factly. Knowledge of something is inherent in the very materiality of the object or situation.

The summation of the knowledge-gaining process, feelings and all, is the notion of “enskilment” (Ingold 2000:36). Enskilment is offered by Ingold as a replacement for three commonly used explanations for why someone (the subject of archaeological study) may make a choice. The first two, the “optimal forager”, and the “economic man” are opposed to one another. Optimal forager theory seeks to explain actions in the archaeological record as biologically based. People seek food in the most efficient way possible, which is the product of adaptations to specific environments. This is primarily embodied by Winterhalder(1981). In contrast, the economic man theory assumes complete rationality on the part of the archaeological actor, who moves through their environment using resources in the most economical fashion possible (Binford 1962). Both, Ingold notes, fall short as they do not recognize the intricacies of learning undertaken by the subject of analysis. The final common approach to describing human behavior to be displaced by enskilment is enculturation, or the perceived inscription of cultural

values onto a “blank slate” who then act out those values (Ingold 2000:36). Instead of these reductive perspectives, people who select certain resources in their particular environment should be understood to have undergone a process of enskilment. This is essentially analogous to the process of knowledge acquisition described above, wherein prospective potters gain skill by being shown clay sources, vessel manufacture, vessel decoration, and vessel firing. Skills are obtained through a “system of apprenticeship” wherein a more practiced hand guides the more inexperienced members of the community (Ingold 2000:37). Only attentiveness to one’s specific environment leads to a honing of specific skills that leads to the performance of specific actions.

If the factors of Ingold’s (2000) orientation are combined, the product is a method of understanding people and their environment as a product filled with emotion and personal interaction, and inseparable from one another. Instead of conceiving of people in the past as blank slates, rational thinkers, or purely biological entities, they can instead be understood to be products of innumerable experiences within specific environments that, with the guiding hand of someone more knowledgeable, provided them with the clues, feelings, and knowledge necessary to develop and use skills.

Ingold, in his explanation of the above theory, used hunter-gatherer (which he prefers to label “procurers”(2000:59)) communities in the far north of North America and the Arctic, for they have been continually explained within the reductive frameworks of the “optimal forager” or the “economic man”. The direct archaeological application, as it concerns the topic of Blackduck, will come later. First, it is important to outline previous perspectives on how Blackduck people moved over space and interacted with one another. This has been attempted in the form of models.

2.3 The Models

The models that will be discussed here were produced between 1974 and 2005. Each encompasses, with little extra margin, the area of Manitoba, with most focusing on the southwestern portion of the province. Five models in total will be detailed here: Arthur J. Ray's "Parkland Exploitation Cycle"(1974:47), E. Leigh Syms' "Co-influence Sphere"(1977), Leo Pettipas's northern/southern division (1980), Bev Nicholson's biome exploitation (1987:142), and finally, James Graham's "Regional-Environmental Model" (2005). Each attempts to model the movements, subsistence use patterns, and seasonal habitation site selection of Indigenous groups throughout time in southwestern Manitoba. Succinct summaries of each model preceding Graham (2005:94–110) are available in Graham's (2005) thesis. Here, the primary focus will be on the methodological approach and structure each author assumed when constructing their model. Similarities, as well as differences, will be indicated in turn as each model is assessed, starting with Ray's (1974) "Parkland Convergence Model" and progressing in chronological order to Graham's (2005) "Regional-Environmental Model".

2.3.1 *Arthur Ray's Parkland Convergence Model*

First published in 1974 as part of a larger body of work focusing on the impacts of the fur trade on Indigenous groups in Manitoba, Ray's model makes extensive use of ethnohistoric sources with limited inclusions of archaeological information. Though archaeology in Manitoba was still growing, the few claims he made were widely incorporated in later works. Ray's model forms key parts of the models that succeed it, as well as offers a chance to assess the use of ethnohistoric perspectives to extrapolate into pre-contact times on the Northeastern Plains.

Ray's model suggested that two proto-historic groups present in Manitoba at the beginning of the 18th century, the Cree and the Assiniboine, both made use of the Aspen

Parkland region of central Manitoba during the winter months to access the subsistence resources clustered there. It should be noted that the Aspen Parkland, which figures prominently in all models discussed here, is an ecotonal zone of patchy Aspen stands mixed with open prairie located between grasslands to the south and Boreal Forest to the north. From various Hudson's Bay Company fur trader journals, Ray indicated that the Boreal-forest-oriented Cree would move out of the Boreal Forest in the winter south towards the Aspen Parkland belt. Conversely, the Assiniboine, a Plains-oriented group, would move north in the winter from the grasslands of southern Manitoba and North Dakota to the Aspen Parklands of Manitoba. During the winter months, the Cree and Assiniboine would interact in the Aspen Parklands, sharing different ideas and co-mingling successfully. Once winter had ended, each group would move out of the Aspen Parklands and return to their respective northern and southern ranges.

The basis for the winter transition to the Aspen Parklands posited by Ray was the movement of bison herds coupled with the individual subsistence systems practiced by the Cree and Assiniboine. This data was primarily derived from journals at fur trade outposts and journals, which documented the comings and goings of Indigenous inhabitants (Ray 1974:48). Ray indicates that, during the summer, the Boreal forest would have been rich with fish and fowl (1974:31). During the winter, however, the lakes froze, and the fowl migrated, leaving the Indigenous groups who utilized those resources in a precarious position. Similarly, he asserts that an analogous process occurred in the grasslands. Groups heavily reliant on bison for food in summer would face a challenge when the winter came around, and the bison dispersed to find shelter in the Parkland region (1974:32). Given the paucity of resources available to both the grasslands and forest groups during the winter in their summer ranges, the Parkland offered the best chance for a comfortable life during the cold season (1974:32).

Ray applies his above conjectures to the archaeological record. Discussing the “Manitoba Focus” (which would later be known as Blackduck), he indicates that, as there are sites with Manitoba Focus pottery located along bodies of water containing mostly fish and fowl remains in addition to sites whose faunal assemblages contain mostly large mammals, thus suggesting internal differences within the same group based on subsistence specialization (1974:34–35), who would have invariably moved in the same grassland-Parkland or Parkland-Boreal Forest cycles outlined above. Ray reinforces his assertions about pre-contact peoples with discussions of ethnohistoric sources which relate stories of making seasonal rounds with specific Indigenous groups (1974:43), a practice that would continue in modeling on the Northeastern Plains.

As the first model proposed for the occurrence of grassland-Parkland-forest interaction, Ray set the tone for models that would succeed his model. Notable points to extract from his discussion include the heavy reliance on bison migration, a rotation through different ecological areas seasonally, and a claim that different faunal assemblages with similar ceramics indicate internal group differences or divisions in seasonality. Many of these traits were carried into later models.

2.3.2 E. Leigh Syms Co-Influence Sphere Model

The next model of concern is Syms’ Co-influence Sphere model (1977). The product of a massive synthesis of archaeological and ethnohistoric information, Syms’ model focuses primarily on the area of southwestern Manitoba. Meant to challenge the previous chronological order with which people perceived the archaeological record of the province, Syms’ model focused on the interaction of multiple groups over space and time; a relatively new method of handling change in the archaeological record, influenced the broader shifting paradigms of

culture-history to processual archaeology, which emphasized human-environment interaction over simple artifact appearance and categorization.

The Co-Influence Sphere Model itself is based on a three-tiered area of influence for a specific archaeological or known Indigenous group. The most used area, the “Core” (Syms 1977:5) is the smallest yet most inhabited region. The next largest zone, or area of “Secondary utilization”(Syms 1977:6) is a region outside of the core where consistent visits were made for specific resources. Finally, the largest zone is the area of “Tertiary utilization” where enough trips were made to leave a trace, but not enough to be fully integrated into the movements of the group. Syms’ model is supported using archaeological evidence from a catchment area stretching across central Canada and the American upper Midwest, as well as ethnohistoric evidence from fur trader journals and ethnographers in the region to suggest that there were overlapping Co-Influence spheres in the southwestern portion of Manitoba, each influencing the other to a certain extent visible in the archaeological record.

Two features are of note in Syms’ model. The first is the perspective he chooses to apply to avoid what he terms the “Chronological Model” (1977:4). Syms sought to use what he titled an “ecological strategy” that saw “environment and culture as a single interacting system”(1977:10). This approach was novel for the time, and may indeed sound much like the “Ecology of Life” (Ingold 2000) method that was discussed above. Differences in scale are evident between the two, however. Syms makes it clear that conducting such an analysis requires one “to select cultural, biological, and physical variables that are interrelated, and to analyze the operation of and change within the system”(1977:10). This position, in the case of Syms’ work, produced a detailed product that reaches over a large area on the Northeastern Plains. One of the fundamental differences occurs in the level of explanation sought from each framework. The Co-

Influence Sphere model seeks to generalize to a large scale, while the “Ecology of Life provides a finer resolution for assessing and contextualizing specific situations of archaeological interest as will be demonstrated later. Syms, however, is a clear instance of modeling that forms the basis for more nuanced understanding of the archaeological record.

The second feature worthy of discussion in Syms’ model is the examination he provides of the “Blackduck Horizon” (1977:97). While much of his discussion is focused on the ties of Blackduck to known Indigenous groups (a rather contentious topic with no solid resolution), he does make assertions regarding the movement and group dynamics of the Blackduck, which is of concern here. His discussion of the distribution of Blackduck notes that Blackduck is confined to the north-central portion of Minnesota (Syms 1977:101), regional confinement now known to be erroneous given the work of Michlovic (1979, 2004) but not any fault of Syms given the timeline of excavations. The second assertion Syms makes is slightly more nuanced. When discussing the Stott Site (a bison-focused Blackduck site) and the McCluskey Site (a fish and fowl-focused site in Ontario) Syms suggests that the presence of a bison-specific site is the product of Blackduck people following analogous landscapes and species until the group makes the full transition to bison subsistence focus. He puts forth the idea that “There is no sudden shift to an entirely new resource base and, therefore, no need to learn an entirely new set of hunting techniques” (Syms 1977:110). This comment, while a pleasant piece of interpolation, does not handle how Blackduck people on the edge of the Plains learned how to hunt bison (or how they became skilled). This is problematic, as some ethnohistoric sources have noted that bison hunting did not come easily to newcomers on the Plains, but rather required instruction (James 1956:225–226).

While Syms’ (1977) model has a significantly larger archaeological component than Ray’s (1974), some points of note are shared between the two. Both assert that bison migrated to

the Parkland in the winter (Syms 1977:26). Both also suggest that different ecological areas were used for different tasks. Syms' "ecological strategy" should be recognized to be slightly aligned with, yet fundamentally different from the perspective utilized throughout this paper. In addition, Syms' assertion that bison hunting was easily adopted by Blackduck people will be addressed later. Overall, Syms' model is a truly remarkable synthesis of material and remains prescient today, yet shortcomings are present that inhibit its application to the topic of understanding the Blackduck movement into the Plains.

2.3.3 Leo Pettipas's Northern Southern Division

Pettipas's (1980) model builds off each previous model discussed, while modifying considerations made in each slightly to accommodate discrepancies Pettipas felt were present when analyzing the manifestation of Blackduck and other ceramics in the Aspen Parkland Region of Manitoba. Again, the region of focus for the Pettipas study is the southwestern portion of Manitoba (1980:141). Feeling that the occurrence of Blackduck ceramics in the Parklands necessitates exceptions from both Ray (1974) and Syms (1977) models, Pettipas asserts a division of Blackduck into two groups, a "northern" and a "southern" in Manitoba. This is intended to explain exactly why there is an abundance of Blackduck ceramics in the Aspen Parklands with a relative absence in the grasslands to the south (1980:150).

Pettipas's explanations focus heavily on anthropological theory concerning the structure of traditional band societies and the division of labor within those communities to accomplish the task at hand. Pettipas suggests that the "southern" division of Blackduck, whose movements most closely resemble the grassland-Parkland cycle proposed by Ray (1974:31), was primarily responsible for the ceramics in the Aspen Parkland. As he explains it, divisions of labor within Blackduck society would dictate that women would stay behind in the Parkland during the

summer, making (and breaking) ceramic vessels, while the men would go off into the adjacent grasslands to hunt bison without the characteristic vessels to introduce into the archaeological record (Pettipas 1980:152).

As for the “northern” division of Blackduck, those whose subsistence cycle resembles the Forest-Parkland cycle proposed by Ray (1974), the continuity in ceramic assemblages at sites north of the Parkland is explained by Pettipas to be the product of intense interaction and intermingling between the “northern” and “southern” divisions of Blackduck (1980:157). He suggests that there was little drift between the two groups, and the overwintering that occurred in the Parkland served to reinforce the connection and continuity between both groups. Even those Blackduck groups that may have remained year-round in the forest to the north would have had sufficient contact with more mobile groups to maintain the continuity in style present across Blackduck ceramics (Pettipas 1980:158).

While the “northern” division of Blackduck is of little concern given the relative prairie focus of this paper, a statement made by Pettipas regarding the “southern” division of Blackduck requires assessment. The declaration that, when pursuing bison into the grasslands, only men went on the hunt and did not carry ceramic vessels is questionable given the evidence of Blackduck ceramics in North Dakota and western Minnesota. Indeed, shortly after Pettipas makes this claim he is forced to reckon with sites like the Stott Site, which may have once been on the true Plains given the climatic conditions any given year, seemingly an intense habitation site near a kill site. This contradiction is explained away by suggesting that Blackduck people did not move erratically, but rather followed rivers with resources (Pettipas 1980:155). This contraction and amendment necessitate some skepticism at the assertion that ceramics were not

taken into the grasslands. Pettipas does concede, however, that more work in North Dakota and Saskatchewan may reveal a change (1980:153).

Pettipas's model is somewhat more specific and descriptive for Blackduck than Ray (1974) and Syms (1977), yet he continues the pattern of creating divisions such as "north" and "south" to explain the movement and settlement of Blackduck people across southwestern Manitoba. His model does recognize that there may be developments elsewhere that could change how Blackduck is considered, but his strong application of anthropological theory separating culture from nature demands careful considerations of each assertion made.

2.3.4 Beverly Nicholson's Biome Exploitation

Compared to the heavily descriptive models outlined above, Nicholson's (1987) biome exploitation model takes a markedly different approach. Nicholson once again focuses on the area of western Manitoba, an area riddled with differing perspectives on the complicated interactions that occurred in pre-contact times, yet instead of using an inductivist model to construct divisions within models from an accumulation of archaeological (or ethnohistoric) material, he instead chooses to use (supposed) basic principles of human action to construct subsistence type models, which groups in the study area are then assigned based on the archaeological and ethnohistoric evidence.

Nicholson's model is composed of four different parts, developed under the assumption that people in the past must fulfill two basic levels of goals. The first level of goals handles acquiring reliable food sources and the "maintenance of energy expenditure within a pre-defined range" (Nicholson 1987, 137). The second level of goals (of less importance) includes a desire for good food, variation in food, acquiring prestige, and the maintenance of sex roles (Nicholson 1987:137). These requirements, in addition to the need to use "culturally regulated behavioral

strategies”(1987:140) which are essentially cultural adaptations that stabilize group dynamics, led Nicholson to suggest 4 different models for subsistence based on the notion of a biome (a relatively homogenous ecological area), and an ecotone (an area that borders two biomes, creating mixes of both). The models are as follows: Type A is a seasonal round utilizing a single biome, Type B is a seasonal round utilizing two or more biomes, Type C is a seasonal round utilizing resources of a single biome with the seasonal exploitation of one or more ecotones, and Type D is the intensive use of one or more ecotones (Nicholson 1987:145–146). After reviewing pertinent archaeological resources in the study area, Nicholson suggests that Blackduck falls into a “Type B” subsistence strategy, using both the Parkland and Forest biomes (1987:234). This assertion indicates that the occupation of the Parkland (e.g., the Stott Site) and sites located further to the east in the true Boreal Forest are seasonal.

The template Nicholson offers is a complex mix of the previous models, connected with theoretical orientations following the precedent of cultural ecology (Binford 1980; Steward 1955; Winterhalder 1981) that provide an incredibly rigid structure each previous model lacks. At the foundation, Nicholson’s model does not allow for the agency of individuals to shape the course an archaeological group may take. Nicholson states that when discussing hunting and resource expectations: “...continuity of subsistence behavior is dependent not so much on the experience of the individual as on received tradition”(1987:67). This is in direct contrast with the perspectives offered by Ingold (2000) wherein the individual is not a record to be transcribed with tradition, but rather an experienced and skilled actor within specific settings. This undoubtedly shaped Nicholson’s modeling, as “transgenerational continuity” (or enculturation) (Nicholson 1987:67) was one of the risk-reducing strategies considered when building the types listed above.

Despite the compendium of contradictions when compared to Ingold's (2000) orientation, Nicholson's model is difficult to relegate to the arena of attempted positivist archaeology. His model is problematically based on strict types and rules for how people in the past should behave, but a few weighty comments deserve a second glance. The first is a divergence from the perspective offered by Syms (1977) that bison hunting was a skill gradually acquired with background hunting skills from the forest. Instead, Nicholson suggests that bison hunting and the group dynamics it requires were learned from groups further west already proficient in the skills (Nicholson 1987:203). In addition, Nicholson suggests that Blackduck peoples may have slowly added bison to their hunting repertoire through time (1987:207); a statement consistent with the pattern of learning and enskilment detailed above. These valuable considerations again reinforce the caution that is needed when assessing the models outlined here. Though Nicholson uses a deductive approach, some of the conclusions arrived at are novel insights into the archaeological record.

2.3.5 James Graham's Regional-Environmental Model

After four models in 13 years, the fifth and most recent model was authored after an 18-year hiatus in summations of Blackduck archaeology in Manitoba. Graham's revival of the archaeological model followed the form of the previous authors. The study area was once again set as southwestern Manitoba, more or less within the scope of each preceding model. Graham, however, had the advantage of both computer technology to conduct relatively easy spatial calculations, as well as almost 20 years of survey and excavation of Blackduck material to add to his model.

Graham's (2005) model is the only one that examines Blackduck exclusively without making forays into other archaeological phenomena and time periods (such as the frequent use of

ethnohistory in the previous models or exploration into the Late Precontact by Pettipas (1980)). Therefore, Graham's analysis is one of the most valuable for drawing technical information concerning Blackduck settlement in Manitoba. Using digital mapping techniques as well as site visits, Graham examined 27 different Blackduck sites documented in southwestern Manitoba in hopes of determining which may have been occupied during different seasons (Graham 2005:57). Quantitative analyses included GIS-based examinations of slope, viewshed, and distance to perennial water sources (Graham 2005:68). Qualitative analysis consisting of site mapping, dominion land survey data, and site visits supplemented the more rigorous GIS-based modeling. After this qualitative and quantitative analysis, Graham reevaluated the models previously presented here in the context of the data collected during his GIS analysis. He concluded that each previous model posited for the movement and settlement of groups in the Parkland of Manitoba was insufficient to explain the positioning of Blackduck sites.

Graham proposed the "Regional Environmental Model" (2005:111). This model put forth two independent Blackduck groups; the Plains Blackduck and the Boreal Forest Blackduck (Graham 2005:110). One of the key points of Graham's model was that the Plains Blackduck group used the Aspen Parkland and adjacent grassland areas of southwestern Manitoba throughout the year, not requiring vast forays into either the Boreal Forest or the true grasslands to the south. Graham's innovation came from a more detailed consideration of the physiography of Manitoba than had previously been possible for archaeologists. With fine-scale mapping, Graham complicated the traditional conceptualization of the grassland/Parkland divide by developing the idea of an "Uplands" region and "Plains" region within the range of the Plains Blackduck (2005:114). This allowed an explanation of what the Plains Blackduck may do during the warm months, such as dispersing into smaller groups, hunting bison or other game, and

locating themselves close to freshwater transportation and subsistence resources (Graham 2005:115). In the colder seasons, groups would retreat to the upland regions to shelter in the woods, gaining access to material for fires and hunting the game that also sought refuge in the shelter areas (Graham 2005:118). While Graham does not offer equal treatment of the Boreal Forest Blackduck group given the environmental features of the study area, he does conclude his discussion of the Regional-Environmental Model by suggesting that the Boreal Forest Blackduck were more likely to interact with the Plains Blackduck in the forest than on the Plains, as groups connections were sought (2005:126).

Graham's (2005) model is an interesting nexus of the modeling of old, combined with modern technology and updated archaeological orientations. His model is valuable insofar as it demonstrates with empirically derived mapping evidence that Blackduck people most likely did remain in the Parklands and adjacent grasslands throughout the year. In addition, the limited group focus allowed for an in-depth examination of archaeological sites across Manitoba that are seldom brought to light in research contexts. Graham's model, however, is not without its flaws. The continuity between the four previously discussed models and Graham's model is clear. Two divisions of the same group produced the same pottery. This structure is replicated through assertions by Ray (1974:32) and Pettipas (1980:150), with clear indications that both Syms (1977) and Nicholson (1987) at least strongly considered the different subsistence adaptations within Blackduck. This leaves little leeway for the assumption that, instead of two distinct groups, a continual gradation of adaptation and landscape use existed.

Graham's model also did not make use of Blackduck data from the United States, though this was likely the product of project scope-related barriers. The previous four models either did not make use of data in the United States (Ray, Pettipas, Nicholson) or briefly mentioned the work

done (Syms), but by the time Graham's model was authored, novel Blackduck sites had been documented in the periphery of Minnesota (Michlovic 2004) and marginally in North Dakota (Toom 2000). Therefore, at the time the Regional Environmental Model was suggested by Graham, a radical reassessment of Blackduck beyond the literal and figurative boundaries of models was in order.

The division of Blackduck into Plains and Boreal Forest groupings suggested by Graham (2005), and importantly the Plains Blackduck title was originally presented briefly by Walde et al (1995:24) carried forth by researchers on the Canadian Prairies (Hamilton et al. 2007, 2011). It was felt pertinent based upon the size and variability in bison hunting Blackduck sites in Manitoba, which is a notion supported by evidence from across the southwestern parts of the province (Hamilton et al. 1981, 2011). The appellation of Plains Blackduck as presented by these researchers does not attempt to further tease apart the variation present in Blackduck ceramic assemblages in the province. Instead, the interestingly disparate sites are gathered within the term "Plains Blackduck". The lack of detail provided about the potential differences between the ceramic assemblages at each of these sites does not, in the context of this thesis, contribute to a more detailed understanding of the true diversity behind prairie manifestations of Blackduck. More ceramic analysis from these sites, paired with clearer spatial delineations between the wide array of Blackduck sites in southwestern Manitoba, would provide the necessary groundwork for comparisons to the sites presented in the following chapters.

2.4 Conclusions

The detailing of previous models for Blackduck, combined with the presentation of the framework selected for its framing, provides the foundations for the execution of this analysis. The successive data tabulated concerning the presence of Blackduck in North Dakota and

western Minnesota alters the perceptions of Blackduck presented by the researchers above. In addition, the ceramic-driven focus of this analysis prioritizes an understanding of how the makers of Blackduck ceramics move amongst landscapes, in addition to attempting to understand how ceramics that may look like Blackduck are created. Chapter 8 uses the data presented in chapters 4, 5, and 6 to construct a perspective of Blackduck that accounts for the data recovered during this project under the auspices of an “Ecology of Life”.

3 Culture History of the Study Region

3.1 Introduction

The archaeology of the central Northeastern Plains (NEP) proper has been heavily influenced by the developments surrounding archaeological regions including the upper Middle Missouri region of North Dakota and the forested Woodland of Minnesota. Interpretation of in situ cultural developments within the NEP proper have been offered for the Late Precontact Period (Michlovic and Schneider 1993; Toom 2004), and the beginning of the Woodland Period (Holley and Carr 2023), but the majority of archaeological components are understood within the context of influences from the east and the west. Conversely, the typological schemas developed for Blackduck rely on the examination of ceramic ware in Ontario, Minnesota, and Manitoba and have all been used to classify Blackduck ceramics when found in contexts outside of their standard range. Therefore, to adequately assess the classification of specific ceramics within sites in Minnesota and North Dakota as Blackduck, the culture-historical development of each of the three regions outlined above must be considered.

The succeeding discussion of cultures in Minnesota and North Dakota will focus primarily on the Northeastern Plains, with information included from areas adjacent when pertinent (Table 1). Recent work in the Sheyenne Bend region of North Dakota (Michlovic and Holley

2022) and the Red River Valley of Minnesota (Holley et al. 2021) has refined the cultural sequence for this area. A description of these sequences will be intermixed with geologic information on deglaciation (Bluemle 2016) and proxy environmental data (Laird, Fritz, and

Cumming 1998; Laird, Fritz, Cumming, et al. 1998; Yansa 2007) from North Dakota to create an image of the landscape during each cultural development. The time leading up to Blackduck

Time	West/Central ND	Eastern ND	Red River Valley	Northwestern Minnesota
Paleoindian 9000 – 6000 BC				
Early Plains Archaic 6,000 – 3,500 BC		Rustad Phase		
Middle Plains Archaic 3,500-1,500 BC		Canning Phase		
Late Plains Archaic 1,500 – 500 BC				
Initial Woodland 500 BC-AD 600	Sonota	Dahnke Phase	Dahnke Phase (South)	Dahnke/Malmo (South)
			Laurel (North)	Laurel (North)
Late Woodland AD 600/700-1100/1200	Charred Body Complex	Sand Hills Phase (Transitional)	Sand Hills/Kent Phase (Transitional)	?
		Coteau	Bluestem Phase	Bluestem Phase/?
		Lucas Phase (Terminal)	Wolverton Phase (Terminal)	?
Late Precontact AD 1200 – 1750/1900	Middle Missouri Complex	Matoti Phase (NEPV)	Mooney Phase (Cambria/ Sandy Lake)	Mooney Phase (Cambria/ Sandy Lake)
	Painted Woods Complex	Shea Phase (NEPV/ Sandy Lake)	Shea Phase (NEPV/ Sandy Lake)	Shea Phase (NEPV/ Sandy Lake)
	Heart River Complex	Mirror Pool Phase (Middle Missouri River)	Wild Rice Phase (Sandy Lake)	?
	Knife River Complex	Chaiena Phase (Protohistoric)		

Table 1 Cultural Chronology of the study region. Based on Michlovic and Holley 2022 and Holley et al 2021

occupations are, in the context of available information, relatively compressed, with significantly more information about settlement and lifestyle available for the succeeding Late

Precontact Period (AD 1100 – 1750). Paleoindian sites are the rarest of all, and Archaic sites are few and far between. In addition, these early archaeological entities are primarily understood based on research outside of the region (Michlovic and Holley 2022:37). The appearance of ceramics on the Northeastern Plains around roughly 500 BC (Holley and Carr 2023) marks the beginning of a more developed chronology, yet the resolution of climatic and geographic data falls away considerably for the Initial Woodland period (500BC–AD 600) and into the time of the first Blackduck occupations around AD 700-800. Where necessary, supplemental information pertinent to the NEP sequence will be included from Minnesota and North Dakota, with special attention paid to changes in ceramics in these locations.

3.2 Paleoindian/Archaic

The development of archaeology on the Northeastern Plains, and the environments that some of the first peoples within North America moved into, were based primarily on the fluctuations of Glacial Lake Agassiz. The centerpiece of the Northeastern Plains that people today call the Red River Valley is a remnant of a drained lakebed and its associated features. Lake Agassiz arguably formed in two stages (Bluemle 2016:226), with the development of unique landscapes at the edges of the modern Red River Valley. Roughly 14,000 years ago, the glacier covering the majority of Manitoba and extending down between Minnesota and North Dakota began to melt and fill the areas left by glacial retreat. A period of glacial advance around 13,000 years ago backed up the lake to its highest point, causing the formation of the Herman beach ridges (Bluemle 2016:226). A subsequent retreat, followed by a brief period of stability at 11,700 years, formed the Campbell beach ridges (Bluemle 2016:227). The second stage of Lake Agassiz formed roughly 9,900 years ago, lasted for 900 years, then drained completely from the study region (Bluemle 2016:228). Concurrent with the changes occurring in the lake, the flora

surrounding the lake was also shifting as the climate began to warm. During the earliest periods of lake Agassiz, spruce forests likely dominated the adjacent landscapes. At roughly 9,000 BC, just as lake Agassiz was disappearing from the landscape, a parkland of elm and oak mixed with grasses became dominant (Laird, Fritz, Cumming, et al. 1998:278).

During this time of landscape change, and perhaps stretching back to the presence of spruce in the research area, the first well-documented evidence of people appears in present-day North Dakota and Minnesota. The standard sequence of development within the Paleo-Indian period begins with the Clovis Complex, transitions to the Folsom Complex, and ends with the Plano Complex. Evidence of assorted Paleoindian points belonging to the Plano complex has been documented along the Sheyenne River in North Dakota (Michlovic 1988:40). In addition, a late Paleoindian component was excavated from the Rustad Site along the Sheyenne. Radiocarbon dated between 10,000 and 9,500 years ago, this site contained evidence of bison and rabbit hunting, as well as fishing (Michlovic and Holley 2022:42). Therefore, people were certainly present in the landscape during the shift from spruce forest to elm and oak parkland. On the Minnesota side of Lake Agassiz, evidence for Paleoindian occupations is scant at best. The presence of a Plano lithic quarry along the Campbell beach ridge in Roseau County may reveal the settling of people along the fringes of Lake Agassiz as it began to retreat (Holley et al. 2021:39). In western North Dakota, evidence of the existence of Paleoindian sites is scant. Gregg (1985) notes the majority of points classifiable to this type have been surface finds. In Manitoba, however, there are more well-known Plano Complex sites that coincide with the retreat of glacial Lake Agassiz in that region (Boyd 2007:213).

At roughly 7,800 BC, the elm parkland of the previous period gave into a climate that was beginning to warm with more intensity and was subsequently replaced by Oak brushlands (Laird,

Fritz, Cumming, et al. 1998:278). It was at this time that a well-known climatic phenomenon, the Altithermal, began to settle upon North America. Starting around 7,050 BC and ending around 3,050 BC (Yansa 2007:130), this time was characterized by localized periods of drought and an eastward expansion of tallgrass prairie (Yansa 2007:131). During this time, the vegetation on the Northeastern Plains shifted away from Oak brushland to the prairie it maintained until colonization (Laird, Fritz, Cumming, et al. 1998:280). In addition, the disappearance of Lake Agassiz saw the development of the Red River Valley in its place. This river, flowing from Lake Traverse along the current South Dakota and Minnesota border, cuts through lacustrine sediment deposited by Lake Agassiz on its way to draining into Lake Winnipeg. In addition, the Red River serves as the primary drainage for the Red River drainage basin which ultimately drains into Hudson Bay via the Nelson River. Therefore, by the end of the Paleoindian period, much of the landscape looked somewhat like what it does today.

Archaeologically, the time between 8,000 and 6,000 BC saw the transition from Paleoindian to Archaic life. Marked by the development of several different cultural adaptations such as the adoption of side-notched points, tipis, and arguably pemmican (Holley et al. 2021:41), this shift is significantly more visible in the archaeological record. The Archaic is typically divided into Early, Middle, and Late, with distinct projectile points demarcating each period. Early Archaic points are typically classed as Logan Creek/ Mummy Cave, with a transition towards Oxbow points (Holley et al. 2021). The Middle Archaic consists of the McKean complex, which is represented by McKean, Duncan, and Hanna points (Gregg 1985:111). The Late Archaic is poorly represented on the American Northeastern Plains but is present in Manitoba, western North Dakota, and areas west. The Pelican Lake point is typically used to identify Late Archaic sites (Gregg 1985:113; Holley et al. 2021:40). Within the Red

River Valley, two sites on either side of the river will be highlighted to demonstrate the continued occupation of the landscape pioneered by the Paleoindian peoples. The first site, and earliest, has already been noted previously. In addition to a Paleoindian component, the Rustad site contained a wealth of information on the Early Archaic in the Sheyenne River Valley. Dated to roughly 6,000 BC (Michlovic and Holley 2022:56), the material recovered from this site points to extensive bison hunting in the region. The second site of note is located along the banks of the Red River in Minnesota. The Canning Site is, in contrast to the campsite of the Rustad site, primarily a bison butchering and processing site. Dating for the site is uncertain, with the primary occupation in all likelihood occurring between 3,500 and 5,000 BC (Holley et al. 2021:45).

Between the waning of the Archaic period and the beginning of the Woodland period (500 BC onwards) on the Northeastern Plains, it is worth recapping some important points from the discussion above. Given the site data explored as well as the environmental data derived from lake cores (Laird, Fritz, Cumming, et al. 1998; Yansa 2007), it is evident that the Altithermal period of dryness did not deter occupation of the Northeastern Plains. In contrast, the high population estimates from the Rustad Site in addition to the supposed winter occupation of the Canning site indicate that rather dense and year around settlement occurred.

3.3 The Woodland Period

The Woodland Period cultural development has been primarily identified based on ceramic assemblages recovered from the region and related to other well-documented ceramic sequences (Wilford 1954:20), particularly from Minnesota (i.e. MacNeish 1958; Wilford 1941). The transition from the first ceramic-bearing cultures in the region, subsumed within the Initial Woodland, to the introduction of Blackduck in the region, characterized as a Late Woodland

culture, is still under much investigation. Until recently (Holley and Carr 2023), little to no understanding of the first Woodland people on the NEP was available outside affiliation with mound complexes (Johnson 1973). Ceramics now known to be in situ developments of the Initial Woodland period were once classified based on adjacent and well documented, Early Woodland and Middle Woodland ceramics to the east (Hohman-Caine and Goltz 1995). The Late Woodland period is decidedly more ambiguous than the Initial Woodland, for the oft-clear comparative sequences used to the east for classifying ceramics break down somewhat during the Late Woodland. A compounding issue is that certain phases or cultural complexes are poorly represented in certain locations, making the development of a sequence a tedious process of data aggregation rather than the excavation of one or two stratified sites. Therefore, a single site can cause issues for the sequence if materials unique to the sequence are discovered. What is possible, however, given known sites and documented ceramic change over time, is a detailing of important traits and possible relationships occurring between Woodland peoples and the landscape to offer some glimpse of how a Boreal Forest people like Blackduck would have been able to successfully move onto the Prairies.

The naming conventions of Woodland time periods discussed here illustrate the numerous manners in which archaeologists have described this time in regions adjacent to the Northeastern Plains. Typically, areas east of the NEP are divided into three different Woodland periods: Early, Middle, and Late. The Early Woodland cultural developments include the initial stages of pottery use and mound building, while the Middle Woodland saw the rise of a highly connected trade and interaction network known as the Hopewellian interaction sphere, as well as the proliferation of mound building (Anderson 1996:518). The Late Woodland saw the decline of trade present in the Middle Woodland and coincided with the proliferation of maize across the eastern and

southern U.S. (Anderson 1996:519). These periods, while clearly defined in the Eastern US, do not translate perfectly onto the Northeastern Plains. Ceramics classifiable as “Early Woodland” are essentially nonexistent, and any sort of affiliation to the south and east begins only with the Middle Woodland. A trace amount of ceramics classifiable as “Early Woodland” is present in southeastern Minnesota in the form of La Moille Thick Ware (Anfinson 1979:115), as well as some connections to the Middle Woodland in the form of Havana-related ceramics such as Howard Lake, Sorg, and Malmo types (Arzigian 2008:35). These Early and Middle Woodland ceramics do not penetrate northern Minnesota or the Northeastern Plains in clearly definable amounts. To circumvent the issue of such a disjointed chronology, a new twofold division of the Woodland period was presented by J.V. Wright (1981). The two periods offered, the Initial and Terminal Woodland, were meant to capture the ceramic variation witnessed in central Canada that was associated with, but not entirely related to, the Early, Middle, and Late Woodland periods in the US. On the Northeastern Plains, Initial Woodland has been adopted out of classificatory necessity, which is discussed below. The term Late Woodland has been retained in the literature, but without the clear presence of ceramics with definable relations to the Late Woodland across Minnesota and locations further east. Thus, the terminology employed is a mix of more refined chronologies used further to the east, and broader, more adaptable groupings used in the regions peripheral to the core of Woodland development.

The start of the Woodland period on the Northeastern Plains (500BC–AD 500) (Holley et al. 2021:36) marks several significant shifts in the interactions that take place between Indigenous peoples and the landscape, as well as changes in ceramic manufacture. The early stages saw the development of mound-building on the edges of the Red River Valley, with particular attention paid to the relict beach ridges of Lake Agassiz in Minnesota and North Dakota (Johnson 1973).

In addition, the first ceramics began to appear in the region, which serves as the major delineation tool for separating the Archaic from the Woodland period. In the southern part of the Red River Valley, the ceramic types differ quite widely. Recently analyzed under the auspices of proposing a new phase for the region (Holley and Carr 2023; Holley et al. 2021:56), these ceramics are a mix of traits from Laurel and Elk Lake cultures in Minnesota (both of which are primarily located within the north-central forested area of the state), and ceramic cultures located further south in Minnesota such as Malmo and Fox Lake (Figure 4). Traits of these ceramics include horizontal cordmarking, net impressions, punctates and bossing, and smoothed sherds. Point types, a typical classifier for culture groups on the Plains, are remarkably diverse, with late Archaic and more “modern” projectile points such as Avonlea making an appearance within the same ceramic assemblages. From roughly 500 BC to AD 300, the Dahnke Phase subsumes the initial appearance of ceramics in the southern Red River Valley, as well as the construction of mounds along its marginal edges, as evidenced by sites like the Slininger Mounds (Johnson 1973; Thompson 1985). After AD 500, the Kent Phase replaces the Dahnke Phase. Ceramics related to this phase are primarily net-impressed and thinner, showing more refinement when compared to Dahnke types. There is also evidence for extended connections between the Kent Phase and areas to the north and west of the study region. Nearing AD 500, ceramic traits such as net impressions begin to make their way westward from the Red River Valley, appearing in Manitoba (Landals et al. 2004), and Saskatchewan (Davis 1988) in the form of Avonlea ceramics (Norris 2007).

The northern half of the Red River Valley is characterized by the presence of Laurel ceramics, which come in a variety of surface treatments and decorations including plain, incised, and punctate types (Holley et al. 2021:54). Laurel ceramics were defined based on sites from the

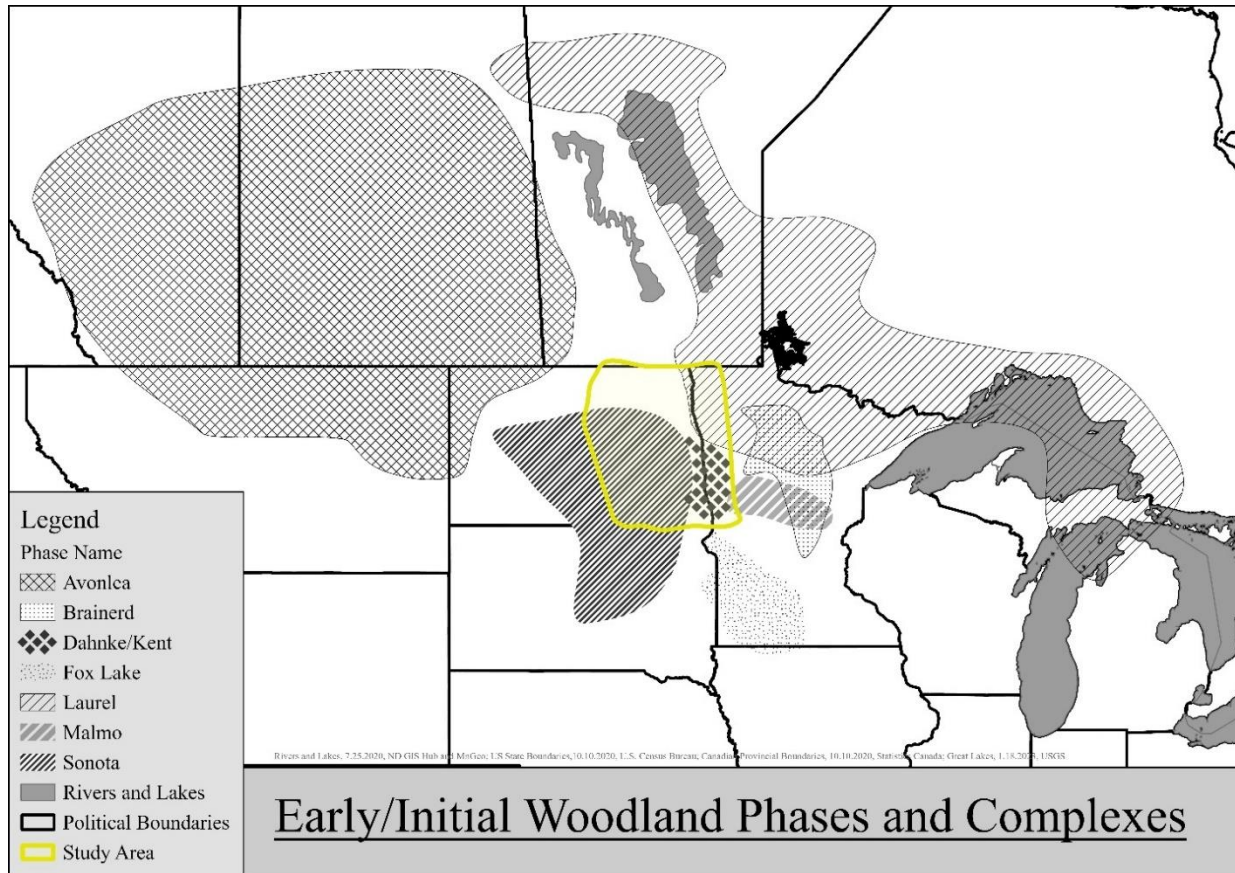


Figure 4 Early and Initial Woodland Phases and Complexes

north woods of Minnesota, and the areas adjacent in Ontario (Lugenbeal 1976; Reid and Rajnovich 1991). The subsistence systems that accompany these ceramics are primarily affiliated with resources such as fish and fowl, with limited documentation of the use of bison on the fringe of the Boreal Forest (Anfinson et al. 1977; Arzigian 2008:57–58). Recent examinations of grey literature from excavations within the Red River Valley suggest that Laurel ceramic-making people made extensive use of bison as a primary resource (Florin et al. 2001; Harvey et al. 2005). Laurel and Blackduck makers share the same primary development locus of the Rainy River region of northern Minnesota and southern Ontario. Some relationship between the two has been posited by researchers examining stratigraphically separated ceramic assemblages from the same sites (Anfinson 1979:122; Lugenbeal 1976), yet the relationship between the two remains uncertain.

To the west, the appearance of ceramics coincides with the last vestiges of the Archaic period in the form of Besant points and their associated cultural remains. In the northern portion of South Dakota, Besant points have been documented in context with distinct ceramics and burial mounds and have been given the designation “Sonota complex” (Neuman 1975). Besant is the preferred term used here, as Sonota refers to a burial culture along or near the Missouri River Valley in South Dakota and North Dakota. Sonota-affiliated sites are known in the study region along the Sheyenne and James Rivers (Gregg 1985:122). Because there is no apparent difference between the ceramics affiliated with Besant and those associated with Sonota burials, the same designation was applied. Dates for Besant ceramics range between AD 100 -600 (Gregg et al. 2021:B.38). The ceramics are typically described as conoidal with coarse grit temper, with flat, rounded, or outstanding lips (Gregg and Picha 1989:42). Surface treatments vary, but cordmarking of various orientations is the most popular, followed by plain or simple stamped in minority (Gregg 1985:121). Decoration is confined to the upper rim and can consist of punctates, stamping, cord impressions, or tool impressions.

The end of the Initial Woodland and the start of the Late Woodland is not an abrupt and clearly defined transition. Laurel, Dahnke, Kent, and Sonota are not replaced by Blackduck and other Late Woodland ceramics but co-occur for some time with ceramics that exhibit evidence of trait mixing. Between AD 600 and AD 800, “transitional” Late Woodland ceramics began to appear in the southern portion of the Red River Valley, indicating a persistence of influence from the east. The primary ceramic style associated with the transitional Late Woodland is St. Croix Stamped. The primary mode of decoration for these ceramics is dentate and comb stamping (Anfinson 1979:169), which appears in oblique and linear patterns on the rim. Occasionally a punctated or bossed sherd is also noted. St. Croix is described as transitional Woodland, as it is

found in Minnesota below Late Woodland assemblages. The date ranges for St. Croix range widely. Arzigian suggests a range from AD 0-700 (2008:86), though this is relatively early. Closer to North Dakota, researchers have placed a date range of AD 600-800 on St. Croix, slotting it into the transitional Late Woodland Sand Hills Phase in the Buffalo River region of Clay County (Holley et al. 2021:58), as well as at Lake Bronson in Kittson County (Anfinson et al. 1977). It is also worth noting for North Dakota insofar as it is documented across the eastern part of the state in assemblages. The Irwin Johnson Site, located along the Big Bend Region of the Sheyenne yielded a small St. Croix sample (Holley and Michlovic 2017) as well as the Dahnke-Reinke Site at the junction of the Red and Sheyenne Rivers (Thompson 1990), and the Kirschenmann III Site (Toom 2003:6.24).

The Late Woodland Period on the eastern NEP is relatively well documented. Challenges exist due to the proliferation of numerous ceramics types within Minnesota yielding similar decoration. Cordwrapped stick impressions were present on nearly every ceramic type within the state during this period. Blackduck is confined to the northern half of the state, and the reader is directed to the next chapter for a fuller examination of Blackduck ceramics. An ephemeral Blackduck presence in the Red River Valley was noted and classified within the Bluestem phase. Defined based on the presence of Blackduck at 21CY39 and 21OT51 in western Minnesota, the Bluestem Phase spans from AD 800 -1100 (Holley et al. 2021:341). This phase is likely a direct representation of the penetration of Late Woodland entities into the prairies adjacent to the Red River Valley.

Immediately south of Blackduck, Kathio is the primary designation given to CWS-impressed ceramics, mixed with a transitional CWS-impressed ware known as Onamia (Figure 5). Arguments have been put forth that Blackduck and Kathio are sufficiently similar to group

together (Arzigian 2008:111), or that the divisions between the two are primarily spatial (Anfinson 1979:103). However, examinations of Blackduck collections containing Kathio and an examination of Hohman-Caine and Goltz's (2009) thorough description of Kathio ceramics at the Petaga Point Site located slightly east of Mille Lacs Lake in central Minnesota suggest this conclusion may be erroneous. Rim forms differ widely, and the application of decorative elements such as punctates is not consistent with Blackduck investigations at the Buffalo River Regional Science Center in western Minnesota. Holley et al. (2021), go so far as to suggest that Kathio post-dates Blackduck and represents a Terminal Late Woodland ceramic type in the region. The confusion regarding CWS Late Woodland ceramics in Minnesota is enhanced when examining sites south of Kathio. The Lake Benton Complex, identified for the southern third of the state, also yields cordwrapped stick-impressed ceramics with motifs that resemble both Kathio and Blackduck, though with a broader range of decorative styles such as dentate stamping and plain types (Arzigian 2008:77).

Areas west of the Red River Valley have scant information concerning the Late Woodland period. Ceramics believed to be Late Woodland in affiliation have been noted in Sheyenne (Thompson 1983) and James (Schneider 1982; Toom 2003) River valleys, as well as along the shores of Devils Lake (Toom et al. 2007). These ceramics will be examined in Chapter 4, as they have been identified as Blackduck. Moving even further east to the Missouri region of North Dakota, a more distinct Terminal Late Woodland ceramic entity exists; The Charred Body Complex.

The Charred Body Complex was originally defined by Ahler (1993) to account for the transition between the Late Woodland and village life along the Missouri River in North Dakota. It is considered Late Woodland in affiliation, but the increasingly sedentary lifestyle of the sites

associated with the Charred Body such as distinct house structures and the Initial Middle Missouri (IMM) related ceramics towards the end of the Charred Body Complex period indicates a village association more so than seen in eastern Late Woodland period sites. Charred Body is most certainly confined to the western half of the state if an arbitrary line is drawn down the eastern banks of the Missouri, for points east of this line do not show clear development into IMM-related ceramics, instead following a chronology discussed below for the Northeastern Plains Village complex. Two sites, Flaming Arrow and Menoken, comprise the Charred Body Complex (Johnson et al. 2007:172).

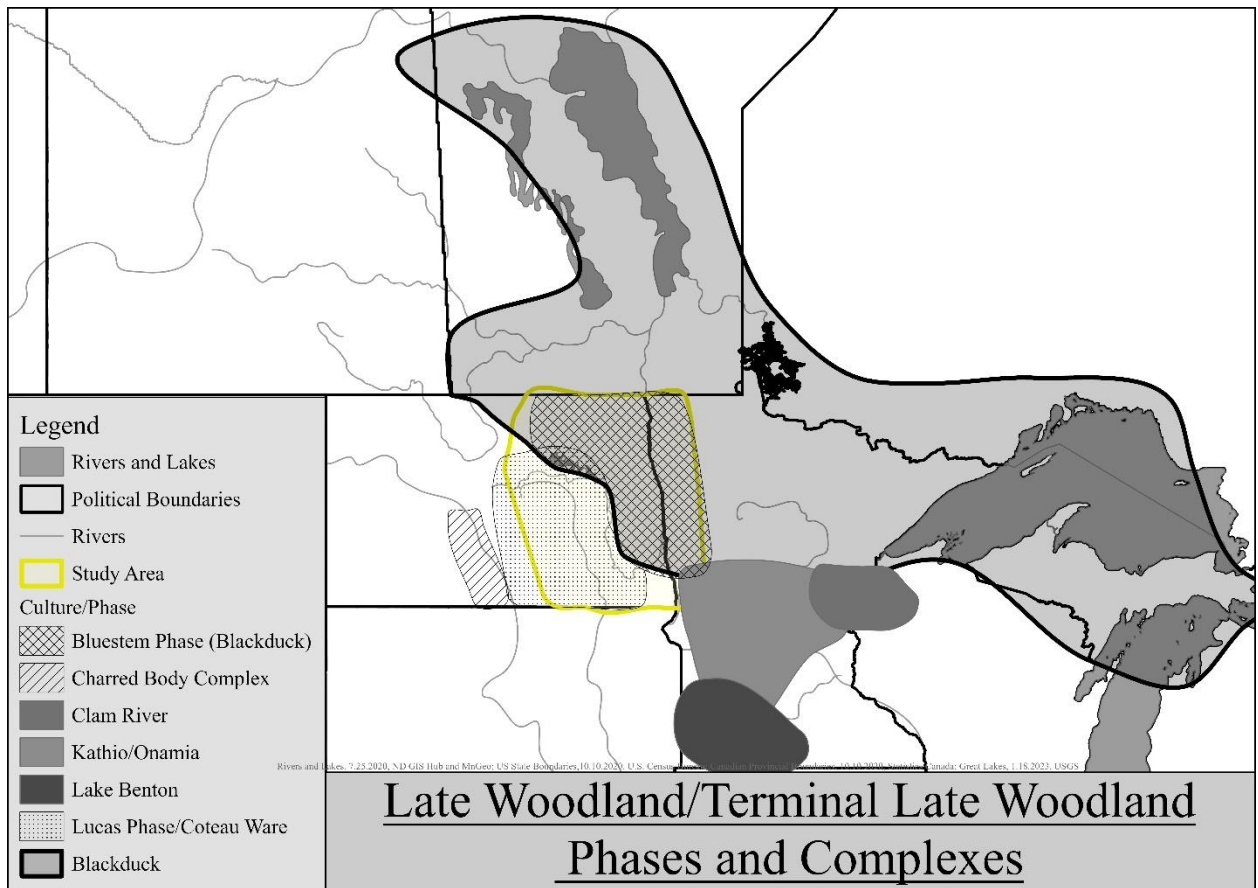


Figure 5 Late Woodland and Terminal Late Woodland Phases and Complexes

The ceramics of the Charred Body complex yield elements from both Woodland times and the following IMM period. Vessel forms are somewhat globular with grit temper and cord roughened exteriors with S-shaped and collared rim forms (Krause 2019:47). Decoration on the rim of the vessel parallels those expressions of Woodland ceramics in the state, with cord-wrapped-rod and dentate stamping occurring on select vessels. Lip decoration varies slightly from the expected Woodland norm, with incising, and tool impressions present (Krause 2019:58). Limited climate information is available for the time after AD 0. However, the Northeastern Plains appears to have experienced a period of severe drought punctuated by wetness (Laird, Fritz, and Cumming 1998). Three main droughts are identified between AD 200-370, AD 700-850, and AD 1,000-1,200 (Laird, Fritz, and Cumming 1998:178), the latter dates coincide with the widely known Medieval Warm Period. The Woodland period on the Northeastern Plain was a time of extremes in which precipitation varied widely and extended droughts blanketed the area. However, much like the climatic oscillations of Archaic Altithermal, little evidence points to an abandonment of the prairies in favor of literal greener pastures. Indeed, to the west along the Sheyenne River, the beginnings of a different type of cultural manifestation being to present themselves. The Lucas Phase (AD 1000- 1200) (Michlovic and Holley 2022:150) marks the terminus of the Late Woodland period and the beginnings of the Northeastern Plains Village lifestyle with the mixing of ceramic traits from village cultures and Late Woodland cultures.

3.4 The Late Precontact Period

The Late Precontact Period (AD 1200 – 1750), though not directly pertinent to the research question presented here, is worth discussing for the proliferation of evidence concerning intercultural relationships and human-environment adaptations on the NEP. Four main players

intermix to form the bulk of sites found in this time period (Figure 6). From north-central Minnesota, Sandy Lake Ware is characterized by relatively undecorated cordmarked vessels with shell and grit temper (Anfinson 1979:175), found in abundance on both sides of the Red River (Blikre 2008; Holley et al. 2022; Michlovic 2008). This ceramic type is rarely found alone, with most sites yielding a mix of Initial Middle Missouri-related Cambria ceramics (Anfinson 1979:51), in situ developed Northeastern Plains Village ceramics (Michlovic 2008; Toom 2004), or Oneota ceramics, which are believed to be related to Cahokia and the Mississippi region (Holley 2021:81). The Late Precontact Mooney phase often contains Cambria ceramics, while the Shea and Wild Rice Phases yield a mix of Sandy Lake and Oneota ceramics (Holley et al. 2021:61). The remaining two phases, Matoti and Mirror Pool, present stand alone ceramic assemblages of NEPV ceramics and Middle Missouri ceramics respectively.

In east-central Minnesota, the end of the Late Woodland period witnessed a significant decrease in the presence of CWS-impressed ceramics (Figure 6). Sandy Lake, characterized by shell and grit temper cordmarked vessel with simple lip decoration replaced Blackduck and Kathio ceramics in central Minnesota. Along the Rainy River and areas to the north and west in Manitoba and Ontario, Blackduck ceramics morph into Rainy River Complex ceramics. Three ceramic complexes have been identified based on decoration and analysis of vessel traits (Lenius and Olinyk 1990). Duck Bay, Bird Lake, and Winnipeg River all subsume the ceramic variation previously classified as “Late Blackduck”(Lugenbeal 1976). In addition to CWS impressions, stamping increases in frequency throughout Duck Bay and Bird Lake assemblages. Winnipeg River is intended to group undecorated vessels that do not conform to the expectations of a slightly later ceramic complex known as Selkirk, which proliferated in the north-central portions of Manitoba and Saskatchewan(Meyer and Russell 1987).

Western North Dakota, after the Charred Body Complex, witnessed the proliferation of village life along the Missouri River. After the Charred Body Complex, four complexes offered by Ahler (1993), encompass the relationship between the Middle Missouri region of South Dakota and the change in village life within the Knife and Heart Rivers in North Dakota. Village life between AD 1200 and contact varied as groups came together and populations shifted. The Plains Village period (AD 1200-1450) saw the use of square houses and a mixed subsistence system of maize horticulture supplemented by bison hunting (Ahler et al. 1991:31). Between AD 1450 and 1600, a growing Mandan influence on the predominately Hidasta occupants of the Knife River region prompted a change from square semi-subterranean houses to round houses, and a shift in ceramic manufacture towards standardized vessels (Ahler et al. 1991:42). Between

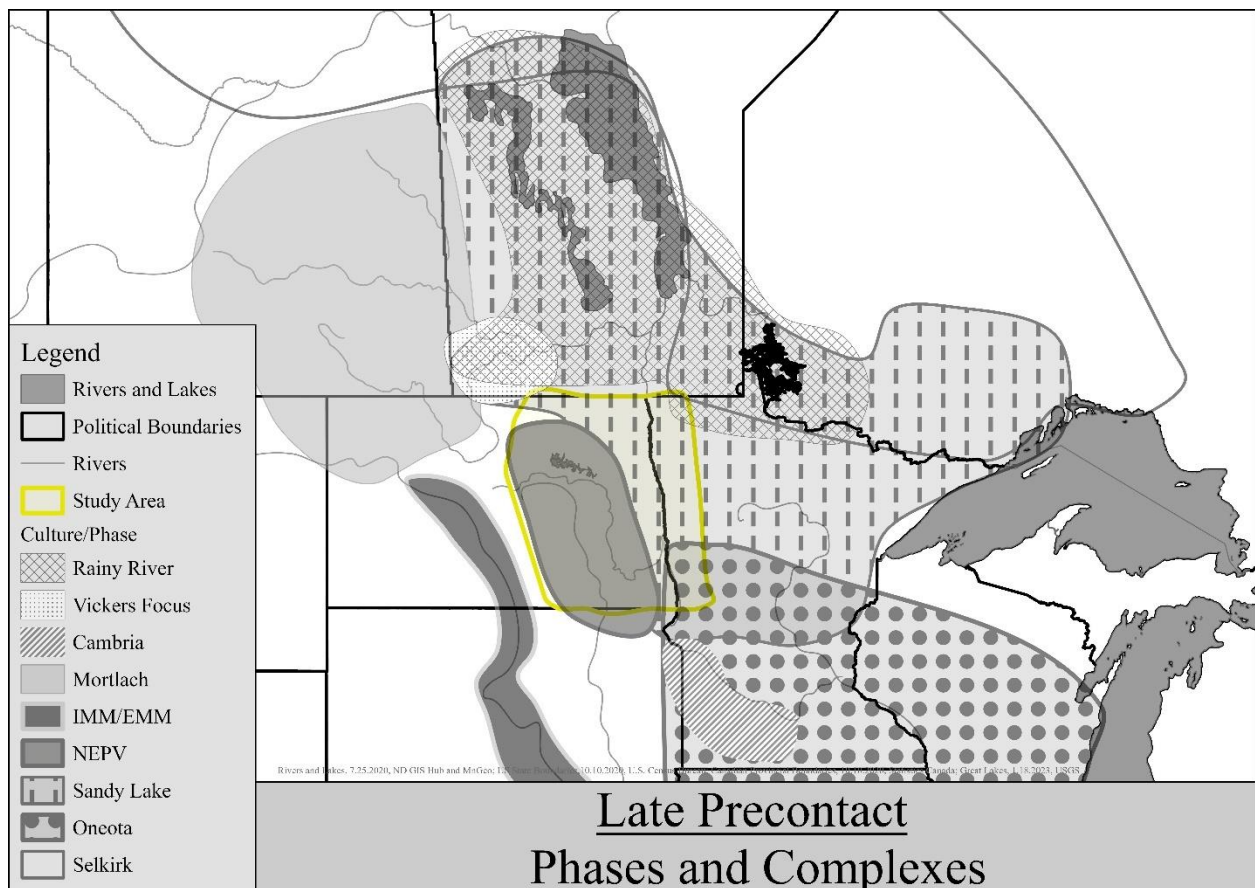


Figure 6 Late Precontact Phases and Complexes

AD 1400 and contact, periods of warfare, death from disease, and pressures from outside groups greatly reduced the frequency of villages along the upper Missouri region, and by 1845, amalgamated villages comprised of the Mandan and Hidatsa were formed (Ahler et al. 1991:60).

Further to the north and west occupying southwestern Manitoba, eastern Saskatchewan, and the Plains of Alberta and Saskatchewan, three archaeological entities are worth mentioning in the late Precontact period. The furthest west, Old Women's Phase, is represented by cordmarked vessels with complex profiles and decoration varying from cordwrapped stick impressions to pinching, incisions, dentates, punctates, and bossing which has been variably known as Ethridge ware, Saskatchewan Basin Complex: Late Variant, or Old Women's Phase pottery (Macdonald 2014:14). Moving east, Mortlach ceramics are defined by simple, check, cord, and smoothed surface treatments, globular vessel shape, and decoration ranging from cordwrapped stick, dentate stamping, punctates, tool impressions, and fingernail impressions (Mokelki 2007:25). Though a primarily Canadian archaeological phenomenon, Mortlach sites have been documented in northwestern North Dakota (Schneider and Kinney 1978). East of Mortlach and confined primarily to the southwestern portion of Manitoba, Vickers Focus sites represent the development of village life in Manitoba. Ceramics at Vickers Focus sites yield traits similar to the Scatter Village Complex of the Middle Missouri region of North Dakota, with influence from Sandy Lake further east as well (Mokelki 2007)

3.5 Conclusions

The summation of cultures on and adjacent to the NEP above indicates that the environments into which Blackduck moved were not unoccupied or untouched. Rather, the time leading up to and succeeding Blackduck is filled with numerous different archaeologically discernable cultures interacting and moving across the NEP. Of concern for this thesis is the dearth of information

available concerning the Late Woodland Period in North Dakota. It is clear from an examination of Minnesota during the Late Woodland that several groups occupy the areas immediately adjacent to North Dakota, yet there are few documented instances of these groups transitioning into North Dakota. This requires rectification, as the Initial Woodland Period in the Red River Valley demonstrates a unique mixing of traits from several different entities that can occur in this geographic area. As will be shown, some Late Woodland ceramics have been documented in North Dakota, but their classification has been wanting and demands reconsideration.

4 Blackduck Ceramic Analysis History and Methods

4.1 Introduction

Like most facets of Blackduck archaeology, a complete detailing of the numerous methods of ceramic analysis undertaken since Jenks' (1935) identification of ceramics at Blackduck Lake has multiplied. Indeed, the typologies for Blackduck include geographically confined typological schemes focusing on ceramic variation (MacNeish 1958; McPherron 1967), site-specific analyses (Carmichael 1977; Dawson 1974; Hamilton et al. 1981), or broader regional approaches intended to offer other archaeologists classificatory systems (Anfinson 1979; Lugenbeal 1976).

While the reader is referred to the introductory chapter for an examination of the general

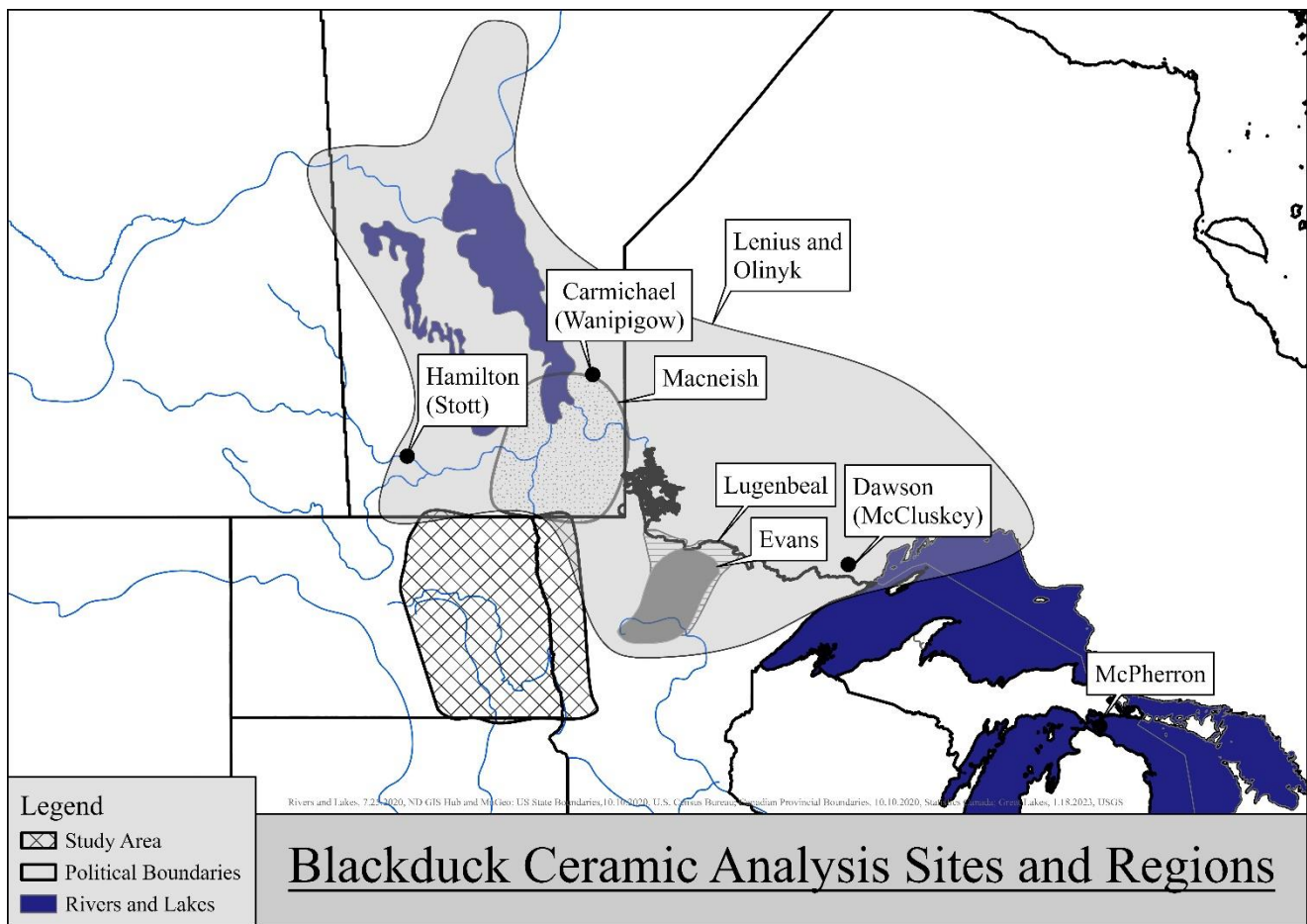


Figure 7 Previous Blackduck ceramic analyses

archaeological concept of Blackduck, this chapter serves as an exploration into the history of Blackduck ceramic analysis to demonstrate continuity and shortcomings in previous analyses. After this summary, the methods and objectives of the ceramic analysis conducted here will be outlined, reflecting upon the lessons learned from past work.

The goal of this research is an intersite examination of ceramic assemblages looking for the presence of Blackduck in its most western environs. In short, the question is of the “yes or no” variety, rather than one looking to make more refined distinctions among the ceramics analyzed at any one site. Copious amounts of ceramic data exist for Blackduck, but each source is plagued by a dearth of useable rim profiles, clear photos, and outdated systems of typology. Ideally, this ceramic analysis would look at collections from the Blackduck heartland along the Rainy River, Manitoba, and the outliers on the Plains, but for now, the data presented by the succeeding authors (Carmichael 1977; Dawson 1974; Evans 1961; Hamilton et al. 1981; Lenius and Olinyk 1990; Lugenbeal 1976; MacNeish 1958) (Figure 7) must suffice for comparison and delineation of a select number of traits that define the most “typical” Blackduck vessel.

One of the most oft-overlooked pieces of information when authors detail analyses of Blackduck ceramics in publication (Dawson 1974:10; Graham 2005:37–39; Meyer et al. 1999:155) is the first published mention of Blackduck ceramics. While it is true that Wilford (1945, 1941) first operationalized Blackduck into a chronologically useful schema for archaeologists, the namesake of Blackduck is derived from an earlier publication from Albert Jenks (1935), Wilford’s mentor and predecessor in Minnesota archaeology. In this work intended to chronicle the latest developments in archaeology in the state, Jenks makes the first note of “Black Duck pottery,” which he titles a “working name for our local use” (1935:14) derived from the location of the site along Black Duck Lake in north-central Minnesota. There is no

question that the vessel shown on the succeeding page titled “Black Duck Pottery Bowl” (Jenks 1935:15) is what archaeologists recognize today to be Blackduck pottery. Two items of interest must be noted from this first inked appearance of Blackduck. The first item is of little consequence except for the most invested reader. Jenks seemingly misspells the landowner’s name in his work. The site excavated was on the land of William “Schwacker” (Jenks 1935:14), though later the site would be known as the “Schocker” (Wilford 1945) or even “Shocker” (Lugenbeal 1976:70). This would become one of the main type sites for Blackduck ceramics. The second item of interest concerns the name of the ceramics dealt with here. Jenks quite confidently details the excavations at “Black Duck Lake” with a space between Black and Duck. Though there is a lake with the name Black Duck in Minnesota, Wilford’s note that the excavations occurred at Mr. Schocker’s residence near Hines, MN (1945:312) indicates that the correct spelling is indeed Blackduck if one wishes to remain true to the geography of Minnesota. Even with these somewhat odd misnomers throughout his work, Jenks (1935) still must be awarded the first published naming of Blackduck ceramics in the archaeological literature.

The second and justifiably more recognized publication of Blackduck comes from Jenks associate, Lloyd Wilford (1945, 1941). Instead of presenting information in antiquarian-like terms as Jenks did, Wilford’s earliest note of Blackduck used McKern’s (1939) taxonomic classification system to organize sites and their respective material cultures into a hierarchy of relations. The “Headwaters Lakes Aspect” contains the “Blackduck Focus,” which is in turn made up of what are essentially four Blackduck-type sites (Wilford 1941:232). A few years later, Wilford expanded upon exactly what the “Headwaters Lakes Aspect” is composed of including an in-depth description of the material culture comprising this term, and including Blackduck ceramics (Wilford 1945:314)

Shortly after Wilford's publication of a sequence for Minnesota archaeology, archaeologists in Manitoba began to look for similarities between materials described by Wilford and their excavations. The first to accomplish this was Chris Vickers, a noted avocational archaeologist responsible for the early advancement of the archaeological discipline in Manitoba. Using Wilford's organizational schema (Syms 1980:5), Vickers began assessing known materials from Manitoba concerning the Headwaters Lakes Aspect (Vickers 1947). Slightly later, he produced a similar chronicling of Manitoba prehistory, maintaining there were differences between the materials composing the Blackduck Focus and those in Manitoba, so he came up with his own "Manitoba Focus" (Vickers 1948:32).

Wilford's basic framework, in combination with Vickers' identification of a "Manitoba Focus", was later elaborated upon by Richard MacNeish (1958) when he refined the cultural sequence based on excavations in the southeastern portion of the province. MacNeish favored the establishment of three groups for the "Manitoba Focus" ceramics. "Manitoba Corded Ware" was divided into "Manitoba Horizontal", "Manitoba Herringbone," and "Blackduck Brushed" types (MacNeish 1958:157–159). Throughout the process, MacNeish noted the similarities between Blackduck Focus material designated by Wilford, stating that "Wilford's description and illustrations of the pottery reveal it to be extremely similar to (if not the same as) Manitoba Focus ceramics"(1958:76). MacNeish's lasting contribution to the pantheon of Blackduck ceramic analysis originates in setting the foundation for future analyses by creating multiple types for Blackduck found in Manitoba, thereby opening the path for further expansion of the typology.

While the early years of Blackduck ceramic analysis were primarily focused on the description of the material and classification within a cultural schema, bolstered by MacNeish's

basic typology, the succeeding period marks the true engagement of archaeologists in Manitoba and Minnesota with characteristics of the material itself. Starting in the early 1960s, Evans produced a detailed exploration of Blackduck from seven sites in Minnesota, defining eight Blackduck wares (1961:44). Further east, on Bois Blanc Island in the Straits of Mackinac, Alan McPherron employed two simplified types of Blackduck (1967:102–104) to explicate a diversity of Late Woodland assemblages that often crossed typological bounds. On the Canadian side of the border, Dawson defined nine modes of Blackduck at the McCluskey site in Ontario (1974:16), opting for a different naming convention than Evans in addition to focusing primarily on a single site. A significant advancement in analytical complexity was ushered in when Lugenbeal (1976) published his dissertation on the Smith site in northern Minnesota. Instead of examining Blackduck visually and organizing groups by traits, Lugenbeal conducted a statistical analysis of Blackduck and Laurel ceramics at the Smith Site and 13 other sites (some split by component for a total of 18) in Minnesota and Ontario (1976:779). Using Chi-squared analysis to compare the frequency of occurrence of specific traits, Lugenbeal produced six different “clusters” of traits for Blackduck and organized these clusters into “early” and “late” stages. Almost simultaneously, Carmichael, working on Wanipigow Lake in Manitoba, produced his descriptive summary of Blackduck, finding six different modes (1977:51). Carmichael related the majority of these to the original types produced by Evans (1961), with the exception of Mode 6.

Attempts to find an applicable classification of Blackduck continued in Minnesota with the publication of “A Handbook of Minnesota Prehistoric Ceramics,” edited by Scott Anfinson (1979). The section on Blackduck, authored by Edward Lugenbeal, provided a detailed outline of the characteristics of Blackduck, including temper, surface treatment, vessel form, decoration,

and nuances of decoration application (Lugenbeal 1979:26–27). Issues with the typological systems offered were examined by Lugenbeal (Anfinson 1979:28), yet no easy solutions to the problem of organizing Blackduck were found. The rough outline provided in this handbook still serves to guide many archaeologists today. On the northern side of the border, and much further west than had previously been noted for Blackduck, Hamilton et al. (1981) detailed the Blackduck ceramics recovered from the Stott site, located just northwest of the city of Brandon, Manitoba. While the majority of this analysis follows the work of Carmichael's (1977) six modes, it is worth mentioning the development of 4 new modes and 12 new variants (Hamilton et al. 1981:178). The modification of Carmichael's original typology indicates the amount of variation present at the Stott Site, which is of particular interest for the research question identified here.

The typological era for Blackduck ceramics was finalized Lenius and Olinyk's highly calculated and narrowed definition of Blackduck (1990), which took the periodized segmentations offered by Lugenbeal (1976) and defined a new ceramic type known as "Rainy River"(Lenius and Olinyk 1990:82). In addition, their definition of Blackduck compressed the time of its appearance to roughly 300 years (between AD 700-1000), and focused mainly on the three most common traits of Blackduck: cord-wrapped stick impressions, punctates, and brushing (Lenius and Olinyk 1990:79). This work is one of the final truly unique explorations of Blackduck ceramic characterization and classification. A notable attempt to refine Lugenbeal's(1976) work, was undertaken by James Stoltman after ceramics recovered from archaeological testing at the Hannaford locale were analyzed. He proposed a further division of Lugenbeal's (1978) Early and Late Blackduck into Early, Middle, and Late Blackduck, each with further internal divisions based on the appearance and disappearance of specific traits (Rapp

et al. 1995:127). Stoltman's typology was tested during data recovery at the Little Fork River and was found to be generally accurate, though inhibited by a small sample (Thomas and Mather 1996:10.48). This typology, however, is severely inhibited by accessibility issues, making the terminus of Late Blackduck, the Rainy River Complex (RRC) as described by Lenius and Olinyk (1990). Most recently, a challenge to the RRC has originated in the Lac Seul region of Ontario. Brad Hyslop (2021) has proposed, instead of the RRC, a new ceramic classification for the area titled the "Minontoba Composite". This composite ware seeks both a narrow definition of Blackduck similar to Lenius and Olinyk (1990), and a more detailed examination of the departure of previous RRC ceramics from Blackduck based on this narrow definition.

The most recent studies of Blackduck ceramics can be succinctly described as "stagnated." For the sheer amount of ink spilled over typological organization between MacNeish's first work in 1958 and Lenius and Olinyk's refinement of Blackduck in 1990, little work has been done to refine or change any of the above-described classification systems with new data outside of Hyslop's (2021) most recent contribution. Researchers uncovering Blackduck on the fringes of the known range merely refer to one of the known typologies for Blackduck to organize their material. An early report on western Blackduck by Michlovic (1979) along the Dead River in Otter Tail County Minnesota primarily relies upon Carmichael's (1977) modes, while 21CY39, a site noted to be on the western edge of Blackduck in Minnesota, was classified by Michlovic based on information drawn from Lugenbeal's (1976) work. Vitally, for the examination of fringe Blackduck presented here, researchers in North Dakota have almost exclusively referred to Lugenbeal's (1976) dissertation (Toom 2000:5.56, 2003:6.12), or his delineation of Blackduck within the ceramic handbook (Anfinson 1979) developed for Minnesota (ie Campbell et al. 1983:8-44). This is certainly not the fault of the editors or authors

of these works as time and budget constraints often demand swift identification of the materials found. The unsettled position of Blackduck ceramics at the time of Lugenbeal's (1976) dissertation and the plethora of excavations and refinements carried out since the publication of the Minnesota ceramic handbook (Anfinson 1979) suggest that it is time for a critical review of how Blackduck is identified.

The amassed body of work on Blackduck ceramics has created a problem for the average archaeologist looking to make an identification of Blackduck ceramics. Within all the typologies and definitions of Blackduck, a critical presentation of the most basic traits is superseded by the sheer amount of variation present in some large assemblages. The focus is upon how the primary defining decorative elements of Blackduck are positioned on the vessel, and how these can be separated into varieties of types, rather than on the overall cohesion of the assemblage itself. Therefore, when a rather unique and potentially non-Blackduck vessel is encountered, it can easily be shoehorned into the wide range of Blackduck types and varieties. This issue will be explored more in-depth next chapter, but it is clear after reviewing the extensive history of Blackduck ceramic examination that misclassification of Blackduck-like ceramics should be nearly impossible with the compendium of data available, yet it inevitably still occurs.

With an understanding of the history of Blackduck ceramic analysis, the methodology used within this research can be neatly contextualized. In contrast to the detailed, complex, and extensive intra- and inter-site examinations of Blackduck outlined above, the following methodology is exceedingly simple. It focuses on those traits agreed upon by all the authors discussed above and jettisons the unnecessarily tedious tools of multiple modes, clusters, or variants. If one is to ask a simple yes or no question, the tools used to arrive at the answer must be equally modest. The typological analysis of Blackduck ceramics in the true "heartland"

should not be completely forgone in the future, but for fringe analyses, merely understanding what Blackduck is and is not will suffice.

4.2 Defining Blackduck ceramics

3.2.1 Vessel Form

While there is a considerable range in the typologies produced by ceramicists working on Blackduck, a consensus on what a Blackduck vessel generally looks like has been available since some of the earliest work on the subject. Evans (1961:34) describes Blackduck vessels as having “a globular form with a rounded base. The neck constricts slightly and the rim flares outward, usually not beyond the width of the shoulder. The lip is thickened, usually 2 or 3 mm. thicker than the body.” Carmichael (1977:5) echoes this sentiment, stating that “vessels have a globular shape with rounded bases. The neck is slightly constricted and the rim exhibits an outward flair which is typically not greater than the width of the shoulder. The lip is splayed usually being 2 – 4 times thicker than the body.” Lugenbeal’s synopsis of Blackduck in the Minnesota Ceramics Handbook suggests that “vessels are characteristically round and globular with constricted necks, flaring rims and flattened usually thickened lips” (Anfinson 1979:26). Even Lenius and Olinyk agree, offering that “Blackduck vessels are typically globular with thickened lips ... and a moderate Mouth Flair Angle” (1990:79).

The general agreement of these definitions is most helpful. It can be stated with relative confidence that the average Blackduck vessel has a flared rim, wedged lip, and globular shape (Figure 8). The discussion of an entire Blackduck vessel form, given the highly fragmentary nature of the ceramic assemblages to be analyzed here, is primarily performative. The first two descriptors are of the most importance. Blackduck rims, the only piece of material culture that can positively identify a Blackduck site, are flared and wedge-shaped. Vessel surface treatment,

namely the proliferation of different types of cordmarked body sherds that may be presented with western Minnesota, was determined to be extraneous to furthering an understanding of the spread of Blackduck into western Minnesota and North Dakota. Research about these variation can be found to the north (Hyslop 2021), but are not undertaken here.



Figure 8 Reproduction Blackduck Vessel from Minnesota State University Moorhead

3.2.2 Decoration

Blackduck typologies offer significant complexity when it comes to decoration. Though every author cited above has used decorative elements to sort Blackduck ceramics into groupings they see as fit for the regions they are working in, there is still considerable agreement on the general decorative elements present on Blackduck. Wilford (1945:314) is the first to offer a description, detailing his description of the Headwaters Lakes Aspect.

The characteristic Blackduck rim has a flat lip, thickened on the exterior, with closely spaced impressions of a cord-wrapped stick across it. Along the overhang, immediately below the outer edge of the lip, is a band of short oblique lines made with a cord-wrapped stick or a row of punctates. Below this, the neck of the vessel is covered with vertical brush lines, over which are bands of short oblique or horizontal lines made with

cordwrapped sticks, which either encircle the vessel or are vertically aligned in short lengths to produce a panel effect. Horizontal rows of punctates border the lines or bands of cord-wrapped stick impressions, or they are placed between them.

This description of the typical decorative elements persists throughout time. Evans (1961:35) indicates that “The decorative elements are, as indicated above, cordwrapped stick (CWS) and punctates. The design may be applied over a smoothed, cord-wrapped paddle, combed, or brushed surface.” Both Dawson (1974:13) and Carmichael (1977:14) indicate that cord-wrapped object impressions and punctates are the two main decorative elements, with combing as a minor element. This is once again echoed by Lenius and Olinyk (1990:79), who believe the combination of cord-wrapped object impressions and punctates or bosses in combination with brushing or combing to be the main decorative elements that delimit Blackduck ceramics. Lugenbeal’s description of Blackduck, which as indicated is heavily relied upon for the identification of Blackduck on the geographical fringes of its known range is as follows: “Decoration is confined to the upper portion of the interior rim, the lip and the upper rim and neck areas of the exterior portion of the vessel. Types of decoration include cordwrapped stick stamping, a type of comb stamping that closely mimics cordwrapped stick. Various types of punctations, and brushing” (Anfinson 1979:26). Without diving into the fastidious aspects of where punctates may be placed with the horizontal CWS impressions or how many horizontal CWS lines there are before the decorative elements terminate, the basic decoration on Blackduck ceramics is simple enough. Blackduck vessels are typically adorned with CWS impressions on the lip surface, oblique CWS impressions on the highest part of the rim just below the lips, horizontal CWS impressions encircling the vessel, and punctates somewhere in the mix (Figure 9). If all these forementioned elements are on a rim sherd, that is more than enough to call the

rim sherds Blackduck. What is clear from each analysis detailed above is that there is certainly more to Blackduck. There are often CWS impressions on the interior of the rim, and additional decoration intermixed with the horizontal CWS impressions, such as combing and jag impressions at the termination of the decoration at the neck. The nuances noted are certainly worthy of inspection. Blackduck decoration, however, is no less than the above description of CWS impressions and punctuates.



Figure 9 Typical Blackduck Rim from 21OT51 (Photo courtesy of George Holley)

4.3 Analysis Methods

The objective of examining ceramic assemblages believed to contain Blackduck is driven by the primary goal of documenting what is true Blackduck on the Plains versus Blackduck copies or ceramics that are in some form related to Blackduck but exhibit distinct divergent traits. Therefore, a set of criteria is needed to hold each ceramic assemblage against for affirmation that the assigned cultural affiliation is correct. For this project, the Blackduck “package” or grouping of traits that define a Blackduck vessel are as follows:

1. Horizontal CWS impressions
2. Oblique CWS Impressions superior to the horizontal impressions

3. Punctates

These features appear on the majority of Blackduck vessels within previously analyzed assemblages that claim to be single-component Blackduck sites. In addition, there are select traits that appear most commonly on these vessels, and generally span the entire range of Blackduck vessels with the tripartite grouping of decoration. These are:

4. CWS lip impressions (can be single direction, alternating directions, or crossing)

5. Wedge-shaped and flared rim

It should be noted that, when enough of the rim is present, the tripartite grouping of decorative elements makes or breaks the determination of whether a rim sherd is Blackduck. The circumstances under which a vessel could be Blackduck but missing one of the key three traits would require the vessel to have all of the following secondary traits to qualify as Blackduck. Therefore, a vessel with horizontal and oblique CWS impressions, but no punctates, no wedged rim, no and lip impressions would be categorized as non-Blackduck. This somewhat effectively handles the situation of rim sherds that are missing a large portion of their lower reaches of decoration that may have had punctates, but none are visible after taphonomic processes. In this scenario, the small rim sherd would exhibit horizontal and oblique CWS impressions, lip impressions, and a wedged and flared profile, making it eligible for inclusion as Blackduck.

The question of whether a sherd without the necessary decoration, found within a ceramic assemblage that also has sherds with the tripartite grouping, is real Blackduck is a good inquiry, but simple reasoning would suggest that the presence of “classic” Blackduck overshadows the need to tease apart every variation within the assemblage. Alone, however, with no definable Blackduck sherds within the assemblage, the aforementioned suspect sherd cannot be labeled as

Blackduck. It is with this basic perspective that the succeeding chapter seeks to delineate authentic Blackduck from copies or Blackduck-influenced ceramics.

4.3.1 Recordation Metrics

The traits outlined above as critical to the determination of Blackduck vs. non-Blackduck ceramics were recorded in a systematic manner aimed at teasing out the presence of Blackduck. In contrast to ceramic analysis aimed at type construction, this methodology sought the specific manifestation of traits on vessels rather than recording all traits in hopes of finding meaningful clusters. The data was recorded in a Word document table containing 11 columns, which has been shortened to eight for easier presentation of data (Appendix A).

The first column, “Rim Sherd #” was for organizational purposes. If a site had known vessel numbers from previous analyses, these were used to aid in easier comparison with reports. If no known vessel numbers were present, the rim was numbered based on the order it was analyzed. This rim number was then associated with any drawn profiles for the sherd as well as any photographs taken of the rim in question.

Columns two through seven focused on the presence or absence, and descriptive qualities, of traits on the rim sherds analyzed. The columns were organized in the following order: Punctate/ Boss, Horizontal CWS, Vertical/Oblique CWS, Lip CWS, Combing, and Other (description). When filling these columns, an answer of yes or no was entered, along with pertinent information descriptive information like the direction of CWS orientation (left or right obliques), punctate depth (deep, shallow), or the number of horizontal CWS rows visible. For sherds in a sample that were labeled Blackduck by the reporting author, but were deviant in unexpected ways, the “other” column was used liberally to describe the decoration or surface treatment apparent on the vessel.

The eighth column captured the only measurement taken of the rims analyzed. “Thickness” was added to capture the thickness of the rim at the lip, the “body” of the rim (the area just inferior to the lip), the neck, and the shoulder if present. Measurements are given as a range of thickest and thinnest measurements taken for a select portion of a rim. The comparison of thickness between the lip and body of a rim sherd was used to determine if the rim was adequately thickened to be called Blackduck.

The remaining columns, nine through 11, were used primarily for data organization purposes. Column 9, “Rim Profile” was used to record if a rim profile has been taken for the number of rim sherd in question. A yes and the profile number was put in this column if a rim profile was drawn. Column 10 recorded the photo numbers for each rim sherd. These were noted in a numerical range from the camera photo viewer. The final column was reserved for notes that were deemed important amid the analysis. This was anything from the sherd association (if one sherd was noticed to be from the same vessel as another), cataloging information, notes on the artifact bag, or simply to remark on a finely made specimen. These columns were removed given the dearth of usable information for other researchers.

Rim Sherd #	Punctate /Boss	Horizontal CWS	Vert/Oblq CWS	Lip CWS	Combing	Other (describe)	Thickness	Rim Profile	Photo #	Notes
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Figure 10 Example of Ceramic Analysis Table

Rim profiles were drawn for larger sherds that were deemed important to the description of the site. At sites with only a few rims within the entire assemblage, these rims were drawn regardless of their size. At sites with significantly larger assemblages such as 21OT51, large, unique rims, and rims representative of the assemblage were drawn. After analysis, rim profiles were inked in Adobe Photoshop to retain detail and scale. Orifice diameter was taken when a

sherd was large enough to provide a reasonable estimate. In only rare cases did a rim yield a definitive orifice diameter that did not require a range. Large rims that failed to yield a somewhat close range were not recorded for orifice diameter.

Photographs, like rim profiles, were predicated upon sample size in most cases. Sites with few rim sherds warranted detailed photographs with a scale for all rim sherds analyzed. At larger sites, all sherds with rim profiles were photographed on the interior and exterior at a minimum, with many superior lip surface photographs also taken. Sherds in these collections were also photographed if they were felt to be unique or required excessive use of the “Other” column when recording vessel traits.

3.3.2 *Site Selection and Selection of Rim sherds for Analysis*

Sites in Minnesota and North Dakota were selected for analysis using a single criterion that turned out to lead down numerous paths (Table 2). If a site was labeled as Blackduck in North Dakota, it was chosen for the analysis. Finding sites to meet this criterion, however, proved to be a relatively arduous process that began almost two years before the analysis portion of the research project was conceived. The primary conduit for finding Blackduck sites in North Dakota proved to be the involvement of senior archaeologists from the Red River Valley, and the perusal of a monumental collection of grey literature amassed over decades of work in the region. Sites such as Magpie Road (Campbell et al. 1983), Kirschenmann III (Toom 2003), Grahams Island (Toom 2000), and Lake Coe (Toom et al. 2007) were all noted in this manner. Sites were also introduced into the analysis from a detailed examination of *Historic Preservation in North Dakota: A Statewide Comprehensive Plan* (Gregg et al. 2021:1), which breaks down North Dakota into several archaeological study units.

North Dakota	Minnesota
32SN247 (Kirschenman III)	21PL09 (Crookston Mounds)
32RY77 (Horner-Kane)	21OT51 (Dead River)
32PB66	21NR01(Slisinger Mounds)
32PB47	21MA08 (Skurdahl)
32PB42	21KT107(Prosser 10)
32PB41	21KT23
32ML400 (Mandan Overlook)	21KT01 (Lake Bronson)
32ML4 (Flaming Arrow)	21CY39 (Ponderosa III)
32LM235 (Beeber)	21BK01(Mitchell Dam)
32GF1 (Arvilla Mounds)	
32ED85 (Lake Coe)	
32CS4899	
32BL2 (Menoken)	
32BI286 (Magpie Road)	

Table 2 Sites included in the analysis.

Each of these units is described archaeologically, including the presence of specific archaeological cultures. These documents were searched for “Blackduck,” and provided sites included in the analysis. Finally, sites in North Dakota were examined for their coding as “Blackduck” within the GIS database of archaeological sites. This occurred concurrently with ceramic analysis at the North Dakota State Historical Society and added a minimal number of sites. What is noteworthy about the GIS database, however, is that sites with labeled Blackduck components like Kirschenman III(Toom 2003) were not included on the GIS list. Thus, the use

of multiple sources was necessary to ensure the majority of Blackduck sites in North Dakota were documented.

In Minnesota, sites were selected for analysis based on their geographical position in the Red River Valley. Sites within the counties adjacent to the river were prioritized. These were found based on their coding as Blackduck within the Minnesota online GIS database, as well as the knowledge of senior researchers in the region. A few select sites outside of these counties were chosen for analysis. These sites border the prairie/forest boundary and are representative of transitions between the two ecological zones for Blackduck sites. Several sites in Minnesota selected for analysis have a history of being recognized for their presence of Blackduck like the Skurdahl and Lake Bronson sites (Arzigian 2008:122) but lack readily available or recent publications that are of use to the archaeological community.

Rim sherds were selected for analysis based on their labeling as Blackduck within known reports for sites within the analysis. The presence of a rim sherd that appears to be Blackduck is essentially the only manner of labeling a site as such. Therefore, to reinforce the cultural affiliation of Blackduck, a count and description of the number of rims believed to be Blackduck is typically provided. These rims were then located within the collections of the site, analyzed, and compared to the criteria outlined above for analysis. Given this structure, there is little leeway for the analysis of other sherds within the total site assemblage. By following the precedent of the previous researcher who chose to label a certain sherd as Blackduck, a comparison between the current analysis and the past is a one-to-one process, making quantification and supplementation from previous reporting an easier task.

Only rim sherds, or those sherds of a vessel with lip and rim present, were allowed within the analysis. This was done as it is felt that the only way to reliably identify Blackduck is from

whole-rim sherds. This does not mean that the rims are necessarily large, but they show a relatively complete picture of the Blackduck decorative schema which is primarily confined to the lip and upper rim area. “Blackduck” sherds identified by previous researchers based on the presence of horizontal CWS impressions on a neck sherd, or by a partial rim with a superior lip surface missing were not counted as such. Instead, these sherds were noted, and occasionally photographed, but not used to label a site as Blackduck.

It is important to reinforce that this analysis is not intended to revise the bedlam that is the Blackduck ceramic typological schema. Instead, the ceramic analysis methodology presented above is intended to answer the simple yes or no question, “Does this site contain Blackduck ceramics?”. While it will be shown that the methodology must be stretched to accommodate widely divergent data, the basic question it is attempting to answer cannot be forgotten. The succeeding site and ceramic descriptions are not intended to be site reports. Rather, they present pertinent information to delineate the site history of labeling as Blackduck, and whether, under the criteria of this analysis, such labeling stands.

5 Blackduck Ceramics on the Northeastern Plains

North-central Minnesota and Manitoba are well covered when it comes to discerning Blackduck from other types of ceramics. The fringe areas such as North Dakota and western Minnesota, however, remain woefully understudied. This chapter serves to fill this important gap, documenting nearly all known instances of “Blackduck” ceramics in western Minnesota and North Dakota. By tracing Blackduck from its core within northern Minnesota to its farthest reaches in North Dakota, it is possible to draw a distinct geographic line whereafter true Blackduck ceramics do not appear in the archaeological record. Thus, instead of guessing about movements and patterns within Blackduck life as will be discussed later, the hard southwestern boundary found here sets a clear delineator for environs and potential contacts in the past. While much remains to be accomplished in the realm of Blackduck ceramics, finding the extent of their spread gives much-needed finality to a question that has constantly faced archaeologists since the earliest days of the discipline in Manitoba and Minnesota.

Finding and documenting the following sites has been a multi-year process. Western Minnesota archaeology remains in a state of development pursued by a few individuals with a longer-term commitment to elucidating the remarkable past of the Red River Valley and adjacent areas. Similarly, archaeology in North Dakota has lost the presence of academic archaeologists at some of the state’s largest institutions, depriving the eastern region of much-needed publications and research. Both states also face the challenge of material lost to the black hole of grey literature. Many of the sites reported on here were found through tertiary references in larger publications and the accumulated knowledge of older archaeologists. The search was aided by a search of the North Dakota archaeological GIS database for sites coded as “Late Woodland” and “Blackduck”. While this did contribute a few sites to the analysis, collections were often

missing, and some sites known to be Blackduck were not included in the database. Therefore, the presentation of sites below may be incomplete to select researchers, yet it represents one of the most comprehensive reports on Blackduck in its western ranges.

The site examinations will follow the template of describing the site, its original and subsequent excavations, and the alleged Blackduck ceramics found at the site. These are not intended to be total site reports and therefore will not describe all ceramics found at each site. The reader is directed to the site report referenced in the text for complete information on each site. The Blackduck ceramics described for each site will be assessed against the criteria described at the end of Chapter 3 and will be assigned to the “Blackduck” group or the “non-Blackduck” group. The analysis will move from east to west, starting with the largest Blackduck site included in the analysis, 21OT51 (Michlovic 1979), and will end at the westernmost alleged Blackduck site recorded in North Dakota, 32BI286 (Campbell et al. 1983) (Figure 11). A select number of rim profiles and photos will be included for each site, which will often be all profiles if the site is small.

As the analysis progresses further west, some sites should be excluded as they are not Blackduck “enough.” All sites, however, have been included in this analysis because an archaeologist at some point in the past has labeled some ceramics at the site as Blackduck. It will become clear that there is at least one unidentified Late Woodland ceramic ware in North Dakota that has erroneously been classified as Blackduck. While the focus of this thesis is not to resolve this issue, it is necessary to handle these ceramics to holistically accomplish the task set out.

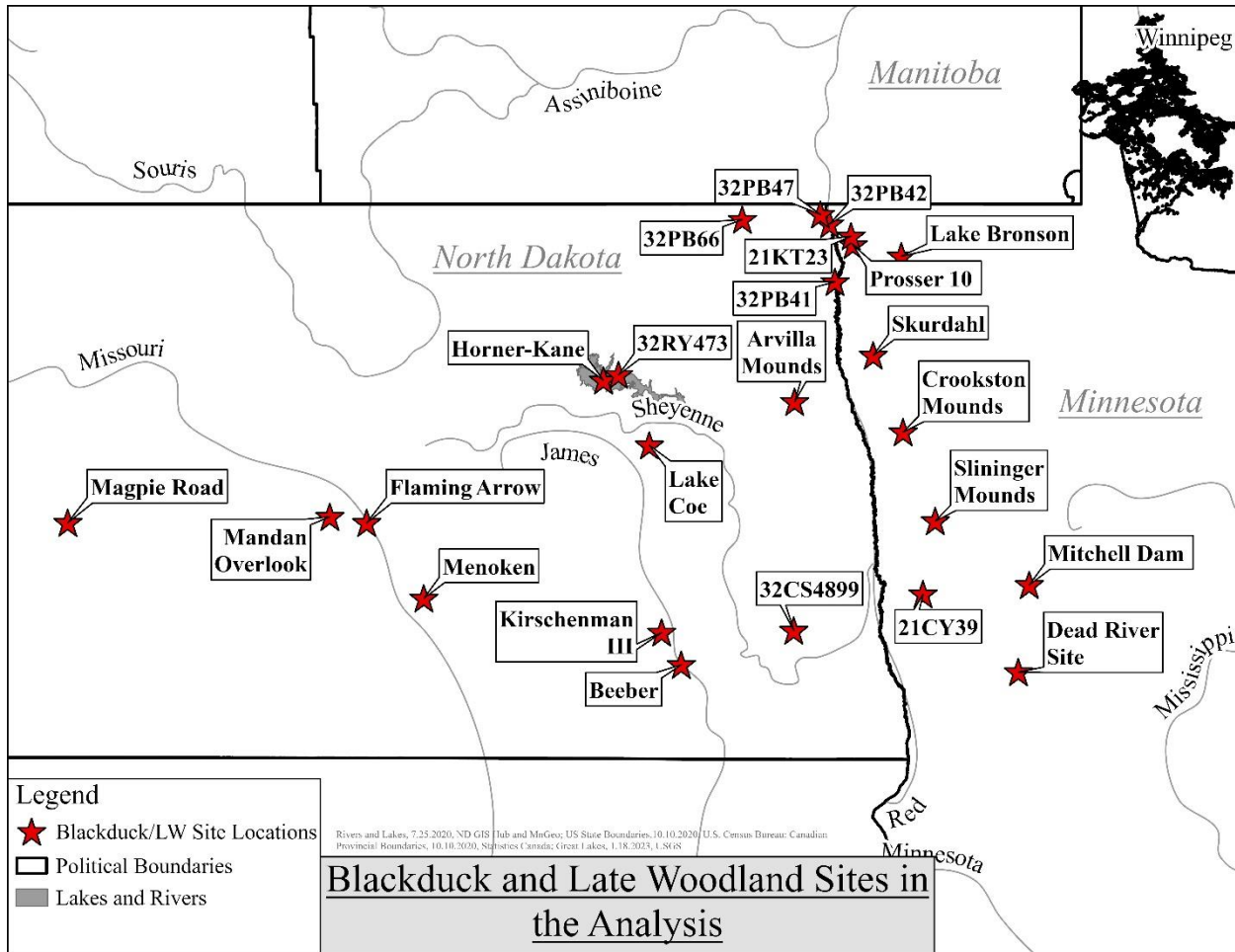


Figure 11 Blackduck and Late Woodland Sites included in the Analysis

5.1 21OT51: The Dead River Site

The Dead River Site, which will also be referred to interchangeably as 21OT51, is located along the banks of the Dead River, which connects Walker and Ottertail Lakes in western Minnesota. Located in Lakes Country, the Dead River Site was first excavated by Michael Michlovic and a group of students from Minnesota State University Moorhead in the summer of 1977 before a planned road expansion would destroy the site. Excavations across the site generated a large artifact assemblage including fish, mammal, and avian faunal material (Michlovic 1979:6), numerous points of which many were Woodland affiliated (Michlovic 1979:10), and at least five different ceramic types, including Blackduck, “trailed line” or

Cambria, Brainerd Net Impressed, Plain ware and Laurel (Michlovic 1979:17). Blackduck dominated the assemblage with a total of 61 of the 88 vessels documented at the site falling within this classification (Michlovic 1979:20). As noted in Chapter 3, Carmichael's (1977) typology for classifying Blackduck on Wanipigow Lake was used to sort the Blackduck found at Dead River, with the most "classic" Blackduck best represented by Modes 1-3 (Michlovic 1979:26).

21OT51 was selected for reanalysis for two reasons. The first is its geographical position with the "heartland" of Blackduck sites researched by the likes of Evans (1961) and Lugenbeal (1976). Whereas the majority of Blackduck sites in Minnesota are in the northern 1/3 of the state, firmly situated within the lake-dotted Boreal Forest, the Dead River Site is one of the southernmost Blackduck sites known in Minnesota. As will be demonstrated in a discussion of the geographical bounds of Blackduck found in Chapter 5, an examination of ceramics from sites adjacent to the Dead River reveals no Blackduck presence. The location of the site between two lakes and well off the beginnings of the prairie in western Minnesota, however, still places it within a somewhat similar geographic territory to the "heartland" of Blackduck though it has been argued that there may be a "southern Blackduck" separate from the most well-documented sites to the northeast (Buhta et al. 2014:98).

The second interesting trait of the Dead River site that warranted a revisit was the recovery of bison bones within the faunal assemblage at the site. These remains were in no short order either, with 32 identifiable elements from 4 individuals (Michlovic 1979:6). The presence of bison at Blackduck sites in western Minnesota is rare enough to draw attention, as Arzigian's (2008:122) assessment of the Woodland Tradition in Minnesota lists the site as a principal Blackduck location.

These two reasons combined provided enough reason to re-examine the collection of Blackduck ceramics. If variation within Blackduck is going to manifest over geographical space, the southernmost site still located within the lakes region of Minnesota should yield the first hints of change.

5.1.1 21OT51 Ceramics

In total, 56 Blackduck rims were documented within the collection. This falls near the original number put forth by Michlovic of 61 vessels within the assemblage. Roughly the difference was excluded as they did not meet the criteria of the study, i.e. they did not possess traits of Blackduck vessels. In addition, several sherds mixed within different bags were found to relate to already analyzed larger rim sherds, likely contributing to the difference in numbers.

From a bird's eye view, the assemblage at Dead River is Blackduck yields traits that best match the criteria selected. The majority of rims have the prime combination of punctates, horizontal, and oblique cordwrapped stick decoration of the rim sherd. In addition, the profiled sherds all are wedge-shaped within reason, and flair outwards. 46 out of the 56 have punctates. Fifty-two sherds have some superior lip decoration, whether that is right or left CWS impressions, alternating, or crossing. A few out of the entire assemblage have punctates on the lip instead of CWS impressions. The presence of superior lip decoration seems to be a key trait for Blackduck (Table 3).

Punctates	Horizontal CWS	Oblique CWS	Lip CWS	Lip Punctates	Interior CWS
42	38	46	52	1	9

Table 3 Tallies of basic Blackduck traits from 21OT51

Another curious trait present on some sherds, and even larger ones profiled, is the bridging of the lip to the middle rim with the oblique CWS impressions (Figure 12). It appears

that the lip CWS impressions were made before the oblique near-rim impressions, causing the lip to flair and wedge outward. The application of the near-lip oblique CWS impressions only contacts the exterior lip and the smoothed area just above the horizontal banding on the rim. This modification leaves marks that appear to be jag-like punctates in curious positions, but instead are the remnants of attempting to emplace oblique CWS impressions after lip modifications. It would be easy to suggest that is error is one of a novice potter attempting to apply the standard decoration to a Blackduck vessel and applying decorative traits out of order. However, the rest of the vessel appears to be in fine form. The rim is adequately wedged and the horizontal CWS/punctates appear to be normal. Intentionality must then be considered for this particular variation.



Figure 12 Example of CWS Rim Bridging, 21OT51

“Left-handed” vessels are present in the minority. This has been determined by the direction of the oblique CWS impressions on the rim, with the majority trending up to the right.

Occasionally, the CWS impressions trend up to the left, a hand position most uncomfortable for someone wielding the CWS tool with their right hand. Another point of note for the Blackduck assemblage at Dead River is the infrequency of combing on vessels that are of generally high quality. Thirteen of the 56 vessels (roughly 23%). Lenius and Olinyk (1990:79) identify combing or brushing to be a primary trait of Blackduck, likely invented by Blackduck potters. The infrequency of brushing in the Dead River collection must be a slight deviation from the traditional Blackduck of northern Minnesota and the lakes of Ontario/Manitoba. One miniature vessel identified did not possess the standard wedged rim of Blackduck but did yield the expected decoration pattern of horizontal CWS, punctates, and oblique near-lip CWS impressions. Miniature vessels may be associated with mortuary contexts (Evans 1961:36), but no burials were documented in the vicinity of the Dead River site. Indeed, it was not possible to extract an orifice diameter for the miniature vessel documents, but the inclusion of all Blackduck traits on the surface of the tiny sherd is almost certainly indicative of a miniature Blackduck vessel.

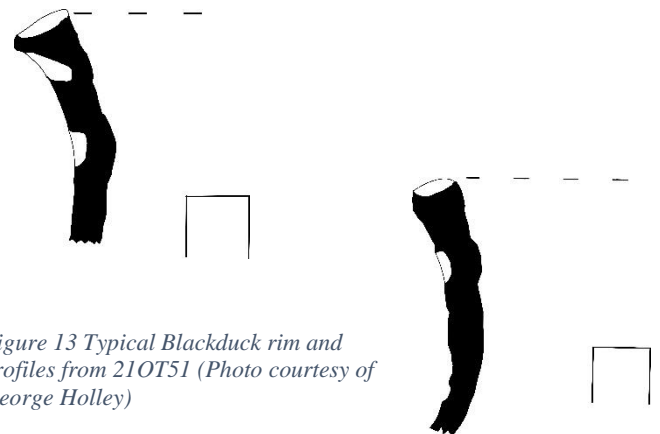


Figure 13 Typical Blackduck rim and profiles from 21OT51 (Photo courtesy of George Holley)

The ceramics first labeled by Michlovic (1979) as Blackduck at the Dead River Site are undoubtedly that. The 56 documented rim sherds all follow the previously outlined criteria to qualify as Blackduck (Figure 13). Though the site is located well to the south of the typical range of Blackduck, the ceramics are high quality. One small caveat is needed, however. The sum of the ceramic assemblage at this location is generally diverse. While Blackduck dominates, the site holds a sample of Late Woodland wares such as Kathio or other indeterminate Late Woodland ceramics. Due to collapsed stratigraphy and the fine temporal resolution of change during the Late Woodland period, it is unknown whether these differing ceramic styles are concurrent with the Blackduck occupations at this site, or slightly later. The traits exemplified by the Kathio and indeterminate Woodland may be what Blackduck in its southernmost ranges becomes as time goes on. Michlovic does not report other Late Woodland wares in his handling of the Dead River Site, and though it is not detailed here, there seems to be a greater presence of Kathio within the Dead River assemblage than previously thought based on concurrent analysis of the ceramic collection by George Holley. In addition, there may be a Middle Woodland Malmo component identified by Michlovic as Laurel.

5.2 21CY39 Ponderosa III

The next Blackduck site to be examined is located slightly northwest of the Dead River site. Positioned along the Buffalo River where it cuts through a remnant beach ridge of Glacial Lake Agassiz, 21CY39 has undergone intermittent investigation from the early 1980s until 2020. 21CY39 is located within the Minnesota State University Moorhead Regional Science Center; a piece of land donated to MSUM in the 1980s as a small golf course began to shrink. This somewhat undisturbed area has been an area of intense focus for archaeologists and students at MSUM, with the recent completion (Holley et al. 2021) of an extensive testing

program to determine the temporal and geographic extent of sites on the property. While 21CY39 will be the main focus of the succeeding discussion, a few select sites on the RSC yielded small ceramic samples that may be related to the Blackduck occupation at 21CY39.

21CY39, as it is described by Michlovic (2004), is a majority Blackduck site. The largest ceramics by size identified from the site are certainly Blackduck, with a smaller representation of wares that may be grouped as Blackduck. The site's unique character stems from the presence of distinct features of processed bison bone coupled with a relative lack of other faunal elements represented. Thus, combining the Blackduck ceramics and bison bone abundance, the site was deemed to be a base camp for bison hunting. Like the representation of bison at the Dead River Site, the clear focus on bison exemplified by the Blackduck inhabitants of 21CY39 is significant. Arzigian (2008:115) identifies the site as one of the major indicators of bison hunting amongst the Blackduck in the US. While the exploitation of bison by Blackduck ceramic makers is extremely well documented in Manitoba (Hamilton et al. 1981, 2007), the occurrence of bison hunters who manufacture Blackduck ceramics so far south in western Minnesota is rare in the literature with only passing mention of Blackduck bison hunting made during the developmental stages of research in the Red River Valley (Johnson 1962:165), though more attention has been paid in recent years (Arzigian 2008; Holley et al. 2021).

5.2.1 21CY39 Ceramics

A reexamination of ceramics from 21CY39 revealed the presence of only 2 Blackduck vessels identifiable by the criteria laid out. This is in contrast to the minimum of 4 Blackduck vessels identified by Michlovic (2004). The two rims believed to be Blackduck but excluded from this qualification in this analysis were treated as such for possessing traits that indicate a

severe departure from normal Blackduck. These vessels will be detailed shortly, but it is worth suggesting from the outset that 21CY39 is more multicomponent than previously believed.

The two qualifying Blackduck vessels at 21CY39 are of good quality. Michlovic's "Vessel 1" (Figure 14) has superior lip CWS impressions, short oblique rim CWS impressions that give the rim a somewhat rolled appearance, bands of horizontal CWS impressions, a band of punctates encircling the vessel, and combing extending from the neck to the beginning of the horizontal CWS impressions. The profile of the rim is somewhat wedge-shaped with a characteristic flared profile. The sherds composing this vessel are somewhat thicker than the homogeneous Blackduck assemblage at Dead River. In addition, the rolled lip with little obvious oblique CWS impressions is a deviation from the standard model of readily apparent CWS impressions, yet by all accounts this vessel is Blackduck.

The second affirmably Blackduck vessel is Michlovic's "Vessel 3" (Figure 14). Unlike "Vessel 1" which had some unique aspects that conformed to the general "rules" yet were not perfect, "Vessel 3" is quintessential Blackduck. CWS lip impressions, oblique rim CWS impressions, horizontal CWS impressions, and two rows of punctates encircle the vessel. In



Figure 14 21CY39 Vessel 1 (Left) and Vessel 3 (Right)

addition to the major aspects of Blackduck decoration, this vessel also exhibits a row of angular jag-like punctates below the horizontal CWS impressions. Brushing is also evident below the angular punctations. The profile is moderately wedge-shaped and flared, checking all the boxes for a solid Blackduck vessel.

The vessels previously identified to be Blackduck but do not meet the criteria are vessels “2” and “7” (Figure 15). “Vessel 2”, while exhibiting cordmarking and punctates, is missing a few key criteria to qualify as a Blackduck vessel. The lip is rolled and smoothed instead of wedge-shaped and CWS impressed. In addition, it is missing any rim decoration aside from punctates. While in a massive Blackduck assemblage like that analyzed by Lugenbeal (1976) or Evans (1961), this vessel may be categorized as a tertiary mode or cluster, in such a sparse assemblage like 21CY39, the failure of this vessel to encapsulate the main traits of Blackduck warrants questioning. The same may be said for “Vessel 7”, which has superior lip CWS impressions but only smoothed cordmarking on the rim. This vessel has been typed as a regionally unique development called Dead River Punctated. These rims should not be fully disregarded, however. Their loose association with Blackduck may suggest influence from the makers of true Blackduck vessels in the area, leading to a locally distinct type of ceramics influenced by, but not quite Blackduck. A classification within the Kathio type designation would be more fitting.



Figure 15 21CY39 Vessels 2 (left) and 7 (right)



Figure 16 Smoothed Cordmarked Rim, 21CY39

The exclusion of vessels “2” and “7” from occupying the Blackduck title, in addition to the relative abundance of smoothed ceramics, found, indicate that 21CY39 is not the “single component” (Arzigian 2008:115) Blackduck site it was once thought to be. A minimum of 3 vessels identified by Michlovic (2004) (Vessels 4, 6, and 13) are either smooth or smoothed

cordmarked, vertical rims with only slight thickening of the rim (Figure 16), leaving the properly identifiable Blackduck rims in a representative minority compared to the deviant ceramics. There is a distinct possibility that Blackduck people from outside the region occupied 21CY39 in successive events with other non-Blackduck Late Woodland groups who drew influence from the Blackduck ceramic style but were not familiar with or not interested in replicating the exact Blackduck style.

Given the general spatial proximity of 21CY39 and 21OT51, it is again pertinent to mention the mixed nature of the ceramic assemblages recorded. While both sites are regarded as largely Blackduck sites, a closer examination of the ceramics present with a precise outline of what constitutes Blackduck reveals a significantly larger portion of unidentified Late Woodland that in some cases may be related to Blackduck, but in the southernmost ranges is likely a locally developed Late Woodland ware by itself or Kathio ceramics which were noted within the 21OT51 assemblage during reanalysis and align closer with the geographic location of 21CY39 than Blackduck.

5.3 21NR1 (Slininger Mounds) Ceramics

The Slininger mounds, located near the Wild Rice River in Norman County, Minnesota, were first explored by Wilford in 1946 (Johnson 1973:38), and subsequently assigned to the Arvilla Mound Complex. During these initial explorations, numerous burials were recovered in addition to 186 ceramic sherds (Johnson 1973:40) which are now understood to belong to the Initial Woodland period in the Red River Valley (Holley and Carr 2023). Nearly 40 years later, the Slininger mound and a nearby habitation site, Natwick, were revisited under salvage contexts (Thompson 1985). The Natwick site was tested with three one-meter by-one-meter excavation units, wherein two rim sherds with potential Blackduck affiliation were recovered (Thompson

1985:23). Surface collection of the area surrounding the Slininger mounds was undertaken in a plowed field. During this investigation, one sherd appearing to be Blackduck was collected (Thompson 1985:23). This single sherd was available for viewing at Minnesota State University Moorhead, and a thorough examination of it was conducted.

5.3.1 *Slininger Ceramics*

The single-rim sherd fragment from the Slininger site is Blackduck by the terms set out for this project. The exterior of the rim is decorated with a single visible line of horizontal CWS impressions with right trending oblique CWS impressions superior. The superior lip surface is decorated with right-trending oblique CWS, while the interior also contains oblique CWS decoration. Little of the rim body remains, but the rim profile taken demonstrates an outflaring and wedged rim shape consistent with the expectations for Blackduck (Figure 17).



Figure 17 Slininger Blackduck Rim and profile (exterior left, interior right) (Photo courtesy of George Holley)

Though a single Blackduck rim is not an overwhelming presence of Blackduck in the archaeological assemblage, the description of ceramics from the nearby Natwick site provides some reinforcement. A single rim was noted to have both horizontal and oblique CWS impressions in addition to a flared profile (Thompson 1985:19). A second, smaller rim with a “beveled lip and punctate impressions” (Thompson 1985:23) was recorded, but no description of the surface treatment of this rim is available. At best, it is possible to state that there is one

Blackduck rim at the Natwick site as well. Therefore, with two rims in the locale of the Slininger mounds, a Blackduck presence is readily definable

5.4 21BK1 Mitchell Dam

The Mitchell Dam Site (21BK01) is located at the point where Rice Lake flows into Height of Land Lake in Becker County, Minnesota, to the north of Dead River and east of 21CY39. The site, now bisected by a road, was excavated by Lloyd Wilford (1954), with little reason given for the dig. The excavations were spread between two “areas”, area “A” and area “B”. Square “A” was a 10-foot by 10-foot square excavated in two six-inch levels, while square “B” was a 15-foot by five-foot rectangle, also dug in six-inch levels (Wilford 1954:1). Square “A” was only partially excavated, as square “B” proved to be significantly more productive and lacked debris from the historic occupation which proliferated in the square “A”. This was suggested to originate from the local Native American groups who harvested wild rice in the area. One feature, consisting of a circle of fire-cracked rock with minimal ash was noted (Wilford 1954:2).

The ceramics available for research from Mitchell Dam appear to be the sherds recovered from square “A”. These were categorized by Wilford as Blackduck and Kathio based on surface treatment and decoration, though Wilford felt that the assemblage was more consistent with Kathio than Blackduck (1954:3). Square “A” also yielded a moderate sample of shell tempered ceramics, though, at the time of excavation, Sandy Lake ceramics had not yet been defined as a Late Precontact ceramic manifestation. It should be noted before the discussion of rims from the Mitchell Dam Site that the majority of Late Woodland rim sherds found were located in square “B”. 61 large and small rims are noted by Wilford (1954:5 Table 4), with 11 large rims noted to be Blackduck in appearance (Wilford 1954:7). Unfortunately, the material from square “B” was

missing from the collections housed at the Minnesota History Center and is therefore absent from the information provided below. Only material from square “A” will be discussed.

5.4.1 21BK1 Ceramics

Seventeen rims with potential Blackduck affiliation were recorded from Mitchell Dam. Thirteen of 17 presented with vertical to oblique CWS impressions. Eight were noted to have horizontal CWS impressions, while five were broken too close to the lip to make a firm determination, leaving four without horizontal CWS impressions. Seven yielded one form or another of punctates, while the remaining 10 either did not have punctates or were too fragmentary to display them. All rims in the sample had a CWS impression on the superior lip surface. Summed, five rims have all the traits expected of a typical Blackduck vessel. Seven have the majority of necessary traits but lack a single element, typically punctates. Thus, 12 of the 17 rims analyzed are deemed to be Blackduck. The majority of the five rims remaining are too small to provide adequate evidence to affirm or deny their Blackduck status, though one rim with a smoothed plain exterior, CWS impressed lip, and interior CWS decoration is likely Kathio.

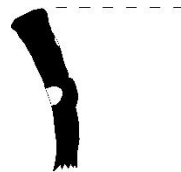


Figure 18 21BK1 rim sherd 1 photo and profile

The Blackduck from Mitchell Dam exhibits some unique characteristics, while still following the general parameters expected within Blackduck. Specimens such as rim sherd 1 (Figure 18), demonstrate the expected form of Blackduck. Horizontal CWS capped by oblique CWS to the lip is accentuated by the presence of punctates between the first and second rows of horizontal CWS impression. A second row of shallow punctates is located between the third and fourth rows of horizontal CWS impressions. This exemplifies the Blackduck type, though a second row of punctate/ jag impressions is usually reserved for the termination of decoration near the neck.

A rather unusual sherd is represented by rim sherd 4 (Figure 19). While exhibiting the traditional traits of horizontal CWS impressions, punctates, and CWS lip impressions, the rim lacks any oblique CWS impressions superior to the horizontal CWS impressions on the exterior. In addition, the lip is not thickened or wedge-shaped as expected, but rather consistent in thickness with the body of the rim. While this may be a Blackduck rim given the strong Blackduck expression of other rims in the sample, the variation present also suggests the possibility of mixing with other Late Woodland ceramic traditions in the central part of Minnesota like Kathio.



Figure 19 21BK1 rim sherd 4 and profile

The assemblage at Mitchell Dam indicates the presence of Blackduck near the edge of the forest/prairie boundary in Minnesota. The site is located less than 70 kilometers as the crow flies from the Prairie Blackduck site of 21CY39 and roughly 55 kilometers from the mixed subsistence site of 21OT51. As with both of the nearby Blackduck assemblages, Mitchell Dam is not a pure Blackduck site. Blackduck rims in their typical form are present, but the variation included demonstrates mixing with other ceramic entities in the region. Given the southern location of the site, this is to be expected, but it reinforces the notion that Blackduck was interacting with multiple groups on the edge of their range.

5.5 21PL9 Crookston Mounds

21PL09, also known as the Crookston Mounds, were first noted in a survey of Native American mounds by T.H. Lewis in the late 1800s (Johnson 1962:164). Between their first identification and 1960, the mounds were monitored by the staff of the Minnesota History Center and documented to be shorter with every farming season passing. In 1960, excavations were conducted on the diminishing mound by Eldon Johnson (1962:164–165). These excavations revealed several secondary burials as well as primary burials under the mound fill. Of primary concern for this analysis, however, is the recovery from the mound fill of Blackduck and what Johnson identified to be Kathio ceramics. In the summary of the 1960 field season written by Johnson (1961), no tallies of the ceramic finds were provided. Their context, however, was noted to be in the mound fill and not associated directly with the burials as grave goods. Little mention is made of why the ceramics were labeled as Kathio rather than Blackduck in association. It was felt that the ceramics were justifiably analyzable given their documented contexts outside of direct association with burials dug up without consent from Native American groups. The mound fill location of these ceramics indicates that they were likely surface scatter artifacts from the

vicinity of the mound, and only included due to the necessary moving of dirt to create the mound structure itself.

5.5.1 21PL09 Ceramics

4 rim sherds were analyzed within the collections held for 21PL09. Of these 4 rim sherds, two exhibited the expected traits for Blackduck including punctates between the upper rows of horizontal CWS impressions, right trending oblique cordwrapped stick impressions, thickened lips, and superior lip surface decoration (Figure 20). One sherd yielded all the above elements but was too fragmentary to identify the presence of punctates. One rim sherd deviated completely from the expected pattern of Blackduck. This rim was decorated with oblong, small punctates placed in unique patterns in multiple places on the rim (Figure 21). Cordwrapped stick impressions were present on the superior lip surface, upper rim, and in three locations on the rim itself, but these decorative elements seem to primarily frame the oblong punctate impressions, which form a noticeable V-pattern on the smoothed rim surface. This sherd may represent a manifestation of Rainy River Composite ceramics, which make greater use of patterned stamping than Blackduck (Lenius and Olinyk 1990).



Figure 21 21PL9 Blackduck Rim sherd and profile



Figure 20 21PL9 Rainy River Composite Rim sherd

The Blackduck rim sherds from the Crookston Mounds site are of generally high quality. Both rims exhibiting the primary traits are also brushed over their decorative surfaces. This occurs on select sherds in other assemblages (21OT51, 21CY39), and is noted by Lenius and Olynik (1990) to be a prominent trait of Blackduck elsewhere. Rim sherd 1 (Figure 22) is notable



Figure 22 21PL9 Rim sherd 1 decoration

for the presence of elaborated lip surface decoration. Instead of left or right-oriented CWS impressions on the lip, this sherd has crossing CWS impressions which is a rather different but allowable manifestation of the typical lip decoration.

In all, the rims from the Crookston Mounds are Blackduck. Though there is the presence of a rim that suggests multiple components, three of the rims from the site are Blackduck which follows the general parameters expected. These rims all exhibit horizontal CWS, oblique CWS, punctates, and flared and wedge lip forms. Thus, while the site may not be a single-component Blackduck site, it is one of the better manifestations of ceramics in western Minnesota.

5.6 21MA8 (Skurdahl) Ceramics

21MA08, the Skurdahl Site, located along the Snake River in Marshall County, Minnesota, was documented in the same year as the Crookston Mounds were excavated (Johnson 1961). The site was noted to be a Blackduck focus site with predominantly bison bone found. No

information about the faunal assemblage or composition of ceramics was made available after this first testing. 15 years later, a survey of the Snake River by Richard Lane (1975), revisited the Skurdahl site and summarized the findings of Johnson, though to a lesser degree than desirable given the potential importance of the site. A variety of chert types are noted, in addition to a brief mention that the Blackduck ceramics recovered are consistent with Evans' (1961) Osufsen Cord and Punctate type (Lane 1975:32). No mention is made of recovered artifacts from the surface survey conducted by Lane, and it is assumed that no artifacts were found.

5.6.1 21MA08 Ceramics

The ceramics recovered from the Skurdahl Site consist of two rims, both exhibiting traits of Blackduck. The first rim, comprised of 4 refit pieces, is a finely made specimen with multiple horizontal rows of CWS, right trending oblique CWS, and a single irregular punctate placed between the 3rd and 4th rows of horizontal CWS impressions. The superior lip surface appears to have parallel dragging from the CWS tool, which contrasts with the typical perpendicular or oblique impressions on Blackduck. The interior of the vessel exhibits oblique CWS decoration over a plain surface. The rim form is generally flared with a slight wedging of the lip (Figure 23).

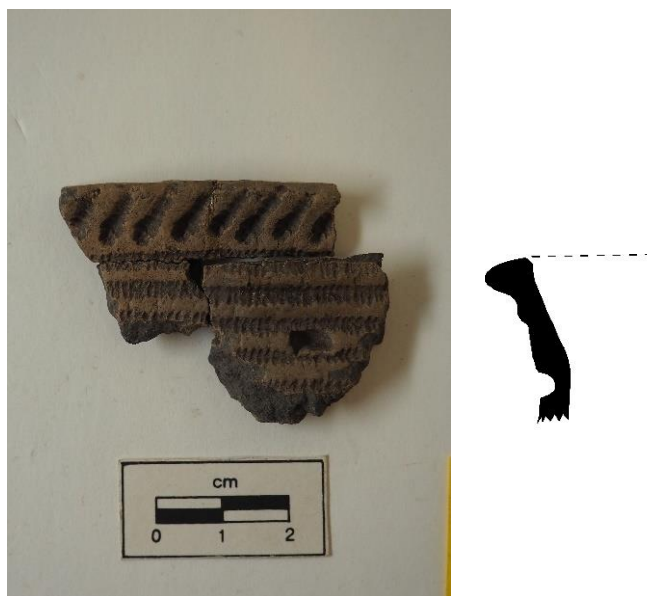


Figure 23 21MA8 rim sherd 1 and profile

The second rim is only the most superior portion of the rim and lip. The exterior exhibits right trending oblique CWS, with a very faint horizontal CWS impression just below. These are nearly impossible to see with the eye but were lifted from the surface with modeling clay. The superior lip surface has left trending CWS decoration somewhat widely spaced and impressed deeply. The interior rim surface has oblique CWS impressions over a plain surface. Though only a small piece remains, this rim is almost certainly Blackduck as well.

The Skurdahl site represents one of the only single-component Blackduck sites within the analysis. Whereas other Blackduck sites in Minnesota such as 21BK1, 21OT51, and 21CY39 all contain evidence of other ceramic cultures contemporaneous with Blackduck, Skurdahl's small but well-made ceramic assemblage indicates the site is likely a single component Blackduck bison hunting site. A paucity of information concerning the faunal remains recovered precludes a determination of what portions of the bison were being selected for processing, but it is nonetheless a vital site to understanding Blackduck presence on the Prairies.

5.7 21KT1 (Lake Bronson) Ceramics

The Lake Bronson Mounds were first documented during the construction of a dam in 1936 along the South Branch of the Two Rivers in Kittson County (Wilford 1940:1). That same year, two of the nine documented mounds were excavated by a crew from the University of Minnesota. Within Mound 1, an intact vessel and one additional rim sherd were noted to be Blackduck (Johnson 1973:23). Due to the direct association with a burial, these ceramics were not available for research. Nearly 40 years after the first excavations at the site, proposed modification to a nearby highway prompted an exploratory excavation and a mitigative excavation in the area to the north of the mounds, which was believed to contain a habitation site (Anfinson et al. 1977:1). The exploratory excavations of 1975 opened six square meters, and

recovered material believed to be associated with the Middle Woodland (Laurel), based on dentate stamped sherds (Anfinson et al. 1977:8). The mitigative excavations were conducted in three exploratory stages, and opened more than 50 square meters through stand-alone units, trenching, and excavation blocks. The ceramics recovered were found to be Laurel, St. Croix, and Blackduck affiliated, though no intact Blackduck rims were recovered (Anfinson et al. 1977:14). Identifiable points were primarily side and corner notched (Anfinson et al. 1977:16), and 80% of the recovered faunal material was identified as bison, with a small representation of grizzly bear (Anfinson et al. 1977:18). An examination of the ceramic collections from this excavation at the Minnesota History Center indicated that the St. Croix and Blackduck near rim fragments recovered were not within the collections. Photos were obtained, however, from researchers in the region (Figure 24). The description of the single vessel recovered by Wilford after the initial excavation of the site in 1936 will be offered instead.

5.7.1 21KT01 Ceramics

The intact vessel found by Wilford is described as a small vase with a narrow mouth and short neck (Wilford 1940:8). The decoration on the vessel consists of left trending oblique CWS impressions on the exterior rim with left trending CWS impressions on the lip surface. Below this near-lip decoration are 4 bands of “elongated impressions”(Wilford 1940:9) with vertical lines of impressions. These impressions are described as made with the end of a cordwrapped stick tool and oriented in alternating directions for each successive band. The body of the vessel is cordmarked. The rim sherd found in the mound fill is more fitting of a typical Blackduck vessel. It is described as having internal and external oblique CWS impressions on the rim and lip of the vessel, with a single visible horizontal CWS line. Below this line are two deep punctates (Wilford 1940:10).

Based on the descriptions above, only one Blackduck rim appears to be present at 21KT01. The small rim sherd found by Wilford at the site is undoubtedly Blackduck due to the combination of oblique and horizontal CWS impressions paired with punctates. As for the intact vessel, likely, that this vessel is not Blackduck. Instead, given the proliferation of “elongated impressions”, this vessel may fall within the immediate ceramic successor of Blackduck, the Rainy River Complex. Indeed, this sentiment is echoed by Holley et al. (2021:349), who feel the ceramics documented are closer to the Bird Lake Complex of the Rainy River Composite (Lenius and Olinyk 1990:93).



Figure 24 21KT1 St. Croix and Blackduck rim and body sherds (photo courtesy of George Holley)

5.8 21KT107 Prosser 10 Ceramics

21KT107 was first documented during the Kittson County portion of the 2021 Minnesota Statewide Survey, which looks to document sites in counties within the state that have minimal amounts of survey. The site is located on the south side of the South Branch of the Two Rivers,

roughly halfway between the town of Hallock, MN to the east and the Red River to the west. Aside from the ceramics of interest, the site contents were rather unique. An abundance of fired earth that appeared to be daub was scattered across the entire site, along with the typical contents of Knife River Flint and Swan River Chert debitage. 8 ceramic sherds were recovered during a pedestrian survey of the site, including one Blackduck rim sherd.

5.8.1 21KT107 Ceramics

The single rim sherd noted at the Prosser 10 site does not constitute a large sample, but it

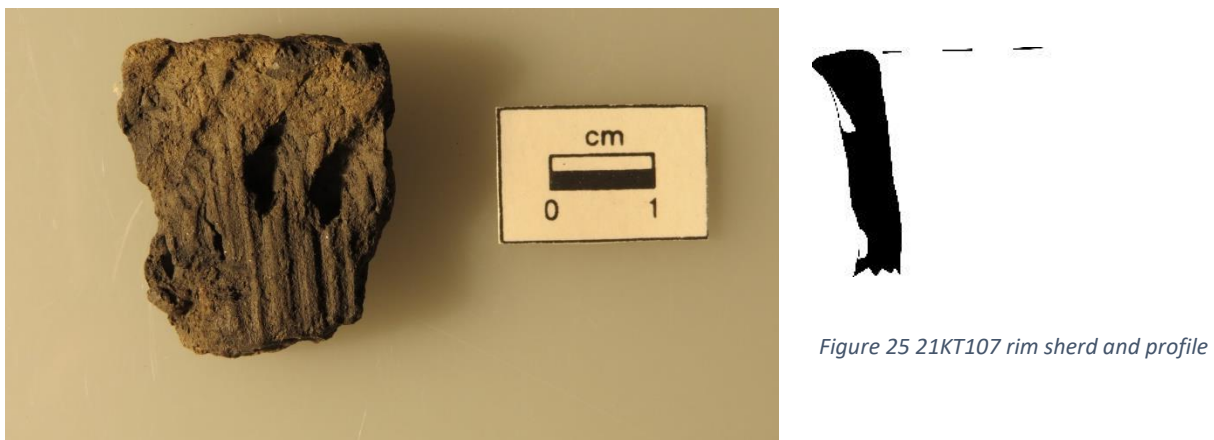


Figure 25 21KT107 rim sherd and profile

does yield rather interesting traits that affirm its label. The decoration on the surface consists of brushing to the lip surface, covered by right trending deep to shallow oblique CWS impressions that give the appearance of jags. Evident on the left broken edge of the sherd exterior is an irregular punctate. The lip surface is also adorned with CWS impressions. The rim form is slightly flared, and generally wedge-shaped, though the interior lip is missing (Figure 25).

These traits all suggest that while irregular in decoration, this sherd is Blackduck. Oblique and lip CWS impressions, combined with the irregular punctate and rim form fall in line with the required traits. The evidence of brushing and lack of visible horizontal is curious, for the same

tool is used to create both in most cases. It may be that there is not enough of the rim present to see evidence of horizontal CWS impressions.

5.9 21KT23

21KT23 is located to the north of 21KT107 along the North Branch of the Two Rivers, in Kittson County. Originally documented during reconnaissance before the construction of infrastructure throughout the county, the site was subjected to mitigative excavations in the summer of 1996(Cassell et al. 1997:1). Over 9000 artifacts were recovered (Cassell et al. 1997), including sufficient faunal evidence to suggest that a minimum of three bison were processed near the site (Cassell et al. 1997). Of primary concern is the cultural affiliation of the site, which was primarily derived from rim sherds and labeled as Blackduck.

5.9.1 21KT23

The description of rim sherds found at 21KT23 is somewhat problematical, as the CWS impressions present on the images of the rim sherds documented have been classified erroneously as dentate stamping. The images present in the report show two Blackduck rim sherds. The first has oblique CWS impressions on the interior and exterior upper rim, as well as the lip surface. A single punctate is visible, inferior to the exterior oblique CWS impression, and the remaining exterior surface has been brushed. The general rim form is wedged, but no flaring is apparent. The second rim has oblique CWS impressions on the upper interior and exterior rim surface. Perpendicular CWS impressions are present on the lip surface. Below the exterior oblique CWS impressions are three rows of horizontal CWS impressions. The rim is mildly thickened, with little evidence of flaring (Figure 26).

These two depicted rim sherds affirm the classification of the site as Blackduck. The first rim described is reminiscent of the Blackduck rim documented at 21KT107, which is a

geographically interesting association to note. Blackduck has a conspicuous presence in Kittson County, with clear evidence of bison processing occurring.

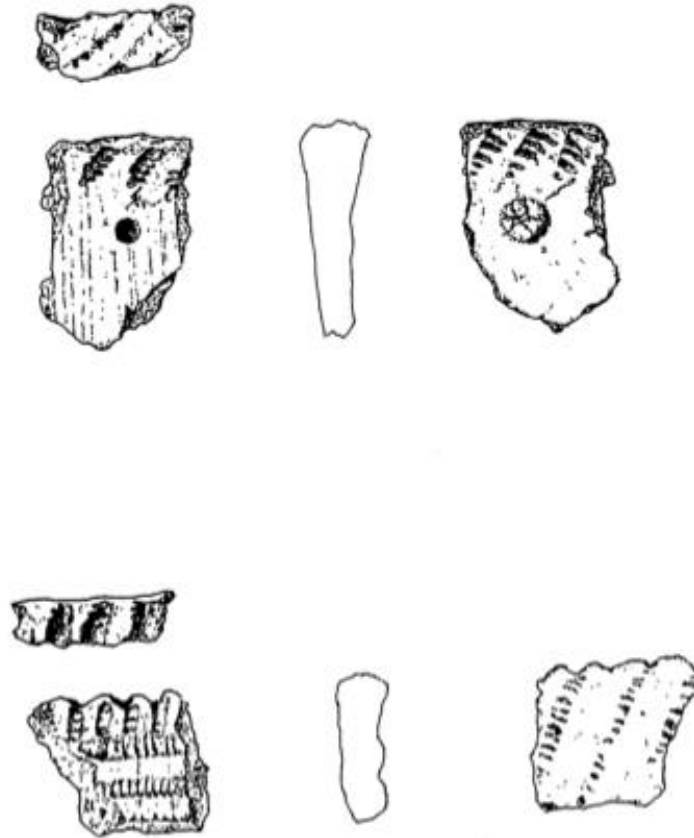


Figure 26 21KT23 Blackduck Rimsherds, from Cassel et al 1997

5.10 32PB66 and Pembina County

Moving into North Dakota, the first site of concern is located far in the northeast portion of the state in Pembina County. 32PB66 was first excavated in 1995 as part of a program to assess fur trade era historic sites in northeastern North Dakota. 32PB66 is located within Walhalla, North Dakota, and initially manifested itself as a depression in the ground which appeared to be a promising historic resource (Klinner et al. 1995:72). Two excavation units were emplaced on the edge of the depression, and an abundance of historic material was recovered. In addition, a

smattering of Indigenous materials was documented throughout, including lithic flaking debris and two sherds, one of which was labeled a Blackduck rim sherd (Klinner et al. 1995). The rim sherd of interest was recovered from level 12 of XU 2, which was excavated in arbitrary ten-centimeter levels, and was found above levels that continued to yield historic materials to level 14 (Klinner et al. 1995). The authors make the tenuous assertion that “the recovery of a Blackduck Ware sherd at this site does not necessarily indicate a pre-Euro-American component at the site”(Klinner et al. 1995). This proto-historic allusion is erroneous given the highly disturbed nature of the site. In addition, Lenius and Olinyk’s (1990:81) work on Blackduck suggests a narrow range of time extending at the latest to AD 1000. Therefore, it is highly unlikely that the Blackduck sherd found at 21PB66 is proto-contact but rather a precontact ceramic sherd mixed within highly disturbed contexts.

5.10.1 32PB66 Ceramics

The single rim sherd recovered from 32PB66 is Blackduck, yet it possesses a few qualities that make it rather odd. It retains all aspects expected of Blackduck including horizontal and oblique CWS impressions, punctates, superior lip impressions, and an extremely mild thickened rim (Figure 27). Therefore, it is categorized for this analysis as Blackduck. This is not unexpected as Graham (2005) included several Blackduck sites within his analysis that fell within the region directly north of Pembina county in Manitoba, yet the odd aspects of the sherd warrant some consideration.

Each “standard” aspect of the rim decoration is slightly off-form. The cord-wrapped



Figure 27 32PB66 Rim sherd and profile

object used to make the horizontal, oblique, and lip impressions is extremely wide and overlapping which appears to be a function of the wide rod or stick used in combination with a remarkably thin cord. The punctate is also more of a stamp decoration than a true punctate, for it barely mars the exterior surface of the vessel, leaving a shallow imprint. The profile of the rim is also unique, standing near vertical in comparison to the standard flared appearance of Blackduck. Oddly enough, there is an interior oblique CWS impression just below the lip. This trait is a well-documented aspect of earlier Blackduck ceramics (Arzigian 2008:111; Lugenbeal 1978a:46) and may demonstrate more knowledge of the entire Blackduck “package” than the rest of the sherd suggests.

Two other sites in Pembina County are worth noting even though both of their collections have seemingly gone missing. A call to both the state and county museums in Pembina County could not track them down and no curatorial facility is listed in the report for the sites. 32PB42 and 32PB47 were documented during a survey of eastern Pembina and Walsh Counties in northern North Dakota in preparation for the construction of ring levees to reduce the impact of flooding (Biggs et al. 1984:1). 32PB42 was documented as an artifact scattered along a meander

of the Red River in a plowed field. Artifacts recovered included an endscraper, debitage, and 5 sherds, including one rim sherd (Biggs et al. 1984:96). The rim sherd is described as

Flat and exhibits close parallel rows of diagonal cordwrapped stick impressions.... The exterior surface exhibits close, parallel rows of diagonal cordwrapped stick impressions directly below the lip. This is followed by almost vertical brushing or combing. Directly below this are located widely spaced parallel rows of diagonal cordwrapped stick impressions (Biggs et al. 1984:99).

While this does sound like a concise description of Blackduck, the images and drawings provided for the ceramics found at the site preclude confirmation that what was found was Blackduck ceramics. The same can be said for site 32PB47, which was documented along an abandoned meander of the Pembina River. Lithics, faunal material, and two-rim sherds were noted, along with a moderate density of historic materials (Biggs et al. 1984:115). The alleged Blackduck rims are described respectively as having a rounded lip with a single “stick impression” and a flat lip with “diagonal cordmarks”(Biggs et al. 1984:118). The latter description hardly constitutes any decorative trait of Blackduck, and the rounded lip of the former does not follow the typical wedged rim noted previously. Therefore, it is hard to affirm the Blackduck classification for this site, though it is worth mentioning.

While one sherd does not make an assemblage, it is important to note every vestige of Blackduck (or suggested Blackduck) in North Dakota. This will become more apparent as the analysis continues, but for now, there is Blackduck located in Pembina County. This is offset slightly by the suspect descriptions of a “diagonally cordmarked” sherd associated with Blackduck, but 32PB66 certainly counts as Blackduck, albeit not the most pristine specimen.

5.11 32GF1 Arvilla Mounds

The Arvilla Mounds are best known for the burial complex bearing their name described by Eldon Johnson (1973). In addition, the mounds at this site were the basis for an “Arvilla Focus” within The Red River Aspect of Wilford’s classification of Minnesota archaeological material (Wilford 1941:243). While the mounds features of this site bear little importance to the discussion of the ceramics within, they are notable for their potential affiliation with Blackduck based on a single vessel recovered during excavations (Johnson 1973). Unfortunately, these collections were not available for research at either the North Dakota State Historical Society or the Minnesota Historical Society based on their affiliation with mortuary contexts and the regulations governing artifacts from these settings. However, a description from Johnson (1973) of the vessel in question provides a small glimpse at the potential Blackduck association of the locale near the mounds.

5.11.1 32GF1 Ceramics

The single vessel with potential Blackduck affiliation was first classified as Kathio for reasons not elaborated on by Eldon Johnson. The vessel is described as follows:

The decoration consists of short vertical lines at the external lip with six horizontal lines of cord-wrapped dowel impressions encircling the vessel below the lip. A single row of bosses is present in the second horizontal line and the space below it. On the interior of the rims is a band of vertical lines extending downward from the lip. These alternate with the exterior vertical lines to give the rim a wavy effect. The vertical interior lines are longer than those on the exterior. The lip is flat and of the same thickness as the rest of the rim, and it is not decorated except for the crimping effect produced by the vertical cord-wrapped stick impression. The cord-wrapped stuck decoration is placed over the

cord-wrapped paddle background on the exterior in all sherds, but the interior vertical lines are on a surface that is plain except for the horizontal striations due to the manufacturing process (Johnson 1973:13–14).

The description above sounds in part like Blackduck. The presence of oblique CWS impressions in conjunction with six rows of horizontal CWS impressions is characteristic of the type. This contrasts, however, with the lack of superior lip decoration, the generally described rim form as wavy and the same thickness as the vessel, and the presence of bossing. It is noted by Johnson that this vessel likely came from the habitation zone underlying Mound One (Johnson 1973:14). The deviation from Blackduck that this vessel exhibits is likely not due to its inclusion in the burials of the Arvilla Mounds. Instead, the quantification of this vessel as Blackduck may be problematic. It potentially represents a composite bossed type present at sites further to the south and west. Without examining the sherds in question, it is impossible to classify the vessel for certain, but the description provided likely indicates a Plains Woodland affiliation in contrast to a true Minnesota Late Woodland affiliation. It should be noted that several problematically deviant vessels once labeled Blackduck have originated in mound contexts. 21KT1 and 21PL9 both yielded rims that were at one time called Blackduck but are affiliated with later ceramic complexes (Rainy River) or face basic classificatory issues based on their unique surface decoration. This may be an issue directly about their inclusion within mortuary contexts, as the function of the vessel in that situation necessitated a variation of the typical decoration for the situation at hand.

5.12 32RY77 Horner Kane Site and the Devils Lake Area

The Horner Kane Site, located on Graham's Island in Devils Lake, North Dakota, has an extensive history of investigation, with the most comprehensive exploration occurring in 1992

before modifications to Graham's Island State Park (Toom 2000:1.1). The excavations during this year, which occurred as part of the University of North Dakota's Field School, revealed a significant archaeological site comprised of nearly every known cultural period on the Northeastern Plains represented in the excavations. For ease of reporting, the massive site was split into two halves: the North Site Area and the South Site Area(Toom 2000:1.3). Of concern here is the North Site Area, where multiple Blackduck sherds were identified.

58 rim sherds corresponding with 23 vessels were noted within the total ceramic assemblage (Toom 2000:5.48). Amongst the "Middle CTU", the "cultural-temporal unit" that Blackduck was subsumed within, 5 different vessels were found to possess traits sufficient to classify them as Blackduck ware.

5.12.1 32RY77 Ceramics

It should be noted from the outset that two of the 5 vessels classified as Blackduck within the Horner Kane assemblage are not rim sherds and are therefore excluded from this analysis. While these neck sherds do demonstrate evidence of CWS impressions consistent with Blackduck, the lack of a lip does not provide enough decoration to firmly label these as Blackduck sherds.

Therefore, only three vessels are recognized and handled in this analysis. Two of these vessels (44 and 49)(Toom 2000:5.57) are grouped as "Blackduck, Early Phase", and the third (vessel 35) is grouped as "Blackduck Miniature, Early Phase" (Toom 2000:5.56).

Vessel 49 is the primary specimen within the “Blackduck, Early Phase” group. This rim sherd is, by all accounts, Blackduck. The exterior decoration is composed of 5 rows of evenly spaced horizontal CWS impressions underneath a row of consistently spaced right-trending oblique CWS impressions. A single round punctate is located between the first and second rows of horizontal CWS impressions, and the exterior decoration is bordered at the bottom with jags emplaced within the cordmarked surface of the vessel. The superior lip surface is adorned with right-trending CWS impressions as well. The rim form is slightly flared with characteristic wedging likely due to the pressure needed to apply the lip CWS impressions, and the likely orifice diameter is between 15 and 25 cm. Vessel 44, in comparison to the rather whole specimen of vessel 49, is a small fragment. Only about one centimeter of the rim is visible. On this surface, oblique CWS impressions are visible on the exterior. The superior lip surface is decorated with

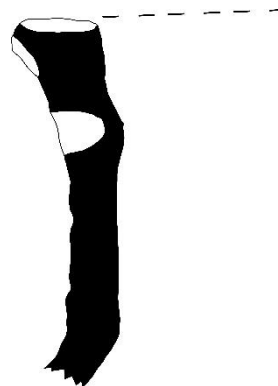


Figure 28 32RY77 “Vessel 49” Blackduck rim sherd and profile

deep oblique notches that create a crenulated appearance on the rim. The rim profile, based on the fragmentary remains, is slightly flared, and moderately wedged from the deep lip notches. Both Vessels 49 and 44 are considered excellent specimens of Blackduck. (Figure 28).

Vessel 35, the only rim to comprise the “Blackduck Miniature, Early Phase” group, is most certainly Blackduck, and it provides an interesting glimpse into the execution of miniature vessels within the Blackduck Complex. The sherd in question measures less than 1 centimeter in both length and width, yet on its surface, it possesses all elements necessary to be Blackduck. The exterior is adorned with three visible rows of horizontal CWS impressions, three rows of punctates, and right-trending oblique CWS impressions. The interior is also decorated with oblique CWS. The rim form is rather unique, as the tiny vessel has no real lip surface. Instead, the interior and exterior surfaces come to a rounded point and create a rather straight profile.



Figure 29 32RY77 “Vessel 35” Miniature Blackduck rim

Three rows of punctates, which appear to form a column on the sherd, are also unique, as a single row of punctates encircling a Blackduck vessel is typical. In all regards, this miniature specimen is highly intriguing, and most certainly Blackduck (Figure 29).

Taken in sum, the collection of Blackduck ceramics from the Horner Kane site is meager, but most certainly Blackduck. Vessel 49 exhibits all the necessary traits, in addition to extras like the near-neck jags, to demonstrate that proficient Blackduck potters and people were near the Horner Kane Site. Another compelling consideration is the presence of two different Blackduck vessel sizes. It has been noted in the preceding chapter that there are three common vessel sizes associated with Blackduck: large storage vessels, medium cooking vessels, and miniature mortuary vessels (Anfinson 1979:26). Thus, vessel 49 represents a medium-sized cooking vessel, and vessel 35 a small mortuary vessel, there is compelling evidence to suggest that Blackduck people ranged as far south as Devils Lake. This is not surprising, as the massive lake was a draw for people from all periods and areas given the diverse ceramic sample present at 32RY77.

A site located to the east of 32RY77 along the banks of Devils Lake provides an interesting contrast to the Blackduck identity in the region. 32RY473 was identified in the summer of 2011 as potentially eligible for the National Register of Historic Places based on the complexity and time depth of the archaeological material found within (Haas et al. 2011:1). Due to flood mitigation modifications slated for the site area, excavation of 235 square meters of the site were undertaken (Haas et al. 2011:65). During these excavations, 6 rim sherds representing a minimum of 4 vessels were assigned to the category of “Blackduck Ware” (Haas et al. 2011:102). Most unfortunately, the ceramics were returned to the landowners after the project and were not retained by the North Dakota State Historical Society. The description and

photographic evidence in the report, however, are sufficient to make a basic assessment of the ceramics labeled Blackduck.

The first vessel described as Blackduck was represented by a single-rim sherd, which was cordmarked to the lip. The rim form is flared with a rounded lip. Decoration on the rim consists of bosses, horizontal CWS impressions over the cordmarked surface, and interior CWS impressions inferior to the lip. The second vessel documented is less conclusive, for the surface is exfoliated. Nonetheless, faint horizontal CWS impressions as well as oblique interior CWS impressions are noted. The rim is relatively consistent with the first, with an outflaring profile and rounded lip. The third vessel follows the general pattern of the first, with bossing a main decorative element. Oblique CWS impressions are also present on the interior and exterior rim just inferior to the lip, producing a crenelated effect. The fourth and final rim is described as having possible CWS impressions on the interior, bossing, and exterior.

Given the descriptions above, in conjunction with the available photos and profiles (Haas et al. 2011:105), it is difficult to reaffirm the assertion that the ceramics at hand are Blackduck. The rim profiles show no evidence of wedging in addition to flaring. It is not made clear that the rim specimens have CWS impressions on the superior lip surface. Blackduck is also known for its near ubiquity in smoothing the rim surface before the application of decoration, and at least one rim does not follow this pattern, while the rest are not commented upon in any manner. The final straw is the presence of bossing on every rim assigned to Blackduck. While bossing is a noted element on Blackduck in its geographical heartland with 33% of Lugenbeal's "Early Phase" Blackduck vessels presenting with bosses (1978:64), there is a notable paucity of bossing present in Blackduck assemblages elsewhere. Indeed, it is listed as "occasional" in Arzigian's (2008:111) summary of Blackduck, and Evans (1961:41) notes only 5 sherds with this decorative

element. Indeed, no sherds in the Dead River Site collections were noted to have bossing. Therefore, it is highly likely that the ceramics at 32RY473 are not Blackduck, but another Late Woodland-affiliated type. This further reinforces the assertion that the Devils Lake region was most likely a nexus of influence.

5.13 32ED85: Lake Coe Site

32ED85, also known as the Lake Coe Site, was first documented in 1991 (Stine 1992:4) along the southern marshy reaches of Lake Coe in north-central North Dakota after the site had been disturbed by military training. 75 auger probes (Stine 1992) and 2 test excavations (Stine 1992) were emplaced, yielding only lithic artifacts. Over 10 years later, the site was revisited during a wider survey of the Camp Grafton South training area to gain a better understanding of stratigraphy and relations to other sites in the region (Toom et al. 2007:7.5). 5 more test units were opened, and significantly more material useful for delineating the cultural sequence at the site was documented. This included 6 ceramic “vessels”, 4 of which were classified as Plains Village wares (Toom et al. 2007), and two of which fall under the purview of the research topic presented here. Two vessels were categorized as “Late Minnesota Woodland” (Toom et al. 2007) ceramics. The first was placed within the Kathio/Onamia classification, and the second with the Blackduck/Sandy Lake classification. The grouping of the former ceramic rim sherd within the Kathio type is highly suspect given the decorations applied to the surface in addition to the affiliation of the latter rim sherd as Blackduck/Sandy Lake.

5.13.1 32ED85 Ceramics

One sherd from the Lake Coe site was identified to be associated with the “Blackduck/Sandy Lake”. The rim is brushed to the lip, with odd, matched lunar punctates on the near lip and cord impressions on the superior lip surface. Shallow punctates are placed below

these marks, and the interior lip surface bears small notching. The rim profile is moderately wedged and flared, though less flared than depicted in the original report (Figure 30). The vessel is not Blackduck, as it lacks horizontal and oblique CWS impressions, yet it bears some marks of an attempt to recreate Blackduck like the brushing to the lip and general profile. A date for the sherd was taken from a bison astragalus located close to the excavation. The date returned was calibrated to AD 890 (Toom et al. 2007), which falls towards the middle of the Blackduck time ranges in Minnesota and Manitoba. A possibility does exist that the vessel in question is related to Sandy Lake, but as Toom et al. (Toom et al. 2007) correctly indicate, Sandy Lake has a different time frame and different ceramic stylings. Arzigian (2008:126) places the start of Sandy Lake ceramics in the Psinomani Complex, starting at roughly AD 1100 and stretching to the contact period in AD 1750. Blackduck, as has been repeatedly stated, dates between AD 700 and 1000-1100 at the latest. The decoration is almost non-existent, appearing as lip or slight rim



Figure 30 32ED85 Late Woodland rim sherd (exterior left, interior right)

modifications (Arzigian 2008:131) in comparison to the highly decorated Blackduck vessel. Sandy Lake vessels are typically cordmarked to the lip as well, which contrasts to the typical Blackduck vessels that are smoothed or combed from the neck to the lip.

It is unlikely that the vessel is either Blackduck or Sandy Lake. One possibility is a generalized Late Woodland affiliation that bears resemblance to, but little relationship with, Blackduck ceramics. The combing, wedged rim, punctates, and stamp-like decorations placed between the lip and the punctates seemingly indicate some familiarity with the Blackduck package, but the divergence from form indicated by the lack of horizontal and oblique CWS impressions confirms a non-Blackduck association.

5.14 32CS4899: Cass County

32CS4899 is located on a bluff above an abandoned meander adjacent to the Maple River in Cass County, North Dakota. The site was first designated as a site lead (denoted by an x preceding the site number in the county) in the early 90s. Before the damming and modification of the Maple River in the early 2000s, the site was revisited to gain a better understanding of its archaeological significance in case of destruction (Stubbs and Sather 2001). A shovel testing and excavation program were executed across the landform, and numerous artifacts were recovered, including a single-rim sherd identified to be Blackduck.

The site was interpreted to be of archaeological significance to the region based on the recovery of Blackduck and Northeastern Plains Village Wares from the same site (Stubbs and Sather 2001). The context of the finds is of concern, for the Blackduck and NEPV ceramics were documented in shovel tests, not excavations, with poor control of the depth of artifact recovery. Associating the two ceramics is therefore tenuous. The importance of finding Blackduck in the Sheyenne River drainage, specifically along the Maple River, is noteworthy. Michael Michlovic, in his detailing of archaeological cultures in the Sheyenne Bend region, notes 32CS4899 as four important Woodland sites and the only one to yield evidence of a Blackduck component in the region (2022:78).

5.14.1 32CS4899 Ceramics

The single Blackduck rim sherd recovered from the site is, by the standards set out here, a rare example of a true Blackduck in eastern North Dakota. The rim sherd has horizontal and oblique CWS impressions, deep CWS impressions on the superior lip surface, and a moderate



Figure 31 32CS4899 Rim sherd and profile

wedge and flared rim. In addition, the interior rim bears oblique CWS impressions (Figure 31). Not enough of the vessel is present to determine if punctates were present, but the available decoration and form all suggest the vessel is Blackduck.

The implications of this finding are many. As will be shown in successive site analyses, this rim is the southernmost “good” Blackduck rim in North Dakota. In addition, it is buffered from the Blackduck assemblages in the Devils Lake region by the amalgam of Late Woodland ceramics found at the Lake Coe site. Its presence along the Maple River is then rather unique.

5.15 The Bayley Collection (Leonard, ND)

The Edgar L. Bayley collection represents one of the only unprovenanced collections examined within this report. This collection was donated to the North Dakota State Historic Society in 1983 by a former resident of Alice, North Dakota (Thompson 1983:3). The only locational data available for the Bayley Collection is the general area of Ransom County in the Sheyenne Bend Region, yet the wealth of information available within the collection has necessitated an acceptance of the coarse-grained geographical resolution by archaeologists. 995 different projectile points were tallied within the collection, spanning from Early Archaic to Late Precontact times (Thompson 1983:7–8). In addition, numerous ceramic specimens were recovered, with three identified by the author to be Blackduck (Thompson 1983:5). As will be noted later, numerous surveys in the Bend Region of the Sheyenne River have revealed no evidence of Blackduck ceramics, thus making the presence of Blackduck in the Bayley collection notable. Of the three sherds noted within the report, a single sherd potentially related to Blackduck was extracted for analysis.

5.15.1 Bayley Collection Ceramics

The single potential Blackduck sherd in the Bayley collection is rather unique. It

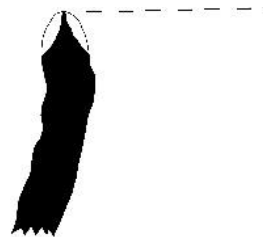


Figure 32 Bayley Collection rim sherd and profile

possesses horizontal and oblique exterior CWS impressions and interior near-lip CWS impressions. What it lacks, however, is significantly more prominent. The interior and exterior oblique CWS impressions are offset from one another and impressed deeply into the rim, creating a wave effect on the lip. In stark contrast to the typical wedged and flared Blackduck rim, the sample from the Bayley collection has almost no lip surface (Figure 32). Combined with the lack of visible punctates, it is difficult to assign this sherd comfortably to Blackduck given the criteria operated under here.

A notable comparison to this rather unique sherd is available from another fringe Blackduck locale. Meyer et al.'s (1999) review of Blackduck in Saskatchewan, especially at the Hanson site, provides a window into the northwestern fringe of Blackduck in Canada. One vessel from the Hanson site, Vessel 1, exhibits similar traits to the Bayley collection rim (Meyer et al. 1999:158). Vertical CWS impressions on the interior and exterior rim produce the same wave effect seen on the Bayley Collection sherd. While this may suggest that the Bayley Collection sherd is Blackduck, the comparison between the Hanson Site and the Bayley Collection offers a chance to elaborate on the rationale behind exclusions from the Blackduck type in North Dakota. While the Hanson Site sherd may appear to have similarities to the sherd from the Bayley Collection, two important differences stand out. The profile of the Hanson Site specimen (Meyer et al. 1999:160) indicates that lip thickening is present with no lip decoration. This is more consistent with the Blackduck type, in which wedged lips occur frequently. The second difference is the abundance of other vessels firmly typable to Blackduck also found at the Hanson Site. A minimum of 4 Blackduck vessels are described by Meyer et al. (1999:158), which upon basic visual inspection of the photos are typical Blackduck. Therefore Blackduck-by-association is not a far stretch for a vessel within a Blackduck assemblage that deviates slightly from the typical

rim form. In the case of the vessel from the Bayley Collection, the two elements discussed above that would allow for a labelling of the sherd as Blackduck. The rim profile of the Bayley Collection sherd is tapering. In addition, it is the only sherd of its kind in the area, making it highly likely that the general style of Blackduck was replicated without knowledge of the detailed execution seen in points east of the Sheyenne River Valley.

5.16 32SN247 Kirschenman III: Stutsman County

The Kirschenman III site is located along the immediate eastern bank of the James River. Bounded by rail road grading to the northeast, a slough to the west, and the river to the south, the site was first documented in 1976 by archaeologists from the University of North Dakota before the modification of the James River and was again visited by UND personnel in 1984 (Toom 2003:1.8). The archaeological investigations to be examined here were carried out in 1993 after the flooding of the James River raised questions over the impacts on archaeological sites in the region. Two block units and nine test units were opened at the site. The majority of work focused on the cut bank immediately adjacent to the James River, which was slated to be “stabilized” and therefore required intense mitigation (Toom 2003:1.5). The site was found to be of cultural significance, yielding multiple archaeological components. Based on stratigraphy, the three primary components are, from most recent to oldest, Plains Village, Late Woodland -A., and Late Woodland-B (Toom 2003:4.5). It is the latter two components that are of concern for the research undertaken here.

48 rim sherds were of adequate size to analyze surface treatment and decoration. Once sorted, these rim sherds composed a total of 27 vessels between the three components outlined above (Toom 2003:6.4). Within the Late Woodland A and B components, eight rims were noted to be Blackduck, with six in the LW-A component and two in the LW-B component. The LW-A

component dates to AD 1100, while the LW-B component is slightly older, returning a date of AD 890(Toom 2003:4.4).

5.16.1 Kirschenman III Ceramics

While there have been noted instances of deviant ceramics in eastern North Dakota already (the Lake Coe Site and Bayley Collections), Kirschenman III represents the first full ceramic assemblage that has been labeled Blackduck but does not conform to the “rules” for Blackduck laid out in the preceding chapter. The LW-A and B collections will be examined independently in detail and then brought together to demonstrate their departure from the Blackduck norm.

Six vessels are assigned to the Blackduck type within the Late Woodland-A component. The Blackduck component is split by their respective decorative styles, with 2 vessels categorized as “Blackduck Embossed” (Toom 2003:6.13) and 4 vessels categorized as “Blackduck Cord-Wrapped Tool Impressed” (Toom 2003:6.15).

Vessels 13 and 18 compose the Blackduck Embossed type, and they are decorated as their name suggests. The rim of each vessel is adorned with widely spaced CWS impressions.

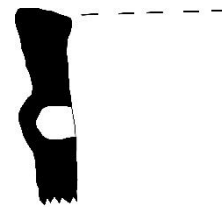


Figure 33 32SN2471 Vessel 18 rim sherds and profile

Vessel 13 has an element of pseudo-brushing apparent, as the widely spaced CWS was dragged over the surface before each impression. Vessel 18 has more distinct CWS impressions with no dragging. Both vessels have large bosses emplaced between the rows of CWS impressions. Vessel 18 has small punctates located just below the lip on the exterior with no superior lip decoration (Figure 33), while vessel 13 does not bear near lip punctates, instead presenting with circular punctates on the superior lip surface. The interior of both rims is plain. The rim profile for these sherds is straight and flat with no signs of wedging.

Vessels 11, 12, 14, and 22 are all assigned to the “Blackduck Cord-Wrapped Tool Impressed” group. These vessels are all decorated with different uses of a cord-wrapped stick, yet each is applied in its distinct style. Vessel 11 has horizontal CWS impressions encircling the vessel, as well as near-lip vertical CWS impressions on the interior and exterior. These vertical impressions produce a somewhat crenulated effect on the rim, as they are relatively deep. There



Figure 34 32SN247 Vessel 12 rim sherds and profile

is no superior lip decoration on Vessel 11. Vessel 12 is composed of multiple-rim sherds (Figure 34). Five rows of horizontal CWS impressions and widely spaced, squat vertical CWS

impressions compose the exterior decoration. The superior lip surface is brushed in appearance, which is likely produced by dragging the CWS parallel to the lip surface. The interior bears deep, vertical CWS impressions that notch the rim. The general rim form is straight with a slightly thickened rim. Vessel 14 maintains the horizontal CWS impressions, yet it bears more complicated decoration. The two sherds that compose this vessel may indeed be two separate vessels. The first sherd, above the horizontal CWS impressions, bears a stamp impression that appears to be made by the side of the tool used to make the horizontal CWS impressions. There are also faint CWS impressions on the superior lip surface. The second sherd does not bear the stamp impression, instead presenting with a faint exterior oblique CWS impression and a unique oblique cord impression on the interior rim. The profiles for both of these rims are generally straight with flat to moderately rounded lips. Vessel 22 rounds out the group. This vessel is widely different from the preceding three vessels. The exterior surface is smoothed plain, with a single shallow punctate. The interior bears deep oblique CWS impressions. The rim profile is straight, with a rounded lip. This sherd, while yielding an instance of CWS impressions, is significantly different from the rest of the LW-A sample.

Two vessels are assigned to the Blackduck type of the LW-B component. Again two groups compose the Blackduck type, with one vessel (Vessel 28) assigned to the “Blackduck Embossed” group and the second vessel (Vessel 25) assigned to the “Blackduck Stamped” group (Toom 2003:6.20).

A single-rim sherd defines Vessel 28 within the Blackduck Embossed group. Widely spaced and rather large horizontal CWS impressions encircle the vessel on the exterior. A partial boss protrudes as well. There is a distinct notch on the lip which appears to be a tool impression,

though the rim sherd is in poor condition. The profile, like others, is straight with a slight exterior bevel.

Vessel 25, composed of two rim sherds, makes up the Blackduck Stamped group. The sherds bear, instead of horizontal CWS impressions, horizontal dentate stamp impressions encircling the vessel (Figure 35). Above these stamps, right-trending oblique CWS impressions are widely spaced, with CWS impressions present on the superior lip surface as well. The rim profile is again straight and flat.



Figure 35 32SN247 Vessel 25 rim sherd and profile

The aggregate of information from the descriptions above suggests that the LW-A and B components identified at the Kirschenman III site are Late Woodland influenced, yet they are not true Blackduck. The first notable divergence is the “Blackduck Embossed” group defined for both components. Much like the previous discussions of minority Blackduck types that are only qualified as such based on their documentation within assemblages containing primarily pure Blackduck, bossing is an underrepresented element of Blackduck and therefore not included in

the core of Blackduck decorative elements. This suggests that the “Blackduck Embossed” group present at the Krischenmann III site is not true Blackduck based on this trait alone.

A similar divergence from the Blackduck standard is also present in the “Blackduck Cord-Wrapped Tool Impressed” and “Blackduck Stamped” groups offered by Toom (Toom 2003). These two groups do follow some of the normal Blackduck decorative modes, such as the application of horizontal CWS impressions and the occasional use of oblique to vertical CWS impressions on the interior and exterior rim. The inconsistencies in the pattern of decoration, however, are curious. Vessels with clear horizontal CWS impressions often lack consistent oblique CWS impressions, instead having the occasional impression (one per rim sherd), with no evidence of consistent application. In addition, a vessel like Vessel 25 described above, which has regular oblique CWS impressions and superior lip decoration, is also adorned with dentate stamping, which is more consistent with St. Croix ceramics than Blackduck (Arzigian 2008:87).

Another instance of difference in the collection from Kirschenman III is the profiles of the rims. None of the rims have the expected wedged and flared appearance of a Blackduck as seen at sites like Dead River and 21CY39. Instead, all rim forms are straight, and the majority are flat. This represents a clear divergence from the typical manufacturing style of Blackduck and one that would not be expected if a Blackduck population from either Minnesota or Manitoba had traveled to the James River Valley and made ceramics in the region.

Taken together, the evidence above suggests a new classification is needed for ceramics that look like Blackduck yet show clear divergences from standards that persist throughout collections in the “heartland” of Blackduck. The succeeding discussion of the Beeber Site and the Magpie Road site will demonstrate the persistence of the pseudo-Blackduck type, yet the

Kirschenman III site represents one of the clearest examples of ceramics that have Blackduck influence yet are demonstrably not Blackduck.

5.17 32ML400 Fort Mandan Overlook

The Fort Mandan Overlook State Historic Site is located west of Washburn, North Dakota. Named for its location overlooking the location where Lewis and Clark established Fort Mandan on their journey along the Missouri River, a paucity of information is available on the archaeology of the site. Test excavations were employed in 1991 by the State Historical Society of North Dakota to investigate earthworks and the potential cultural affiliation of the site (Dakota). The most recent tests at the site were geophysical, further exploring the ditch feature encircling the site, as well as looking for remains of houses (Kvamme 2019). The site was added to the roster for this analysis based on its classification within the NDSHS GIS database which indicated a Late Woodland Blackduck component. Two sherds were noted within the collections that had the potential to be classified as Late Woodland affiliated, though the lack of excavation information available makes this assertion a challenge to reinforce.

5.17.1 32ML400 Ceramics

Of the two sherds identified to be Late Woodland in affiliation, the most promising specimen has the most tenuous provenience. The bag containing the sherd was labeled “Collected on the east edge outside of the fortification in the road, SS Coles and Syms, Oct. 1981”. This rim has a moderately everted profile with an interior thickened lip. The exterior decoration consists of stamp-like oblique CWS impressions over a smoothed surface, with faint horizontal CWS impressions on the rim-neck juncture (Figure 36). The superior lip surface is adorned with stamp impressions made with the same tool as those oblique impressions on the rim exterior. The interior of the rim is smoothed. This rim may be the reason for classifying the

site as Blackduck, for the oblique CWS impression resembles Blackduck to the highest degree. Upon closer inspection, they do not conform to expectations for the type, however, as the tool used to generate them is closer to a stamp than a cordwrapped stick. In addition, the lack of clear horizontal CWS impressions and the general rim form precludes a firm Blackduck determination.

The second rim of interest within the 32ML400 collections was recovered during the 1991 excavations at the site 22 centimeters below the surface. The rim is moderately outflaring



Figure 37 32ML400 rim sherd



Figure 36 32ML400 rim sherd 2

and slightly thickened at the lip. The exterior is cordmarked to the lip, with numerous sublabial punctations emplaced in a staggered pattern. The lip is smoothed, with interior tool impressions at the juncture of the interior rim and lip. The punctations on the exterior produce subtle bossing on the interior rim surface (Figure 37). This sherd is unequivocally not Blackduck given the paucity of horizontal and oblique CWS impressions, yet it represents an interesting specimen to consider the Late Woodland period in North Dakota. The cordmarked surface and numerous

punctations allude to a Late Woodland affiliation, though this again cannot be confirmed by the absent excavation report.

In all, the ceramics of 32ML400 do not confirm a Blackduck affiliation for the site. They do, however, allude to a potential Late Woodland occupation in which ceramics similar to sites elsewhere in the state were deposited in the archaeological record. Like the Kirschenman III site, both rims are likely in situ developments of Late Woodland ceramics in the region, influenced by Blackduck rather than a direct habitation by Blackduck-producing peoples.

5.18 32LM235 Beeber Site: LaMoure County

The Beeber Site (32LM235) was first excavated in 1975 before a planned modification of the James River Valley through damming and other channelization efforts (Good et al. 1976). The site was documented along the south bank of the James River on a natural levee. After several surface finds in a stripped region of the site along the riverbank, four 2x2 meter excavation units were emplaced across the site to test the depth and breadth of cultural material at the site (Good et al. 1976:52). An abundance of artifacts was recovered, including bone, stone and shell tools, faunal remains (primarily from bison), and 426 ceramic sherds (Good et al. 1976:76). Ceramics were notably divided into two different components based on their stratigraphic origins within the site: lower and upper. The authors suggest that, based on the ceramic decorative elements recovered, the upper portion of the Beeber Site likely corresponds to the Woodland Period in Minnesota (Good et al. 1976:209), and note that the only manifestations of the Woodland Period in the Dakotas have been grouped into the now defunct Arvilla Complex and Sonota Complex.

The Beeber Site was included in this analysis not for its initial documentation by Good et al (1976), but rather for its inclusion in Schneider's (1982) cultural sequence for the James River Valley. The ceramics in question, and the Beeber Site, are grouped within "Period 2" (Schneider

1982:119). This period is intended to encapsulate the presence of Late Woodland Wares in North Dakota, and houses sites like Kirschenman III. Schneider identifies the Beeber vessel to encapsulate traits of both Blackduck and Sandy Lake and suggests that the presence of the vessel in question extends the presence of these phenomena well onto the Plains (1982:121). While the original authors did not note the ceramics to be explicitly Blackduck affiliated, this documentation of the Beeber Site wherein the ceramics were labeled as Blackduck demanded a reassessment of the vessel.

5.18.1 Beeber Site Ceramics

Three ceramic sherds from the Beeber site were labeled as Blackduck with the collections housed at NDSHS. Only one of these rims, however, was large enough to assess for traits related to Blackduck. This rim is indeed one of the largest and most well-reconstructed samples observed on this project and offers some perplexing traits to consider.

The rim in question is cordmarked to the lip of the vessel and decorated with bosses, horizontal CWS impressions, widely spaced oblique CWS impressions on the interior and exterior, and widely spaced CWS impressions on the superior lip surface (Figure 38). The rim is generally straight, and the profile is rounded. While many of the decorative elements are present to potentially label this vessel Blackduck, numerous small differences indicate that this vessel is part of the interesting Late Woodland copies produced across western North Dakota.

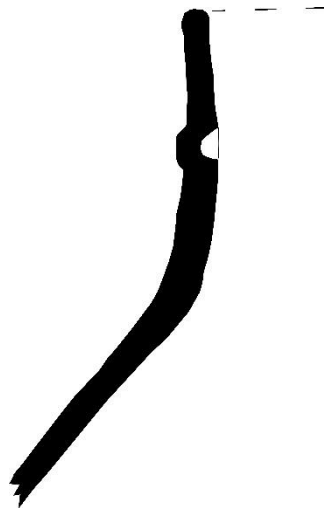


Figure 38 32LM235 rim sherd and profile

The first element that indicates divergence from Blackduck on this vessel is the cordmarked surface to the lip. While it has seldom been mentioned in this report, the surface onto which Blackduck decorative elements are applied is generally smoothed. The exception to

this is the characteristic brushing or combing applied to a smoothed rim. Leaving the cordmarks on the lip surface is therefore an unusual surface treatment for Blackduck. The second odd element of this vessel is the bossing present on its surface. As previously noted in the discussion of bossing at the Kirschenman III site, bossing is a minor element of Blackduck that does not demand an immediate identification of the ceramics as such. Instead, bossing and its presence on the NEP are likely indicative of a differing path of ceramic change and development when compared to true Blackduck ceramics.

The final component of the Beeber rim sherd that deviates from the normal is the widely spaced CWS impressions present on the exterior, interior, and superior lip surface. While these elements are generally considered to be consistent with Blackduck elsewhere, the impressions on the Beeber vessel are so widely spaced that they are hardly noticeable. Indeed, on the vessel, it is difficult to find more than a few exterior CWS impressions. This contrasts highly with a typical Blackduck vessel in which there are consistent and almost overlapping around the entire circumference of the vessel. While this might be considered a comparatively picky difference, it is difficult to recognize the CWS impressions on the vessel and they are therefore considered to be less visible than the normally prominent CWS impressions on a Blackduck vessel.

The two other sherds labeled “Blackduck” are of indeterminate association. One rim is simply cordmarked to the lip with no decoration. The other appears to be a node-like portion of a rim sherd that is less than 1 centimeter in size. In sum, the sherds at the Beeber Site are likely Late Woodland affiliated, but not Blackduck ceramics. The primary vessel of concern may be highly influenced by Blackduck, but it is certainly not a “good Blackduck”.

5.19 32BI286 Magpie Road

The easternmost Blackduck site known in North Dakota is the Magpie Road site. Located firmly in the Badlands near the border of North Dakota and Montana, the Magpie Road site poses a quandary to the examination of Blackduck ceramics on the Plains due to its western location. Most unfortunately, the ceramics for this site were not present at the North Dakota State Historic Society for examination. While previously this has only warranted a brief mention of the site when located near a site with viewable collections, the geographic uniqueness of this site demands an assessment of ceramics by any means possible, including the photographs included in the original report (Campbell et al. 1983). Thus, the examination provided here is a commentary on commentary and therefore must be considered as such. Even though the situation is not ideal, the ceramics found at this site clarify the picture of the Late Woodland in North Dakota greatly when reflected on the previous sites noted here.

The Magpie Road Site (32BI286) was excavated in 1982 before the proposed expansion of Magpie Road, which links a major highway with the oil and gas fields of western North Dakota (Campbell et al. 1983:1–1). Three five-by-five blocks totaling 75 square meters were emplaced across the site (Campbell et al. 1983:6–3), yielding 216 ceramic sherds mostly confined to the easterly most block at the site (Campbell et al. 1983:8–44). These ceramics were described as possible early phase Blackduck and were primarily designated as such based on the Minnesota Ceramic Handbook (Anfinson 1979).

5.19.1 32BI286 Ceramics.

The ceramics from Magpie Road are best described in the author's own words as no vessel count is provided for the sherds recovered, making a discussion of the pictured sherds impossible (Figure 39). The decoration on the sherds is as follows:

Certain sherds exhibit decorations of horizontal/parallel rows of cordwrapped rod impressions with occurrences of a single row of interior punctates producing exterior bosses. These exterior bosses appear to separate the first and second rows of horizontal cordwrapped rod impressions. These rod impressions might be better described as a type of comb stamping that closely mimics a cordwrapped stick. The cord twist normally apparent with a cordwrapped rod is not present in the impressions at the Magpie Road Site. The decorations appear to be limited to the rim or upper portion of the rim on the exterior surface, and oblique rod or comb stamp impressions along the lip. No cordmarked or brushed sherds are noted in this collection. (Campbell et al. 1983:8–45)

Given the description above, paired with rather lackluster pictures of the ceramics found, it is possible to tease apart the affiliation of the sherds in question. While there is a presence of horizontal CWS impressions, there is no mention of oblique CWS impressions inferior to the lip/rim junction. In addition, almost glaringly, the expected punctates on a typical Blackduck vessel are replaced with bossing, an element familiar from the collections of 32RY473, The Beeber Site, and Kirschenman III. Likewise, there is no mention of a thickened or outflaring rim, again suggesting that the sherds recovered are not true Blackduck specimens. Considering these deviations from the features of Blackduck, the ceramics found at Magpie Road are not Blackduck, but affiliated with the Plains Late Woodland period, and only seek to imitate true Blackduck vessels.

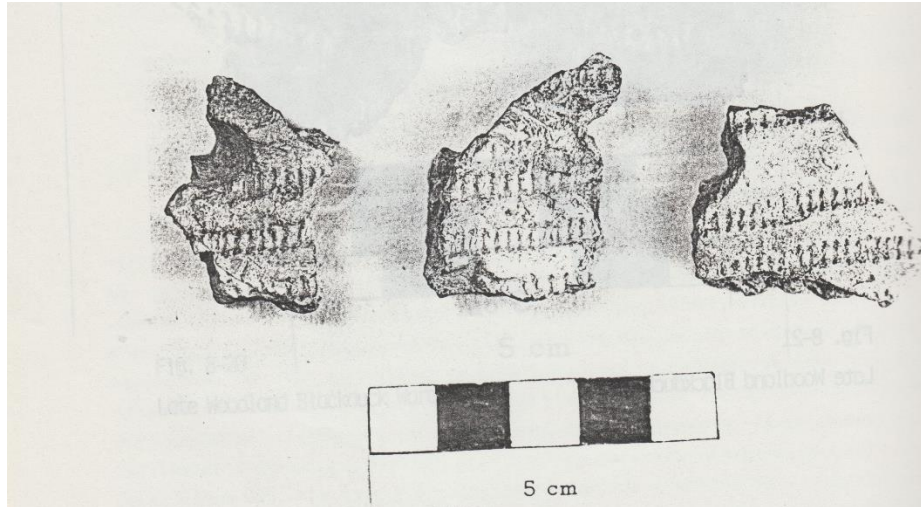


Figure 39 32BI286 Bossed and cordwrapped tool impressed sherds (from Campbell et al 1983)

5.20 The Charred Body Complex: 32ML4 (Flaming Arrow)

The Charred Body Complex, here represented by the Flaming Arrow Site, is representative of Late Woodland ceramic influence amongst the first settled villages along the Missouri River in North Dakota. There has been no erroneous labeling of Charred Body ceramics as Blackduck. Instead, the Flaming Arrow Site has been chosen for inclusion in this analysis for its Late Woodland affiliations. Indeed, the Charred Body complex into which the Flaming Arrow site fits is one of the only recognized Late Woodland affiliated entities named in North Dakota. Its status as Late Woodland is confined primarily to its ceramic assemblage as well, for the presence of houses at Flaming Arrow and other sites within the complex place it more towards the Initial Middle Missouri period rather than the Late Woodland period. The specifics of the Charred Body Complex such as its creation, dating, and affiliated sites will be expanded upon in the succeeding chapter. The overview of the Flaming Arrow site will also be confined to those ceramics identified within the assemblage to be associated with the Late Woodland Period based on the presence of cordwrapped stick impressions. This is not intended to be a full exploration of

the ceramics from Flaming Arrow. Rather, it is intended to contextualize the presence of shared Late Woodland decorative traits across North Dakota.

The Flaming Arrow Site was first excavated in 1983 by personnel from the University of North Dakota (Toom 1988:51). Previous surveys in the 1940s had indicated the presence of a precontact Native American Village in this location, determined mostly by artifacts and features exposed from road and railroad cuts across the site (Toom 1988:55). Expansions of the road and railways across the site destroyed nearly half of the village between its first identification and its excavation, which was prompted in fear of losing a valuable resource.

The Flaming Arrow Site is significant for two inseparable reasons: one cultural and one archaeological. The cultural significance of the site originates in the Awatixa origin story. The Awatixa is one of three Hidatsa subgroups to live along the Missouri River in North Dakota (Ahler et al. 1991:28). Awatixa legend indicates that the progenitor of the Hidatsa established the first village of 13 lodges along Burnt Creek. When archaeologists came across what is now the Flaming Arrow site in the 1940s, they named the site as such based on the Awatixa legend in which the progenitor, Charred Body, came down to earth as an arrow and was burned by an evil being (Ahler et al. 1991:29).

Archaeologically, the origin story of the Awatixa aligns well with the findings from the Flaming Arrow Site. Excavations revealed a semi-subterranean earth lodge with limited but distinct ceramics (Toom 1988:56). Radiocarbon dates taken from partially decomposed wood posts from the house structure returned a date range of AD 920-1230, making Flaming Arrow the oldest known earth lodge site in the region (Toom 1988:1969). Thus, the story of the Awatixa aligns with the archaeology of the site. Outside of these findings, little information is available about the Flaming Arrow site.

5.20.1 *Flaming Arrow Ceramics*

The ceramic sample selected from the Flaming Arrow site was heavily predicated upon the presence of Late Woodland Traits, specifically cord-wrapped stick impressions. Three rims and one neck sherd with CWS were documented. Two sherds are incredibly distant from Blackduck, with CWS impressions only on the superior lip surface (Figure 40). One sherd has a smoothed exterior, a straight rim profile, and an exterior beveled lip. The second sherd has a plain exterior, a mildly everted rim form, and an extremely thickened lip that borders on a rolled rim. The third rim sherd selected for analysis more closely resembles Late Woodland ceramics to the east. This rim is cordmarked to the lip, with faint, slightly right-trending oblique CWS impressions. The superior lip surface has deep perpendicular CWS impressions. The rim profile is everted, but the lip is thinner than the rim trending towards the neck, an inverse presentation to the expected trend in Blackduck ceramics. The single neck sherd analyzed is worth noting for the presence of horizontal CWS impressions, and cordmarking directly below this decorative element.

The Late Woodland-like ceramics at Flaming Arrow are, at best, terminal Late Woodland in affiliations. Richard Krause, working with ceramic collections from Flaming Arrow and other sites within the Charred Body Complex, has correctly suggested that the assemblage at this site is a mix between Late Woodland and Initial Middle Missouri wares (Krause 2019:47). The presence of CWS impressions on the Flaming Arrow ceramics is interesting, however, for this decorative element reaches its prime during the Late Woodland Period to the east. Its manifestation within the upper Middle Missouri region is noteworthy, for it suggests strongly that there is influence and mixing between Late Woodland potters from elsewhere and the in-situ populations of the upper Missouri River who fully transition into village life. As previously

noted, the Charred Body Complex that houses the Flaming Arrow site is the only recognized Late Woodland-affiliated ceramic classificatory group in North Dakota. Therefore, the elements of Flaming Arrow Ceramic related to the Late Woodland period must be noted to indicate potential relationships between the Flaming Arrow potters and those to the east from whom the CWS decorative elements likely derived. The Menoken Site, also subsumed within the Charred Body Complex, is worthy of note for similar reasons as Flaming Arrow. Flaming Arrow was the original type-site or component for the Charred Body Complex (Ahler 1993:65), but later

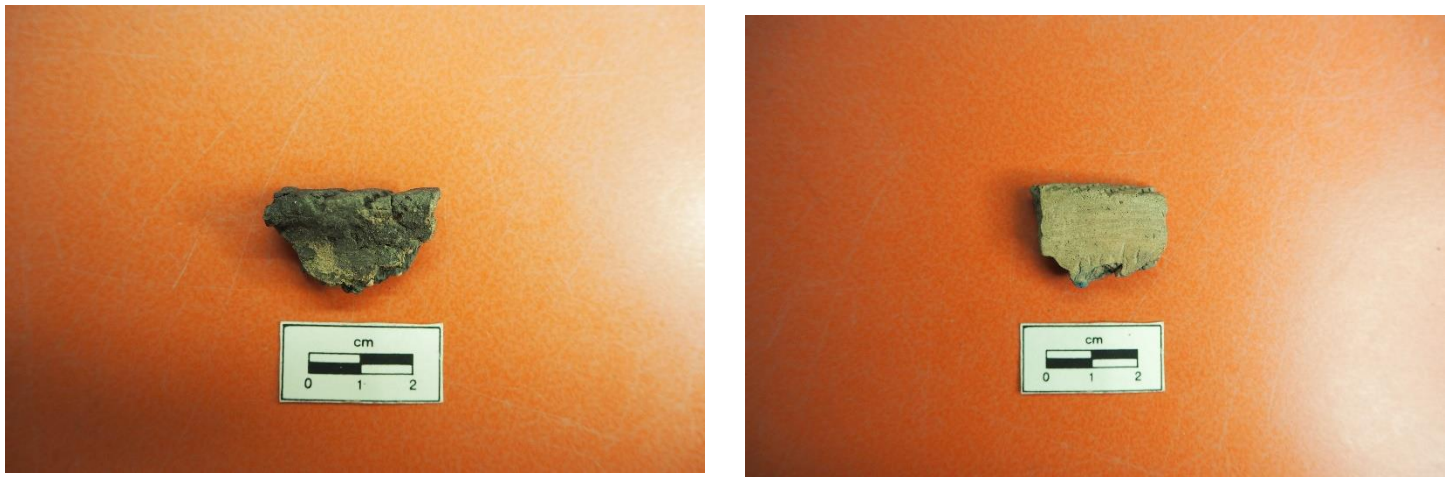


Figure 40 32MLA rims sherd examples

excavations at the Menoken site revealed similar ceramics. Krause (2019) notes that Menoken pottery resembles a unique blending of Woodland and Middle Missouri Traditions. Coiled upper and lower bodies and vertical cordmarking are unique to Woodland ceramics, while mass-modeled lower and upper bodies and S-shaped and collared rims are unique to Middle Missouri potting traditions (Krause 2019:47). The assemblage at Menoken demonstrates both, indicating a mixing of skill between the two ceramic manufacturing techniques. Thus, the Charred Body Complex has, and should, remain separate from Blackduck and Late Woodland traditions further east.

6 Blackduck and North Dakota Late Woodland Ceramics

There is sufficient evidence to establish a clear boundary for Blackduck in North Dakota, with a tapering effect of both site density and assemblage size in western Minnesota. In addition, there is a distinct Late Woodland presence in the western portion of North Dakota that requires delineation and description. The following seeks to provide clear boundaries to Blackduck in North Dakota and Minnesota and describe new groupings for Late Woodland ceramics related to Blackduck outside of this range.

6.1 Bounds of Blackduck

Blackduck is bounded in Minnesota by multiple ceramic complexes and groups as discussed in Chapter 2. Ceramic wares like St. Croix, Kathio, Rainy River, and Sandy Lake offer explanations for the precession and succession of Blackduck east of the Red River. In North Dakota, however, the ceramic sequence has favored the Plains Village period primarily (Michlovic 2008; Michlovic and Holley 2022; Toom 2004), with some focus on the Early and Middle Woodland Periods (Gregg and Picha 1989). The Late Woodland has received little to no attention in popular literature with the briefest definition given to the Terminal Late Woodland in the Middle Missouri Region (Ahler et al. 1991; Krause 2019), and a geographically confined exploration of instances of Late Woodland sites within the Sheyenne Bend region offered by Michlovic and Holley (2022). This paucity of classificatory information has forced the authors of cultural resource management reports to find a sensible categorization for regionally aberrant ceramics within the nearest moderately well-defined sequence, which happens to be Minnesota (i.e. Campbell et al. 1983; Toom 2003). This has left a chronological and organizational gap between the Middle/Initial Woodland and Plains Village periods for the state. Most North Dakota ceramics described in the preceding chapter, while retaining some aspects of Blackduck,

are demonstrably different in both decoration and form. It may be true that a relationship remains between the two, but the ceramics of sites like Kirschenman III, Beeber, and Magpie Road all require reclassification within more comfortable descriptive boundaries.

6.1.2 Minnesota Blackduck Boundary

In Minnesota, the southern boundary for Blackduck exists along a line from the top of Mille Lacs to the northernmost corner of Wilkin County on the western border (Figure 41). South of this line, Blackduck is sparse in the extreme, with the more favorable classification of Kathio given a dearth of punctates and other definable Blackduck features such as a wedged and flared rim profile. For general purposes, this basic semi-horizontal line serves adequately to divide Blackduck in the north from other Late Woodland ceramics in the south. In addition, it connects cleanly with the line that will become evident for North Dakota Blackduck ceramics. If nuance and detail are sought, however, the lack of Blackduck along the Red River proper must be noted.

Working from north to south, Blackduck site recordation would suggest that a small buffer between the eastern banks of the Red River and the relict beach strandlines of Lake Agassiz would be prudent, at least for the southern portion of the Red River Valley (Figure 42). Beginning in Marshall County with the Skurdahl Site (Lane 1975), Blackduck sites south of this point are located well away from the river's edge. Indeed, a survey along the river proper (Holley et al. 2022; Michlovic 1988) yielded no Blackduck at all. Instead, Blackduck is confined to areas of topographic change along the eastern edge of the Red River Valley, specifically along the relict beach strandlines of Glacial Lake Agassiz and the inset valleys wherein rivers cut through beach deposits. This includes sites like the Crookston Mounds (21PL9), the Slininger Mounds (21NR1), and 21CY39. Only in Marshall and Kittson counties do Blackduck sites exist within

the Valley proper and are only represented by a few sites: Skurdahl, 21KT23, and 21KT017. This indicates a relative hesitancy of Late Woodland people to cross into the prairies proper in the southern and western extent of their range. This phenomenon does not occur before the Late Woodland Period or later, with a proliferation of evidence for Late Precontact Sandy Lake material documented along the banks of the river itself (Holley et al. 2022), as well as Initial Woodland Dahnke and Kent ceramics (Holley and Carr 2023). Climatic evidence may indicate

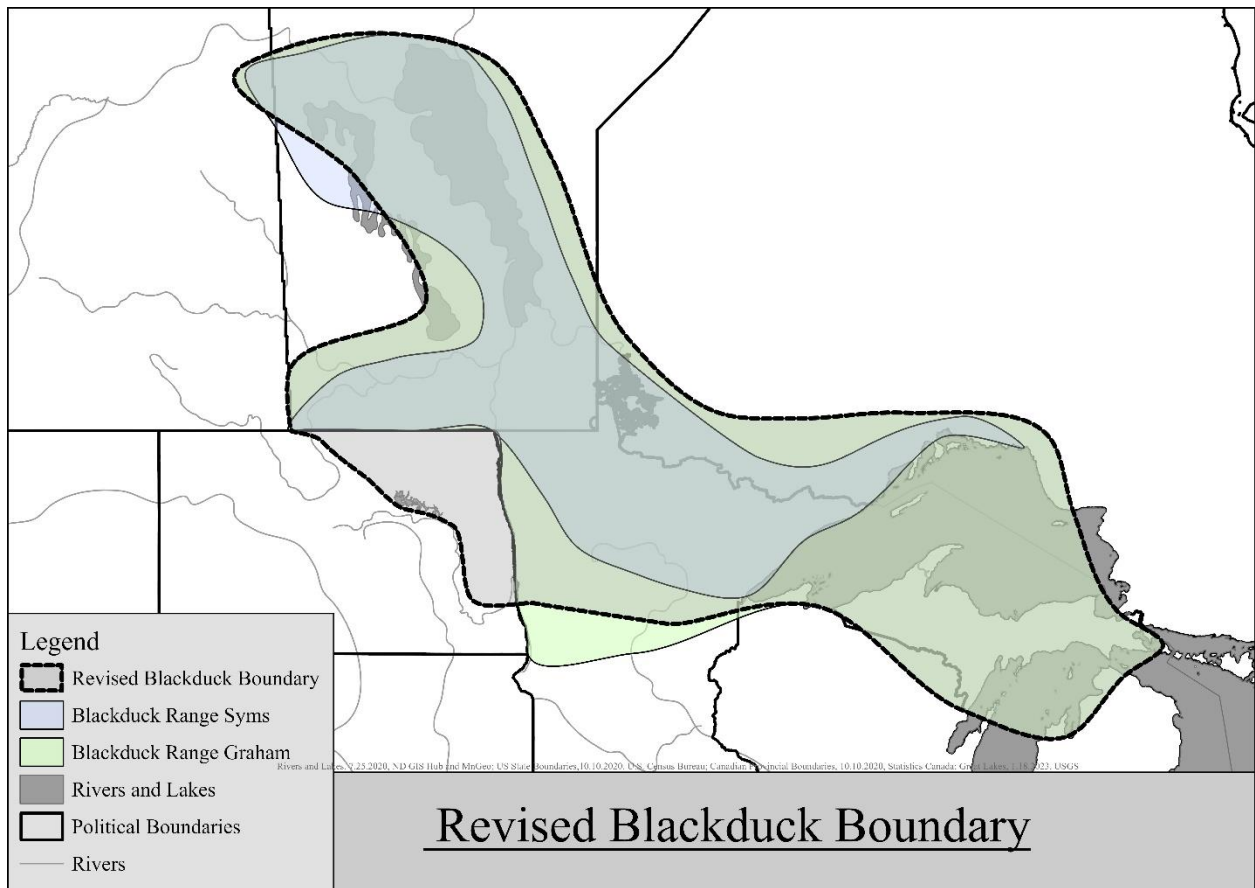


Figure 41 A revised Blackduck Boundary

that periods of drought punctuated the peak time of Blackduck (Laird, Fritz, and Cumming 1998:178), and it is believed that this may have created unfavorable conditions for a departure from the forest/prairie boundary into the prairie/plains proper (Holley et al. 2021:350). South of

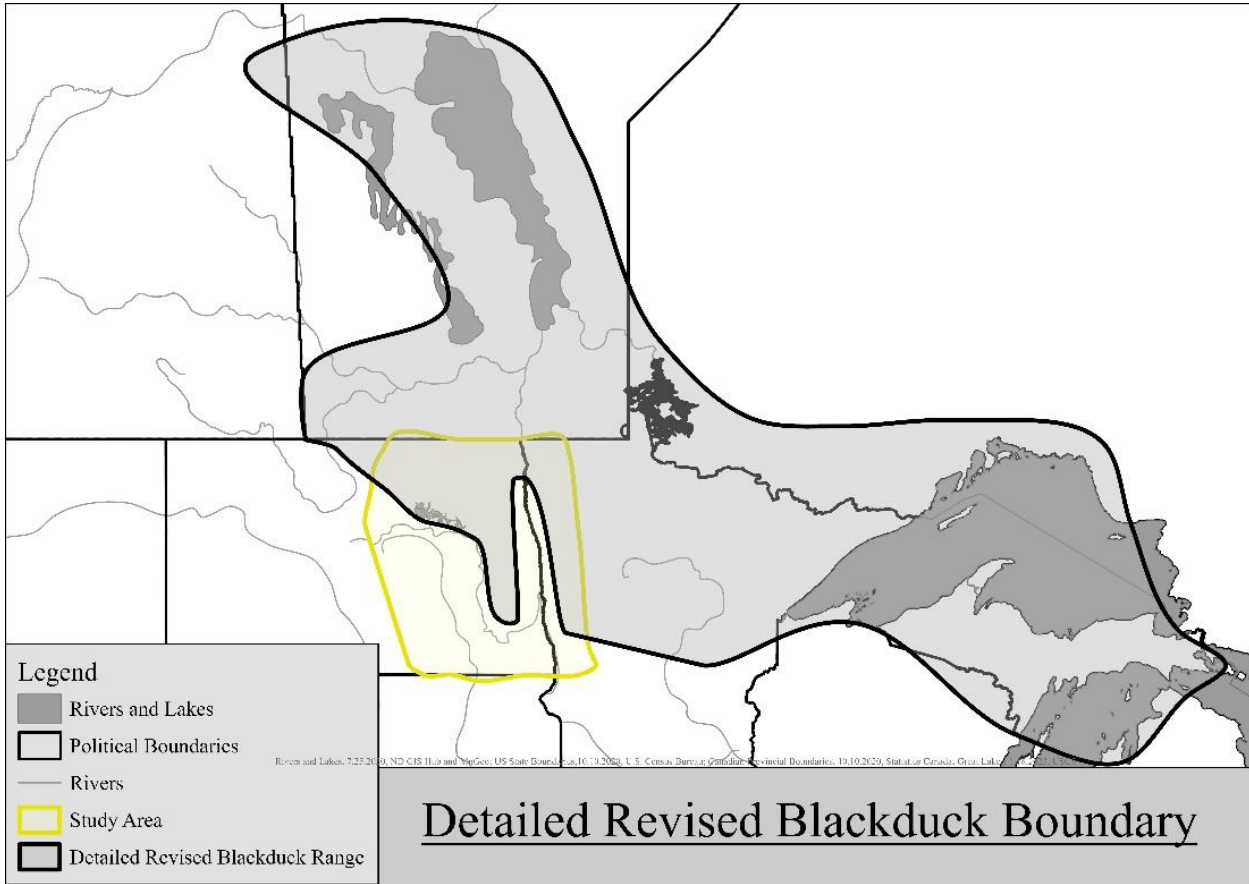


Figure 42 A detailed, revised Blackduck Boundary showing the absence of Blackduck in the upper Red River Valley

the aforementioned arbitrary line drawn between Mille Lacs and Wilkin County, ceramic evidence abounds to separate Blackduck from the other Late Woodland ceramic complexes in Minnesota. Buhta et al’s (2014) exploration of archaeology in “west-central” Minnesota surveyed numerous counties south of the defined Blackduck boundary to the edge of the Minnesota River. Firm differences between Blackduck and Kathio were not made in the final site designations (Buhta et al. 2014:135), but the ceramic analysis for the sites excavated was classified as Kathio or Onamia (Buhta et al. 2014:79–81). A brief examination of the

photographs provided reinforces this classification, as the ceramics recovered during the survey are, by definitions used in this analysis, not classifiable as Blackduck.

To the east, and utilized within Buhta et al.'s (2014) report, is the ceramic assemblage of Petaga Point, located on the southwestern side of Mille Lacs. This assemblage, photographed and detailed thoroughly with rim profiles hyperlinked to images (Hohman-Caine and Goltz 2009), allows for an examination to determine the extent of overlap between an assemblage largely designated as Kathio and what should be expected of Blackduck ceramics to the north. Out of 181 rims designated as Kathio, none that would be classified as Blackduck were apparent. Indeed, traits that “make” the Blackduck vessel such as punctations and wedged and flared rims were generally absent. A few rims with horizontal and oblique CWS impressions were noted, but again, the rim form and lack of key Blackduck traits necessitated their exclusion.

To the west, the bounding of the Blackduck range at the northernmost line of Wilkin County, MN, was affirmed by numerous recent surveys of the county. A survey along the length of Whiskey Creek, located in the northwestern corner of the county and emptying into the Red River, revealed no Blackduck along its entire length (Holley and Carr 2020). The lack of Blackduck contrasts with a relative abundance of other archaeological cultures, including Initial Woodland and Late Precontact ceramics. The following year, a survey of the entire county was conducted to bolster the number of documented sites in the region (Holley et al. 2022), and again, no Blackduck was found. These two surveys alone covered most of the county and its waterways, and the lack of Blackduck in its entirety is indicative of the firm boundary present.

While the line between Blackduck and other Late Woodland ceramics to the south is archaeologically feasible to establish, the reality of Blackduck site assemblages located north of this line must be commented upon. Both 21OT51 and 21CY39, two of the most southern

Blackduck sites documented, are not exclusively Blackduck. As detailed in the preceding chapter, a reassessment of the ceramic assemblage indicated the presence of Kathio in both, as well as a likely candidate for a new Late Woodland ceramic series based on unique and well-represented rims. While temporal controls on the secondary Late Woodland ceramics at these sites are virtually non-existent, making the creation of new ceramic classifications a highly speculative process, the mixed nature of the assemblage indicates a diversity of peoples in the region. The Mitchell Dam site (21BK1) also yielded a few rims that diverged from the expected pattern of Blackduck, though not to the extreme degree of 21OT51 and 21CY39. Therefore, the inclusion of secondary Late Woodland ceramic types likely tapers as one moves further north and east.

In the case of 21OT51 and 21CY39, the presence of firmly typable Blackduck within the ceramic assemblage prompted a grouping of the remaining ceramics at the site as Blackduck, whereas a classification as Kathio or other Late Woodland types may have been the more favorable option. If the Blackduck types developed for northern Minnesota, Manitoba are used to classify ceramics found in the southern ranges, the drop-off between the presence of Blackduck and its absence appears precipitous. In contrast, if non-Blackduck ceramics that could potentially be classifiable within one of the more abstract types defined by the likes of Carmichael (1977) or Dawson (1974) were considered for fit within Kathio or another Late Woodland ware, the drop-off for Blackduck in Minnesota is relatively gradual. All Late Woodland ceramic wares and types are indeed related in one way or another, but this does not preclude shrewd assessment of both geographical range and ceramic traits to accurately classify ceramics.

6.1.2 North Dakota Blackduck Boundary

Crossing the Red River, the boundary for Blackduck is relatively definitive but obfuscated by what has been called Blackduck in the past. Sites like Kirschenman III and Beeber have been affiliated with Minnesota Late Woodland ceramics since their primary excavations. As the previous chapter demonstrates, this association is problematic for two reasons. The first is the general ceramic form. The decoration and vessel form align poorly with expectations of a true Late Woodland assemblage, thus indicating some Late Woodland influence, but no real Late Woodland presence. Second, if the assertion that the producers of Late Woodland-like ceramics in North Dakota are indigenous to the areas within which these ceramics are found, a classificatory scheme for the documented ceramics within the known sequence for the state is essentially absent. Opportunity comes in the form of clarifying a latent Late Woodland period in the state slightly. Problems come with the spread of sites and the size of the assemblage. While this is not a deterrent, it does add complexity to the issue of Late Woodland in North Dakota by only allowing for generalized statements about the known material to be made.

Blackduck is confined to the northeastern portion of the state. Three analyzable sites compose the bulk of Blackduck (32PB66, 32RY77, and 32CS4899), with two only having one sherd to demonstrate their cultural affiliation. The single sherd from 32PB66 can be included in the pantheon of Blackduck, for it is bracketed to the north in Manitoba (Graham 2005) and east in Minnesota (Holley et al. 2022) by a well-known spread of Blackduck sites. In addition, the report of other Blackduck sites along the Red River (Biggs et al. 1984) is believed to be accurate. The single sherd located at 32CS4899 is acceptable within the parameters of the investigation, though it is undoubtedly problematic to explain. A single vessel adhering to the decorative and formative standards of Blackduck does not imply the presence of Blackduck people in the

region. The vessel in question may very well have been the result of trade, or an errant Blackduck group moving beyond their typical range. It somewhat parallels the geographic position of the southern Blackduck sites of Minnesota (21CY39 and 21OT51) but is minimized by the lack of Blackduck along the southern reaches of the Red River in Minnesota. Despite these issues, it must be noted as an example of Blackduck in North Dakota.

The final clear example of Blackduck in North Dakota is that of Grahams Island on Devils Lake (Toom 2000). It is the only site known to contain more than a single Blackduck rim sherd, though not by much. The presence of a single well-made Blackduck rim is bolstered by the fine miniature Blackduck rim within the ceramic assemblage. With two undeniably

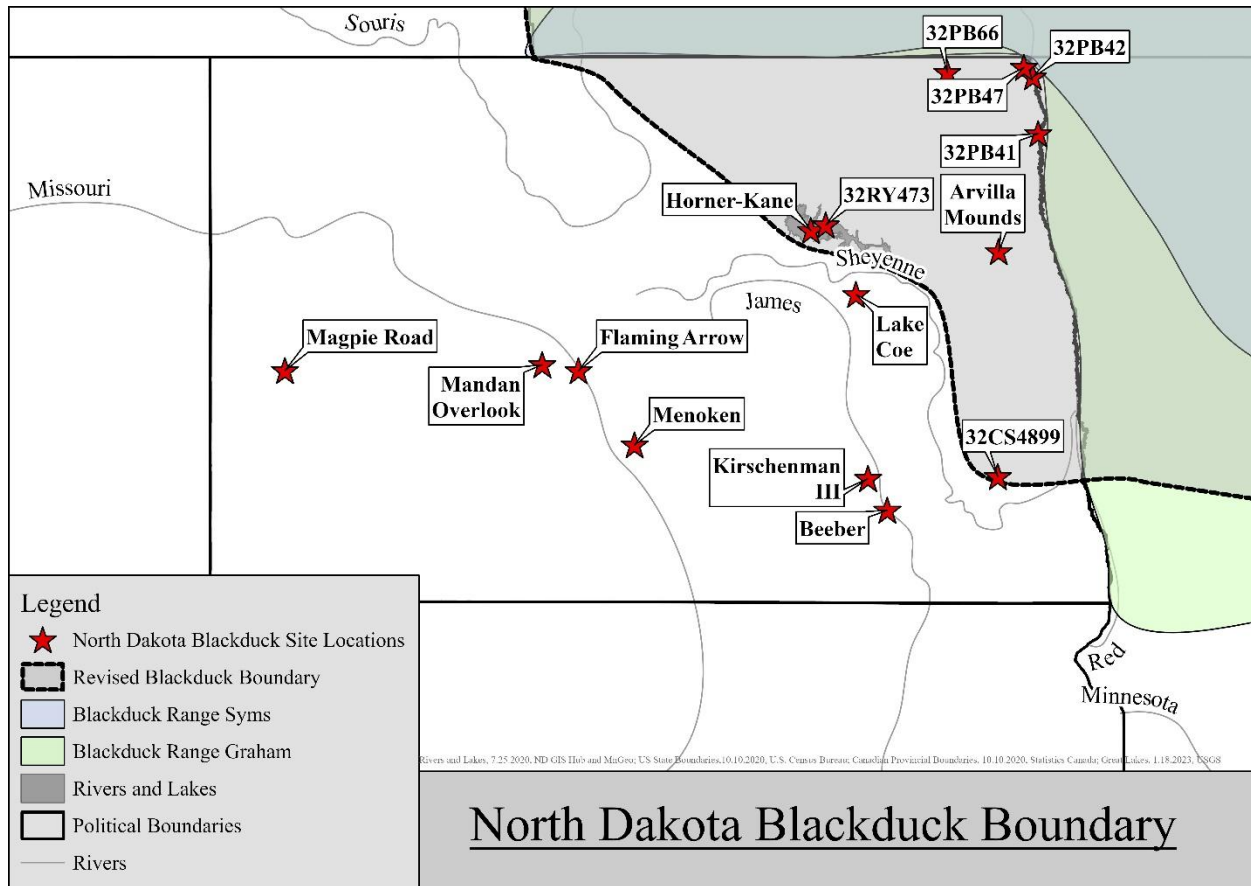


Figure 43 The Blackduck Boundary for North Dakota

Blackduck rims, this site is the best representation of Blackduck in North Dakota, though demonstrative of the small samples available.

The arbitrary general boundary for Blackduck in North Dakota begins along the Red River at the terminus of the Wild Rice River, just south of the city of Fargo. From this point, the line trends eastward towards the Maple River and 32CS4899. At the eastern bank of the Sheyenne River, the line turns north and follows the bank of the Sheyenne until the river is just below Devils Lake. At this point, the line follows the southern side of Devils Lake until its westernmost point. From there, a somewhat ambiguous boundary can be drawn to the point where the Souris River crosses the 49th Parallel. The start and the end of this boundary match agreeably with both the sites on the Minnesota side of the Red River and Manitoban documentation of Blackduck.

A major gap in site data exists within the eastern portion of the Souris River Valley, stretching eastward to the western edge of Pembina County. A rim sherd with a single CWS impression on the rim has been reported within a private collection (Floodman 1990:148) and interpreted to be Blackduck, but the lack of clear photographs and inability to view this specimen at NDSHS prevents its inclusion in this assessment of Blackduck. East of this single sherd, there are no sites documented to be Blackduck. A search within North Dakota's GIS database for all sites coded to have Blackduck returned no hits within the Souris River drainage. Indeed, a broader search for Late Woodland sites yielded only one site lead, with no actual documented archaeological sites available for consideration in report or artifact form. This gap is curious, for Graham (2005:116) indicates that the Souris watercourse was likely a vital travel and resource corridor for Blackduck in Manitoba. While the dearth of surveys on the Northeastern Plains is an oft-cited lamentation of archaeologists working in the region, the gap of Blackduck in north-

central North Dakota is most certainly a case of minimal survey contributing to gaps in the data, especially considering the presence of Blackduck just across the international boundary in Manitoba (Figure 43).

Like the Minnesota side of the Red River, the boundary of Blackduck is located some distance off the western banks of the river. Site surveys along the river, such as excavations at the Dahnke-Reinke Site (Thompson 1990) at the confluence of the Sheyenne and Red Rivers, as well as the Omlid 1 Site (Blikre 2008), located in present-day Grand Forks indicate occupations during the Initial Woodland, as well as a proliferation of occupation in the Late Precontact period. Blackduck sites begin in earnest at the Arvilla Mounds, situated on the relict beach strandline of Lake Agassiz approximately 35 kilometers west of the Red River. This demonstrates a similar pattern to the Minnesota side of Lake Agassiz. Further north, the possibility of Blackduck sites along the Red increases, as numerous sites (Biggs et al. 1984) have been documented on its banks. This parallels the Minnesota side of the river with great similarity.

Outside of the bounds of Blackduck described here is a small roster of sites containing ceramics at one time or another called Blackduck. Closest to the bounds and working west, these sites are 32RY473, 32ED85 (Lake Coe), 32SN247 (Kirschenman III), 32LM235 (Beeber), 32ML4, and 32BI286 (Magpie Road).

The sites noted above failed to meet the criteria to be called Blackduck strictly on ceramic grounds. In both decoration and vessel form categories, the vessels at these sites did not align with expectations of the most basic Blackduck pot. Instead, as will be demonstrated, they exemplify the interaction and spread of some Blackduck ceramic styles into Indigenous

communities within North Dakota who attempted to adopt some vestiges of Late Woodland ceramics into their existing pottery tradition.

If these sites are not Blackduck, the issue becomes how to classify the material they yielded. The Late Woodland period in North Dakota is poorly defined at best. The problematic identification of materials from sites like Kirschenman III as Blackduck has resulted in complacency. Thus, new ceramic classifications for the non-Blackduck material described must be produced. The following groups do not capture the total variation exemplified by Late Woodland Ceramics in North Dakota. The intentional search for Blackduck looked over several sites that contain ceramics that could likely be classified as Late Woodland, yet were not explicitly labeled as Blackduck and therefore excluded from the analysis. Further examination of all potential Late Woodland sites in the state would be necessary to create a complete description, but this falls beyond the scope of the project.

6.2 North Dakota Late Woodland Ceramics

The problem of handling Blackduck-like material in North Dakota can be resolved through the creation of a relatively simple typological schema for the sites outside of the boundary defined above. This ceramic typology is, like all typologies, the product of an archaeologist looking to group traits that the archaeologist deems significant. It is recognized that the ware and types subsumed within it will require refinement throughout time. The pernicious problem of North Dakota Late Woodland ceramics does not stop with Blackduck look-alikes. The presence of transitional Late Woodland Wares like St. Croix, and the shift to Plains Village Culture represented by the Charred Body Complex require attention to develop an abstraction of the ceramic sequence. The definition of a single Late Woodland ware is a single step down the right path.

The term “ware” as it is used here denotes the largest scale in a simple hierarchical organizational schema used in ceramic analysis. A ware is composed of the “technological aspects” (Holley 2021:15) of ceramics such as their paste, temper, surface treatment, and vessel shape. The types within a ware typically house the clusters of decorative variances expected within ceramics identified to be of a specific ware. Within a type can be housed numerous varieties, or small deviations from the type expectation that still fit within the definition, yet differ from one another (Anfinson 1979:1). In the case of ceramics analyzed here, such a basic typological scheme fits the sparse data, and poor sequence development quite well. Wares and types break down, however, when too much variation, or proliferation of general similarities at the ware level but expansive variation at the type level occur.

The naming convention for types followed here is a product of the belief that certain traits, usually decoration or surface treatment, are a function of the time in which they are posited to occur. This historical index approach (Anfinson 1979:1) is usually presented as a two-part name based first on the location where the phenomenon was first noticed and second on the trait that makes it differ from the rest. An example of these names would be MacNeish’s typological scheme for the ceramics he believed to differ from Minnesota Blackduck. MacNeish established a “Manitoba Ware” (1958:156), with three types subsumed within this main category. These types were named “Manitoba Horizontal” (MacNeish 1958:157) for the horizontal CWS impressions encircling the vessel, “Manitoba Herringbone” for the chevron pattern produced by CWS impressions, and “Blackduck Brushed” for the brushing occurring on the smoothed rim (MacNeish 1958:159). In each case, the first portion of the binomial name is locational, indicating that the first two types were noted in Manitoba, while the third case most closely resembles those ceramics found at Blackduck Lake by Wilford (1945). The second portion of the

name is a succinct decorative identifier that generalizes decoration into a basic design. Thus, MacNeish ordered his ceramics in a historical index approach successfully.

The amount of ceramic analysis in Blackduck provides some pitfalls of the systems above, namely, selecting appropriate decorative elements from which to derive the second portion of the binomial name. This is especially problematic when Blackduck yields the same general decoration on each sherd. Evans' "Schocker Cord Impressed" (1961:45) is not Blackduck with cord impressions. Rather, it is Blackduck sans punctates. Whether the "wrapped stick" is implied or just plain missing between the "cord" and "impressed", clarity adds to the ease of use, which should be at the height of mind when making a ceramic typology.

A new ceramic ware for North Dakota is proposed here, with two types subsumed under its umbrella. The ware is christened Coteau Ware after multiple landforms located in North Dakota identified by Joseph Nicolette during his hydrological surveys of the upper Mississippi River. While this name does not point to any specific region in the state of North Dakota, it does indicate the general region and characteristics from which the ceramics in question originated.

Coteau Ware is divided into two types: Kirschenman Composite and Bayley Banded. The former is named after the Kirschenman III site, the furthest east appearance of the unique bossed and cordwrapped stick impressed ware related to, but different from, Blackduck. The latter is named after the single sherd from the Bayley collections with unique horizontal and oblique CWS impressions. This ware lacks any additional decoration. The precise definitions of the ware and types will be expanded upon below. Presently, there are insufficient ceramic samples to include varieties within the ceramic types defined here. There is also a third free-standing ceramic type present, Twin Lakes Composite. This type is unrelated to Coteau ware, with

affiliations instead in western Minnesota. Two rims in the analysis are classified as “Undefined Late Woodland” ceramics given their deviance from all three types defined below.

5.2.1 Coteau Ware

Within the context of the detailed ceramic complexes above, Coteau ware fills the chronological gap from roughly AD 800 at the end of the transitional Late Woodland period to AD 1200, at the start of the Initial Middle Missouri village complex and the NEPV complex in the east. This ware is typically grit tempered and subconical to globular in shape, with vertical to slightly everted rim forms. Surface treatment consists of cordmarking, with optional smoothing of the rim area before the application of decoration. Lips can be square, rounded, or slightly in or out slanting.

6.2.1.1 Kirschenman Composite

The first type subsumed under Coteau ware is the Kirschenman Composite. Named after the distinct vessels recovered from the Kirschenman III site (Toom 2003), this type is



Figure 44 Examples of Kirschenman Composite from 32SN247

characterized by a combination of horizontal cordwrapped stick impressions paired with interior punctations producing exterior bosses (Figure 44). The rim surface these decorative elements are placed on is typically smoothed, though one sherd at Kirschenman III has “brushing” produced from rolling the CWS tool over the rim surface. Thickness ranges from 4.2-8.7mm, indicating relatively little consistency in manufacture. There are two sites in North Dakota yielding this type: Kirschenman III and 32RY473 for a total of 6 rims. Three rims present within the 32RY473 ceramic assemblage are classified under this type based on the description of ceramics provided by the authors of the respective site reports, as the collections were not available for viewing at the time of analysis.

6.2.1.2 Bayley Banded

The second, and more common, type under Coteau ware is Bayley banded. This is named after the ceramic sherd from the Bayley collection with distinct vertical and horizontal CWS impressions. This type is characterized by horizontal banding, typically manifesting as CWS impressions encircling the vessel (Figure 45). A notable difference in CWS appearance is



Figure 45 Examples of Bayley Banded from 32RM172 (left, photo courtesy of George Holley) and 32SN247(right)

prevalent within the Bayley Banded type. Instead of a cordwrapped stick with distinct cords present in the impression, the impressions moving west appear to be wrapped rod-impressed rather than clear cords. Dentate stamps occurring in the same horizontal banding pattern are also possible, but this must occur with some form of CWS impressions to fall within Coteau instead of St.Croix. Occasional oblique to vertical CWS impressions also occur on the upper rim, lip, and interior of the vessels in question. There are a minimum of 3 sites and a region associated with this type: Kirschenman III, Bayley collection (in the vicinity of Leonard, ND), Lake Coe, Irwin Johnson, and Mandan Overlook for a minimum of 10 rims.

6.2.2 Other Types

6.2.2.1 Twin Lake Composite

Twin Lakes Composite is a type located outside of the Coteau ware category. This stand-alone type was created after research in west-central Minnesota revealed the presence of rim sherds that replicate the patterning of the rim found and described at the Beeber site. The general pattern of these vessels is closer to Blackduck than the preceding types within Coteau Ware, but a deviation in rim form and decorative style warrants a different classificatory group (Figure 46). The basic decorative elements consist of horizontal CWS impressions interrupted by sublial



Figure 46 Examples of Twin Lakes Composite from Wadena County (left, photo courtesy of George Holley) and 32LM235 (right)

bossing. Occasional oblique CWS impressions occur at the junction of the rim and lip. The rim and neck of the vessel are deeply cordmarked to the lip. The rim profile is vertical, with a rounded lip. In addition to the sample found at the Beeber site, rims that are consistent with this type have also been noted in Wadena County, Minnesota, and Otter Tail County, Minnesota (George Holley Personal Comm).

5.2.2.2 Undefined Late Woodland

The loosest grouping of ceramics offered here is the undefined Late Woodland classification for aberrant sherds noted within this analysis. Two sherds from two sites are the primary reason for this grouping. The first is a unique rim sherd derived from the Lake Coe Site (32ED85) exhibiting sub-labial semi-lunar punctates over a vertically cordmarked surface. The interior rim-lip junction is notched, while the lip surface is cord-impressed. The second rim sherd is from the Fort Mandan Overlook site. This has a moderately outflaring profile with an abundance of punctates over a vertically cordmarked surface. The lip and interior rim are smoothed. The classification of these ceramics is currently unknown, though the presence of cordmarking on both and punctates indicated Late Woodland influence of an indeterminate nature.

6.3 The Western Minnesota and North Dakota Late Woodland Landscape

The information gathered on southwestern Blackduck indicates that there is a small but conspicuous presence of Blackduck in the northwestern reaches of Minnesota and the northeastern corner of North Dakota. Given the spread of Blackduck sites across the southern half of Manitoba and in north-central Minnesota, this distribution is consistent with expectations. Somewhat less Blackduck than expected was found in northeastern North Dakota, and the explanation for this is two-fold. Given the paucity of Blackduck sites in the southern Red River Valley, it is highly likely that people who made Blackduck pots moved from the forested regions

of Minnesota out onto the prairies, and no further. Likewise, Blackduck likely made its foray into North Dakota via the Aspen Parklands of Manitoba, filtering south. Thus, the Red River was seldom crossed, except in its most northern reaches, leading to a relatively low distribution of Blackduck in eastern North Dakota. The second explanation for this dearth of information is likely due to testing in the areas between the Souris River Valley and the Pembina River Valley in North Dakota. A search in the North Dakota GIS database revealed only one site with confirmed Blackduck in Cavalier County, yet any ceramic artifacts from this site were not available at the North Dakota State Historical Society.

The sites south of Devils Lake in North Dakota are not Blackduck. The questions then must be directed toward the true temporal and cultural affiliation of these ceramics. The sequences for the Red River Valley of Minnesota (Holley et al. 2021) and the Sheyenne Bend region of North Dakota (Michlovic and Holley 2022) offer some classificatory parameters that are useful for organizing the data documented here.

6.3.1 Sandhills Phase

The Sandhills Phase marks the temporal transition between the Initial Woodland and the true Late Woodland Bluestem Phase in the west, as well as the boundary between the Initial Woodland and the Terminal Woodland in the east of the study region. Areas in the east that demonstrate a clear presence of Blackduck (21KT1, 21NR9) also yield the slightly earlier Sandhills Phase St.Croix ceramics. To the west, St. Croix is present in the Sheyenne and James River valleys, as well as points north such as Devils Lake (Toom 2000), indicating a wide range of locations into which this ceramic type spread. Dates are again uncertain, but AD 600-800 is likely. This is effectively the precursor to Blackduck in the Red River Valley and adjacent regions. More information and dates are needed to quantify the exact nature of St. Croix

movement onto the prairies and Plains, but, in limited numbers, transitions between the forest and Plains were common before the Bluestem Phase.

6.3.2 Bluestem Phase

In western Minnesota, the Bluestem Phase represents the southwesternmost manifestation of Blackduck known. Originally defined for 21OT51 and 21CY39 (Holley et al. 2021), Bluestem now includes 21MA08, 21PL09, 21NR1, 21KT107, 32PB66, 32RY77, and 32CS4899. This phase consists of small, even ephemeral Blackduck campsites located on the prairie or prairie-forest edge. Subsistence information is only discernible from select sites where Blackduck ceramics are in association with faunal remains. 21MA8, 21CY39, 21KT23, and 21KT107 indicate a primary focus on bison, while sites along the prairie-forest boundary demonstrate mixed subsistence, with some presence of bison processing (21OT51). Ceramics are primarily classic Blackduck with horizontal and oblique CWS impressions and punctates, with wedged and flared rims. In all likelihood, this phase extends onto the prairies of Manitoba, with a discernable boundary somewhere in the prairie-parkland boundary of southwestern Manitoba. Limited dating is available for the Bluestem Phase, but the dates likely range from AD 700 -1000. A notable exclusion from the Bluestem Phase is 21BK1. The geographical position of this site, in conjunction with select unique ceramics, warrants a closer examination of Blackduck sites in the southern range of the ceramic complex. It is felt that these ceramics may differ enough from the northern Blackduck and the southern Kathio complex to justify a division within the Blackduck ceramic typology. This is echoed by Buhta et al's (2014) allusion to a potential "southern Blackduck" ceramic type, but more work is needed to affirm this supposition.

6.3.3 *Lucas Phase*

In southeastern North Dakota, the Lucas Phase was defined as a Terminal Late Woodland entity that served as a stop-gap between the transitional Late Woodland Sandhills Phase and the Matoti Phase, which is Northeastern Plains Village in cultural association. Michlovic and Holley date the Lucas Phase from AD 1000-1200, with ceramics that have cordmarked bodies and yield decorations made with “cordwrapped, plain or dentate dowels”(2022:150). An examination of sites subsumed under the newly defined Coteau ware indicates both a temporal and ceramic association with this phase, in addition to a geographic bound. Two radiocarbon dates are available for the Lucas Phase. The Irwin Johnson Site (32RM172), located along the Big Bend Region of the Sheyenne River, dates between AD 1020 and 1160 (Holley and Michlovic 2017:12) and produced ceramics decorated with horizontal cordwrapped rod impressions consistent with the Bayley Banded type defined above. The Kirschenman III Site along the James River, which produced both types of Coteau Ware (Kirschenman Composite and Bayley Banded), has two date ranges. The “Late Woodland-B” component, defined stratigraphically, is dated between AD 790-969 (Toom 2003:4.4). The “Late Woodland- A” component, which produced both Bayley Banded and Kirschenman Composite types, dates between AD 1017-1187 (Toom 2003:4.4). It is felt that both components are associated with the Lucas Phase, though the date for LW-B component is early and may represent an overlap between the Sandhills and Lucas Phases in this area. The Lucas Phase is still “under construction” given the paucity of information available concerning the transition towards village life in southeastern North Dakota. It is worth noting that the Lucas Phase is contemporary with the Charred Body Complex along the upper Missouri. Dates from a house structure at the Flaming Arrow Site (32ML4) range between AD 920 and 1230 (Toom 1988:67). This corresponds with the transitional nature of the

ceramic assemblage from the site, which is felt to represent a mix between Late Woodland-influenced and Initial Middle Missouri types (Krause 2019). The terminal Late Woodland, therefore, can be considered a time of transition in both the western and eastern portions of the state, wherein developments toward village life occurred along the Missouri, James, and Sheyenne River drainages.

6.3.4 Western Late Woodland

The presence of the Magpie Road Site (32BI286), located in the Badlands of North Dakota requires some explanation. Contrary to the initial assessment of the ceramics found, which were believed to be Blackduck, the photographs and descriptions available indicate that these ceramics are likely best included in the Kirschenman Composite type of Coteau Ware. An association with a known Western cultural complex such as Old Women's Phase would be favorable due to its geographic position with Magpie Road, but consultation with archaeologists more familiar with these ceramics indicated that the Magpie Road ceramics are likely not affiliated with Old Women's Phase (David Meyer, personal communications, 2023). An absence of oblique cordwrapped stick impressions, as well as bossing, precludes the inclusion of these ceramics as Blackduck. While potentially a good fit for the Kirschenman Composite type defined above, the location of these sherds must be explained. There is not a Blackduck or Lucas Phase site for roughly 300 kilometers in any direction, including southern Manitoba. Therefore, the site remains an enigma, compounded by the lack of access to the ceramic assemblage found.

6.4 Conclusions

The southwestern boundary for Blackduck is clear, and now supported by collections from select sites in western Minnesota and northeastern North Dakota. To the east, in Minnesota, exists stronger evidence for small but persistent use of the prairies by Blackduck people who

elected to hunt bison and participate in landscape modification through mound interment. Dotted along the edge of the Red River Valley (21CY39, 21NR1, 21MA8, 21KT23, 21KT107) are small Blackduck sites that demonstrate a propensity for diverse resource exploitation and forays onto the plains by Woodlands people. What is apparent from this examination is the paucity of Blackduck material in North Dakota. Evidence for rich occupations on the true Plains of North Dakota is absent, indicating a general lack of high traffic by Blackduck peoples. 32RY77, the only multi-vessel Blackduck site in North Dakota, demonstrates that there was, likely, movement between the parkland of Manitoba and areas south, albeit limited.

The Late Woodland period in North Dakota can no longer be thought of as the intrusion of multiple different cultural groups onto the Plains, each of whom left their distinct ceramics at sites across the eastern portion of the state. Instead, the recognition of an in-situ development of Blackduck-like ceramics in North Dakota indicates the presence of groups with established ties to the regions these ceramics are found within. Thus, the prairies and plains were not empty or a place for forest or parkland-based groups to hunt unimpeded. Instead, the Plains of North Dakota was likely a rich area of engagement between Blackduck and the Plains people, leading to the development of Coteau ware and setting the stage for future changes.

7 Theorizing Blackduck Movement: Enskilment on the Northeastern Plains

7.1 Enskilment: A New Way to Consider Blackduck

In light of the data presented above, the models outlined in Chapter 2 are seemingly insufficient to model the totality of Blackduck in the United States, and more specifically, in the under-discussed margins of the complex. Each model above assumes dichotomous certainties to discuss both the phenomenon of Blackduck, as well as the environment in which it occurs. Ray (1974), Syms (1977), and Graham (2005) all employ clear cyclic patterns to explain their chosen models which divide either the territory or the ecological areas used by the group of concern into separable parts. Pettipas (1980) and Graham (2005) also divide Blackduck itself into two clear groups that interact with one another in specific regions of the landscape. In the context of the “Ecology of Life” presented here, these divisions of both Blackduck and the environment operate at too large a scale to explain the movement and settlement of Blackduck, as well as the transfer of their ceramic traits to westward groups sought here. It should be made unequivocally clear that the models above cannot be jettisoned. Each has made valuable contributions to the understanding of not only Blackduck but various NEP archaeological entities. Instead, they must be considered with a healthy perspective for developments that have been made in both theory and excavation since their creation to utilize their value to its utmost degree.

As suggested above, a fresh perspective to modeling and understanding Blackduck can be found in applying Ingold’s (2000) outlook on learning and enskilment and applying this to Blackduck archaeological sites that were not considered in the development of the models above. This new model is hardly a model at all. Each of the models above constructs a sort of boundary to its application. In a typical model, the material must be slotted into the categories made

available by the developer, eliminating admittedly small but important variation that each site possess. The new system of considering Blackduck that will be developed here contains much slack. Rather than offering predefined categories with which to consider Blackduck, it instead provides a method of considering how Blackduck material arrived at certain locations, and what that presence means for the wider body of known information about Blackduck. This new “non-model” is inherently more inclusive, with the ability to unify information from the United States and Canada that has previously only been examined in the recording of facts about Blackduck (Arzigian 2008:106–125).

Within the framework of processes of enskilment, the actions of the people who created Blackduck ceramics and occupied various ecological zones across the Northeastern Plains can be understood to be a continuous process of learning skills and enacting those skills within specific environments. In addition, the creation of ceramics outside the range of Blackduck in North

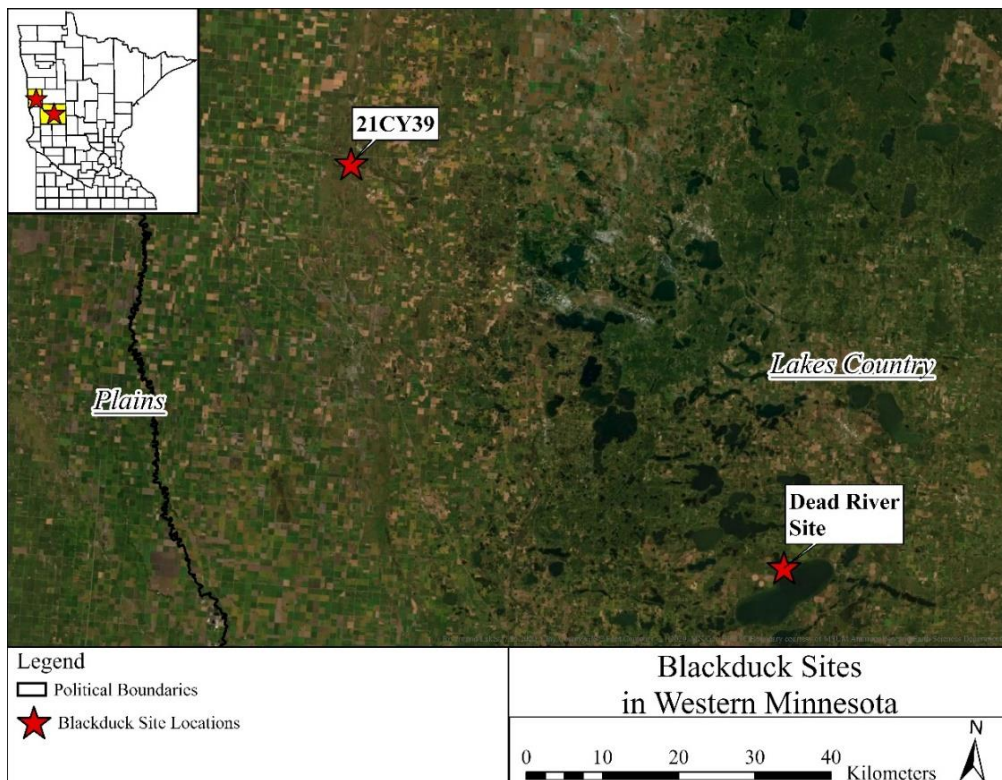


Figure 47 Western Minnesota Blackduck Sites discussed in comparison

Dakota is a further testament to the interactions carried out between inhabitants of the western Northeastern Plains, and Blackduck to the northeast. To demonstrate this assertion effectively, two Blackduck sites in Minnesota, 21CY39 (Michlovic 2004) and 21OT51 (hereafter referred to as the Dead River Site)(Michlovic 1979) will be discussed concerning one another (Figure 47), followed by an examination of Blackduck and Coteau Ware distribution in North Dakota.

The Dead River Site was documented during cultural resource management mitigation efforts before the construction of a road in Otter Tail County. Located between two lakes in west-central Minnesota, the Dead River Site yielded several interesting archaeological finds. The first was the faunal assemblage. Fish were the most abundant animal remains recovered, followed by an assortment of mammals such as white-tailed deer, beaver, muskrat, and some bison (Michlovic 1979:6). The second find of note was the ceramic assemblage. The ceramics recovered from the Dead River Site contained a smattering of Laurel and Brainerd Net-Impressed Wares (Initial Woodland), both ceramics commonly recovered in the woodlands of Minnesota. The assemblage, however, was dominated by Blackduck ceramics. Analysis of the ceramic assemblage in Chapter 4 suggests that it is primarily Blackduck, with inclusions of other Late Woodland banded wares like Kathio.

Roughly 80 kilometers to the west-northwest of the Dead River Site is 21CY39. Recorded after the donation of a golf course turned science center to Minnesota State University Moorhead (MSUM), 21CY39 is one of the most remarkable Blackduck sites that few know about. 21CY39 is located on a relict beach ridge of glacial Lake Agassiz, where the Buffalo River cuts through the beach ridge and flows onto what was once the lakebed of Lake Agassiz (Michlovic 2004:2). Excavations at 21CY39 occurred over multiple seasons (three to be exact) often part of field schools held by MSUM.

21CY39's faunal assemblage is nearly the inverse of the Dead River site. The majority (94%) of the identifiable material recovered were bison remains, and most notably, leg bones from bison (Michlovic 2004:19). The disproportionate presence of lower limb bones, combined with a high number of bone fragments (over 2000), suggests a high level of post-hunt processing by the inhabitants of 21CY39, with minimum focus on other species of game. While the faunal material between 21CY39 and the Dead River Site may differ, the ceramic assemblage of 21CY39 bears some similarities to the Dead River site. Of the 13 vessels identified, a small minority represents unidentified Initial Woodland wares (Michlovic 2004:29). The rest are Late Woodland in affiliation, with prominent Blackduck vessels and a smattering of Kathio and unidentified Late Woodland wares. The combination of near-exclusive bison remains, in addition to an abundance of Blackduck ceramics, makes 21CY39 one of the only known Blackduck bison-hunting sites in Minnesota. Small representations of bison are present at other Blackduck sites that border the Plains (21MA08), but the richness of the site led Michlovic to suggest that 21CY39 was an important camp (Michlovic 2004:42).

21CY39 and the Dead River Site pose a problem if the five models outlined in Chapter 2 are applied to explain their existence. If either site varied in suspected seasonality, the subsistence round models or "two groups" models could rationalize the position of each site, yet both sites are believed to be occupied during fair weather months. 21CY39 is located on an exposed bluff edge, susceptible to the prevailing western winds, potentially making winter occupation untenable. The Dead River Site, with its abundance of fish bones, also points to fair weather occupation. These two sites also come into conflict with the models above considering their relative closeness. 80 kilometers is no gentle stroll, but given the distance Indigenous groups are said to have covered without the horse (Ray 1974:38), this gap is rather negligible.

This distance is also difficult to explain within the confines of a grassland/Parkland/ Boreal forest split employed by Pettipas(1980), Nicholson (1987), and Graham(2005). 21CY39's location on the beach ridge of Lake Agassiz places it firmly on the gateway to grasslands that are flatter than most. Moving east, however, there is little in the way of a Parkland ecotone that exists in Manitoba. Rather, the ecology slowly grades towards a profusion of small lakes dispersed in the prairie, to relatively dense woodlands. Combined, these factors indicate that the above models inadequately explain how 21CY39 and the Dead River site came to be occupied in the same season by people producing the same pottery.

The difference in subsistence activities and similarity in ceramics at the two sites outlined above is best explained through processes of enskilment, and the enactment of skills within the ecological areas that 21CY39 and the Dead River Site occupy. The Dead River Site is representative of what may be considered the traditional enskilment processes of Blackduck people. The high representation of fish bones is characteristic of Blackduck sites located in north-central Minnesota (Arzigian 2008:115; Lugenbeal 1976:363). If there is one point agreed upon by the majority of the model authors, it is that Blackduck most certainly originated in the Boreal Forests of northern Minnesota and Ontario (Graham 2005:40; Nicholson 1987:203; Ray 1974:3; Syms 1977:97). Therefore, the use of fishing techniques at the Dead River Site is the product of skills passed down from one Blackduck person to another, teaching each how to fish. This process is inextricably tied to the environments in which it is practiced. As noted above, the lakes of Minnesota do not stop at a specified point. Rather, they grade slowly to smaller and smaller lakes as one moves south and west. The Dead River Site, located well south of the range of Boreal Forest Blackduck, is the product of the implementation of the skill set of fishing across space. Though the prairie may have appeared in larger swaths west of the Dead River Site, the

skills used by Blackduck people to fish were still applicable, allowing for a comfortable existence in an area not typically inhabited by the group. It was their learned skills, acquired and passed on individually that allowed the inhabitants of the Dead River Site to leave their mark archaeologically.

Applying the same logic to 21CY39 requires a different consideration for how the enactment of skills within a specific environment occurred. The movement towards the Plains was, like the occupation of the Dead River Site, a movement along slowly changing environments in which forms of the skill known to Blackduck people could be enacted (such as hunting small game, fowl, and fishing). To break into the Plains, however, most certainly required interaction with groups already present in that specific environment who wielded skills previously unknown to Blackduck people. The process of acquiring the skill set necessary to hunt bison, demonstrated by the abundance of bison remains at 21CY39, is a clear representation in the archaeological record of the active enskilment processes undertaken by the Blackduck people. As noted in the story of John Tanner briefly mentioned above, hunting bison requires knowledge of where to shoot the massive animal to kill it (James 1956:225–226). While it may have been possible (though unlikely) that Blackduck people applied the hunting skills used in the Boreal Forest on the Plains as asserted by Syms (1977:110), the more likely scenario was one of learning undertaken by Blackduck people. Indeed, Nicholson suggested that the acquisition of bison hunting skills was learned from a group already proficient (Nicholson 1987:203). Within the context of the system provided by Ingold, the adoption of bison hunting techniques by the Blackduck occurred through a “system of apprenticeship”(2000:37), wherein members of the Blackduck community came together with another (currently unknown) group and were taught how to harvest bison in the most effective way possible. 21CY39 can therefore be understood as

a product of this apprenticeship, combined with refinement over time as skills were passed from one member of the community to another, and from one generation to the next. The lack of any other major faunal group in the assemblage at 21CY39 indicates mastery over the technique of bison hunting, a sign of a matured skill set that had allowed Blackduck people to move further into the grasslands than previously.

The differences between Boreal Forest and Plains Blackduck as asserted by Graham (2005), or northern and southern Blackduck suggested by Pettipas (1980) are rendered void by the description of change between 21CY39 and the Dead River Site described above. Rather than firm divisions, Blackduck can be understood best as a continuum of enskilment and the enactment of those skills over a gradation of environments. This idea is reinforced by the similarity of ceramic decorations present over space. As the only firm determiner of what makes a site Blackduck, the lack of difference in ceramics over space suggests that Blackduck people did not lose their identity when moving through different environments and acquiring new skill sets. The notion of the form given to feeling (Ingold 2000:25) becomes important in this regard and is discussed in more detail below. Decoration on Blackduck vessels is a form given to the feeling of each potter as they make the vessel. Though their ecological surroundings, and the hunting skills exercised within those surroundings, are different from other Blackduck groups, the feeling of “Blackduck” (the self-identity inscribed on a decorated vessel) manages to remain stable across space because no sharp break occurred. This reinforces the notion that ecological change is not a clean-cut, but rather a gradation in which people can retain skills they so choose and learn new ones when the opportunity (or requirement) presents itself.

7.1.1 One Step Further: Imagining Late Woodland Ceramic Diffusion

The processes of enskilment, feeling, and movement through environments provide context for the presence of Blackduck and Coteau ware in North Dakota as well. Much in the manner of moving from the Dead River Site to 21CY39, Blackduck groups of southern Manitoba already practicing bison hunting on the regular would have been equipped with the skill sets necessary to make journeys onto the Plains. This is evidenced in the Blackduck assemblage located along the shores of Devils Lake (Toom 2000), as well as a profusion of Blackduck sites in southwestern Manitoba (Graham 2005). If a straight line distance is taken between this site and the closest Manitoban Blackduck site to the international border (Graham 2005:60), roughly 140 kilometers separate the two. This compares to the roughly 80 kilometers between 21CY39 and 21OT51, or 70 kilometers between 21CY39 and the Mitchell Dam Site (21BK1). It is clear that this distance was covered by Blackduck people from both Minnesota and Manitoba and provides a starting point for considering the presence of non-Blackduck ceramics in North Dakota.

7.1.1.1 Ceramic Motifs

The notion of feeling joined to a skilled action is directly applicable to the consideration of ceramic motifs, especially one as complex as Blackduck. Instead of considering ceramic decoration as purely an action passed down from the expert potter to their respective trainee, only to be continually replicated as an act of enculturation, an added level of complexity is introduced when one understands that the motif applied to a ceramic vessel is likely connected to the belief system, and therefore emotions, of the people manufacturing and decorating vessels. This is the likely route through which Blackduck-related types like Kirschenmann Composite and Bayley Banded originated. Interactions with Blackduck people within certain contexts likely

facilitated the exchange of ideas and beliefs- warranting a change in feeling for true Plains people and a shift in ceramic decoration.

This should not be taken to be a direct explanation of the Blackduck ceramic motif concerning past Indigenous belief systems. Rather, an idea of the manners in which ceramic vessels have displayed cosmology indicates the likelihood that the Blackduck motif means *something*. What exactly, archaeologists may never be able to access due to the clouded cultural affiliation of Blackduck and the time elapsed since it ceased to be manufactured, but it was a popular enough idea to spread over a massive geographic area and persist for 300-400 years. David Benn takes this idea one step further by suggesting that decoration on Early Woodland vessels in the upper Midwest Black Sand variant is symbolic in use, form, and decoration (2019:120), based on ethnohistoric and widespread geographic lines of evidence. Such a perspective is felt to be a stretch to apply here as it imposes the researchers' select beliefs about the construction of perspectives in the past onto ceramic motifs. What is apparent from Benn's (2019) discussion, however, is that there is a high potential for ceramic motifs to relate to belief systems.

If one is to look for evidence of this relationship between belief and ceramics, examples that slightly post-date Blackduck are available. Located to the west of the Blackduck range occurs the Devils Lake-Sourisford burial complex. First described by Syms (1979) based on the presence of exotic mortuary goods on the Northeastern Plains, the highly decorated ceramic vessels within the complex have since undergone reanalysis in light of new connections made about their decoration. One pot in particular, the Horizon Miniature vessel, underwent reanalysis when it was realized that the "lizards" (Syms 1979:284) once believed to adorn its surface were in actuality, salamanders (Job 2009:76). The implication of this realization is an understanding

that salamanders are renewal iconography, as they emerge from the ground in the spring after winter has passed (Job 2009:78), and likely relate to the renewal of the landscape in springtime.

The two examples above, though not directly related to Blackduck, indicate that ceramic motifs are most certainly connected to people's beliefs, and, as has been made apparent in the discussion of Ingold's (2000) perspective, these beliefs are likely the direct manifestations of relationships constructed with the environment. Given these connections, a few interpretations can be made about Blackduck decorative motifs before a description of their diffusion onto the Plains is provided. The first is that the Blackduck decorative motif is meaningful across several environments. Whatever beliefs it is based upon, it serves the inhabitants of sites on the prairie like 21CY39 or the Skurdahl site just as well as it does the inhabitants of the lakes and woodlands further east. The second is the patterning of the Blackduck motif, highly complicated and dense, which is important to its meaning. In contrast with wares that succeed Blackduck such as the relatively plain surfaced Sandy Lake ware, the highly decorated Blackduck vessel is a symbol both of belief and skill within the ceramic manufacturing community. No high-level theory is needed to recognize that to decorate a Blackduck vessel, a commitment to the complexity it displays is inevitably needed. Working with these interpretations, a few suppositions can be made about Coteau Ware and its influences.

7.1.1.2 Coteau Ware and Blackduck: an exchange

Operating under the assumption that Blackduck ceramic motifs represent a specific way of apprehending and interacting with the world, it is easier to frame why there are ceramics replicating, in part, the Blackduck pattern on the Plains of North Dakota. Two sites will be used to explore this interaction, 32RY77 along Devils Lake, and 32SN247 (Kirschenmann III) on the James River in Stutsman County, North Dakota. (Figure 48).

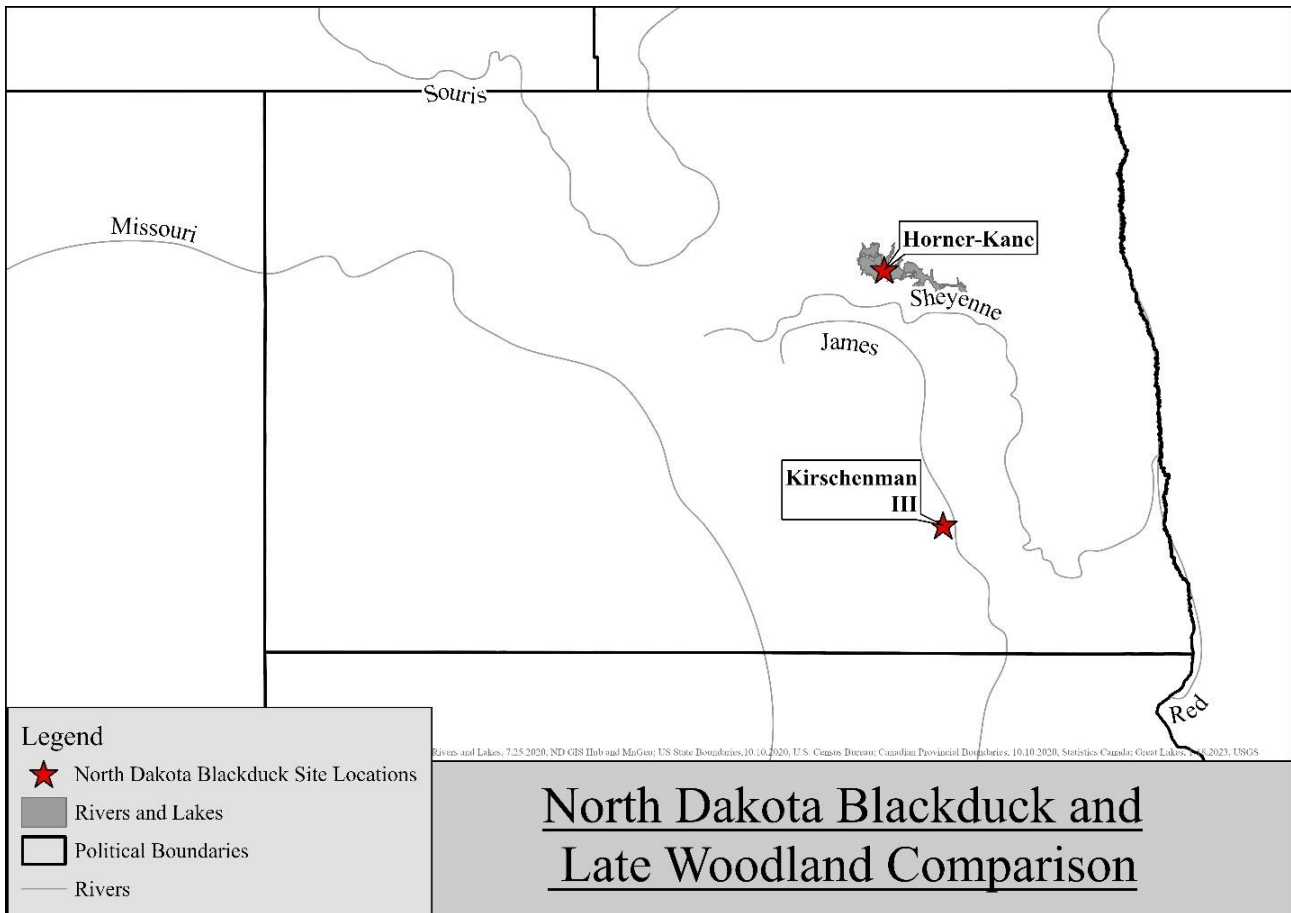


Figure 48 North Dakota Blackduck and Late Woodland Comparison

It has already been established that the Blackduck documented at 3RY77 along Devils Lake (Toom 2000) is representative of the wider general ceramic complex. It contains all of the manufacturing and decorative elements that compose a typical Blackduck across its entire range. The addition of a miniature vessel reinforces that 32RY77 is not a one-off Blackduck vessel

appearance, but likely a location where Blackduck people established regular visits. The ceramic assemblage of Kirschenman III contrasts highly with that of 32RY77. Though labeled Blackduck upon its initial excavation (Toom 2003), the ceramics of Kirschenman III are demonstrably not Blackduck. Bossing, vertical rim profiles, and a lack of lip thickening all indicate a deviation from the expected pattern of Blackduck. The presence of other bossed ceramics at sites across North Dakota like 32RY473, and 32BI286 has warranted the creation of a new ceramic type, Kirschenman Composite, to encapsulate the appearance of these vessels. It still stands, however, that these pots resembled Blackduck enough to still be categorized as such by researchers in need of classification. How then, might the relationship between the two be conceived of?

Much like processes of enskilment were shared to enable Blackduck hunters to pursue bison on the Prairies, a similar interaction can be posited for the appearance of Blackduck vessel traits on the Plains. In a location like Devils Lake, central on the Northeastern Plains, the interaction between groups undertaking their seasonal round would likely have been likely. Those based further south, in the region of Kirschenman II along the James River, would have likely come near Devils Lake at some point during the year, if not every few years. A similar pattern could be posited for the Blackduck of northern North Dakota and southern Manitoba. Passing through the Devils Lake region certainly happened given the presence of good Blackduck in that location, so it is supposed here that the diffusion of ideas occurred in this area.

It is important to note that, in the context of the Ecology of life, the potters of the Plains would not have been raised within the community of Blackduck potters who have been perfecting their craft their entire lives. Instead, ideas and beliefs in the form of ceramic decoration would have been shared, and the Plains potters represented by Coteau Ware undertook an attempt to replicate the Blackduck pattern on their terms.

The presence of geographically localized beliefs and emotions is readily apparent in the manifestation of Kirschenman Composite ware. Whereas Blackduck potters opt almost solely for the use of punctates as decoration within the horizontal CWS banded decoration, one of the defining features of Coteau ware is the use of bossing instead of punctates. Thus, whatever punctates represent within the Blackduck belief system, their meaning is shifted slightly by Coteau Ware potters. In addition, the characteristic wedged and flared Blackduck rim is not replicated at all in Coteau ware. This is again a deviation from the lifelong learning and execution of manufacturing represented by “typical” Blackduck ceramics.

With these deviations in mind, the partial replication of Blackduck styles by the potters of Kirschenman III can be contextualized with Ingold’s (2000) perspective. The potters manufacturing Coteau ware have not been taught or witnessed, the manufacturing of Blackduck ceramics enough throughout their lives to replicate the ceramic vessels to the same degree as Blackduck potters. It may even be the case, as with bossing, that select elements of the Blackduck iconography do not resonate with the people making Coteau ware. It is reasonable, however, to assume that the similarities that do proliferate such as cordmarked bodies, horizontal banding, and oblique banding coupled with some form of punch decoration on the rim (bossing), are related to the sharing of a way the manufacturer and abstraction of a belief system carried on a Blackduck vessel. Thus, the manifestation of an in situ developed Late Woodland ceramic ware in North Dakota is indicative of a process of partial enskilment and modification of how those groups interacted with and perceived their ecological surroundings.

7.2 Conclusions

The explication of archaeological material offered here does not seek to detail change over time in terms of ceramic variation. Rather, the orientation offered here looks to illuminate changes within specific groups over space as something rooted in the actions of people and their environments as it is available in the archaeological record. Asserting that faunal assemblages and ceramics are the direct products of *individuals* whose actions occurred within specific environments does not make the single groups or people available to a standard archaeological reading that focuses heavily upon the wider community dynamics. Models, or attempting to amalgamate the actions of people across space into an explainable system have been the previous

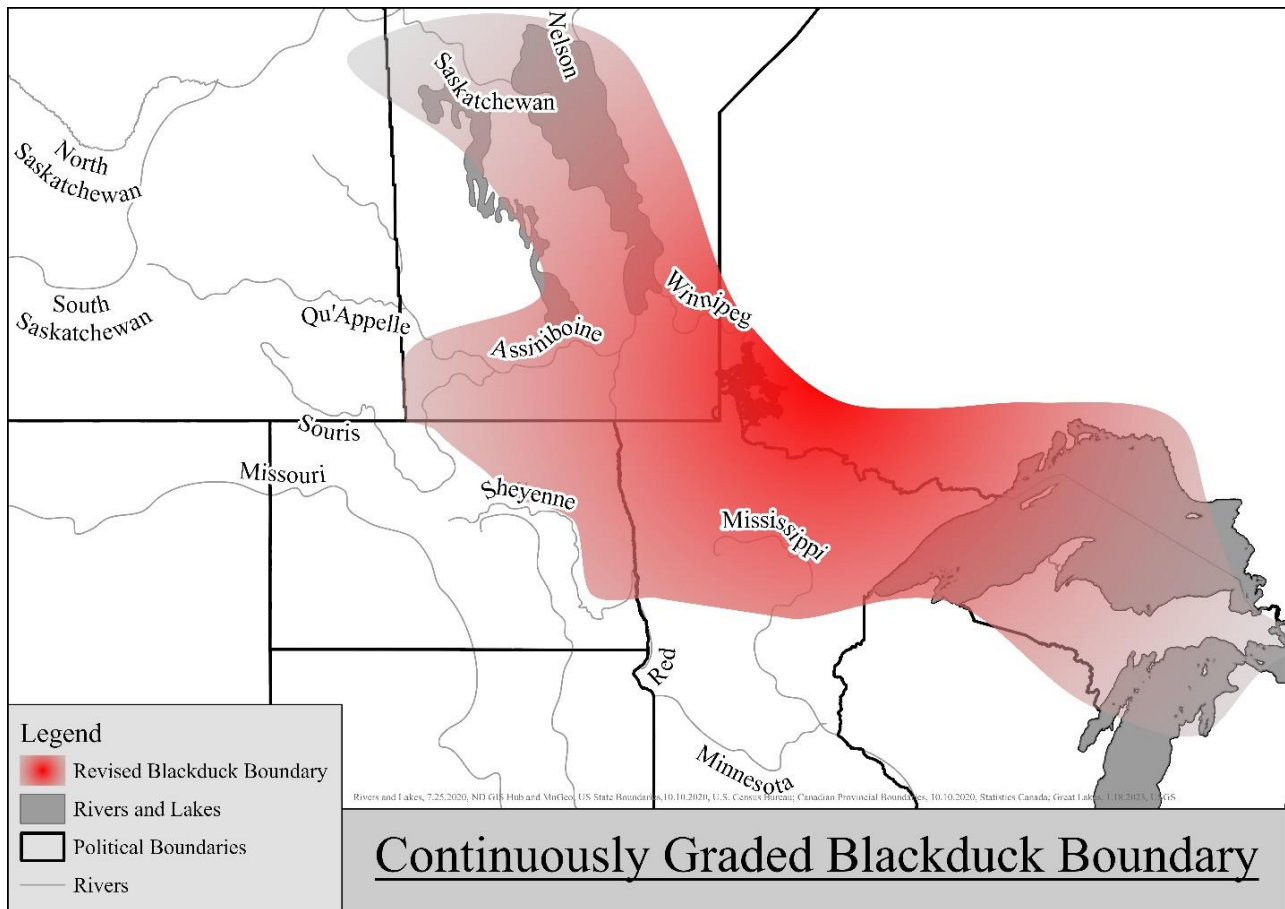


Figure 49 Continuous Gradation of Blackduck over space

answer to the inaccessibility present in the archaeological record and as noted, models can be valuable in many cases. The explanations they offer provide an efficient system with which to assess archaeological phenomena. The presence of new information, however, should dictate the reconsideration of models periodically. This moment of reflection provides an opportunity to reassess the framing of archaeological material, and in turn, propose new methods with which to conceive of movement and settlement over space. The presence of Blackduck in the western Margins of Minnesota and North Dakota offered this opportunity, and the non-model offered here is the product of a revisitation to each of the models previously posited for Blackduck on the edge of the Northeastern Plains. This is summed best by the representation of archaeological phenomena over space as a gradation, rather than clear-cut boundaries delineating a start and stop to specific archaeological materials (Figure 49). Blackduck does not cease to exist on a hard geographic line but rather begins intermixing with other Late Woodland cultures in Minnesota (Kathio) as evidenced by the 21CY39 and 21OT51 collections, and a fading into in-situ ceramic developments along the Sheyenne and James Rivers in North Dakota.

By considering the spread and presence of Blackduck as the enactment of particular skill sets within environments, the need for divisions (both environmental and “culture” based) becomes relatively obsolete. Description, the foundation on which each model, including the non-model presented here, is not diminished. Instead, an archaeologically derived explanation that does not separate the person from the environment they exist within is recentered rather than hidden behind suppositions of generalization and modeling. Enskilment, and particularly the adoption of bison hunting by Blackduck people in Manitoba and Minnesota, provides the archaeologist an opportunity to consider personal-level changes in the archaeological record. The contrast between the Dead River Site and 21CY39 demonstrates that change is not abrupt or

geographically confined. It is a gradual change that oscillates back and forth until the enskilment process is “complete” in the sense the people utilizing 21CY39 are comfortable within the environment to hunt bison successfully. In addition, the retention of the same ceramic decorations over this span indicates that processes of enskilment do not necessitate a change in other parts of archaeological peoples’ expressions of self in ceramics. Blackduck, then, is not an archaeological phenomenon easily explained by models. It is more productive to consider the movement and change over time in Blackduck as related to processes of enskilment and the possibilities these processes unfurl for considering people in the archaeological record.

8 Conclusions

A few important conclusions can be derived about Blackduck on the American Northeastern Plains based on the research presented above. These inferences are all based upon the processes and outcomes of attempting to answer the primary question of “Are the bounds representing Blackduck the product of geopolitical boundaries or archaeological reality?”, wherein new information about Blackduck, its true bounds, and its associated ceramic complexes was made apparent. While these conclusions are by no means infallible, they fill gaps and amend shortcomings that have become problematic in recent years on the Northeastern Plains. Indeed, it is inevitable that refinement of the ideas presented here will occur. Significantly more data is needed to refine the notion of the Late Woodland in North Dakota. In addition, further archaeological exploration in north-central North Dakota may clarify the likelihood of Blackduck in that portion of the state. Whatever the case may be, this work has attempted to, if a reference to American football shall be allowed, “move the ball forward”. While this implies an ultimate end or point of success that does not readily exist in archaeology due to changing frameworks and the ever-complicated archaeological record, the attempt to build upon and reanalyze the archaeological record must never cease. The four major conclusions drawn from this thesis are: A revision of Blackduck ceramics is sorely needed; The boundaries for Blackduck were the product of geopolitical bounds rather than archaeological reality; Blackduck exists in limited but identifiable quantities in western Minnesota and northeastern North Dakota; and North Dakota has a readily definable Late Woodland influenced ceramic presence.

8.1 Blackduck Ceramics

The first major takeaway should be an indication that the concept of Blackduck ceramics is in sore need of revision. This does not mean another type of analysis within a single site or

multiple even, but rather a total revamping of the core concept of what a Blackduck rim consists of, synthesized across the entire range of known Blackduck ceramics. The definition used within this analysis for what is and is not a Blackduck rim sherd suffices to answer a yes or no question, but it does not handle the recognized variation present in some of the densest Blackduck sites known in northern Minnesota and Ontario. Blackduck is reducible to the traits listed at the end of Chapter 4, but it is certainly more than that. Reanalysis focusing on the most commonly expressed traits and their distribution over space would likely affirm the notion of a single, core Blackduck ware with a few associated types and varieties. It is felt that reclassifying some of the most decoratively different original Blackduck types into new classifications may be profitable, especially when handling sites that may be affiliated with other cordwrapped stick Late Woodland ceramic complexes like Kathio. A second option would be to create an all-encompassing Blackduck ware that contains the major morphological traits of Blackduck vessels like wedged and flared rims. Within this larger umbrella, the creation of geographically constrained types may solve part of the issue of innumerable types attempted to be applied across a wide range. This may contribute to a finer resolution understanding of the “Plains Blackduck” (Hamilton et al. 2011) concept presented in southwestern Manitoba, as ceramics could be classified by both regional differences and subsistence style presented at the site in question. Whatever occurs, Blackduck is in a position to undergo reanalysis for easier use in the future by archaeologists.

8.2 Southwestern Blackduck

It is clear when the distribution maps of Blackduck sites are presented by previous researchers (Anfinson 1979; Graham 2005; Syms 1977), that the bounds presented are a product of a single issue that required rectification. This issue is the lack of published detail on

Blackduck in its most southwestern range. This is partially no fault of the researchers previously listed, as inaccessible grey literature contained most references to Blackduck in North Dakota and Minnesota. Without the popularization of these instances in more readily accessible channels like journals or newsletters which circulate to scholars far afield, it is difficult to assign blame. Some blame is assignable, however, for the bias present by both American and Canadian researchers, as well as Plains and Woodland archaeologists. It is apparent when reading the original reports which assigned boundaries (Lugenbeal 1976; Syms 1977), that Woodland sites were favored for their abundance of data, even though important Blackduck sites like 21MA08 had already been discovered. In addition, work on the prairie manifestation of Blackduck by Canadian archaeologists (Graham 2005; Hamilton et al. 1981, 2007; Nicholson et al. 2006) did not seek to reach beyond the international border, with the mirrored effect of American archaeologists generally disregarding the work done to the north on the Blackduck phenomenon. These instances of dissonance have created the situation which has been rectified by the work presented here, clearly demonstrating that Blackduck boundaries must be shifted, ever so slightly, to accommodate northeastern North Dakota and Minnesota.

The Blackduck present in western Minnesota and northeastern North Dakota is indeed finite. The largest ceramic assemblages in the analysis (21OT51, 21BK1), are geographically positioned to favor a southern, but nearly traditional range of Blackduck in Minnesota. The remaining sites, located on the true prairies, yielded typically less than five verifiably Blackduck rims. This number also dropped precipitously from east to west, with only four rims certified by physical analysis to conform to Blackduck ceramic expectations in North Dakota (though literature indicated the presence of more). What is important to extract from these small numbers is not the paucity of material, but rather the affirmation that limited but demonstrably real

Blackduck exists on the prairies and plains of Minnesota and North Dakota. While this could be assumed from work in similar physiographic regions in Manitoba, explicating in detail this presence demonstrates that the phenomenon is not solely in the northern portions of the Blackduck range, but exists all along the boundary of the forest and prairie/plains in the Blackduck range. In addition, the attempt to note every instance of Blackduck has revealed an absence within the southern Red River Valley, likely indicating the emergence of the prairie Blackduck phenomenon directly from the woodland regions to the east and north, rather than a direct crossing of the Red River Valley itself. With this in mind, the pattern of Blackduck movement can more correctly be framed as one of the processes of learning while moving onto the prairies from regions of great familiarity.

8.3 North Dakota Late Woodland Ceramic Sequence

The delineation of an accurate Blackduck boundary cutting across northeastern North Dakota leaves the issue of ceramics south and west of this line that was once called Blackduck. The presence of these sherds is wrapped up in the history of Blackduck ceramic analysis and the sheer quantity of types present in the central portion of the Blackduck range. The plethora of types available allowed archaeologists in North Dakota to classify sherds with cordwrapped stick impressions as Blackduck without many of the most basic criteria that make a Blackduck vessel met. By reanalyzing these sherds under the auspices of a single yes or no question, “Is this rim sherd Blackduck?”, it is readily apparent that many of the rims in North Dakota that were once labeled Blackduck are indeed something different, with only a marginal relationship to “true” Blackduck rims. While it was not an intended outcome of the analysis here to create new ceramic groupings for those sherds once called Blackduck, a pattern is apparent when taking a wider view of how decorative elements manifest on these sherds. In addition, the general morphology

of the vessels does not align with the ceramic complexes that come before and after, indicating the necessity of defining new ware and associated types. Thus, the creation of Coteau Ware with Kirschenman Composite and Bayley Banded captures the deviation of these ceramics from the expected Blackduck pattern. It is suggested that Coteau ware is an in situ development of Late Woodland-affiliated ceramics within North Dakota. This is a novel idea that provides more detail to the notion of Blackduck people learning skills and transferring ideas on the prairies, including some elements of their ceramic manufacturing scheme.

8.4 The Final Word

The archaeology of the Northeastern Plains is highly diverse, representing complex interactions and adaptations within a geomorphologically unique landscape. Significantly more attention than has previously been paid is in demand for the nomadic groups represented in the archaeological record, for those phenomena that fascinate the discipline the most – diffusion, adaptation, and worldview- are readily apparent in this nexus of interaction. Blackduck represents just one of the multifaceted issues that demand future research.

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Appendix A: Ceramic Analysis Data

21OT51							
Rim Sherd #	Punctate /Boss	Horizontal CWS	Vert/Oblq CWS	Lip CWS	Combing	Other (describe)	Thickness (mm)
1	Yes	Yes	Yes (right)	Yes	No (smoothed)	Interior CWS	Lip 7.4-8.1 Body 6.4-7.8 Neck 7.0-8.5
2	Yes	Yes	Yes (right)	Yes	Yes	Jags at bottom of combing	Lip 9.6-10.8 Body 5.9 Neck 6.1-6.5
3	No	Yes (tool, not CWS)	Yes (vert, shallow)	No	No (smoothed)	Shallow punctate at termination	Lip 6.7-7.0 Body 4.2
4	Yes	Yes	Yes (right)	Yes	No	Interior CWS	Lip 10.3-11.3 Body 7.0 Neck 6.6
5	Yes	No	No (notch)	Yes (Faint)	No (smoothed)		Lip 9.5 Body 56 Neck 49

6	Yes	Yes (discrete)	Yes (left)	Yes (alternating)	N/A (smoothed)	Cordmarked to neck	lip 8.7-9.8 Body 5.5-7.5 Neck 5.2 even
7	Yes	Yes (roll and press)	Yes	Yes	No	Interior obq CWS, interior horz brushing	Lip 7.7-7.8 Body 6.7-7.0 Neck 6.3-6.9
8	Yes	Yes	Yes (vert)	Yes	No	Vert CWS overlap on rims	Lip 7.7 - 9.4 Body 5.8 Neck 5.6
9	Yes	Yes	Kinda	Yes (perpendicular)	No	Jags below horz CWS	Lip 8.4-9.6 Body 5.7 Neck 4.7
10	Yes	No	Yes (vert)	Yes	No (smoothed?)		Lip 8.6-9.2 Body 6.3
11	Yes (small)	Yes (2 rows)	Yes right	Yes	Yes	Interior CWS	Lip 5.9-7.9 Body 7.3
12	Yes	Yes	Yes right	Yes	No	5 horz cws rows	Lip 9.6 Body 6.3-7
13	Yes	No	Yes right	Yes	Yes		Lip 9.3 Body 6.2
14	Yes	Yes	Yes right	Yes alternating	No (smoothed)	Large punctate	Lip 13.7 Body 7.
15	Yes	Yes	No	Yes (deep)	Mp		Lip 10.2 Body 5.14
16	Yes small	Yes 3	Ye left	Yes left	No	Yes left	Lip 8.5 – 9.5 Body 5.4
17	Yes	No	Yes right	Yes	Yes		Lip 9.6 Body 5.5
18	Yes	Yes	Yes left	Yes alternating	No smoothed		Lip 8.2-10 7.4
19	No (small sherd)	Yes	Yes right	Yes crossing	Yes	T shaped lip	Lip 10.8-11.3

20	Yes	No	Yes right	Yes	Yes	T shaped lip	Lip 8.6 Body 2.7
21	No	Yes	Yes left (multiple)	Yes alternating	No		Lip 9.8- 10.9 Body 6.8
22	No	Yes	Yes right	Yes	No	Brushed inside	Lip 9.7 Body 4.7
23	Yes	No	No	Yes	Yes	Crude near lip	Lip 8.1- 8.5 Body 4.6
24	No	Yes	Yes	No (punctate)	No		Lip 6.52- 7.6 Body 5.5
25	Yes	Yes	No	Yes	No	T rim	Lip 8.7 Body 5.5
26	No	Yes push roll	Yes right	Yes	No	Thin lip	Lip 5.2 body 3.95
27	Yes	No	Yes right	Yes	No		Lip 8.5 Body 2.7
28	No	Yes discete	Yes right	Yes	No		Lip 6.8 Body4.7
29	No	Yes push rol + smoothing	Yes right	Yes	No	Thin lip	Lip 5.05 Body 4.3
30	Yes	No	Yes right	Yes	No	Wedge rim	Lip 6.5 Body 3.2
31	Yes	Yes push roll	Yes right	Yes	No		Lip 10.54 Body 5.3
32	Yes	Yes lift push	Yes right	Yes smoothed	No		Lip 11.55 Body 6.9
33	Yes	Yes lift push overlap	Yes deep	Yes	No	Inside brushing	Lip 12.2 Body 7.1
34	Yes	Yes push roll	Obq jag	Yes	Yes		Lip 10.8 Body 5.3
35	Yes (small)	Yes push roll	Yes right	Yes	No	Interior CWS, brushed horizontally	Lip 7.4 Body 6.56
36	Yes	Yes overlap	Yes right	Yes	No		Lip 12.6 Body 7.6

37	Yes	Yes discrete	Yes right	Yes	No	Thin lip	Lip 6.0-6.6 Body 5.6
38	Yes	Yes light	Yes right	Yes	Yes	Interior horizontal brushing	Lip 8.6-9
39	Yes	Yes roguh	Yes left	Yes perpendicular	No		LIP 8.6 Body 6.4
40	YES	Yes discrete	Yes right	Yes	No	Thin lip	Lip 5.7 – 6 Body 5.3
41	Yes shallow	Yes	Yes faint right	Yes	No	Obq cws bridges lip	Lip 7.3-7.9 Body 4.9
42	Yes	Yes push roll	Yes vert	Yes perpendicular	No		Lip 8.6 Body 6.3
43	Yes	Yes	Yes left very steep angle	Yes alternating	No		Lip 8.3 Body 6.4
44	No	No	Yes bridges lip to rim	Yes	No (smoothed under lip)		Lip 8.5
45	Yes	Yes BOS	Yes vert (bridges to lip)	Yes	No		Lip 7.1 Body 8.2
46	Yes	Yes faint	Yes right	Yes	No		Li p 6.3 Body 5.8
47	Yes small	Yes discrete	Yes right	Yes deep	No	Interior brushing	Lip 8.7 Body 5.9
49	Yes	Yes	Yes right	Yes	Yes	Interior cws and brishing	
50	Yes	Yes	Jag	No	No	Interior deep cws impression	Lip 7.9-8.49
51	Yes	Yes BOS	Yes jag like	Jags	No	Interior vert CWS	Lip 10.7 Body 5.4
52	Yes	Yes discrete	No jags	Yes perp and deep	No		Lip 9.36-11.2
53	Yes	No	Yes	Yes	Yes	T lip	Lip 8.5 Body 4.3

54	No	No	Yes rough	Yes	No	Very rough	Lip 9.9 Body 6.2
55	No	No	Yes	Yes	Yes		Lip 9.9 Body 6.3
56	NO	Yes	Yes right	Yes	No		Lip 7.15 Body 6.43
57	Yes	No	Yes right	Yes	Yes		Lip 8.6 Body 5.5
58	Yes small	Yes	Yes	Yes	No n	Miniature vessel	Lip 4.1-4.6 Body 3.8

21BK01							
Rim Sherd #	Punctate /Boss	Horizontal CWS	Vert/Oblq CWS	Lip CWS	Combing	Other (describe)	Thickness
1	Yes (two different rows)	Yes (roll and press)	Yes (right)	Yes (right)	Indet	Smooth interior... Second row of punctates are shallow impressions	Lip 8.3-9.1 Body 5.3-5.58 Neck 4.84
2	Yes shallow	Yes (discrete)	Yes (slight right)	Yes (left)	No	Some cws marking on interior	Lip 6.1-6.3 Body 5.3-7.5
3	No	Yes (smoothed?)	Yes (right)	Yes (left)	No (smoothed)	Interior lip rolled	Lip 11.25-12.34 Body 6.3-7.3
4	Yes (oblique, made with CWS tool)	Yes (roll and press)	No	Yes (right)	No.. CWS rolled to rim	Smooth interior	Lip 7.8-8.5 Body 7.9-8.4
5	No	Indet (broken too high)	Yes (vert) deep impressions	Yes (deep notch-like)	CM to lip	Interior oblique left CWS impression	Lip 8.6-9.15 Body 9.33
6	Idet/No	Indet (broken)	Yes (right) two rows	Yes (right)	No	Horizontal combing on exterior	Lip 8.4-9.6 Body 6.9-8.0
7	Yes (irregular/jag-like)	No/ Indet	Yes (right)	Yes (perp)	No (CM to lip)	Interior Oblique right CWS	Lip 11.2 Body 4.7
8	No	Yes (roll and press)	Yes very faint	Yes (faint right)	No	Interior smoothing striations	Lip 7.1-7.9 Body 4.6
9	No	Yes (faint, broken)	Yes Vertical	Yes left	No	Smoothed interior	Lip 7.1-8.1mm Body 5.9-6.2
10	Yes single small	Yes discrete	Yes steep right	Yes right	Indet/no		Lip 7.5-8.2 Body 5.16 - 6.48
11	Yes small	Yes discrete	Yes vertical	Yes right	No	Small vessel	Lip 7.26-8.36 Body 5.1
12	Indet	Indet	Yes slight right	Yes left faint	No	Small vessel	Lip 7.61 Body 5.0
13	Indet	Indet	Tool impression	Yes faint right	No	Small vessel	Lip 7.46-7.97 Body 5.66

14	Yes (rough)	No	No	Yes right	No	Small sherd	Lip 7.6 Body 6.27
15	No/ Indet	No	Yes deep right	Yes left	No	Small Sherd	Lip 10.44 Body 7.83
16	No/Indet	No	Yes right	Yes right	No	Small Sherd	Lip 8.29- 9.0
17	No	No	No	(tool impression)	No Smoothed exterior	Interior CWS impressions	Lip 5.69- 6.12 Body 6.54
Of Note							

21CY39								
Vessel #	Punctate /Boss	Horizontal CWS	Vert/Oblq CWS	Lip CWS	Combing	Other (describe)	Temper	Thickness
1 (2 rimsherds) Collections at RSC	Yes	Yes	Yes	Yes	Yes		Grit	Rim :10.1, 10 Body: 5.91 (see profile sheet)
2 (Collections at RSC)	Yes	No	No	No	No	Cordmarked Body	Grit	See profile sheet
3 (Collections at RSC)	Yes	Yes	Yes	Yes	Yes	Jag punctate under horz CWS	Grit	See profile sheet
4	No	NO	No	No	No	Polished	Grit	4.8
5 (collections at RSC)	NOT RIM							
6 (same vessel as 7)	NO	No	No	No	No	Smoothed near rim, rolled to modified rim	Grit	Rim 6.6 Body 5
7	NO	No	No	Yes	No	Modified rim, partially rolled	Grit	Rim 7.9, 7.5 Body 4.37
8	No	No	No	Yes	No (present in sherds)	T shaped rim, crenulated rim surface, cormarked to rim	Grit	Rim 7.6 Body 3.97
9	NOT VESSEL							
10	NOT VESSEL							
11	NOT VESSEL							
12	NOT VESSEL							
13	No	No	No	No	No	Smoothed with notch	Grit	Rim/Body 4.2
14 (from CY14)	Yes	Indet	No	Yes	No	Shallow punctates (see pictures)	Grit	Lip 6.25 Body 3.8

21NR1								
Rim Sherd #	Punctate /Boss	Horizontal CWS	Vert/Oblq CWS	Combing	Lip CWS	Other (describe)	Temper	Thickness
1	No (NA too short)	Yes	Yes right	No	Yes	Interior Obq CWS	Grit	Lip 10.5 Body 6.4
Body sherd	1	Yes	NA	NA	NA		G / S	4.28

21PL09								
Rim Sherd #	Punctate /Boss	Horizontal CWS	Vert/Oblq CWS	Lip CWS	Combing	Other (describe)	Thickness	
1	Yes (closely spaced)	Yes (very fine)	Yes right	Yes (cross hatched)	Yes (appears to be rolled fine CWS impressions)	Faint interior CWS	Lip 7.6 Body 7.0-8.2	
2	Yes	Yes (two rows)	Yes right	Yes right	Yes (rolled CWS)	Interior obq CWS	Lip 8.2-9.4 Body 7.1-7.8	
3	No	Yes (two rows)	Yes-ish on lip underside	Yes chevron pattern	No (smoothed)	V shaped tool impressions on smoothed rim surface. Same tool used to notch interior lip/rim junction	Lip 9.84-10.3 Body 6.3 Neck 4.8q	
4	No	Yes one visible	Yes right	Yes (smoothed /smooshed)	Indet	Some dragging of CWS tool on interior lip/rim junction	Lip 7.9-8.6 Body 4.5-5.6	

21MA08							
Rim Sherd #	Punctate /Boss	Horizontal CWS	Vert/Oblq CWS	Lip CWS	Combing	Other (describe)	Thickness
1	Yes (oblong/irregular)	Yes discrete	Yes right	None, appears to be combed with the CWS tool parallel to the lip	No	Inter oblique CWS impressions	Lip 7.7-8.2 Body 4.9-5.6
2	No/Indet	Yes, faint	Yes right	Yes left (deep)	Indet/no	Interior cws Impressions	Lip 10.8-11.3 Body 7.68
Decorated body sherds Of note	Yes	Yes	NA	NA	No	Body Sherd	8.67

21KT107							
Rim Sherd #	Punctate /Boss	Horizontal CWS	Vert/Oblq CWS	Combing	Lip CWS	Other (describe)	Thickness
1	Yes (faint)	No	Yes	Yes	Yes		Lip 7.91 Bdy 5.8

32PB66							
Rim Sherd #	Punctate /Boss	Horizontal CWS	Vert/Oblq CWS	Combing	Lip CWS	Other (describe)	Thickness
1	Yes (faint)	Yes	Yes Right	Yes	No	Faint obq tool impressions)possibly CWS)	Lip 7.7 - 9.34 Body 8.2

32RY77							
Rim Sherd #	Punctate /Boss	Horizontal CWS	Vert/Oblq CWS	Lip CWS	Combing	Other (describe)	Thickness
1	Yes	Yes (lift/push)	Yes right	Yes	No (cordmarked neck)	Jags below horz CWS	Lip 12.2 Body 8.2-8.7 Neck 6.75 -
Body sherd 1	No	Hes	No	No	No	No	7.81-8.1
2	No	No	Yes	Yes	No		Lip 7-7.15 Body 4.7
Body sherd 2	No	Yes	No	No	No	No	7.4
3	Yes	Yes	Yes	No lip	No	Miniature vessel	Lip 3.8 Body 4.6

32ED85							
Rim Sherd #	Punctate /Boss	Horizontal CWS	Vert/Oblq CWS	Lip CWS	Combing	Other (describe)	Thickness
1 (called vessel 1)	No	Yes (dentate?)	Yes (dentate?)	No, tooled	No smoothed		Lip 5.7-6.0 Body 5.3 Neck 6.4-6.8
2 (called Vessel 5)	Yes (more stamping than punctate)	No	No (stamping)	No (cord Impressed?)	Yes	Interior lip jags Interior brushed slightly	Lip 8.8 Body 4.9-5.3

32CS4899							
Rim Sherd #	Punctate /Boss	Horizontal CWS	Vert/Oblq CWS	Lip CWS	Combing	Other (describe)	Thickness
1	No	Yes (push and roll)	Yes	Yes (punctate-like)	No	Interior obq CWS impressions	Lip 5.9 – 7.6 Body 3.9

32SN247							
Rim Sherd #	Punctate /Boss	Horizontal CWS	Vert/Oblq CWS	Lip CWS	Combing	Other (describe)	Thickness
1	BOSS	Yes B-O-S	No	No (notched?)	No	Highly damaged	Lip 5.1 Body 6.2
2	No	No (dentate/ Incised)	Yes (right)	Yes	No		Lip 7.2-8.4 Body 8.0-8.9
3	No	Yes (lift push)	Yes vert	No smoothed	No	Interior CWS	Lip 5.3-6.2 Body 5.2
4	BOSS	Yes (rough, roll push lightly)	No	No (punctates)	No		Lip 6.3 Body 5.4-6.2
5	No	Yes (BOS look alike, wide spaced)	Yes vert very occasional	No (rolled tool over rim parallel)	No (CM behind horz CWS)	Interior CWS vert, causing rim flaring	Lip 6.0-6.6 Body 6.2-7.4
6	No (weird CWS punc like thing below lip)	Yes *wide spaced)	No	Yes (faint	No	No	lip 4.2 body 3.2
7	No	Yes + cord impressed below	Yes (faint CI	No	No	Inteior CI	Lip 5.4-6.3 Body 5.4
8	BOSS	Yes BOS	No	No (smoothed)	No	Near lip punctations	Lip 8.3 Body 5.7
9	Yes (faint near lip)	No	No	No	No	Interior CWS	Lip 8.7 Body 8.0

Bayley Collection							
Rim Sherd #	Punctate /Boss	Horizontal CWS	Vert/Oblq CWS	Lip CWS	Combing	Other (describe)	Thickness
1	No	Yes overlapping	Yes right	No (no lip)	No	Interior CWS lip impressions producing flaired, pointed lip	Lip 6.4-6.9 (4.5 in notch) Body 7.4-7.9

32ML400							
Rim Sherd #	Punctate /Boss	Horizontal CWS	Vert/Oblq CWS	Lip CWS	Combing	Other (describe)	Thickness
1	No	Yes (faint)	Yes	Yes	No	Horz CWS seems to be smoothed	Lip 7.4 Body 6.6-6.9 Neck 5.7-6.0
2	Yes (multiple stacked)	No	No	No	No	Notched interior lip with CWS Cordmarked to lip	Lip 9.3-10.0 Body 6.4 Neck 4.9

32LM235							
Rim Sherd #	Punctate /Boss	Horizontal CWS	Vert/Oblq CWS	Lip CWS	Combing	Other (describe)	Thickness
1	BOSS	Yes	Yes (right) faint	No (notched?)	No	Cormarked to rim (deep Intterior obq CWS	Lip 4.9-6.6 Body 4.9-5.5 Nuck 4.65-5.5 Thinnesr 3.65
2	No	No	No	No	No	Cm to lip	Lip 6.9 Body 6.4
3	No	No	No	No	No	Pinched and rounded node on lip	Lip 4.9-5.8

32ML4							
Rim Sherd #	Punctate /Boss	Horizontal CWS	Vert/Oblq CWS	Lip CWS	Combing	Other (describe)	Thickness
1	No	No	No	Yes BOS	No	Smoothed exterior	Lip 7.5-7.9
2	No	No	No	Yes (deep)	No		Lip 9-9.8
3	No	No	Yes	Yes	No	CM to lip	Lip 7.75 Body 9.0
4	No	No	Yes	Yes	No		Lip 6.7 Body 8.5