River Through the Dry Prairie: Heritage Resource Management and the Archaeology of the Southeastern Qu’Appelle River Valley in Saskatchewan

by

Tyrel Kobes

B.Sc., University of Lethbridge, 2016

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Approval

Name: Tyrel Kobes
Degree: Master of Arts
Title: River Through the Dry Prairie: Heritage Resource Management and the Archaeology of the Southeastern Qu’Appelle River Valley in Saskatchewan

Examining Committee: Chair: Ross Jamieson
Associate Professor

David Burley
Senior Supervisor
Professor

David Maxwell
Supervisor
Lecturer

Jon Driver
External Examiner
Professor

Date Defended/Approved: April 8, 2019
Abstract

I have worked in the Heritage Resource Management Industry since 2013 on various projects in western Canada. In this thesis, I present a range of data recovered from one of these projects in the Qu’Appelle River Valley of south-central Saskatchewan. Here I integrate excavation results from three sites and position these results within their geological and environmental context, the archaeological culture history for the study area, as well as documented First Nations history in the region. I expand the archaeological context for the study through examination of other sites in the vicinity, the dominant majority having been documented during other heritage impact assessment projects. My first objective for the thesis was to provide a synthesis of prehistory in the region as best as these data would allow. In this respect, I have been largely limited to the Late Prehistoric Period where Avonlea and Old Women’s phase peoples were inhabiting the Qu’Appelle landscape. A second objective has been to assess the usefulness of the unpublished gray area literature as it might facilitate and support the production of a synthesis. This literature is limited in a variety of ways, but it provides some insight that otherwise would not be present.

Keywords: Saskatchewan; Qu’Appelle River; Plains Archaeology; Heritage Resource Impact Assessment; Avonlea Phase; Old Women’s Phase
Dedication

This study is dedicated to my family, friends, and co-workers who have endured my inane babbling about Qu'Appelle archaeology for the last two years (which will continue) only now I am a master of that inane babble.

I would also like to dedicate this to, and much to his chagrin, Neil Mirau. Neil, you gave me a shot nearly a decade ago. You had no reason to, and to quote something you have said to me many times, “do with this what you will”, but I’m here because of you. Not only have you been an irreplaceable mentor and friend, but you also gave me a life, and asked for nothing in return. So now, all I can really offer in gratitude is to take all you have taught me, intentional or not, and use that for Arrow in the future. What you have built in the company, the legacy of Arrow, will continue to grow, and I hope to live-up to whatever it is you have seen in me. Now, go retire, or chop wood, finish the cabin, or build that damned dock. I should get back to work.
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I would like to acknowledge the many archaeologists who led and contributed to projects referenced in this study, without whom, this study and others like it would not be possible. To the faculty at SFU for arranging this program, allowing students to maintain and develop their careers while fulfilling the requirements of a Master’s Degree.

I would also like to thank my supervisors, Dr. David Burley and Dr. David Maxwell, for their assistance in preparing this thesis, continued support and encouragement, and the detailed reviews of my work. Without you, the product herein would simply not be of the high-quality I deem it to be.
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Chapter 1.

Introduction

As a student archaeologist employed by Arrow Archaeology, a private sector heritage resource management firm, I was introduced to the Qu’Appelle River Valley in Saskatchewan and its archaeology in the summer of 2013 (See Figure 1). At that time, I was involved with preliminary field assessment for a proposed railway spur-line from Belle Plaine, south of the Qu’Appelle River, to a new potash mine located on the north side of the valley. The spur-line was roughly 39 km in length, crossing approximately 9 km of the valley slopes and bottomlands. The remaining 30 km of the spur line are located on prairie upland terrain. The line was slated to have a massive impact on the river valley, including the excavation and movement of 9.7 million cubic meters of aggregate to serve as fill, and through the removal of surface sediment for the rail grade (Stephens 2017). In some areas, this meant that excavations as much as 40 m below the surface were necessary.

The scale of this project would potentially have a destructive impact on archaeological sites and other heritage resources in its path. Additionally, secondary projects such as sand and clay borrow pits and construction access roads were to occur, leading to other impacts on tributary drainage channels, valley slopes, and valley bottomlands outside of the rail spur right of way.

The initial scope of the heritage fieldwork was to survey the rail line’s valley crossing north of Moose Jaw and east of Buffalo Pound Lake to search for surface sites. Afterward, the scope required work to determine heritage resource potential along and near the project in the valley and in other areas of native prairie crossed by the rail line. This assessment resulted in the discovery of several unrecorded archaeological sites in and near the project right of way and also determined that some recorded sites would be impacted.

I remained involved in the Qu’Appelle project during my undergraduate studies and participated in the mitigation program. The latter included excavation of sites where impacts would occur and working with Pasqua First Nation technicians and traditional
resource experts, generating large Heritage Resource Impact Assessment Reports (HRIAs).

HRIA reports generated by and completed under the regulatory requirements of legal jurisdictions are commonly referred to as gray literature. In Canada, the majority of these assessment reports are completed to comply with provincial legislation aimed at protecting archaeological, historical, palaeontological and other types of natural and cultural resources that are considered significant or potentially significant for cultural and/or scientific reasons. With this in mind, these data are not peer reviewed in a conventional sense, but rather reviewed for a defined standard by a provincial regulator.

A review of existing literature prior to project commencement revealed little in the way of archaeological knowledge for the area of concern. Of the sites previously recorded, few were described as having in situ occupation. The goal of this thesis is to provide a review of site excavations undertaken as a result of the potash mine project. These will be contextualized within environmental, ethnographic and archaeological data, including those extracted from the gray literature, to provide an interpretive synthesis for the south-central Qu’Appelle River valley. Since most data relate to the Late Period, the focus is on this temporal interval. Finally, a second objective for the thesis is to illustrate the usefulness and limitations of the gray literature for understanding the archaeological past. The study area in Qu’Appelle River Valley in south-central Saskatchewan is illustrated in Figure 1, below.
Figure 1. Geological map of Saskatchewan with exploded satellite imagery view of the study area (Government of Saskatchewan Ministry of the Economy 1999; Map Data Google 2018).
1.1. The Thesis to Follow

In this introductory section, the overall objectives of this thesis have been presented in addition to an overview of the research context. I provide in Chapter 2, the geological and environmental circumstances for the Qu’Appelle River, valley system and surrounding area. This includes discussions of Pleistocene/Holocene formation, geomorphology, hydrology, soils, post-depositional processes, flora, and fauna. Chapter 3 is a review of First Nations history and ethnography for southern Saskatchewan generally, and the Qu’Appelle area specifically. This also includes a review of subsistence economy and settlement patterns. A synthetic overview of southern Saskatchewan archaeology is provided in Chapter 4. This gives the framework through which the Qu’Appelle River study area data can be structured and compared. Chapter 5 synthesizes the data recovered from the spur-line project from excavations and/or testing at sites EdNh-58, 75, and 77. These are Late Period in age with diagnostic artifacts and radiocarbon dates associating the sites with either the Avonlea or Old Women’s phases. Chapter 6 reviews site records and Saskatchewan Heritage Branch compliance reports for the study area. These provide additional data for understanding prehistoric land use in the Qu’Appelle Valley of south-central Saskatchewan (See Appendix A, B, and C). Finally, in Chapter 7, I summarize and synthesize the archaeological data presented in the thesis and address questions of Late Period culture history, cultural interactions, land use and exchange as the data allow.
Chapter 2.

Geological and Environmental Context

This Chapter assesses the geomorphology of the valley area to determine locations and predictability of archaeological sites in Qu’Appelle and potentially of analogous systems. The valley system has changed significantly since its origin ~14000 BP, and in that time the landscape has developed in dynamic ways, allowing for the potential of year-round occupation for prehistoric cultures of the Great Plains.

2.1. Defined Study Area, Elaborated

This thesis focuses on a 194 km² area of the Qu’Appelle River Valley and adjacent prairie upland generally located east of Buffalo Pound Lake and ending at the town of Lumsden, a small community located in the Qu’Appelle Valley. Also included here is a significant tributary, Moose Jaw Creek, which flows into the Qu’Appelle system from the south near the Buffalo Pound Lake dam. Based on heritage compliance work in the valley and other areas such as the Souris River basin in southeastern Saskatchewan, the area seems representative of the Qu’Appelle River Valley as a whole in terms of its geomorphology and landscape history since deglaciation, as well as its archaeological record. The results of this work should have relevance for other portions of the Qu’Appelle River and similar river valleys in southern Saskatchewan, and in the Northwestern Great Plains.

Buffalo Pound Lake lies ~ 6 km west-northwest of the central study area. Buffalo Pound is a eutrophic prairie lake that has been altered by the construction of a dam on the Qu’Appelle River in the late 1930s with a replacement dam built in 2000, allowing for a deeper lentic system, and flooding the surrounding valley lands. The dam controls water level fluctuations in the lake, allowing for a more reliable source of domestic water for local communities. The dam also stabilizes and regulates river flow on the Qu’Appelle relative to pre-dam conditions, which increased the discharge of the river. The primary effect of this has been on valley bottomlands and the modern floodplain.

As will be demonstrated in later chapters, the bottomlands, due to their generally marshy and flood-prone nature are not considered to have a high potential for
archaeological sites by heritage management standards (Germann and Epp 1991; Whitaker and Christiansen 1972). The waterlogged nature of the valley bottoms is likely to have been consistent over a long period of time. The subsurface composition features chemically reduced soils in very thick layers (between 5 and 70cm thick). The chemical reduction was identified during my experience in the Qu’Appelle project through deep shovel testing in the bottomlands. Furthermore, in addition to the chemically reduced nature of the soils, vegetation that is most successful in heavily saturated environments, such as bulrush, is dominant in the bottomlands. As well, frequent flooding and associated depositional events have likely displaced, destroyed, or otherwise altered archaeological sites.

2.2. Valley Formation in the Pleistocene and Early Holocene Epochs

Geoarchaeology applies earth science approaches to solve archaeological problems whether related to geomorphology, stratigraphic documentation and interpretation, soils, geochemistry, relative dating and the like (Fulton, Fenton, and Rutter 1986; Waters 1992; Rapp and Hill 2006). A geoarchaeological approach is critical in the assessment of the archaeological potential of a landform. River valley and stream systems on the Canadian prairies are dynamic and subject to rapid transformative processes as compared to more stable or stagnant upland prairie landscapes. Since valley systems were favored locales for settlement and resource exploitation by hunting and gathering peoples throughout the Holocene, understanding landscape evolution and near-surface geology of these settings is a necessary first step.

The prairie landscape into which the river valley has been cut is the result of repeated glacial advances and retreats, and glacially-derived fluvial activity that occurred during the Pleistocene, and particularly during the terminal Pleistocene to Holocene transition 15,000 to 10,000 years ago (McCallum and Wittenberg 1962; Klassen 1972; Trenhaile 2004; Cummings, Russell, and Sharpe 2012; Christiansen and Schmid 2017). Explicitly, as Christiansen (1979, 927) states, radiocarbon dates from post-glacial materials in Saskatchewan indicate that late Wisconsin ice had retreated north of the Qu’Appelle system before 12,500 years ago. The Qu’Appelle River formed as a glacial spillway and meltwater channel, within partly excavated and re-excavated relict valleys of the Early-Wisconsin Glacial Episode (Klassen 1972).
Glacial runoff and subsequent alluvial deposition resulted in partial infilling of the incised channel, while Pleistocene glacial expansion and retraction cut to the valley maximum depth ~14,000 years before present (Klassen 1972; Kehew and Teller 1994; Dixit et al. 2000; Christiansen and Schmid 2017). Post-glacial isostatic rebound resulted in a rise of the landscape after the release of glacial weight (Trenhaile 2004: 87).

The climate in the Holocene led to warmer, drier conditions allowing for soil development and vegetation growth in newly exposed, and glacially-scoured regions of the Great Plains (Klassen 1994; Waters 1992; Trenhaile 2004). As with other glaciated regions of Canada east of the continental divide, the movement and deposition of aeolian sediments began following the retreat of the Laurentide Ice Sheet (Wolfe, Ollerhead and Lian 2002; Christiansen and Schmid 2017). Wind transfer of these sediments, as well as macro-botanical remains, have altered the terrain of the North American Great Plains in significant ways, creating new landscapes and burying what came before (Wolfe, Ollerhead and Lian 2002). The Qu’Appelle Valley is no exception, particularly in sediment deposition along coulee systems, and in drainage channels entering the valley bottomlands during the last 12,000 years. This, like other landscape processes, has implications for both the establishment of sites by past human cultures and the ability of archaeologists to locate archaeological remains.

2.3. Altithermal and Paleoclimatic Discussion

Typically remembered for his discussion on Holocene climate change and its impact of human history, Ernst Antevs created various varve-based chronologies, which supported the theory of the ice-free corridor and Beringia for the peopling of North America (Antevs 1935; Christiansen and Schmid 2017). Antevs's studies have played an essential role in the development of data regarding the Altithermal. Antevs' research was conducted in the 1940s and 1950s, although these publications continue to influence archaeological work on the Great Plains (Haynes 1993). It was during the 1940s and 50s that Antevs established a climatic model, which divided North America's postglacial into the Anathermal, Altithermal, and Medithermal climatic episodes. The Anathermal was cooler and moister than the modern climate and occurred 9,000 to 7,000 years ago. The Altithermal was warmer and drier than modern and lasted from 7,000 to 4,500 years ago; the Medithermal represents the onset of modern climatic conditions commencing 4,500 years ago. (Antevs 1948). Antevs' concepts, in some form or another, are still
active in archaeology today, particularly for their role in impacting cultural development and adaptation through environmental determinism and possibilism models. However, these concepts are still a matter of archaeological debate in the form of theoretical paradigms, particularly in the impact of the Altithermal itself (Meltzer 1999).

Throughout the altithermal, the warmer and more drought-prone conditions that were experienced in the Great Plains were likely more significantly felt by those in the southern regions, as opposed to those in the Northwestern Great Plains (Meltzer 1999). Meltzer (1999) theorizes that the impacts felt on the northern-most regions of the Great Plains were not particularly severe, prompting adaptive responses by foraging groups as opposed to cultural abandonment of the prairies (Reeves 1970; Vickers 1991; Sheehan 1996; Meltzer 1999). This theory is likely accurate, as the northern Great Plains contained various lakes from the glacial recession, and deeply incised perennial lotic systems, therefore the surrounding areas would not have suffered from as severe of a drought as those in the southern plains. However, the general aridity of the western Canadian prairies would be, in places, regardless of Altithermal severity, exacerbated by even minor temperature fluctuations.

Temperature increases could result in a more-limited growing period for wild edibles and medicinal plants, in addition to a general population reduction of the dependent migrating bison herds (Meltzer 1999). The Qu’Appelle River would have been increasingly attractive to plains groups in the vicinity, as well as the wildlife they relied on, particularly during summer months in which ephemeral drainage basins and sloughs were sought after for water acquisition, and fall months as these water-sources dissipated (Vickers 1991).

There is a current assumption that human populations decreased in the Great Plains during the Altithermal based on limited distributions of archaeological sites and a lack of associated carbon dates (Reeves 1970; Benedict and Olsen 1978; Frison et al. 1996; Nance 1972; Walker 1992). This inference, however, must be supported by the geomorphological factors that affect archaeological visibility, or moreover, the ability of archaeologists to detect buried sites. This to say that the geomorphological development that occurred during the Altithermal may have resulted in more deeply-buried sites, or sites removed from their original context through mass-wasting events following the Altithermal. A thorough test of these possibilities has yet to occur.
Mass-wasting events are common in areas with high moisture, clay-rich landforms underlying ‘O’ and ‘A’ horizons, and slopes that exceed a 35° angle (Trenhaile 2004). Mass-wasting refers to the geomorphological process by which a solid, continuous or discontinuous mass moves downslope through gravitational or erosional forces (Trenhaile 2004). While the Altithermal led to a general increase in global aridity, the windblown sediments that were deposited on slopes and landscapes would remain primarily unconsolidated and therefore allow for increased water percolation through higher porosity in landscapes rich in aeolian sands. Through an increase in water percolation down to an impermeable clay layer, which is present in many landforms in Qu’Appelle, the chances of colluvial deposition through landslides and other forms of mass-wasting are increased significantly as the unconsolidated sediments become more saturated in the years following the Altithermal. These events, therefore, can transport archaeological sites and materials from their original contexts, as well as bury, and preserve sites within the path of the event.

Increased aridity can also lead to sparse vegetation, which in turn can result in less anchoring capabilities of surface and near-surface soils. The aridity in the Altithermal likely led to more sparse vegetation across the plains, an ecological region in which vegetation is already limited. Furthermore, the dry nature of the Altithermal likely also resulted in grassfires throughout the plains, further limiting the anchoring potential provided to the general topography provided by grasses and other vegetation (Wolfe, Ollerhead and Lian 2002). These grass fires could potentially exacerbate the already aeolian-sensitive nature of the plains, allowing for greater transport of sediments and destabilization of slopes and other landforms.

Current field methods applied by heritage professionals are often inadequate to locate these Mid-Holocene sites, which could lend credence to the lack of Altithermal archaeological dates. Methods that do not allow for deep testing, or identify mass-wasting locations that can bury, and preserve archaeological sites could potentially fail to locate sites in valley systems, such as the Qu’Appelle, particularly those adjacent to stream systems.
2.4. Valley Landforms

The Qu’Appelle Valley orientation is the result of the flow of the river, downcutting activities, and to some degree pre-glacial topography and near-surface geology. The meandering nature of the river is continuously eroding the edges of the valley system, creating both gentle and severe slopes, oxbow lakes, and floodplains through flooding (Klassen 1972). The behavior of the river itself also influences colluvial, mass wasting and fan building processes. All of this has led to a diverse series of landscape features along its course. Beyond the glacial till upland plain into which the river has cut, the valley can be divided into three zones for discussion - 1) stabilized and eroding valley slopes with relict valley slump blocks and fluvial terraces, 2) the bottomland through which the river meanders and 3) the deep and shallowly incised tributary coulees along its course.

2.4.1. Slopes and Terraces

Because of the ubiquity and dominance of unconsolidated sediments in the Qu’Appelle Valley, the drainage systems and general shape of the valley are generally more apparent than other valley systems, where bedrock is at or closer to the surface resulting in more visible and pronounced post-glacial downcutting. Since the Pleistocene, valley slope angles have become more moderate, that is, less steeply sloping due to regular processes of slumping, slope erosion and related colluvial processes. Landforms also include wedges consisting of colluvial detritus and shale-laden slump blocks creating rotational slumps. Rotational slumps or slides take place along curved surfaces that are concave upwards; the arms of these generally extend to significant depths thereby creating anchor points for the slope (Trenhaile 2004: 139). The rotation of slumps will effectively lower the head of a slump block and raise the toe, and if the steep scarp is left unsupported when the block subsides, water may collect in the reversed slope at the head, which can essentially generate a minor drainage basin (Trenhaile 2004: 140). The lower valley system is mostly absent of alluvial terraces at the surface, as the general slope-trend of the valley is deprived of spacious and relatively level areas. Terrace landforms buried by the presence of unstable slopes and concomitant colluvial processes and fan building do occur.
Rotational slumps, as mentioned, create runoff catchment basins near the head of the slump block, allowing for water to collect in areas with more dense subsurface compositions along valley walls. For prehistoric cultures, these rotational slump blocks offered blinds during hunting activities, as well as habitation locations with simple access to water in landscapes that are generally more sheltered than the nearby valley bottomlands. The subsurface composition that would be necessary to result in rotational slumps would also be supportive of well-drained, homogenous soils. These facilitate denser vegetation growth for the acquisition of fuel and other uses for human occupation in the past.

The sloping nature of the coulee systems and erosional action acting on valley walls is exacerbated by aeolian activity, particularly on landscapes with unconsolidated, large sediment particles, such as sand. During the 2013 development project, several landforms on the north side of the valley were found to be composed of varying particle sizes of sands, meaning that aeolian action could result in a significant alteration to these landforms, as well as burial on downwind locations (Waters 1992).

2.4.2. Bottomlands

The valley bottom is primarily floodplain and marshy low terrace forms that contain the underfit Qu'Appelle River. The nature of bottomland topography is also formed by alluvial deposition, particularly in meandering river systems with narrow gaps between meander bends and various oxbow-lake formations that appear throughout the valley. The natural bottomlands contain wetlands, marshes and often dense riparian gallery forests with thick woody brush, shrubs, tall grasses, and various herbaceous species. The lotic system is one of many that contribute to the vast Red River (ca.50,500 km²) drainage basin (Trenhaile, 2004). The current perennial flow of the Qu'Appelle River is due to several upstream dams, primarily water diverted from the South Saskatchewan River from its origin point at the South Saskatchewan elbow location (Klassen 1972). From the elbow location, the valley walls are of variable height, from 75 – 200 m (Edmunds, 1962).
2.4.3. Tributary Coulees

Deeply incised coulees and tributary drainages occur both north and south of the valley for most of its length. These features cut through sedimentary strata of different density, meaning that some are more consolidated on their slopes than others allowing for differential erosion and downcutting of coulee systems. Some of the drainages are intermittent; typically, dry in summer, but with the substantial flow and sediment transport during the spring freshet. In some cases, alluvial fans occur at their outflow. Underground springs can also feed valley surface water and are a factor in coulee cutting processes on valley slopes. Other coulees, including ones in the study area, have springs, which have led to permanent or semi-permanent streams. The coulees themselves are dynamic and variable depending upon their genesis and orientation. For example, coulees on south-facing slopes and without springs tend to be drier with less dense vegetation and are often shallower than north-facing slopes and those that have springs. Similarly, north-facing coulees tend to have more diverse vegetation than south facing ones.

2.5. Recent and Modern Hydrology

The Qu’Appelle River drainage basin is small in comparison to the major drainage systems of Canada’s prairie provinces (Pomeroy, Boer, and Martz 2005). Nevertheless, incorporating a stable flow of water across an otherwise arid landscape, it is an essential source of water for farming, industry, urban consumption and recreation. As a result, several upstream dams have been constructed, including the Qu’Appelle River dam and the Gardiner Dam. Both have increased and regulated the perennial flow of the system. As also previously noted, some of the modern discharge of the Qu’Appelle River consists of water diverted from the South Saskatchewan River. For example, the water received from Lake Diefenbaker in 2006 was measured at 2.23 m$^3$/s (Water Survey of Canada Site 05JG006 2017). The confluence at the Assiniboine system, where the Qu’Appelle River ends, reported discharge at the downstream gauging station of 13.90 m$^3$/s (Water Survey of Canada Site 05JG006). The implication here is that the flow of the river prior to dam construction may have been substantially less, with implications for pre-modern landscape and archaeological interpretations. It also means that modern impacts in valley bottomland terrain through increased flow may
have consequences for archaeological site discovery or archaeological site disturbance. The amount of alluvial sediment in valley bottomlands, nevertheless, suggests that, at the very least, seasonal flooding consistently occurred in the past (Klassen 1972).

The valley system also houses several anthropogenic lakes such as Eyebrow Lake and Buffalo Pound Lake. The Fishing lakes chain (Pasqua, Echo, Mission, and Katepwa Lakes) are naturally occurring lentic systems in the Qu’Appelle Valley that are fed by the river itself, as well as underground aquifers and numerous drainage creeks from the south and north (Trenhaile 2004). A fifth lake, Lake Muscowpetug, is significantly smaller than the remainder of the Fishing Lakes chain, often ignored in hydrological discussions of lentic systems in Southern Saskatchewan (Pomeroy, Boer, and Martz 2005; Smith 1986). These lakes are the direct result of generally unstable valley walls and were formed by fan-building from slope erosion, a typical process in semi-arid systems (Rapp and Hill, 2006; 65-66; Waters 1992; Davidson and Shackley 1976).

2.6. Soils

The genesis of soils is the result of the complex interactions of a variety of physical, chemical, and biological processes that are continuously acting on rocks, sediments, and other parent material over time (Holliday 2004). Soil development or pedogenesis is a dynamic process that reflects atmospheric and weathering activities acting on the existing parent material. The composition of soils can have significant impacts on the detection, and presence of archaeological materials. For example, acidic soils, such as those found in coniferous regions, will not preserve faunal materials (Reitz and Wing 1999). The interpretation of sediments and soils can be a subtle approach to the analysis of landscape stability. Flooding events result in thick sediment horizons from the rapid deposition of sediment, and are often identified by a hard-contact between layers. Intervals such as inter-flood periods are that of non-aggradation, and therefore, stability, which provides access to floodplains for human occupation. The understanding of soils, soil development, and the intermittent periods between flooding events are critical to determining the provenience of archaeological materials in river valley environments.
Regional soils have developed from glacial moraine, glaciofluvial, and glaciolacustrine parent material. They can be classified as belonging to the Brunisolic, and Chernozemic soil types with various subgroups represented depending upon their micro-topographical setting (Holliday 2004). Dark brown Chernozemic soils predominate in this region, due primarily to the high organic content and slow decomposition rates that are characteristic of the ecozone’s cool climate when compared to similar areas in Alberta along the same longitude. That being said, soil formation within the Qu’Appelle River Valley is highly variable depending upon aspect, catenary position, and vegetation type. In general, soils on upper slopes are thin with relatively low organic components, becoming progressively thicker, with a higher frequency of humic matter, on mid and lower slopes due to increased moisture and plant growth. Soils are mostly moderately well to poorly drained with a high clay content, ranging in thickness between 5 and 45 cm depending on the elevation and landform. Soils can differ significantly based on the position of the landform compared to the prevailing wind direction; for example, landforms that are open to prevailing wind feature a higher sand content than those that are sheltered, which are more clay-rich.

2.7. Regional Ecology and Vegetation

The Qu’Appelle and similar valley environments are some of the most biologically and ecologically diverse ecosystems on the prairies, allowing for multiple trophic relationships in the local flora and fauna. Valley systems drew hunter and gatherer cultures to them, who lived in and exploited the resources of these areas for thousands of years. The western segment of the Qu’Appelle Valley system and adjacent prairie uplands are within the Moist-Mixed Grassland ecoregion that extends from southwestern Manitoba and terminates in a broad arc to the northwest in central Alberta. The eastern-most portion of the river, as the river crosses the Regina Plain, is within the Aspen Parkland (Padbury, Acton, and Stushnoff 1998).

The local flora is dependent on temperature and precipitation, as well as topography, aspect, and soils. Table 1 identifies vegetation types documented in the study area assessment. The majority of these are native to the area albeit some, such as crested wheatgrass, are intrusive in the modern settings.
Table 1. Contemporary Vegetation Assessment. "*" in the table refers to edible species of plants, and "**" refers to invasive species from agriculture.

<table>
<thead>
<tr>
<th>Grasses</th>
<th>Forbs</th>
<th>Shrubs</th>
<th>Weeds</th>
<th>Trees</th>
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</thead>
<tbody>
<tr>
<td>Blue grama (Bouteloua gracilis)</td>
<td>Blanket flower (Gaillardia aristata)</td>
<td>Snowberry (Symphoricarpos albus)*</td>
<td>Common yarrow (Archillea millefolium)*</td>
<td>Cottonwood (Hibiscus tiliaceus)</td>
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<tr>
<td>Crested wheatgrass (Agropyron cristatum) **</td>
<td>Cicer milkvetch (Astragalus cicer)</td>
<td>Wolf willow (Elaeagnus commutata) *</td>
<td>Goat's beard (Tragopogon dubius)*</td>
<td>White Birch (Betula papyifera)</td>
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<tr>
<td>Needle and thread (stipa comata)</td>
<td>Early yellow locoweed (Oxytropis sericea)</td>
<td>Juniper (Juniperus communis)*</td>
<td>Quackgrass (Agropyron repens)**</td>
<td>Bur Oak (Quercus macrocarpa)</td>
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<tr>
<td>Northern wheatgrass</td>
<td>Gumweed (Grindelia squarrosa)</td>
<td>Buckbrush (Ceanothus cuneatus)</td>
<td>Scarlet mallow (Malvastrum cocineum)*</td>
<td>Balsam poplar (Populus balsamifera)</td>
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<tr>
<td>(Agropyron dasystachyum)</td>
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<tr>
<td>Prairie muhly (Muhlenbergia cuspidata)</td>
<td>Little clubmoss (Selaginella densa)</td>
<td>Creeping Juniper (Juniperus horizontalis)*</td>
<td>Yellow sweet clover (Meliolus officinalis)*</td>
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<tr>
<td>Western porcupine grass</td>
<td>Low everlasting (Antennaria aprica)</td>
<td>Prickly Rose (Rosa acicularis)*</td>
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<tr>
<td>(Stipa curtista)</td>
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<tr>
<td>Western wheatgrass</td>
<td>Moss phlox (Phlox hoodii)*</td>
<td>Greasewood (Sarcobatus bailey)</td>
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<tr>
<td>(Agropyron smithii)**</td>
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<td></td>
<td>Narrow-leaved milk vetch</td>
<td>Silver buffaloberry (Shepherdia</td>
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<tr>
<td></td>
<td>(Astragalus pectinatus)</td>
<td>argentea)*</td>
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<td></td>
<td>Pasture sage (Artemesia frigida)</td>
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<td>Prairie coneflower</td>
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<td></td>
<td>(Ratibida columnifera)</td>
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<td></td>
<td>Prairie rose (Rosa arkansana)*</td>
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<td></td>
<td>Small-flowered rocket (Erysimum inconspicuum)*</td>
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<td></td>
<td>Silver-leaf psoralea</td>
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<td></td>
<td>(Psoralea agrophylla)*</td>
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<td></td>
<td>Wild licorice (Glycyrrhiza lepidota)*</td>
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<tr>
<td></td>
<td>Bulrush (Schoenoplectus acutus)*</td>
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</table>
The purpose of the vegetation assessment (Table 1) is to provide information regarding the potential for resource acquisition, particularly for wild edibles, which are native species in the Qu’Appelle Valley. The native species within the moist mixed grasslands were kept in check by fires, preventing the aspen parkland vegetation from encroaching on the plains and keeping the prairie uplands limited in their vegetation resources (Acton, Padbury, and Stushnoff 1998). Furthermore, the wild edibles in the area, such as buffalo-berries, juniper-berries, and snow-berries are found in the Eyebrow and Regina plain sub-regions, although only in areas with higher moisture content and well-drained soils such as river valleys and drainage systems running into the Qu’Appelle Valley.

The various berries and herbaceous species included in the vegetation assessment table (Table 1) are important resources for nomadic cultures on the Great Plains, acting as a valuable addition to the diet for general consumption, as well as inclusions in the production of pemmican. In addition to dietary inclusions for prehistoric cultures, the dynamic nature of vegetation in the Qu’Appelle attracted a variety of fauna that, in turn, attracted prehistoric cultures (Acton, Padbury, and Stushnoff 1998).

2.8. Regional Fauna

With the exception of bison, contemporary faunas in the Qu’Appelle Valley are likely similar to those of at least the Late Prehistoric Period. These include a variety of species including white-tailed deer (*Odocoileus virginianus*), pronghorns (*Antilocapra americana*), several species of bats (*Microchiroptera*), coyotes (*Canis latrans*), badgers (*Taxidae taxus*), and various subterranean rodents (Acton, Padbury, and Stushnoff 1998). The valley also served alternatively as a breeding, wintering, migration, and summering location for over 400 species of birds, including waterfowl (Acton, Padbury, and Stushnoff 1998). Bison (*Bison bison*), nevertheless, are regarded as the primary subsistence resource for cultures on the Great Plains and their movement is the central factor in settlement pattern mobility for Plains groups (Vickers 1986). In this, bison also became integrated into the fabric of Plains cultures. Bison remains are found in nearly every significant archaeological site faunal assemblage within the species migration range (Barsh 2003; Bamforth 1987).
Ecological information specific to bison indicates several critical factors that determine their migratory path on the plains. These include the pattern of forage, the adaptability of bison to their immediate environment, seasonality, and ultimately the impact of European expansion and predation of bison throughout the Historic Period (Bamforth 1987). The availability of forage for migratory bison herds, in particular, determines the routes the animals will travel in spring and summer, as well as the ability of a herd to support a higher population. In the winter Plains bison move off the prairie to lower ground in river valley settings or move north to aggregate in the parkland.
Chapter 3.

History of First Nations Land Use in Southern Saskatchewan

In this chapter, I provide an overview of the various First Nations groups who, potentially, could have been present in the late prehistoric and Early Historic Periods on the northern plains of southern Saskatchewan. I also provide details for settlement and subsistence economy as recorded in ethnohistoric and ethnographic texts as well as interactions between regional groups and with those outside of the region, including American traders.

Hudson’s Bay Company explorer Henry Kelsey first mentions the Saskatchewan region during an expedition into the area from York Factory in 1691 (Epp 1993). Kelsey’s journal describes vast grasslands, narrow streams, and nomadic groups who would “kill a great store of beast” in single events, after which butchering and preserving the meat (Epp 1993, 212). Kelsey encountered many groups during this expedition, describing their language and activities. One case, in particular, was the “Stone Indians,” a group he observed mining slate from river valley systems between “Deering’s Point” and “a river that ran Blood Red” to the west (Epp 1993, 212). The “Stone Indians” in Kelsey’s journals likely refers to the Assiniboine, Siouan-speaking people who were widely dispersed across the southern plains (DeMallie and Miller 2001).

McMillan and Yellowhorn (2004) present a map of traditional territories for First Nations peoples inhabiting the plains/parkland regions of southern Canada as historically recorded. The Plains Cree, Assiniboine, and Blackfoot are identified as potentially present in the Qu’Appelle River Valley and the surrounding area. The presence of the Blackfoot in southeastern Saskatchewan is somewhat contested, although people of the Blackfoot in south-central Saskatchewan were present during the fur-trade (McMillan and Yellowhorn 2004, 156). Old Women’s Phase projectile points, however, are present as far east as Qu’Appelle, this point type being a presumed hallmark for Late Period Blackfoot peoples in Alberta (Brumley and Dau 1988; Brumley 1988; Reeves 1993; Peck 2002; 2011). It seems likely that the influence of individual groups, prior to the Historic Period, exceeded their earlier homelands due to the
acquisition of the horse and related expansion in seasonal rounds. During the pre-horse “Dog Days,” seasonal rounds would have been more restricted with well-established winter-village locales in river valley bottomlands (Ewers, 1958; 1955; Vickers 1986; Vickers 1991). The impact of the horse on transport, hunting, and warfare, raises the possibility, if not the probability, that other plains groups may have been present in the Qu’Appelle River area as well.

3.1. The Plains Cultural Region

As defined by Wissler (1920), the plains culture area extends west from the Upper Mississippi River Valley to the Rocky Mountain continental divide, and from the North Saskatchewan River to the Rio Grande on the south. The defined region is massive being ~1100 km from the mountain front to the area around the 95th meridian west, incorporating roughly 2,000,000 km² depending on the geographic factors that are considered (Wedel 1983; Klassen 1995). The Great Plains constitutes the majority of continental grasslands across Canada and the United States. The plains are a dynamic landscape that broadly includes a similar environment, geography, and biotic community. The plains typically have a level or rolling landscape with occasional breaks formed by major stream systems, such as the Qu’Appelle River system.

The river valleys and coulees create varied ecological zones increasing the biological diversity and geomorphological dynamism of the region. They also were critical to plains indigenous peoples who exploited wild edibles, needed reliable water sources, and who were able to hunt a more diverse range of species within their subsistence practices. Seasonal changes dominate the lifeways of plains peoples, determining when and where campsites would be established. As discussed in Chapter 2, wind and temperature serve as conditioning factors necessitating adequate shelter for winter occupation. The exposure of forage ground and, therefore, the attraction of wildlife in these breaks was also essential (Frison1998; 1978). The Qu’Appelle River Valley in Saskatchewan, with its deep coulee systems, dynamic resource availability, and available water, would have been particularly attractive.
3.2. Land Use and Seasonal Round of People on the Northern Plains

The economy of northern plains peoples, from the first occupation in the terminal Pleistocene, and into the Historic Period, has been a hunting and gathering one with a particular focus on bison. For example, site types for the two earliest archaeological cultures on the Plains, Clovis, and Folsom, incorporate skeletal remains of bison and mammoth. As the Holocene progressed, and with the extinction of most large-bodied Pleistocene mammals, plains cultures placed an even greater reliance on bison (*Bison bison*). As stated by Dyck and Morlan (2001, 115):

> The Canadian Plains were buffalo country from the time of deglaciation until the advent of historic agriculture. For 12,000 years, buffalo hunting was the mainstay of subsistence.

> Because of the focus on bison, there were broad similarities in land use throughout the Holocene notwithstanding transitions in the environment. Bison are gregarious, quasi-migratory animals moving with a predictable annual cycle. A reliance on bison meant that First Nations necessarily had to be mobile.

> Plains peoples still required a variety of other resources to live, and to sustain their culture. There was a need to obtain materials such as wood for their lodges, winter fuels, tools and other aspects of material culture. Tool stone for projectile point production, scrapers, and other types of cutting implements were also required. Of equal importance, there was a need for seasonal aggregation of peoples for social and political considerations to renew contacts, form alliances, build relationships, and find spouses.

> Seasonal rounds are an annual cycle where individual groups move from area to area to acquire resources or otherwise position themselves optimally for particular reasons, not the least being protection from winter conditions. The physical environment, resource locations, and bison behavior played a significant role in a seasonal round formation with adaptive implications for cultural behaviors, beliefs, and practices (Arthur 1975; Ewers 1958; Morgan 1979; 1980). In large part, seasonal rounds were determined by the movement of bison.

> Typically, according to Vickers (1986), the seasonal round of Plains cultures was structured not only by bison but the physical environment of the prairies. This resulted in
the occupation of valley bottomlands during winter months, dry slopes during the spring
months and great mobility and population divergence during the summer months.
Group aggregation in late-summer or early-fall typically occurred for ceremonial
purposes or the undertaking of mass kills (Vickers 1991; Edington 2017). Finally, in late
fall populations would move from the plains to mesic environments with the goal of
preparing for the winter months (Vickers 1986; 1991; Edington 2017). Winters in the
Northwestern Great Plains are often long periods, commonly lasting between four and
five months out of the year. Readily available resources for long-term occupation as well
as those preserved during warm weather months were critical for prehistoric cultures on
the Plains.

3.2.1. Winter Settlements

The onset of winter essentially starts in late October to November when the
ground is frozen, vegetation is dormant, and temperatures drop below freezing (Vickers
1991). Typically, groups had arrived at their winter camp location prior to the onset of
adverse weather. Groups aggregate in protected areas such as forested valley bottoms
as well as parklands where the impact of winter winds could be partly circumvented and
where fuel is available for heat. The onset of cold weather, marked by the first snow of
the season, initiates an vital round of ceremonial activity in most Canadian Plains First
Nations even today. Elders, ceremonialists and others gather to conduct set rituals, and
prepare for the months to come. Bison similarly moved from the high plains into these
areas and, with other smaller game, could be opportunistically hunted. A late fall bison
hunt, with pounded meat preserved as pemmican, provided a winter reserve when
resources were difficult to acquire. Morgan (1979) noted that large winter encampments
might be associated with bison pounds, and that several bands would occupy the same
camp in this case. Vickers (1991) emphasizes the importance of fuel as a primary factor
for winter camp locations, while Morgan (1979) argues for pasture requirements.
Malainey and Sherriff (1996) however, propose that, in congruence with historic
accounts, the majority of mobile hunter-gatherers on the western Canadian Plains
wintered on the open plains in locations that facilitated the use of jumps and pounds.
Areas in the Qu’Appelle River Valley would have provided desirable wintering sites for
reliable resource acquisition, and the potential for establishing pounds to entrap bison
herds.
3.2.2. Spring Mobility

With snow melt and the appearance of new vegetation, extended family groups began to move on to the plains following bison and in search of other resources. During winter there may have been some aggregation of groups, but just as commonly winter camps could be small and spread out to ensure resources did not run short. For Historic Period equestrian groups, spring began in March and lasted until the end of May (Vickers 1991, 60; Ewers 1955, 126). River valley bottomland camps were abandoned as people moved to the adjacent uplands to avoid spring melt (Vickers 1991; Peck 2001). Mobility in the early spring season could be impeded as bison would typically migrate out to the open plains by March, and people were often incapable of following due to the uncertainty of the weather (Vickers 1991, 60).

Many bison kill sites have been associated with spring occupations, such as the Fort Macleod kill sites, and the Gleichen Bison Jump (Vickers 1991; Reeves et al. 1981). It is likely, based on these and other data, and supported by Ewers (1955) and Morgan (1979), that groups aggregated and performed communal bison hunting. Typically, kills of this season concentrated on nursery herds, consisting of cows and calves (Vickers 1991; Peck 2001). Kills of this pattern are concentrated along river valley margins, or within tributary valleys (Vickers 1991).

Campsites would be situated to take advantage of specific resources but also in consideration of local topography, water, and other factors. The Qu'Appelle Valley and surrounding areas would tend to be a spot where resources, particularly on sunny slopes and uplands, would support early plant growth and attract bison and other grazers.

3.2.3. Summer Hunt

Summers on the northern plains were the time of greatest resource availability and greatest mobility, with groups traveling widely to exploit different resources. The season began in June and continued to early-September (Vickers 1991, 63). Morgan (1979) proposes that the lives of Plains populations was relatively sedentary in the early summer, with bison drives and mass kills facilitating larger populations (Vickers 1991; Frison 1987; Schaeffer 1978). Frison (1978, 250) and Morgan (1979) both argue that bison drives were not possible between mid-July to mid-August due to the rutting
season. Additionally, sloughs dried up in the mid-summer and groups were forced to remain closer to perennial water sources (Vickers 1991; Peck 2001).

The hunting of bison was dominant with camp movements in tandem with herd movements. Summer ceremonials, such as the Sun Dance, were undertaken while hides and meat were also processed. In the late summer/early fall as berries ripened, these also were harvested as a crucial ingredient for pemmican.

The determination of summer occupation sites is difficult. Vickers (1991; Peck 2001) supports the model proposed by Morgan (1979) that site occupation occurred in close proximity to perennial water sources. However, these sources need not be high order stream systems such as the Qu’Appelle. Rather ephemeral basins, sloughs, and tributary channels might also suffice. The data for summer camp locations seems to suggest river escarpment locales, and these are likely smaller populations and hunting bands rather than larger gatherings (Vickers 1991, 64), except during important summer ceremony and rituals, such as the Sun Dance, when the largest aggregations occurred.

3.2.4. Fall Convergence

The mid to late fall is often considered the high season for communal bison hunts as groups would be trying to acquire sufficient supplies to store winter reserves (Verbicky-Todd 1984; Brink 2008; Carlson and Bement 2013). Population movement during this time, particularly in October, was concentrated on moving toward winter camp locations, and acquiring resources necessary to get through the winter, such as berries, and preparing dried meats (Vickers 1991, 64).

Communal hunts included the use of jumps, where bison would be slowly moved toward a precipice through drive lines in a gathering basin (Brink 2008). Ultimately stampeding bison over a cliff, large numbers of animals could be acquired, this requiring the rapid processing of meat, grease, and hides by aggregated groups. Subsequently, plains peoples would harvest late season plants while men also acquired wood for tipi poles and travois before moving into the wintering sites. It is possible that pounds were used more commonly than jumps, such as the Gull Lake site, the latter being reserved for larger population convergence periods (Frison 1971; 1978; Kehoe 1973; Vickers 1991).
3.3. The Impact of the Horse

The adoption of the horse by plains peoples in the Historic Period led to the transformation in traditional subsistence practices and settlement patterns, albeit bison hunting continued to be the central focus. Now, however, bison could be hunted on horseback and herds could be easily reached. In fall, plains groups retreated to resource abundant river valleys to establish winter camps and where forage for the horses would be available (Epp and Dyck 1983). River valleys, such as the Qu'Appelle, were selected for the variety of vegetation occurring in the lowlands, including wood for winter fuel. Several faunal species in these valleys provided alternative sources of food. Winter pasturage for horses additionally became a central consideration in the post-contact time.

With the advent of the horse, plains cultures also were capable of transporting goods and equipment of greater weight over longer distances in shorter periods of time. Horse-drawn travois allowed for increases in the size of tipis and the transport of additional poles, larger covers as well as more personal possessions (Dempsey 2001). Individuals of higher social standing boasted tipi with as many as 30 bison skins (Dempsey 2001). The horse also led to increased interactions and conflicts between different plains groups. Overhunting and then the disappearance of the bison from the plains by the mid-1880s had devastating impacts on traditional plains lifeways. It ushered in the Reservation Period, with sedentary settlement in villages and transition to an agricultural economy (Dempsey 2001).

3.4. The Plains Cree; a Brief Account

The name Plains Cree refers to a linguistic dialect of Cree as well as their late cultural adaptation towards bison hunting (Darnell 2001). The traditional territory of the Cree, as a whole, is immense occurring across the boreal-subarctic region from Labrador to Alberta, with eastern and western sub-groups defined (Darnell 2001). Plains Cree involvement in the fur trade in the late 18th century resulted in a base of operations along the Saskatchewan River and Red River drainage systems (Darnell 2001). These locations ultimately allowed for Cree movement as far west as the Rocky Mountains (Milloy 1990; Ray 1974). The Cree were motivated and facilitated by trade rather than undertaking hegemonic expansion through warfare. This allowed the Plains Cree to
develop valuable trade networks through which European goods were acquired (Milloy 1990).

As expansion occurred to the southwest, the Plains Cree developed a trade and military alliance with the Assiniboine in opposition to groups of the Blackfoot Confederacy (Milloy 1990). The Plains Cree had a distinct advantage regarding tribal relations due to their access to firearms and trade capabilities with the Hudson’s Bay Company (Innis 1999). The Cree acted as a “middle man” between fur traders and other plains groups, ultimately including the Blackfeet. They established a seasonal schedule of annual interactions that, at least initially, gave them the upper hand.

Between 1776 and 1876, the Plains Cree adapted their subsistence economy to the plains, retaining aspects of their woodland cultural suite, including the hunting of beaver and canoe transport with a high degree of dependence on the fur trade (Darnell 2001). In this, the Cree were plagued by difficulties in securing horses (Milloy 1990). During the period between 1810 and 1850, a time referred to as the Horse Wars, and the Cree mounted a successful campaign against the Blackfoot, who sued for peace in 1819, defeated by a Kootenai-Crow-Cree alliance (Milloy 1990). According to Darnell (2001), the primary source of this conflict was the diminishing numbers of bison herds, although, given the time period, restricted access to European trade goods and trade routes could have also been a leading factor. In the 1860s, the Cree attempted to make peace with the Blackfoot through diplomacy, resulting in a Cree chief, Poundmaker, adopting a Blackfoot chief, Crowfoot. Hostilities with the Blackfoot nevertheless were constant. When the Blackfoot defeated the Cree at the Battle of Belly River in October of 1870, they sought a treaty from the Hudson’s Bay factory at Edmonton (Milloy 1990; Johnson 1966). The Cree and Blackfoot subsequently negotiated peace allowing the Cree to hunt bison on Blackfoot lands by 1871. The Plains Cree with Saulteaux and Assiniboine groups signed Treaty No. 4 with the “Crown” on September 15, 1874. Known as the Qu’Appelle treaty for its signing at Fort Qu’Appelle, it incorporated much of southern Saskatchewan, as well as parts of southeastern Alberta and southwestern Manitoba (Dempsey 1986).
3.5. The Assiniboine; a Brief Account

At first contact with Europeans, the Assiniboine occupied the plains region in what is now south-central Saskatchewan south of Prince Albert. The Assiniboine had developed a profitable relationship with European traders throughout the early to mid-19th century (DeMallie and Miller 2001). They forged an alliance with the Cree, travelling as far east as Lake Nipigon and Lake Superior and north to York Factory on James Bay to pursue trade (DeMallie and Miller 2001).

Through their control over European trade, they garnered a degree of military superiority allowing them to expand their territory north and west through the parkland region of Saskatchewan (DeMallie and Miller 2001). This resulted in conflict with the Chipewyan, Blackfoot, and Gros Ventres as their traditional territories were encroached upon. A division between Woodland and Plains Assiniboine occurred. Woodland Assiniboine had a hunter, gatherer foraging subsistence pattern focusing on fish, waterfowl, ungulates and other resources of the western foothills and parkland. These people developed an independent identity as the Stoney (McMillan and Yellowhorn 2004). The Plains Assiniboine, however, were bison hunters on open prairies, albeit both groups exploited bison in the parkland regions during the winter months (DeMallie and Miller 2001; Colpitts 2015). In the latter part of the 18th century, the Assiniboine began to abandon the lower Assiniboine River basin in the eastern region of their traditional territory, occupying the lands between the Qu’Appelle Valley and Souris River (DeMallie and Miller 2001).

The introduction of the horse to plains groups meant substantial changes for the Assiniboine and their lifeways during the latter half of the 18th century. In the 1750s, Anthony Henday reported observing the Assiniboine using horses for transportation, although the horse does not appear to have been ridden at this time (DeMallie and Miller 2001). The western Assiniboine, in particular, came to be known for their large horse herds, with their source of horses being the Blackfoot and Gros Ventres (McMillan and Yellowhorn 2004). This ended when escalating hostilities broke out between an Assiniboine-Cree alliance with a Blackfoot-Gros Ventre one. By the 1830s, it was reported that the Assiniboine had returned to the use of dog-travois with horse ownership reduced to two horses per lodge (DeMallie and Miller 2001).
Smallpox was a significant factor in the movement of Assiniboine peoples from traditional territories in the 19th century. As much as one half of their population succumbed to the disease, forcing survivors to continue their southern movement (DeMallie and Miller 2001). The severe population loss led to the restructuring of Assiniboine society, with smaller, more strategically placed bands between the Blackfoot and the Missouri River (DeMallie and Miller 2001). As the Assiniboine population began to recover, the group was once again struck by smallpox in the late 1830s, causing the death of two-thirds of the population (Demallie and Miller 2001). The combination of a reduced population, and being surrounded by enemies made the Assiniboine vulnerable to eradication, with the Plains Cree standing as their only ally. The surviving Assiniboine sent representatives to the multiracial council convened by the United States government in 1851, signing an agreement that created the foundation for reservations in exchange for peace with their enemies (DeMallie and Miller 2001).

3.6. The Blackfoot Confederacy; a Brief Account

The presence of tribal groups associated with the Blackfoot Confederacy in Saskatchewan has been questioned, as their traditional territory is set squarely in what is now the province of Alberta. Historically influential on the northwest plains, the Blackfoot controlled a massive territory, reaching from the North Saskatchewan River in Alberta, to the Missouri River to the south (McMillan and Yellowhorn 2004). The Blackfoot had become a powerful force acquiring firearms from the Plains Cree as well as horses from trade to the south (Dempsey 2001; Kidd 1986). As early as the 1750s the middle man trade in European trade goods to the Blackfoot was already extensive. Described by Anthony Henday on one of his excursions, they are noted to have metallic cookware, knives, and axes as well as an equestrian lifestyle (MacGregor 1972; 1967). The Blackfoot began trading with Europeans directly in the 1780s, sending trading parties to the North Saskatchewan River forts in the early spring (Dempsey 2001). Notably, the Blackfoot did not alter their economy and seasonal round to accommodate European trade (Dempsey 2001; Kidd 1986). Regardless of the demand for fur-bearing animals such as beaver, the bison hunt continued to be the primary focus for subsistence (Outram 2004).

The integration of horses into the Blackfoot lifestyle would have resulted in a substantial cultural change in hunting methods, in concepts of wealth and inequality, in
increases in personal possessions, in subsistence/settlement patterns and warfare. The change in hunting methods was perhaps the most significant, in that hunters were now capable of targeting individual animals within a stampeding herd on horseback, as opposed to the former reliance on communal hunts or traps. Hunters in search of bison, and supplied with European firearms, could also travel considerable distances on horseback in short periods of time, with butchered meat and hides easily transported back to settlements (Dempsey 2001). The need for settlement mobility in the summer months would be reduced.

Hostilities by the Cree and their Assiniboine allies towards the Blackfoot began in the early 19th century. This culminated in Cree/Assiniboine raids on Blackfoot groups in the North Saskatchewan River (MacGregor 1967). In order to limit their disadvantage to the better-armed Cree, the Blackfoot attempted to prevent the sale of firearms to rival groups. This was to no avail as traders began to travel to the north, around Blackfoot hunting grounds. In addition to their conflict to the north, Blackfoot territories were also being encroached upon in the Missouri River area by American fur trappers (Dempsey 2001). This hostility is documented in several sources, and one notably mentions the killing of two Piegan individuals by the expedition group of Meriwether Lewis and William Clark in 1806 (Dempsey 2001). The development of fur trade forts by American traders along major river systems such as the Three Forks and Missouri Rivers further exacerbated conflict. In 1831, the Blackfoot made peace with the American Fur Trade Company, who built Fort Piegan (Fort McKenzie) on the upper waters of the Missouri (Wishart 1979). The Blackfoot nevertheless remained distrustful of American encroachment and opposed fur trapping in their hunting grounds with violent opposition (Wishart 1979).
Chapter 4.

Archaeological Sequence of the Saskatchewan Plains

The cultural sequence proposed by Epp and Dyck (1983) stands as a workable and reasonable baseline for Saskatchewan archaeological studies, and has been used by other archaeologists in developing sequences for archaeology on the northern plains (Vickers 1986; Smith 1986; Walde, Meyer, and Unfried 1995; Kooymann 2000; Peck 2011). The dates used in the sequence herein are, obviously, approximate and are a synthesis based on Epp and Dyck (1983), but slightly modified by consideration of Vickers (1986), and Peck (2011). The archaeological sequence is defined by a series of diagnostic projectile point types associated with Early (Paleo-Indian), Middle and Late periods (Table 2). The division of the last 12,000 plus years of human occupation of the plains into Early, Middle and Late are based mostly on changing projectile technologies from spears (Early), to atlatl and dart (Middle) and then to bow and arrow (Late). These periods have other aspects of technological change and, in some cases, transformations in the subsistence economy as a consequence of changing environments. In the following, I briefly discuss each of the major archaeological periods extending from the late-Pleistocene through Holocene eras.

Table 2. Projectile Point Types, Phases and Chronology of the Plains.

<table>
<thead>
<tr>
<th>Phase</th>
<th>Time Period (BP)</th>
<th>Period</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clovis</td>
<td>13,700 – 10,000</td>
<td>Early</td>
</tr>
<tr>
<td>Folsom</td>
<td>10,900 – 10,200</td>
<td>Early</td>
</tr>
<tr>
<td>Agate Basin</td>
<td>10,200 - 9600</td>
<td>Early</td>
</tr>
<tr>
<td>Cody Complex</td>
<td>9600 - 8600</td>
<td>Early</td>
</tr>
<tr>
<td>Lusk Complex</td>
<td>8500-7500</td>
<td>Early to Middle Transition</td>
</tr>
<tr>
<td>Mummy Cave</td>
<td>7500-4500</td>
<td>Middle</td>
</tr>
<tr>
<td>Oxbow</td>
<td>4500 - 4100</td>
<td>Middle</td>
</tr>
<tr>
<td>McKean/Duncan/Hannah</td>
<td>4200 - 3500</td>
<td>Middle</td>
</tr>
<tr>
<td>Pelican Lake</td>
<td>3600 - 2100</td>
<td>Middle</td>
</tr>
<tr>
<td>Besant</td>
<td>2500 - 1350</td>
<td>Middle</td>
</tr>
<tr>
<td>Sonota (Terminal Besant)</td>
<td>1500 - 1350</td>
<td>Middle to Late Transition</td>
</tr>
<tr>
<td>Avonlea</td>
<td>1350 - 1100</td>
<td>Late</td>
</tr>
<tr>
<td>Old Women’s Phase</td>
<td>1100 - 250</td>
<td>Late to European Contact</td>
</tr>
</tbody>
</table>
4.1. The Early Period ~ 13,700 – 7,500 BP

The earliest widely agreed-upon evidence for human presence on the northern plains occurs shortly after deglaciation. These groups typically are associated with the hunting of now-extinct Pleistocene mammals for subsistence. This included mammoth, large species of bison, as well as other species such as the North American camel and horse (Sauchyn 1990; Buchanan and Collard 2007; Hall 2009; Bement and Carter 2010; Peck 2011). The Clovis Phase or culture (13,700-10,000 BP) is identified as the initial occupation (See Table 2). As an archaeological phase, it is defined by a distinctive type of spear point having a diagnostic lanceolate shape with concave base and removal of a central channel flake along its axis. Characteristically this flute does not exceed the half-way mark of the point (Epp and Dyck 1983; Peck 2011). The general view has been that Clovis peoples were big game hunters, focusing upon late Pleistocene megafauna including *bison antiquus* and mammoth. This is largely based on sites in the western United States. As Grayson and Meltzer (2015) suggest, however, Clovis subsistence economy may have been more diverse since only 18% of the 76 Clovis sites they examined incorporated megafauna. The Clovis Phase is widespread across the Americas (Buchanan and Collard 2007) being the first peoples to enter many landscapes. Clovis sites in southern Saskatchewan are limited to a series of surface finds of the distinctive point style with *in situ* occupation sites yet to be identified (Hall 2009).

A variant series of projectile types define the post-Clovis Early Period of the northwestern plains. The earliest are Folsom points dating between ~10,900 and 10,200 BP. Folsom points are derivative of Clovis, smaller in size but commonly continuing with a central flute extending along the length of the point on one or both sides. Folsom economy appears to be centered on bison (Haynes 1993; Bement and Carter 2010; Boyd 2000; Peck 2011). The locations of Folsom sites, some of which occur as surface finds in Saskatchewan, are within areas that would have been treeless fens. These provide ideal locations for bison drives and mass-kill events (Peck 2011; Boyd 2000; Epp and Dyck 1983). Again, unfortunately, *in-situ* Folsom sites in Saskatchewan have yet to be documented.

Paleo-Indian peoples associated with Agate Basin/Hell Gap style projectiles point overlap in time (~ 10,200 – 9600 BP) with those of the Folsom tradition. The Agate Basin
and Hell Gap Phases are potentially two closely related complexes or two components of a single phase. These lanceolate points are found in bison kill sites in Wyoming, such as the Agate Basin site, the Park Hill site, and the Casper site (Frison 1974; Ebell 1980; Dyck 1983; Benders 2010). Morphologically, the two point-types in this phase are similar. The Hell Gap point is a modified Agate Basin point, with the appearance of shoulders as their defining trait (Peck 2011). The shoulders of the Hell Gap point begin to appear in larger Agate Basin points as well.

The subsistence economy associated with Agate Basin and Hell Gap continues to be focused upon bison, with the majority of sites being bison kills (Peck 2011). Possible habitation structures were excavated at the Hell Gap site in the United States. These are defined by post hole features in circular arrangements of ~ 2 m with an additional arc of post holes, as well as a line of post holes through the center (Irwin-Williams et al. 1973). Multicomponent sites associated with this Agate Basin/Hell Gap are more commonly found to the south, however (Peck 2011). Agate Basin points have been recovered from sites in the Qu’Appelle Valley (Millar 1986) albeit an in situ occupation has yet to be recorded.

The sequent Cody Complex (~ 9600 – 8600 BP) is comprised of a slightly varied series of projectile types and includes the Cody knife, a morphologically unique knife-blade. The projectile point types are Scottsbluff, Alberta and Eden points (Peck 2011). Dyck (1983) refers to this phase as the Lanceolate Stemmed Tradition since, characteristically, all of the point types have stems. A coeval projectile type, Milnesand, is without stem or basal constriction, however. The Lanceolate Stemmed Tradition also incorporates Paleoindian groups that concentrated on bison hunting for their primary subsistence strategy. It is speculated that the Cody settlement/subsistence system represents the first cultural manifestations of the highly organized seasonal round characterized by subsequent peoples on the northern plains extending into the Late Period (Peck 2011).

Several transitional projectile points likely indicate the general adoption of the atlatl and dart on the plains. The Lusk complex (~8500 – 7500 BP) includes the Lusk, Frederick, and Boss Hill points (Bubel, McMurchy, and Lloyd 2012). Despite several projectile points falling within the Lusk complex, the set of materials is poorly understood. However, it is generally agreed upon that Lusk follows the Cody complex on
the plains, and is considered to be a transitional point between lanceolate formed spear points, and corner-notched or stemmed dart points (Peck 2011; Irwin – Williams et al. 1973; Bubel, McMurchy and Lloyd 2012).

4.2. The Middle Period ~7,500 – 1,350 BP

The Middle Period is characterized by a transition from spear to atlatl and dart technology as the dominant hunting method for North American Plains cultures. This period of time is characterized by a distinct change in environmental conditions that had direct effects on fauna and flora; by extension, this also affected human subsistence adaptation. The onset of the Middle Period chronology is correlated with the beginning of the Hypsithermal (Altithermal) warming period (Peck 2011; Sheenan 1996). Resulting in drier conditions, this facilitated an expansion of grasslands and the retreat of boreal forests into the north.

By ~4000 BP, climatic conditions became similar to those in modern time (Waters 1992). The environmental shifts during this broad time period included the disappearance of the last vestiges of large Pleistocene mammals and a cultural transition which concentrated on hunting of smaller bison species (*Bison bison*) (Peck 2011). The end of the Middle Period is marked similarly to the end of the Early Period, by a transition in projectile point technology.

The Middle Period is initially defined by the appearance of Mummy Cave dart points (7500-4500 BP), which were first located in Wyoming (Peck 2011) (See Table 2). These represent a series of similar projectile point variations including Bitterroot, Hawken, Albion, and Blackwater points. Atlatl technology and the highly diagnostic dart points characterized by deep side-notches, and squared basal edges, allowed for a longer effective range and velocity when hunting fauna. The dominant Mummy Cave series of projectile points remained consistent until the Oxbow Phase beginning ~4500 BP. Oxbow points (~ 4500–4100 BP) are named after the type site near the town of Oxbow in southern Saskatchewan recorded in 1956 (Peck, 2011).

Following the Mummy Cave Complex, the Oxbow Phase was notable for a change in subsistence economy as well as the lithic technology. The change in subsistence is characterised as a transition from bison-hunting generalists, to bison-
hunting specialists. Oxbow technology and microwear analysis suggest a repeated reworking of projectile points to sharpen edges, resulting in a wide variety in the size of Oxbow points (Epp and Dyck 1983; Peck 2011). Oxbow stands as a dominant material complex of the Northern Plains, manufactured and used by bison hunters for centuries (Dyck 1983). Oxbow sites and general remains of the Oxbow complex that appear in multi-component sites, seem to be ubiquitous in Southern Saskatchewan (Epp and Dyck 1983; Peck 2011). That being said, there are few recorded kill sites associated with this complex, although there are numerous processing sites, and potential habitation sites (Epp and Dyck 1983; Peck 2011). Adams (1975) suggested that the stone circle at ETOp-53 near Alkali Creek is an Oxbow tipi ring, and Quigg (1986) suggests that the stone circle at the Ross Glen site near Medicine Hat, Alberta, is an Oxbow site as well. Bison stalking, grease extraction through stone boiling pits, and a significant increase in cultural features, particularly the presence of fire-broken rock associated with boiling and roasting pits, are well documented (Peck 2011; Boyd 2000; Epp and Dyck 1983). The presence of Oxbow points at the Majorville Medicine Wheel may also mark an initial construction for this ceremonial/ritual complex (Peck 2011; Boyd et al. 2000; Epp and Dyck 1983).

Overlapping the end of the Oxbow Phase at ~4100 BP, and then replacing it, is the McKean Complex, defined by McKean, Duncan, and Hannah points. The McKean complex (~ 4200-3500 BP) is associated with the end of the hypsithermal on the northern plains (Peck 2011). This resulted in an increase of bison populations and, most likely, a related increase in human population. The presence of the McKean Complex is possibly the result of movement of groups from the Great Basin to Wyoming, as the altithermal warming began to lessen on the plains (Epp and Dyck 1983). With this migration, subsistence economy retained generalized hunting and gathering techniques, with a concentration on wild edibles rather than an exclusive focus on bison herds (Epp and Dyck 1983). Interpretations for a greater concentration on plants for subsistence is based on the identification of a significant number of vegetable grinding stones in Wyoming sites (Epp and Dyck 1983). This type of subsistence economy is difficult to substantiate in Saskatchewan since the grinding stone assemblage has not been found further north. McKean points in the northern plains also tend to be shorter and wider than their American counterparts suggesting a cultural variant (Peck 2011; Webster 2004).
By 3500 BP or slightly later, the McKean Complex had disappeared from the plains, and was replaced by a group employing the Pelican Lake projectile point style. The Pelican Lake Complex (~ 3600-2100 BP) is named after Pelican Lake which is located north of Mortlach, Saskatchewan (Epp and Dyck 1983; Peck 2011). The then unique point type was first recognized in occupations of the Mortlach Site in the early 1950s by Wettlaufer (1955). The diagnostic point style is defined by distinct corner notching (Epp and Dyck 1983; Peck 2011). It is particularly widespread throughout the northern plains (Epp and Dyck 1983; Peck 2011). Firmly associated with the use of bison jumps, the Pelican Lake Complex subsistence economy was substantially focused on specialized hunting of bison but with other smaller species exploited as available (Peck 2011; Boyd 2000; Epp and Dyck 1983). Notable for Pelican Lake is a preference for Knife River Flint in their manufacture of stone tools. The Knife River Flint quarries are in northwestern North Dakota, implying the presence of a long-distance exchange network for Pelican Lake (Evilsizer 2016).

The origin and demise of the Pelican complex remains as a point of contention among archaeologists. By 3100 BP, both the Oxbow and McKean Complexes had disappeared from the plains, around the same time the corner-notched Pelican Lake projectile point appeared (Epp and Dyck 1983; Peck 2011). The archaeological succession from Oxbow and McKean to Pelican Lake, thus, is a matter of debate. Peck (2011) believes that Pelican Lake represents an incursion of a new group onto the northern plains, not merely an evolutionary step in technology from Oxbow and McKean.

The end of the Middle Period is marked with numerous projectile point styles that share a broad similarity in form. Some archaeologists believe these points to be unique enough to suggest differences in cultures, either spatially or temporally, defining them as discrete projectile point types within a greater Besant Phase complex (Peck 2011; Hjermstad 1996). The Besant Phase (2500-1350 BP) point types include the Besant point, the Outlook point, Sandy Creek points, Sonota points, and the Samantha point (Peck 2011). The Besant Phase similarly illustrates a preference for Knife River Flint; Sonota points are made almost exclusively from it (Peck 2011; Hjermstad 1996).

Besant Phase material culture is found throughout the northern plains region as far west as the Rocky Mountain continental divide. The spatial distribution of Besant sites is vast, including Wyoming, Montana, the Dakotas, Alberta, Saskatchewan, and
Manitoba (Reeves 1983; Hjermstad 1996; Foreman 2010; Bubel 2014; Varsakis 2006). The oldest sites, however, are within the Middle Missouri, Upper Missouri, and Saskatchewan Basin regions (Foreman 2010, 10,11). The phase was first identified by Wettlaufer (1955) at the Mortlach site in south-central Saskatchewan, and the name Besant is derived from the Besant Valley, in which the Mortlach site is located. Besant subsistence continues to focus on bison but with sophisticated use of corals and pounds (Cloutier 2004). The manufacture and use of ceramic vessels in plains archaeology are first identified with Besant.

The terminal Besant Phase mostly occupies the transitional period between the middle and late periods, often referred to as the Sonota Phase (~ 1500-1350 (Epp and Dyck 1983; Scribe 1997; Vickers 1986: 85). The Sonota Phase is distinguished from the larger Besant Phase as the projectile point morphology features a generally elongated form, and Knife River Flint is used more heavily in lithic manufacturing (Peck 2011, 321).

4.3. The Late Period ~1,350 – 250 BP

Climatic conditions of the Late Period were similar to the modern setting, which is to say, the climate featured a mixture of cool and moist conditions, with warm and dry episodes (Waters 1992; Vance 1991; Daschuk 2009). By ~ 1500 BP environmental stability on the plains had been relatively consistent for a considerable amount of time (Peck 2011). Drought had become infrequent in the years between 1000 and 2000 BP, likely producing abundant floral and faunal resources (Peck 2011; Vance 1991). Lithic technology featured a significant change from the previous time periods as the bow and arrow saw more exclusive use on the plains from its introduction, replacing the atlatl and dart. In addition to this new technology is a continuation of ceramic production, and large-scale communal bison hunting (Peck 2011). The bow and arrow, as a hunting implement, were effective at longer distances and greatly changed hunting strategies during this time period (Peck 2011). Additionally, certain areas to the southeast, such as the Missouri River area in North and South Dakota adopted horticultural practices and a semi-sedentary lifestyle (Epp and Dyck 1983; Peck 2011). There is also evidence of population increases in the plains during this time period and transportation of goods via trade routes (Epp and Dyck 1983; Reeves 1983; Peck 2011).
While the Avonlea point marks the beginning of the Late Period in Alberta as marked by use of bow and arrow, (Epp and Dyck 1983; Peck 2011), the bow and arrow introduction in Saskatchewan actually occurs within the Besant Phase as does the presence of ceramics (See Table 2). By placing the Avonlea complex as the initial Late Period point-complex for Southern Saskatchewan in line with the Alberta sequence (Dyck 1983), I recognize the middle to late transition as occurring within Besant. Unlike Besant points, Avonlea projectiles consist of local materials such as petrified wood, chert, and various fine-grained chalcedonies (Dyck 1983). There are however exotic lithics including the use of Montana Cherts, and occasionally, obsidian. The exotics suggest widespread cultural contacts and trade.

Avonlea associated sites occur throughout the northern plains and are well represented in Saskatchewan. The Gull Lake site in southwestern Saskatchewan is a stratified bison drive that has provided substantial data on communal bison hunting during the Avonlea Phase (Frison 1978, 176). Here, bison were driven through a draw with a steep slope into a natural landform created by a combination of slumping and sloughing, effectively trapping the bison between the slope and ancient hunters. Kehoe (1973) argues that this site is the first communal bison hunting location of this nature; there is substantial evidence to the contrary according to Frison (1978; 1987).

Avonlea ceramics are generally conoidal, featuring three distinct types of surface finishing; net impression, spiral channeled, or smoothed surface of the former two types (Epp and Dyck 1983; Morgan 1979; MacDonald 2014). Ceramics provide an easily recognized indicator for site identifications of the Late Period, and for Avonlea in particular with net-impressed pottery. Morgan (1979) indicated two overlapping types of pottery in their geographical distribution at the Garratt site in Saskatchewan, in that net-impressed and parallel-grooved ceramic sherds were recovered from the site (Peck 2011).

The origin of the Avonlea culture is a matter of speculation. Kehoe (1966) proposed that the Avonlea complex is representative of Athapaskan invaders who spread throughout the plains from the north ~ 1300 BP (Epp and Dyck 1983). This inference was based on the traditional history of Athapaskan peoples, as well as a then supposed absence of pottery from Avonlea and Athapaskan assemblages (Epp and Dyck 1983). However, as the generally accepted date for the Athapaskan dispersal is
~1300 BP, this seems to preclude Avonlea as Athapascan (Epp and Dyck 1987; Peck 2011).

Brumley and Dau (1988) suggest that the Avonlea culture made attempts to prevent bow and arrow technology from being adopted by neighboring groups. This, then, would allow Avonlea to maintain a technical, and competitive advantage (Peck 2011). That notwithstanding, by the middle of the Avonlea complex, neighboring groups had acquired the bow and arrow (Peck 2011: 340, 341). Peck (2011) extends an argument by Brumley and Dau (1988) that Avonlea point quality degradation in the later part of the phase is due to the distribution of the technology outside of originating Avonlea people.

The last major time period began in Saskatchewan with the appearance of small, side-notched projectile points ~ 1150 BP (Epp and Dyck 1983). The late prehistory of southern Saskatchewan is not well-known, primarily due to limited surveys in the area, and with archaeological excavations focusing on earlier sites (Epp and Dyck 1983; Peck 2011). The late side-notch points are identical to those of the Old Women's Phase in Alberta, a complex now extended into southeastern Saskatchewan. The Old Women's Phase begins as early as ~ 1100 BP, with the earliest radiocarbon dates, according to Peck (2011), Reeves (1978), and Morlan (1988), appearing to overlap with the terminal Avonlea and Besant Phases. Old Women's projectile points were first identified, along with distinctive pottery at Old Women's Buffalo Jump near Cayley, Alberta (Peck 2011). Forbis (1962) excavated this site, but it was Reeves (1970) who applied the name as an archaeological phase (Peck 2011). Lithic materials are generally from local sources, using a split-pebble manufacturing technique (Peck 2011). Byrne (1973) redefined the Old Women's Phase by describing diagnostic ceramic technology associated with it (Peck 2011).

Distinctive projectile point variants in the Old Women’s Phase are defined as Prairie and Plains side-notched points. Peck (2011) argues that the Old Women’s Phase points should be reclassified as the “Cayley series” based on a more gradual change in point morphology. Cayley series points are small arrowheads measuring between 1.5 and 3 cm in length (Peck 2011). It is also arguable that Plains Triangular points are, in fact, preforms of points in this phase, and not a distinct projectile point type (Peck 2011).
In addition to projectile points, the Old Women’s Phase is also associated with rock art and Medicine Wheels, denoting elements of spirituality during this time (Peck 2011; Epp and Dyck 1983). Klassen (1995) argues that the presence of rock art is more based on iconography, and contact with the spiritual world, as well as developing narrative information rather than an accurate recording of events as they occurred (Epp and Dyck 1983; Peck 2011). Additionally, the presence of *iniskim* and ammonite remains in Old Woman’ Phase sites further suggests a connection between the phase and ethnographic peoples of the Blackfoot Confederacy. The latter or protohistoric part of the Old Women’s Phase, thus, is the transitional point at which European contact is made. During this period, Old Women’s Phase projectile points and late variant Saskatchewan Basin pottery are found with metallic artifacts such as points, files, and axes, as well as glass beads (Peck 2011; MacDonald 2014; Bubel et al. 2012; Pyszczk 1997). The Saamis camp-site in Alberta featured Old Women’s Phase materials as well as a metal trade point and glass beads.

### 4.4. Summary

People have occupied the Great Plains for the past 13000 years. The archaeological sequence of Saskatchewan and Alberta are closely connected and dependent on stone-tool typology in order to assign a relative chronology (Dyck, Elliot, and Brace 1980). While regional chronologies can differ, the overarching synthesis provides a baseline for both technological development, and dominant lifeways, such as the transition from megafauna to bison hunting, and the appearance of ceremonial evidence. This chapter has identified the primary timeline for the Western Canadian Plains, dominant projectile point types, and the clear transition of technological advancement from the spear, atlatl and dart, and the bow and arrow, and dominant lifeways, delineating the early, middle, and late periods respectively.
Chapter 5.

Heritage Impact Mitigation for the Belle Plain Spur Project

In previous chapters, I have presented background data for the Qu’Appelle Valley of south-central Saskatchewan, including ecological, geomorphological, geological, archaeological, and ethnographic contexts. In this Chapter, I provide a summary of data for three archaeological sites, EdNh-58, EdNh-75, and EdNh-77, which were recorded and investigated during heritage resource impact assessment work for a railway spur-line project crossing the Qu’Appelle Valley from south to north. As identified in project reports, EdNh-58 is interpreted as a late prehistoric kill and processing site; EdNh-75 is identified in the HRIA final report as a late prehistoric kill and processing site; and EdNh-77 represents a late prehistoric surface scatter of lithic materials. Excavations, as required by SHCB mitigation guidelines, were undertaken at the first two while the last had surface remains documented but where site avoidance did not require further work. Additional site/assemblage details beyond those provided here can be accessed in the impact assessment and mitigation reports (Boras et al. 2013; Boras et al. 2016 Boras et al. 2017a; Boras et al. 2017b).

The materials recovered from the Qu’Appelle Valley spur line project represent the use of valley landforms, resources and environmental settings in later prehistory, including the latter part of the Besant Phase, the Avonlea Phase, and the Old Women’s Phase. As I have discussed in Chapter 3, sites occurring on prairie uplands near the break of the slope into the valley are likely to reflect warm season camps whereas valley slope and terrace sites are more likely to be late warm season and early cold season camps (Vickers 1991; Malainey and Sherriff 1996). Valley bottom camps can be hypothesized as primarily, although not exclusively, winter villages (Malainey and Sherriff 1996; Vickers 1991). No in situ valley bottom sites have been recorded in the study area, a result no doubt associated with limited research and heritage resource management work in this zone.

The following summaries for each of the sites incorporate a description of the site locale, the work that was undertaken, the identification and quantification of recovered
artifacts and a discussion of lithic materials, particularly as the latter relates to tool-stone types being employed. The frequent presence of Knife River Flint in these assemblages is significant in that the source quarries for this material are 350 to 400 km south in North Dakota. This material, then, may have been traded for rather than procured directly. Since trade lithics are typically transported in the form of preform materials, rather than nodules (Evilsizer 2016; Root 1992; Root 1997), the nature of lithic debitage, hypothetically, can be used to infer trade versus source collection.

5.1. Site EdNh-58

EdNh-58 is considered as a processing and possible kill site located on a point bar landform of a meandering tributary stream of the Qu’Appelle River. More specifically, the site is located within a coulee system on a small alluvial terrace overlooking the north bank of a seasonal south-flowing tributary channel (Kotowitch 2015) (Figure 2). The coulee systems move water from surrounding lands to the river system below. The Qu’Appelle river and analogous streams are spring fed and are perennial lotic systems. Trees and woody shrubs grow along the bank of the tributary creek, providing valuable fuel resources in addition to wild edibles. All information concerning the material setting of EdNh-58 was obtained from the original heritage assessment report (Boras et al. 2017).

The archaeological assemblage of EdNh-58 has been interpreted as a scatter of faunal and lithic material that, initially, was identified by subsurface testing during a 2013 impact assessment (Boras et al. 2013). The site was recorded as a processing site in which primary and secondary butchering had occurred. Primary butchering, according to Watts (2008, 12) is the removal of sections of a carcass to be further processed, which served as the dominant butchering process at kill sites (Frison and Todd 1987). Secondary butchering, also according to Watts (2008, 13), is the detailed manipulation of the carcass to remove meat and to extract grease and marrow. An occupation layer between 25 and 55 cm deep was identified during testing activities (Boras et al. 2013).
Tests conducted upslope of the tributary creek yielded no additional cultural material, thereby restricting site boundaries to the small landform.

The soil matrix of EdNh-58 is indicative of flood deposits (Boras et al. 2013). Poorly sorted, highly angular gravels near the north end of the site also reflected colluvium or mass wasting events in the area. The colluvial and alluvially deposited sediments are overlain by dark brown chernozemic soils, with a thin presence of humic matter and vegetative root mats, denoting poor soil development and infrequent periods of stability.

After the site had been tested and boundaries were delineated, 11 excavation units of 1 x 1 m size were completed, two in July 2014, three in November 2014 and six
in March 2015 (See Table 3 and Figure 2). The combined assemblage of materials resulted in the location of 2491 bones/ bone fragments, 745 lithic pieces, and 37 pottery sherds (see Table 3) (Boras et al. 2017; Boras et al. 2013).

Table 3. Provenance of artifacts from EdNh-58 by test unit (Boras et al. 2017).

<table>
<thead>
<tr>
<th>Unit</th>
<th>Bone/Bone Fragments</th>
<th>Tools/Tool Fragments</th>
<th>Flakes/ Flake Fragments/ Debitage</th>
<th>Ceramics</th>
<th>other</th>
<th>FBR</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Surface</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>7 brown, 1 purple and 8 pane glass</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ST1</td>
<td>69</td>
<td>1</td>
<td>5</td>
<td>0</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ST2</td>
<td>6</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ST3</td>
<td>1</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>1</td>
<td></td>
<td>core</td>
</tr>
<tr>
<td>ST4</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>2</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>205</td>
<td>5</td>
<td>74</td>
<td>0</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>192</td>
<td>2</td>
<td>39</td>
<td>5</td>
<td>3</td>
<td></td>
<td>shell fragments</td>
</tr>
<tr>
<td>4</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td></td>
<td>long bone fragment</td>
</tr>
<tr>
<td>5</td>
<td>105</td>
<td>7</td>
<td>31</td>
<td>0</td>
<td>8</td>
<td></td>
<td>Unidentifiable projectile point fragment; 1 shell fragment;</td>
</tr>
<tr>
<td>6</td>
<td>348</td>
<td>6</td>
<td>52</td>
<td>0</td>
<td>9</td>
<td></td>
<td>1 granite cobble with evidence of heat-exposure</td>
</tr>
<tr>
<td>7</td>
<td>140</td>
<td>11</td>
<td>103</td>
<td>1</td>
<td>0</td>
<td>7</td>
<td>ceramic sherd</td>
</tr>
<tr>
<td>8</td>
<td>172</td>
<td>9</td>
<td>78</td>
<td>1</td>
<td>1 – shell</td>
<td>5</td>
<td>1 ceramic sherd 1 shell fragment</td>
</tr>
<tr>
<td>9</td>
<td>173</td>
<td>3</td>
<td>73</td>
<td>1</td>
<td>1-shell 1-bubble wrap fragment</td>
<td>7</td>
<td>1 modern ceramic 1 shell fragment 1 bubble wrap fragment</td>
</tr>
</tbody>
</table>
The lithic debitage assemblage is dominated by Swan River Chert, unsourced chert and argillite (See Table 4). The materials were most likely acquired from local sources since they occur in nodular form within glacial deposits in the northern plains (Kooyman 2000; Grasby et al. 2002). Notably 12% (n=89) of the collection has been identified as Knife River Flint, a material that can be sourced to North Dakota and potentially attributed to trade (See Table 4).

Table 4. Provenance of artifacts from EdNh-58 by test unit (Boras et al. 2017).

<table>
<thead>
<tr>
<th>Raw Material Type</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Swan River Chert</td>
<td>209</td>
</tr>
<tr>
<td>Knife River Flint</td>
<td>89</td>
</tr>
<tr>
<td>Petrified Wood</td>
<td>75</td>
</tr>
<tr>
<td>Unsourced Chert</td>
<td>142</td>
</tr>
<tr>
<td>Argillite</td>
<td>119</td>
</tr>
<tr>
<td>Quartzite</td>
<td>37</td>
</tr>
<tr>
<td>Chalcedony</td>
<td>30</td>
</tr>
<tr>
<td>Quartz</td>
<td>15</td>
</tr>
<tr>
<td>Basalt, Feldspar, Granite, Mudstone, Sandstone, Siltstone</td>
<td>29</td>
</tr>
</tbody>
</table>
Table 4. **EdNh-58 Tool Types (Boras et al. 2017).**

<table>
<thead>
<tr>
<th>Tool Type</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Projectile Points and Fragments</td>
<td>13</td>
</tr>
<tr>
<td>Retouched flakes</td>
<td>18</td>
</tr>
<tr>
<td>Preforms</td>
<td>2</td>
</tr>
<tr>
<td>Wedge</td>
<td>8</td>
</tr>
<tr>
<td>Utilized flakes</td>
<td>13</td>
</tr>
<tr>
<td>Biface</td>
<td>6</td>
</tr>
<tr>
<td>Spokeshave</td>
<td>1</td>
</tr>
<tr>
<td>Endscraper</td>
<td>3</td>
</tr>
<tr>
<td>Uniface</td>
<td>1</td>
</tr>
</tbody>
</table>

Table 5. **Lithic reduction phase counts from EdNh-58 (Boras et al. 2017).**

<table>
<thead>
<tr>
<th>Raw Material Type</th>
<th>Primary</th>
<th>Secondary</th>
<th>Tertiary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Swan River Chert</td>
<td>27</td>
<td>56</td>
<td>119</td>
</tr>
<tr>
<td>Knife River Flint</td>
<td>17</td>
<td>27</td>
<td>39</td>
</tr>
<tr>
<td>Silicified Wood</td>
<td>4</td>
<td>32</td>
<td>29</td>
</tr>
<tr>
<td>Chert</td>
<td>12</td>
<td>53</td>
<td>77</td>
</tr>
<tr>
<td>Quartzite</td>
<td>7</td>
<td>2</td>
<td>29</td>
</tr>
<tr>
<td>Chalcedony</td>
<td>3</td>
<td>6</td>
<td>35</td>
</tr>
<tr>
<td>Schist</td>
<td>8</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>Quartz</td>
<td>6</td>
<td>1</td>
<td>10</td>
</tr>
<tr>
<td>Granite</td>
<td>4</td>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>

The lithic debitage assemblage at EdNh-58 is categorized as primary, secondary or tertiary flakes. Primary flakes have retained the majority of cortex on the dorsal face (>50% cortex). Secondary flakes are almost wholly absent of cortex (<50%). Tertiary flakes are those typically removed during initial pressure flaking or secondary retouch. Tertiary flakes, consequently, are small and absent of cortex (Bradbury and Carr 1995; Mauldin and Amick 1989; Prentiss 1998; Shott 2003). Primary and secondary flakes are created during core-reduction activities in stone tool production. EdNh-58 debitage, not surprisingly, illustrates on-site tool manufacturing activities (See Table 6).

Faunal remains recovered from EdNh-58 consist of highly fragmented bone with burnt and calcined specimens found in association with fire-cracked rock (Boras et al. 2017) (See Table 7). The fragmented fauna and burned rock suggest intensive meat/bone/hide processing as dominant site activities. The presence of less valued body parts represented by phalanges suggests the kill took place either on site or nearby. The difficulties of moving a bison carcass intact prior to horse transport would be substantive. EdNh-58, thus, is identified as a kill and butchering site with ease of access to a perennial water source.
Table 6. Faunal remains recovered from EdNh-58.

<table>
<thead>
<tr>
<th>Species</th>
<th>Element</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Bison bison</em></td>
<td>Skull</td>
<td>11</td>
</tr>
<tr>
<td></td>
<td>Hyoid</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Mandible</td>
<td>18</td>
</tr>
<tr>
<td></td>
<td>Teeth</td>
<td>7</td>
</tr>
<tr>
<td></td>
<td>Vertebra (C,T,L)</td>
<td>7</td>
</tr>
<tr>
<td></td>
<td>Humerus</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Radius/ Ulna</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Carpals</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Metatarsal</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>First Phalanx</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>Second Phalanx</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Third Phalanx</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Astragalus</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Ribs</td>
<td>11</td>
</tr>
<tr>
<td></td>
<td>Femur</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Tibia</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Pelvic Girdle</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td><strong>Total Identified:</strong></td>
<td><strong>81</strong></td>
</tr>
</tbody>
</table>

The ceramic assemblage and projectile points serve as a relative dating method, placing the site, temporally, in the Late Period. The ceramics are low-temperature fired earthenware with crushed granitic tempers. Additionally, miniscule voids are present in the fabric indicating small organic tempers. The assemblage includes six rim sherds with the rest being various sized body fragments. Two pieces had a punctate design, which is a common decoration in Saskatchewan Basin ceramics in the Avonlea and Old Women’s Phases (Macdonald 2014; Peck and Ives 2001; Steuber and Huynh 2012). Most of the pottery fragments (26/37) were found concentrated between 10-20 cm below surface in Units 10 and 11 (Boras et al. 2017).
Figure 3 includes the 13 projectile points and point fragments recovered from EdNh-58 (Boras et al. 2013) (See Table 5). Two of these (Nos. 4 and 9, Figure 3) are identified in the final project report as Avonlea types based on the finely flaked production of blade edges, thin pressure flaking, and convex convergence of the blades at the tip. Avonlea point blades are convex as they meet at the tip. In one case (No. 9), the presence of shallow side-notches also is indicative of the Avonlea type (Peck 2011; Kooyman 2000; Bubel et al. 2012; Epp and Dyck 1983). Five others (Nos. 1, 5, 6, 8, and 11) are identified as Late Period Old Women’s Phase forms (Boras et al. 2013). This is based on the orientation and depth of the side-notching, the characteristic broadness of the body, and convex-to-straight convergence of the blades (Peck 2011; Kooyman 2000; Bubel et al. 2012; Epp and Dyck 1983; Foor 1985). Finally, the only other diagnostic point (No.10) is a Late Period Plains Triangular type also characteristic of the Old Women’s Phase. Dawe (1986) presents a possibility that the triangular type is a preform where notches have yet to be applied. While the remaining five specimens are fragments and cannot accurately be identified to a specific phase, they generally are in keeping with the later prehistoric types as defined (Boras et al. 2013).
Avonlea and Old Women’s Phase projectile points, in part, have a temporal overlap on the northern plains. They also are taken to be associated with different group identities, suggesting eastern and western populations respectively (Peck 2011; Forbis 1962; Cloutier 2004; Krahulic 2016). Having both occurring within a single assemblage is notable and difficult to explain within current frameworks for interpretation. It is likely, however, that despite the interpretation of EdNh-58 as a single occupation, that the site was used multiple times. This is most likely given the presence of diagnostic projectile points from two distinct tool traditions, and radiometric dates.

Table 7. AMS radiocarbon dates on faunal remains recovered from EdNh-58. Dates were measured at Beta Analytic. Dates are calibrated with One sigma (68.2%) calibrations using the High Probability Density Range Method (Bronk Ramsay 2009) and the INTCAL13 calibration curve (Reimer et al. 2013) Beta 457829 was derived from tibia collagen, and Beta 457830 was derived from humerus collagen.

<table>
<thead>
<tr>
<th>Lab Number</th>
<th>Unit</th>
<th>Depth</th>
<th>Context</th>
<th>(^{14}\text{C Age})</th>
<th>Cal BP (68.2%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beta-457829</td>
<td>11</td>
<td>27 cm</td>
<td>Paleosol</td>
<td>1190 ± 30</td>
<td>1157-1052</td>
</tr>
<tr>
<td>Beta-457830</td>
<td>6</td>
<td>55 cm</td>
<td>Paleosol base</td>
<td>1360 ± 30</td>
<td>1304-1274</td>
</tr>
</tbody>
</table>

Two faunal samples from the site were submitted to Beta Analytic for radiocarbon dating. These returned dates of 1190 ± 30 BP (Beta 457829) and 1360 ± 30 BP (Beta 457830). One sigma (68.2%) calibrations using the High Probability Density Range Method (Bronk Ramsay 2009) and the INTCAL13 calibration curve (Reimer et al. 2013) give calibrated ranges of 1157-1052 BP and 1304-1274 BP. These dates correspond with the mid to late Avonlea Phase (Beta 457830) and the earliest part of the Old Women’s Phase (Beta 457829). Both, then, are correlative with the projectile point styles as described (See Table 8).

The results of the excavation indicate that EdNh-58 is a small, Late Period kill and processing site. Avonlea and Old Women’s Phase point fragments and pottery coincide with the calibrated dating range (Boras et al. 2017). The artifact accumulation is in the southeast area of the site, suggesting a single occupation based on the concentration and depth of subsurface material. The lack of discernible features, subsurface distribution and possible movement of the material due to geomorphological evolution and post-depositional processes, however, do not preclude the possibility that the site was visited more than once. The two radiocarbon dates appear to be minimally
separated by 50 years, and potentially indicate separate Avonlea and early Old Women’s Phase occupations (Boras et al. 2017; Peck 2011). The latter is thought to be a Late Period manifestation of Blackfoot people (Peck 2011; Meyer 1988; Reeves 1993). Avonlea, however, is earlier and not typically considered to be a precursor to Blackfoot culture. Rather, Avonlea material is more commonly seen as signaling an independent cultural entry onto the northern plains from the eastern woodlands with its arrival, coexisting and potentially merging populations or ideas with terminal Besant populations (Foreman 2010: 172; Peck 2011, 354-347; Meyer and Walde 2009; Walde and Evans 2014).

5.2. Site EdNh-75

EdNh-75 is identified as a butchering site located on the western slope of a tributary channel draining north-to-south into the Qu'Appelle Valley. The initial assessment of the site area in 2015 interpreted it as a multi-component manufacturing, kill, and processing site. Greater scrutiny of available data, however, suggests this to be incorrect, in that the site is more likely to be a single component occupation. The following review of this site is drawn from the heritage assessment report submitted to Saskatchewan Heritage in 2017 (Boras et al. 2017).

EdNh-75 is located on a remnant terrace at the bottom of a deeply incised and steeply sided coulee that drains from northwest to southeast and empties into a primary north-to-south draining coulee approximately 150 m southeast. The terrace was formed as a fluvially modified surface of a slump block overlain by colluvial sediments, which included faunal remains and highly angular gravels. Coulees along the north slope of the valley in this area tend to have dense vegetation including large poplars, tall berry bushes, woody brush, and tall grasses. Coulees often have springs, resulting in small run-off streams through much of the warm season. EdNh-75 is located adjacent to this type of seasonal drainage, the stream potentially providing water for processing a kill. At the time of occupation, the climate likely would have been more arid (Epp and Dyck 1983) limiting vegetation growth across the terrace and facilitating greater erosion.

EdNh-75 included 20 shovel tests (not plotted), and 62 controlled excavation units in the delineated site area (Figure 4). Shovel tests were used to identify site perimeters and the locations of artifact concentrations in order to accurately place
excavation units to acquire the largest sample possible. The site was scheduled to be destroyed by the development project, and therefore, a mitigation program with systematic excavation was required by the provincial regulator. The initial site recording took place in the summer of 2013. Units 1-16 were excavated in the Fall of 2014, and units 17-62 were completed in the winter of 2015. Units typically were 1 m$^2$ in size, although several (34, 37-40) were fitted to unexcavated spaces within the concentrated excavation area.

The terrace landform most likely is a rotational block slump. The upper level, from just beneath the surface to 25 cm includes discernible A and B horizons over consolidated sediments and fines dominant in clay. Beneath the fines layer, a dark paleosol was observed extending from depths of 25-35 cm to 50 cm from the surface. The buried horizon was associated with evidence of an occupation reflected by numerous bison bones and evidence of kill and processing activities, stone tools, the remnants of fire features and boiling pits. The latter include burned and fractured bone as well as fire-broken rock. Stone tool manufacture is represented by concentrations of
lithic flakes, including a small, closely-grouped cluster associated with a single tool-making event. Table 9 provides the contents by type of each excavation unit.

Table 8. **Unit Contents from EdNh-75**

<table>
<thead>
<tr>
<th>Unit</th>
<th>Bone/ Bone Fragments</th>
<th>Tools/ Tool Fragments</th>
<th>Flakes/ Flake Fragments/ Debitage</th>
<th>Ceramics</th>
<th>Other</th>
<th>FBR</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>412</td>
<td>2</td>
<td>66</td>
<td>0</td>
<td>N/A</td>
<td>102</td>
<td>Both tools are biface fragments of petrified wood</td>
</tr>
<tr>
<td>2</td>
<td>358</td>
<td>1</td>
<td>473</td>
<td>1</td>
<td>23: Yellow Ochre</td>
<td>32</td>
<td>Yellow Ochre found in a concentration</td>
</tr>
<tr>
<td>3</td>
<td>211</td>
<td>2</td>
<td>25</td>
<td>8</td>
<td></td>
<td></td>
<td>Tools include a retouched flake and an endscraper</td>
</tr>
<tr>
<td>4</td>
<td>578</td>
<td>0</td>
<td>35</td>
<td>17</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>234</td>
<td>1</td>
<td>5</td>
<td>2</td>
<td>Freshwater Shell Frags</td>
<td>16</td>
<td>Tool is a retouched flake</td>
</tr>
<tr>
<td>6</td>
<td>652</td>
<td>10</td>
<td>5</td>
<td>5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>393</td>
<td>13</td>
<td>16</td>
<td>27</td>
<td>Core</td>
<td>29</td>
<td>Core is made from quartzite</td>
</tr>
<tr>
<td>8</td>
<td>838</td>
<td>14</td>
<td>8</td>
<td>18</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>482</td>
<td>11</td>
<td>8</td>
<td>18</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>1054</td>
<td>27</td>
<td>46</td>
<td>42</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>758</td>
<td>10</td>
<td>42</td>
<td>42</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>280</td>
<td>12</td>
<td>8</td>
<td>8</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>937</td>
<td>4</td>
<td>11</td>
<td>11</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>778</td>
<td>2</td>
<td>83</td>
<td>34</td>
<td></td>
<td></td>
<td>Tools are a Chert Plains Side-Notched point, and a chert utilized flake</td>
</tr>
<tr>
<td>15</td>
<td>1880</td>
<td>1</td>
<td>8</td>
<td>25</td>
<td></td>
<td></td>
<td>Tool is a chert Endscraper</td>
</tr>
<tr>
<td>16</td>
<td>288</td>
<td>6</td>
<td>65</td>
<td>36</td>
<td></td>
<td></td>
<td>Tools include a biface knife, projectile point, wedge, two endscrapers, and a polished bone tool</td>
</tr>
<tr>
<td>17</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>19</td>
<td></td>
<td></td>
<td></td>
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<td>Tools include 12 retouched flakes, 5 endscrapers, 7 utilized flakes, 1 biface and 1 uniface</td>
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In total, 54 stone tools were recovered from EdNh-75. The tool types and their frequencies are provided in Table 11. The projectile points recovered from EdNh-75 are exclusively associated with the Old Women’s Phase type (Figure 5) (Boras et al. 2015). Four (Nos. 1,2,5, 6 in Figure 5) of these have typical side notching and straight-to-convex orientation of the blades. The remaining two (Nos. 3 and 4 in Figure 5) are somewhat reminiscent of Avonlea points, although the absence of notching prevents a diagnostic determination.
Table 9. Lithic Materials from EdNh-75

<table>
<thead>
<tr>
<th>Raw Material Type</th>
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<td>577</td>
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<tr>
<td>Knife River Flint</td>
<td>237</td>
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<tr>
<td>Silicified Wood</td>
<td>210</td>
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<tr>
<td>Chert</td>
<td>91</td>
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<tr>
<td>Quartzite</td>
<td>25</td>
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<tr>
<td>Chalcedony</td>
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<tr>
<td>Schist</td>
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<tr>
<td>Granite</td>
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<td>Silicified Siltstone</td>
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Table 10. Tool Types from EdNh-75

<table>
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<th>Tool Type</th>
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<tr>
<td>Projectile Points and Fragments</td>
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<td>Retouched flakes</td>
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<td>Preforms</td>
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<td>Wedge</td>
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<td>Endscraper</td>
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<tr>
<td>Uniface</td>
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</table>

Figure 5. Old Women’s Phase Projectile Points from EdNh-75
The scraping tools and bifaces present at EdNh-75 are commonly associated with butchering and processing activities (Kooyman 2000) (See Table 11). An abundance of highly fragmented bone, some of which are burnt or calcined, and fire-broken rock, suggests grease processing activities.

The lithic debitage of the site is dominated by Swan River Chert, followed by Knife River Flint. With the majority of Knife River Flint specimens being tertiary flakes, it again is hypothesized that preforms were being traded for and manufactured into other artifacts on-site (See Tables 11 and 12).

**Table 11. Lithic Reduction Phases from EdNh-75**

<table>
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<td>446</td>
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<td>Knife River Flint</td>
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<td>36</td>
<td>140</td>
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<tr>
<td>Silicified Wood</td>
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<td>51</td>
<td>86</td>
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<td>Chert</td>
<td>15</td>
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<td>Quartzite</td>
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<td>Silicified Siltstone</td>
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The faunal assemblage recovered from EdNh-75 includes 14,555 specimens. Of these, 13,306 bones were not identifiable to species, albeit most were considered robust enough to belong to a large mammal (See Table 13). The remaining 1249 bones are identified as *Bison bison* including many that are highly fragmented and burned. One bone tool was recovered from the occupation layer. The bone tool has use-wear on one end although the function of this tool is unknown.
### Table 12. Faunal Identifications from EdNh-75.

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Three faunal samples were submitted to Beta Analytic for radiometric dating. The dates are all but identical with a calibrated range of 1015-1165 BP. The dates correspond with the early part of the Old Women’s Phase (See Table 14). The dated
faunal samples were selected from separate units across the landform. This strongly suggests a single period of short term occupation of the site. Additionally, and as noted, projectile points correspond with the Old Women’s Phase, with no other Late Period type present.

**Table 13. AMS radiocarbon dates on faunal remains recovered from EdNh-75.**

Dates were measured at Beta Analytic. Dates are calibrated with IntCAL13 (Reimer et al. 2013) to 68.2% probability. Beta-459913 was derived from a lower molar tooth collagen, Beta-459914 was derived from humerus collagen, and Beta-459915 was derived from femur collagen (Boras et al., 2015).

<table>
<thead>
<tr>
<th>Lab Number</th>
<th>Unit</th>
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<th>Context</th>
<th>(^{14})C Age</th>
<th>Cal BP (95.4%)</th>
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<tr>
<td>Beta-459913:</td>
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<tr>
<td>Beta-459914</td>
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<td>30 cm</td>
<td>Paleosol base</td>
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<td>1015-1155</td>
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<tr>
<td>Beta-459915</td>
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<td>25</td>
<td>Paleosol</td>
<td>940 ± 30</td>
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EdNh-75 is a Late Period kill and processing site. This interpretation is based on Old Women’s Phase projectile points, radiocarbon dates as well as multiple butchering tools and an abundant but fragmentary faunal assemblage of bison bone. A large number of tertiary flakes of Knife River Flint suggests trade with groups having access to the North Dakota quarries (Evilsizer 2016; Gregg 1987; Clark 1982; Root 1992). Butchering tools from the site include side and endscrapers, bifaces, and knives (Crabtree 1972; Brink 2008).

**5.3. Site EdNh-77**

Systematic excavations were not undertaken at EdNh-77 as the site was to be avoided during the development project. Site boundaries and contents were documented through shovel testing however (See Table 15 and Figure 6). Materials collected from the surface and shovel tests were relatively abundant. Diagnostic projectile points include two Plains Side Notch point fragments and one Besant Phase point fragment. Notwithstanding the lack of controlled excavation, there are general inferences that can be made concerning EdNh-77.

EdNh-77 occurs on a perched or cliff-top dune overlooking the Qu’Appelle Valley with broad views to the south, east, and west. The northern boundary of the site
overlooks the tributary channel containing EdNh-58 and EdNh-75. A thinning of the aeolian deposits away from the break in slope at EdNh-77 has potentially impacted artifact distribution through deflation.

![Figure 6. EdNh-77 Positive Shovel Test Distribution Map (Boras, Mirau, Kobes 2016, 63).](image)

There is a general absence of fragmented and burned bone at EdNh-77 suggesting limited if any faunal processing here. EdNh-77 is ~35 m above than the Qu'Appelle River Valley bottom (See Figure 6). This position allows for a largely unencumbered view of the surrounding river valley. It is probable that EdNh-77 served as a lookout position for hunting groups operating within the valley. The manufacture and maintenance of stone tools required for hunting activities, therefore, could account for the lithic debitage being recovered.
Table 14. Shovel test contents from EdNh-77

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<th>Unit</th>
<th>Bone/ Bone Fragments</th>
<th>Tools/ Tool Fragments</th>
<th>Flakes/ Flake Fragments/ Debitage</th>
<th>Ceramics</th>
<th>other</th>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>L7</td>
<td>4</td>
<td></td>
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<td></td>
<td></td>
<td></td>
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<td>L8</td>
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<td>L9</td>
<td>3</td>
<td></td>
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<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>KD-6</td>
<td>4</td>
<td>1 Core Fragment</td>
<td></td>
<td></td>
<td></td>
<td>Heated Swan River Chert core fragment</td>
<td></td>
</tr>
<tr>
<td>L40</td>
<td>1</td>
<td></td>
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</tr>
<tr>
<td>L46</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>KD-8</td>
<td>1</td>
<td></td>
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<tr>
<td>KD-5</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>KD-4</td>
<td>1</td>
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<tr>
<td>KD-9</td>
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<td>L45</td>
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<td>L30</td>
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<td>KD-10</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Original Deep test</td>
<td>21</td>
<td>16</td>
<td>1 Core Fragment</td>
<td></td>
<td></td>
<td>Quartzite core fragment</td>
<td></td>
</tr>
<tr>
<td>TOTAL</td>
<td>41</td>
<td>10</td>
<td>561</td>
<td>8 Core Frags</td>
<td>26</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

EdNh-77 was interpreted as a large “sub-surface scatter” through the initial impact assessment. This blanket term is often used in Saskatchewan HRM, and refers to a site where no observable pattern is present in artifact distribution or stratigraphic context. Typically, a “sub-surface scatter” has not been excavated with controlled units, and patterning has yet to be identified. It is possible that “sub-surface scatter” sites could be excavated, as re-assigned with a more definitive site utility. The site assemblage largely contains lithic debitage dominated by tertiary flakes with a few cores and primary reduction flakes (See Table 18). Three projectile point basal fragments are present, two being classified as a Plains Side-Notched type and the other as a terminal Besant Phase point (Table 17, Figures 7 and 8). Other tools/tool fragments include five biface fragments, one scraper, a probable preform and the tip of a point.
Figure 7. Projectile point fragments recovered from EdNh-77. Both fragments were considered to belong to Old Women’s Phase side-notched points in the HRIA.

Figure 8. Compilation image of projectile point fragments recovered from EdNh-77 (Boras et al. 2015). The HRIA listed these as latter Besant point fragments.
Lithic material at EdNh-77, with the exception of Knife River Flint, is locally sourced. All materials excavated from shovel tests were recovered from aeolian deposited sands, with the depth of specimens varying from ca. 5 cm to ca. 75 cm below surface. (Boras, Mirau, Kobes 2016). Archaeological materials could not be associated with a buried soil horizon or stable surface. However, a discontinuous and poorly defined dark horizon, possibly an underdeveloped palaeosol was observed in some tests at around 40 cm. The limited faunal assemblage consisted of 41 bones, all of which are highly fragmented and without identifiable specimens. The distribution of material in the site tends to become less deeply buried from west to east, albeit with some exceptions (Boras, Mirau, Kobes 2016).

Table 15. Lithic Materials from EdNh-77

<table>
<thead>
<tr>
<th>Raw Material Type</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Swan River Chert</td>
<td>292</td>
</tr>
<tr>
<td>Knife River Flint</td>
<td>92</td>
</tr>
<tr>
<td>Unsourced Chert</td>
<td>91</td>
</tr>
<tr>
<td>Quartzite</td>
<td>58</td>
</tr>
<tr>
<td>Gneiss</td>
<td>37</td>
</tr>
<tr>
<td>Silicified wood</td>
<td>7</td>
</tr>
<tr>
<td>Quartz</td>
<td>13</td>
</tr>
<tr>
<td>Montana Chert</td>
<td>2</td>
</tr>
<tr>
<td>Dolomitic Limestone</td>
<td>5</td>
</tr>
<tr>
<td>Chalcedony</td>
<td>6</td>
</tr>
<tr>
<td>Slate</td>
<td>2</td>
</tr>
</tbody>
</table>

Table 16. Tool Types from EdNh-77

<table>
<thead>
<tr>
<th>Tool Type</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Projectile Points and Fragments</td>
<td>4</td>
</tr>
<tr>
<td>Thumbnail Scraper</td>
<td>1</td>
</tr>
<tr>
<td>Preforms</td>
<td>1</td>
</tr>
<tr>
<td>Biface</td>
<td>4</td>
</tr>
</tbody>
</table>
Of the four projectile points recovered from EdNh-77, only two were identified as diagnostic in the final report (Boras, Mirau, Kobes 2016) (See Figures 7 and 8). The diagnostic projectile points recovered seemingly represent different phases, possibly indicating more than one occupation (Boras, Mirau, Kobes 2016). A basally thinned, side-notched projectile point base is considered to belong to the Old Women’s Phase (Boras, Mirau, Kobes 2016). As the base features square shoulders and deeply incised, symmetrical notching, it is classified as a Plains Side-Notched type. The second diagnostic point seems to be a terminal Besant point characteristic of the transition period between Besant and Avonlea Phases. These points are characterized by short, broad form and shallow notching (Peck 2011; Epp and Dyck 1983; Bubel, McMurchy, and Lloyd 2012).

EdNh-77 has an extensive distribution of lithic materials recovered from various depths between 5 cm and 75 cm below the current surface (Boras, Mirau, Kobes 2016). This assemblage is concentrated along the break and slope, and immediately to the western back of the landform. Most likely this location served as a lookout position for groups in the Qu’Appelle River area, monitoring bison migrations into the valley during the late summer-to-early fall transition as surface waters began to dissipate. The vertical distribution of materials in the site and the absence of occupational horizons could indicate repeated use. Although diagnostic materials are limited, and radiocarbon dates were not acquired, projectile point types indicate Late Period occupations.
5.4. Summary

The three sites in the Qu’Appelle Valley have diagnostic artifact types and, in two, radiocarbon dates indicative of Avonlea and Old Women’s Phases. A fragmentary Besant point also was recovered from EdNh-77. Data from these sites facilitate an interpretation of site function, occupational timeframe, and site context. The excavations at EdNh-58 and 75 demonstrated artifact accumulations and distinct occupational horizons in the sediment profile. The assemblage recovered from EdNh-77 included materials recovered from varying depths without evidence for a discrete occupation zone but potentially suggesting repeated use.

The excavations at EdNh-58 and 75 demonstrated artifact accumulations and distinct occupational horizons in the sediment profile. The assemblage recovered from EdNh-77 included materials recovered from varying depths without evidence for a discrete occupation zone but potentially suggesting repeated use.

The dominance of tertiary flakes from the three sites indicates lithic manufacture or a degree of tool maintenance taking place at these locations (See Tables 4, 6, 10, 12, 16, and 18). Within these assemblages, Knife River Flint debitage is almost exclusively tertiary in its reduction stage (See Tables 4, 6, 10, 12, 16, and 18). As discussed, Knife River Flint was probably acquired through trade rather than source acquisition (Root 1997; Evilsizer 2016).

As discussed in Chapter 4, the location of archaeological sites in relation to the surrounding area can aid in determining the seasonality of occupation. As these sites are on landforms near, but not on prairie-level, it is possible that the occupation occurred in either the late summer or early fall, when groups would be entering the valley. Based on the descriptions of land-use proposed by Vickers (1991), it is unlikely that these sites were occupied in cold weather months.

The two kill sites were likely occupied in the fall, given the juvenile bone recovered from the site, as well as the position of the site in relation to the river valley. The presence of juvenile bison remains at the site can suggest that the individual was hunted in the fall, as bison are most-often calved in the early-spring (Peck 2001; McDonald 2016). As Vickers (1991) indicates, the lack of surface water in fall months not only forced migratory bison into areas with perennial water sources, but also allowed for summer bands to occupy river valley rims to hunt bison (Vickers 1991:64; Morgan 1979). The position of EdNh-77 on a high landform sheltered from western winds and overlooking the valley seemingly supports a summer-fall transition for occupation as bison entered the valley in search of water.
Chapter 6.

**Sites, Gray Literature, and Broader Archaeological Context for the Qu’Appelle River Study**

Heritage impact assessment assessments, mitigation reports, and associated documentation generated by development projects are most often referred to as gray literature. They are gray because, as a product of the private sector in compliance with regulatory requirements, they are limited in distribution, difficult to access, or project results may intentionally be under restricted use by the developer. In most cases, the recovered/recorded data rarely see the light of day for publication, or for integration into larger synthetic studies. The interpretability and usefulness of the gray literature also depend on several factors. Critical in this context is the nature of the project being undertaken.

Heritage assessments of development projects can occur at different levels of investigation including overviews, field-level impact assessments and follow up mitigation projects involving a variety of different activities from monitoring of impacts to large scale site investigations. Overview assessments are concerned with generally determining the archaeological potential of a development footprint, gaps in knowledge of the area, and determining appropriate methods of study should the work be undertaken (Germann and Epp 1991, 419). Field-level impact assessments are designed to acquire the largest data set possible to gain an accurate understanding of heritage resources in a project area and the impacts the development will have. These types of studies are implemented through pedestrian survey, remote sensing, shovel-probing and test excavations (Germann and Epp 1991, 419). Spatial parameters and other limitations of even these detailed studies are based upon regulatory requirement, the specific development project footprints, and developer restrictions. Following an initial assessment of a development project, mitigation may be required. These types of projects are undertaken to alleviate, prevent or compensate for adverse impacts to heritage resources and result in a range of outcomes from avoidance to excavation (Germann and Epp 1991, 419).
Regardless of the scale of project or approach used to assess or mitigate archaeological resources during development projects, the gray literature incorporates a diverse array of site forms, assessment reports, mitigation reports, and monitoring reports in which archaeological data are integrated. These are submitted and subsequently reviewed and retained by the appropriate regulatory body. For Saskatchewan, as most provinces in Canada, this has created a substantial database and archive held by the Saskatchewan Heritage Conservation Branch (SHCB). In the previous chapter, I reviewed in detail the data recovered from reports related to an impact assessment and mitigation project for the potash mine railway spur line development. In this chapter I compile additional data from the gray literature for the study area, having reviewed a variety of heritage-related reports from which site data were extracted. These data provide additional context for a synthesis of prehistoric land-use in the Qu’Appelle Valley to be presented in Chapter 7.

6.1. Accessing and Using the Gray Literature for the Qu’Appelle Valley

Acquiring gray literature required my submission of a request to the SHCB, outlining my purpose and need. As HRIA reports include project details and information that can be proprietary, the SHCB issued approval after reviewing the contents, scope, and goals of this study. The gray literature often includes development project details and evidence concerning the destruction of archaeological sites, which is generally restricted for access. I requested copies of all site records and heritage impact assessment or related reports for the study area. Defined previously, this encompasses a 194 km² section of the Qu’Appelle River Valley channel. This resulted in the acquisition of heritage clearance letters, HRIA interim submission reports, HRIA final reports as well as site inventory forms.

SHCB maintains minimum guidelines for reporting upon impact assessment or mitigation projects. That being said, the quality of reports and the information therein can be inconsistent. I should also note that some reports were not available for further study due to incomplete or abandoned projects, as well as permitted studies of sites that had been revisited, and not researched further (SHCB 2017, personal communication). As well there are some projects where reports have yet to be submitted for review to the
provincial regulator. These types of problems inhibit the full utility of the gray literature in understanding the archaeological record of any given area.

The type of development projects that trigger archaeological assessments varies, including oil and gas development, roads, subdivisions, rail lines, and electrical transmission lines (Appendix A). Areas examined in an impact assessment are almost always limited to development boundaries providing an assortment of survey samples from narrow transects to large expansive areas. Typically, the more destructive the development project, the more intensive heritage assessments will be. A detailed assessment, including test excavation or shovel testing of sites, is not always necessary as avoidance of sites is commonplace in HRM.

Few comprehensive studies have been carried out in the Qu’Appelle River valley to generate a regional synthesis. In my acquisition of SHCB documents however was an unpublished, and non-permitted report produced in 1986 by James Millar that was unknown to me for much of this study. The project was funded by the Archaeological Resource Management Section of the Saskatchewan Department of Culture (Millar 1986, 1). The product of this study was a comprehensive overview of the archaeological site inventory of the Qu’Appelle River Valley with the specific objective being the development of a land-classification system to determine the potential for archaeological sites (Millar 1986, 1).

The study area included 51,800 km² with 76 NTS map sheets covering the full extent of the area (Millar 1986, 15). For this, a total of 369 sites were noted present, albeit there was a widespread and variable distribution (Millar 1986, 15). For example, of the 76 map sheets, 19 had no recorded sites, and avocational archaeologists recorded 30 sites without inspection by Branch personnel or other professionals (Millar 1986, 30-35). Over 75% of Millar’s sites were located on prairie upland, and the majority of these had been disturbed by cultivation (Millar 1986, 21). Millar was able to position 138 sites into a regional chronology largely through the presence of diagnostic projectile points. His chronology spans the Paleo-Indian Period into the Historic Period. This includes Agate Basin (n=7), McKean (n=14), Duncan (n=4) Hanna (n=3), Oxbow (n=22), Besant (n=15), Pelican Lake (n=7), Avonlea (n=7) and Old Women’s (n=59) phases. While Millar was able to classify sites by landform type, as was required in project objectives, he (1986, 31) emphasizes the substantial limitations of using site records and reports to
derive an accurate dataset. If nothing else, the Millar report illustrates the significance of the Qu’Appelle River and environs to people in the past but also the dire need for a comprehensive research program in the future.

6.2. Sites in the Qu’Appelle River Study Area

For my study area specifically, I was able to acquire documentation for 118 archaeological sites. Notably, 100 of these sites were recorded through impact assessment work for various types of development. Avocational archaeologists, collectors or other types of observers have reported the remainder. Recorded site data, including Borden designation, site type, the year of recording, current status and landform context are incorporated as Appendix A.

Of the 100 sites recorded through impact assessment, 50 had some degree of assessment minimally with shovel tests being dug. The remainder had no investigation beyond documentation of surface features or artifacts. Only nine sites were systematically excavated. Avoidance is often viewed as the least costly option by developers. In the study area, 53 of the 100 HRIA recorded sites were avoided by development. Additionally, 42 sites were classified as disturbed, and 23 were reported as destroyed. Disturbed sites can be classified as such through a variety of reasons from natural processes, to agricultural plowing, to land development project impacts.

Sites discussed in Chapter 5 were to be destroyed by development leading to their excavation. In each of these cases, a more detailed data set was acquired for site interpretation. Some sites that cannot be avoided also may be released from further consideration if their archaeological potential is illustrated to be low, or where they already are heavily disturbed. Of the sites recorded during impact assessments, for example, 23 were destroyed by development while only nine, including those described in Chapter 5, had excavations carried out. Of the other excavated sites two, EdNh-1 and EdNh-7 were projects undertaken by avocational archaeologists. In the case of the former 4500 plus artifacts, including diagnostic materials from the Oxbow, McKean, Duncan, Hanna, Pelican Lake, Besant, Avonlea, and Old Women’s phases, as well as Historic artifacts, were recovered (see Appendix A). Unfortunately, neither the project nor materials have been reported upon (Kehoe 1966, Golly 2014). Development impacts prompted the remaining excavations. These include two burials (EdNh-62 and EdNi-7),
one with two stone circles (EdNh 16) and the remaining two (EdNh-68, EdNh-76) being buried occupations. None of these have a chronological placement though Walker (2013) suggests the burial EdNh-62 dates in the interval 2000-3000 BP.

The landforms and environment in the Qu’Appelle Valley study area are defined in earlier chapters. The recorded archaeological site inventory is widely distributed across valley slopes, terraces, ridges, and slump blocks as well as on the valley rim and associated prairie. Only two sites have been recorded in the valley bottomlands, which are both present in cultivated fields. The limited number on this landform may in part be due to the absence of development here and the paucity of HRIA related projects. In Figures 9 to 11, I have plotted site locations on Google Earth Satellite imagery to show site distributions. These illustrate a widespread dispersion across landforms as noted above, but also the skewed nature of the data set from which to interpret settlement pattern. In this respect, site distributions are a consequence of project development and not derived from a predetermined sampling strategy.

Figure 9. Sites in the central study area (Map Data © 2018 Google). Recorded sites represented here are clustered around existing development, with large voids of undisturbed terrain.
Figure 10. Sites in the western study area (Map Data © 2018 Google). Again, recorded sites are clustered around existing development with large voids between.

Figure 11. Sites in the eastern study area (Map Data © 2018 Google).
Beyond the skewed nature of the site sample in terms of landform usage, the most significant impediment to an interpretation of Qu’Appelle Valley prehistory is the general absence of chronological control for the data set. Only 23 of the sites have been assigned a chronological placement, and of those, 15 are identified as Late Period. In spite of these problems for interpretation, some general points can be made regarding overall land-use and site types.

### 6.3. Landform Sensitivity

Germann and Epp (1991) and Millar (1986) have emphasized the importance of landform identifications for predictive modelling of site distributions, and assignment of heritage resource values for landform types. For the South Saskatchewan River Basin, Germann and Epp (1991, 410) assigned four primary archaeological sensitivity zones with projected uses. The probability of those zones to contain archaeological materials through existing records was then assessed. The four zones are:

1. **Valley Complex**: Primary habitation area for large social groups involved in communal hunting.
2. **Sand Hills**: Primary fall-to-spring habitation and hunting area.
3. **Moderate to Strongly Rolling Areas**: Short term occupation sites, single occupations or limited activity camps.
4. **Flat to Gently Rolling Areas**: Not a habitation focus, primary short-term use by groups in transit or small hunting parties.

The reliability of predictive models is dependent upon the data on which the model is based (Germann and Epp 1991, 415). However, the use of predictive models in conservation efforts, particularly those used in HRM require frequent updates based on gray literature, as well as the consistency of those data. A comprehensive understanding of geomorphology, geomorphological processes, and the capabilities of those processes to affect archaeological sites are crucial to the development of predictive models, and the usefulness of those models in pre-development planning. A concentration on site position regarding specific landforms can suggest a higher heritage resource value on some landforms relative to others.

Site locations in the Qu’Appelle Valley are as variable as the valley landscape itself. Habitation, manufacturing, ceremonial, burial, kill, and processing sites are all
present throughout the valley (See Appendix A; Millar 1986). Observing site positions through satellite imagery (See Figures 9, 10, and 11), show concentrations and voids in site distributions. Additionally, 45% are not researched further than to plan avoidance. Recorded site form data allows us to categorize these sites relative to three major landscapes - prairie upland, valley walls and valley bottomlands. Ten sub-categories of these landforms can also be identified.

The landforms comprising prairie uplands are variable, exposed, and often lack available water on the plains. Hummocky moraine is a strongly undulating surface of glacial moraine with general relief in the range of ~ 10 m (Trenhaile 2004). Hummocky moraine features steep slopes, deep basins and meltwater channels (Trenhaile 2004). Also referred to as stagnation moraine, hummocky moraine is the result of down-wasting of glacial ice and is valuable to plains groups for the potential to retain ephemeral water (Rapp 2006). Knolls are simply small natural hills or aeolian mounds with a distinct peak (Rapp 2006). Valley ridges include the continuous ridge-lands surrounding valley systems marking the location where the prairie upland and valley walls meet at a slope break (Trenhaile 2004). As discussed in Chapter 3, prairie upland site locales are disadvantaged for long-term habitation, such as occupation throughout a season. The prairie uplands for this study area are limited to the valley rim and immediate areas.

Sites on prairie upland are listed in Table 20. These include 18 stone circle sites (10 on Valley Ridge, 4- Hummocky Moraine, 4- Knoll) and 7 cairn sites (2- Valley Ridges, 5 on Hummocky Moraine). Of these sites, the cumulative features include 51 stone circles and 7 cairns, and 22 sites with reported artifacts. Stone circle habitation sites on prairie upland are relatively limited compared to those on valley walls in that upland sites contain fewer circles, and are more isolated from other sites.
Table 18. Prairie Uplands site distributions by landforms. In the gray data, recurrent features are several of the same feature type, often stone circles, single features are lone features such as isolated rings or cairns, and multiple features are a mix of the former two.

<table>
<thead>
<tr>
<th>Landform Type</th>
<th>Site Type and Count</th>
<th>Dominant Vegetation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hummocky Moraine</td>
<td>Recurrent Feature</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Single Feature</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>and Scatter</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Artifact Find</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Multiple Feature</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Artifact Scatter</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Single Feature</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>and Feature</td>
<td>1</td>
</tr>
<tr>
<td>Knolls</td>
<td>Single Feature</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Recurrent Feature</td>
<td>1</td>
</tr>
<tr>
<td>Valley Ridges</td>
<td>Artifact Scatter</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>and Burial</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Artifact Scatter</td>
<td>7</td>
</tr>
<tr>
<td></td>
<td>Single Feature</td>
<td>7</td>
</tr>
<tr>
<td></td>
<td>Recurrent Feature</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>Artifact Find</td>
<td>5</td>
</tr>
</tbody>
</table>

Landforms comprising valley walls account for the majority of terrain in the Qu’Appelle Valley. Terraces are alluvial landforms that border floodplains and valley systems consisting of relatively flat, level terrain with moderately steep slopes toward the general valley wall and river system (Trenhaile 2004). Bench landforms are similar to, and often mistaken for terraces. Benches, however, are generated by differential erosion of bedrock materials whereas terraces are created through alluvial deposition and subsequent downcutting (Trenhaile 2004). Saddle landforms are low-lying points located between two peaks in the terrain. Slump blocks take place along curved surfaces, the arms of which generally extend to significant depths (Trenhaile 2004: 139). Valley walls are often steep and rocky, making the terrain difficult for agricultural operations and limiting the amount of cultivation, and therefore, potential disturbances to archaeological sites. Sites on valley walls are identified by landform type in Table 21. These include 27 stone circle sites (15- Terrace, 2- Slump Block, 8- Bench, 2 Saddle) and five cairn sites (4- Terrace, 1- Slump Block). Cumulatively there are 76 stone circles ten cairns, and 32 sites with reported artifacts as well as six burial sites.
The landforms that comprise valley bottomlands, as identified here, are limited, as are the sites recorded therein. Alluvial fans are triangularly shaped deposits of alluvium at the base of valley walls. These landforms are generated through overland flow capturing and transporting unconsolidated sediments downslope to depositional plains (Rapp 2006). Floodplains are broad areas immediately surrounding river systems that are prone to erosion and deposition of alluvium from flooding of adjacent lotic systems. Sites recorded in the valley bottomlands include an artifact scatter and a burial site. EdNj-1, the burial site, was recorded post-impact during a pipeline development. Trenching operations, unfortunately, dug through the burial and spread associated human remains across the immediate area, eliminating context.
Table 20.  Bottomlands site distribution by landform. In the gray data, recurrent features are several of the same feature type, often stone circles, single features are lone features such as isolated rings or cairns, and multiple features are a mix of the former two.

<table>
<thead>
<tr>
<th>Landform Type</th>
<th>Site Type and Count</th>
<th>Dominant Vegetation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Floodplain</td>
<td>Artifact Scatter</td>
<td>1</td>
</tr>
<tr>
<td>Alluvial Fan</td>
<td>Artifact Scatter</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Burial</td>
<td>1</td>
</tr>
</tbody>
</table>

In addition to the 111 sites listed here, there are also seven located in adjacent coulee drainage systems. These include four artifact scatters, a buried artifact scatter, a single feature, and a recurrent feature site consisting of two stone circles. The materials located in the drainage system include a variety of diagnostic materials from EdNh-9, 10, 35, and EdNi-10, which are discussed below.

6.4. Site Types and Features in the Study Area

Many sites in Qu’Appelle are broadly described as artifact scatters, lithic reduction sites, or artifact finds (Boras et al. 2013; Boras et al. 2015; Huynh 2013a; Huynh 2013b; Huynh 2014; Stoddart 2001; Rudolph 2010). There are comparatively few tools relative to debitage in these sites, suggesting lithic reduction and stone tool manufacture was a commonplace task being undertaken (Boras et al. 2013; Boras et al. 2015; Huynh 2013a; Huynh 2013b; Huynh 2014; Stoddart 2001; Rudolph 2010; Hanna 1982). The material composition of these scatters is not always identified, but Swan River Chert is distinguished in several reports and on site-forms, indicating widespread use of this resource (Boras et al. 2013; Boras et al. 2015; Huynh 2013; Huynh 2014; Stoddart 2001; Rudolph 2010). The presence of Knife River Flint in valley sites is also important for its implications of trade or long-distance travel to the North Dakota quarries. There are nine recorded sites in the study area containing Knife River Flint. While the amount of Knife River Flint debitage is unknown, seven sites include tools, tools fragments, or preforms made from this material (See Appendix A).

Very few reports identify kill or processing sites. This is not to say that these sites do not exist, but only that the limited nature of investigations at most inhibit their recognition. For example, there are several sites on the north side of the valley that are
listed as “scatters” in provincial registry site forms that contained both lithic materials and highly fragmented faunal remains (Boras et al. 2013; Boras et al. 2015; Huynh 2013; Huynh 2014; Stoddart 2001). Exploratory excavations were not undertaken to assess site function, however. As well, sites such as EdNh-58 and EdNh-75 as examined in the preceding chapter are processing sites. In the site the registry, they are identified by a general term as scatters, regardless of site interpretations. There are few recorded sites in the relatively densely vegetated tributary coulees in the valley, but those that are present appear to be small scale kill and processing sites (see Appendix A). A thorough examination of these small tributary coulees, particularly those that have permanent and significant amounts of seasonal water should be undertaken in the future.

Seven sites in the in Qu’Appelle area are defined as burials, albeit two are classified as a “burial cairn” without direct evidence for human remains (see Millar (1986, Appendix A). Human remains were recovered from the remaining five (See Appendix A). Two of these burials were located in the lower part of the valley along what is now Buffalo Pound Lake while the remaining three are clustered within approximately 1.3 km of each other on flat slump block locations on the upper valley slope on the north side of the valley (See Appendix A). It is possible that sediment and soil density here would have been less compact, and therefore less onerous to excavate than in a similar upper slope location on the north side. Walker (2013) reported in detail on the excavation of a human burial in Qu’Appelle in 2013. The skeletal remains were highly eroded, with only small fragments of identifiable bone present. In association with the burial were several faunal remains and a small lithic debitage assemblage comprised of Knife River Flint and a gray chert, potentially of the Swan River variety (Walker 2013, 2). The presence of Knife River Flint might indicate a cultural or spiritual significance for this raw material type (King 1961; Walker 1982; Walker 2013).

There are 127 recorded stone circles in the study area occurring at 47 archaeological sites. As illustrated in Table 23, the vast majority of stone circle sites are small (1-4 circles). The four large stone circle sites account for 35% (44) of the total count of stone circles in the study area. The number of sites may be slightly inflated since EdNj-3, 4, 5, 6, and 8 were recorded as single stone circles, although these are within 20-30 meters of each other. In addition, there are 13 cairn sites accounting for 24 cairns. The utility of these cairns is unknown, and could potentially be used as travel markers, drive lane markers, or in other ways.
Table 21. Stone circle sites recorded in the Qu’Appelle River Valley Study Area

<table>
<thead>
<tr>
<th>Small Stone Circle Sites (1-4 Circles)</th>
<th>Medium Stone Circle Sites (5-9 Circles)</th>
<th>Large Stone Circle Sites (10+ Circles)</th>
</tr>
</thead>
<tbody>
<tr>
<td>EdNh-16</td>
<td>EdNh-27</td>
<td>EdNh-7</td>
</tr>
<tr>
<td>EdNh-48</td>
<td>EdNh-49</td>
<td>EdNh-13</td>
</tr>
<tr>
<td>EdNh-51</td>
<td>EdNh-52</td>
<td>EdNg-21</td>
</tr>
<tr>
<td>EdNh-54</td>
<td>EdNh-55</td>
<td>EdNh-14</td>
</tr>
<tr>
<td>EdNh-56</td>
<td>EdNh-57</td>
<td>EdNh-19</td>
</tr>
<tr>
<td>EdNh-59</td>
<td>EdNh-60</td>
<td>EeNj-34</td>
</tr>
<tr>
<td>EdNh-72</td>
<td>EdNi-13</td>
<td></td>
</tr>
<tr>
<td>EdNi-15</td>
<td>EeNj-18</td>
<td></td>
</tr>
<tr>
<td>EeNj-20</td>
<td>EeNj-21</td>
<td></td>
</tr>
<tr>
<td>EeNj-22</td>
<td>EeNj-23</td>
<td></td>
</tr>
<tr>
<td>EeNj-24</td>
<td>EeNj-25</td>
<td></td>
</tr>
<tr>
<td>EeNj-28</td>
<td>EeNj-29</td>
<td></td>
</tr>
<tr>
<td>EeNj-30</td>
<td>EeNj-31</td>
<td></td>
</tr>
<tr>
<td>EeNj-32</td>
<td>EeNj-33</td>
<td></td>
</tr>
<tr>
<td>EeNj-35</td>
<td>EeNj-36</td>
<td></td>
</tr>
<tr>
<td>EeNj-37</td>
<td>EdNj-2</td>
<td></td>
</tr>
<tr>
<td>EdNj-3</td>
<td>EdNj-4</td>
<td></td>
</tr>
<tr>
<td>EdNj-5</td>
<td>EdNj-6</td>
<td></td>
</tr>
<tr>
<td>EdNj-7</td>
<td>EdNj-8</td>
<td></td>
</tr>
<tr>
<td>EdNj-9</td>
<td>EdNj-10</td>
<td></td>
</tr>
<tr>
<td>EdNj-11</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total Sites:</strong> 41</td>
<td><strong>Total Sites:</strong> 2</td>
<td><strong>Total Sites:</strong> 4</td>
</tr>
<tr>
<td><strong>Total Circles:</strong> 72</td>
<td><strong>Total Circles:</strong> 11</td>
<td><strong>Total Circles:</strong> 44</td>
</tr>
</tbody>
</table>

Table 22. Site Types Occurring Within the Qu’Appelle River Valley Study Area

<table>
<thead>
<tr>
<th>Site Types</th>
<th>Site Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recurrent Features (Circles)</td>
<td>18</td>
</tr>
<tr>
<td>Recurrent Features (Cairns)</td>
<td>5</td>
</tr>
<tr>
<td>Single Features (Circles)</td>
<td>20</td>
</tr>
<tr>
<td>Single Features (Cairns)</td>
<td>7</td>
</tr>
<tr>
<td>Artifact Find</td>
<td>19</td>
</tr>
<tr>
<td>Artifact Scatter</td>
<td>28</td>
</tr>
<tr>
<td>Burial</td>
<td>7</td>
</tr>
<tr>
<td>Buried Artifact Scatter</td>
<td>3</td>
</tr>
<tr>
<td>Artifact Scatter and Burial</td>
<td>1</td>
</tr>
<tr>
<td>Artifact Scatter and Feature</td>
<td>1</td>
</tr>
<tr>
<td>Artifact Find and Feature</td>
<td>4</td>
</tr>
<tr>
<td>Multiple Feature</td>
<td>4</td>
</tr>
<tr>
<td>Multiple European</td>
<td>1</td>
</tr>
</tbody>
</table>
6.5. Sites with Chronological Diagnostics

Sites with diagnostic artifact types for chronological placement in the study area are limited. As indicated in Table 24, this includes 22 sites with nine being multicomponent having projectile point types from multiple temporal periods (See Appendix A). Millar (1986), in his larger review of the Qu’Appelle Valley, was able to identify continuity of land use from the Early Period to European occupation. This also is the case here with three sites, EdNh-9, EdNh-10 and EdNi-6 having Agate Basin Paleo-Indian point types dating roughly to 10,200 to 9600 B.P. Sites with Mummy Cave, Oxbow, McKean, and Pelican Lake points extend occupation through the mid-sequence although the largest number of dated sites associate with the Late Period or are European. European sites in the gray data refer to Euro-Canadian sites, and not indigenous sites with Historic artifacts. Often, European sites include foundations made from cobbles and mortar or mounds of older metallic debris.

Table 23. Sites with diagnostic projectile points and chronological position

<table>
<thead>
<tr>
<th>Site Number</th>
<th>Site Type</th>
<th>Chronological Position</th>
<th>Landform</th>
</tr>
</thead>
<tbody>
<tr>
<td>EdNg-21</td>
<td>Recurrent Feature</td>
<td>European, Prehistoric</td>
<td>Terrace</td>
</tr>
<tr>
<td>EdNh-1</td>
<td>Artifact Scatter</td>
<td>Mummy Cave, Oxbow, McKean, Pelican Lake, Besant, Avonlea, Old Women’s</td>
<td>Valley Ridge</td>
</tr>
<tr>
<td>EdNh-7</td>
<td>Artifact and Feature</td>
<td>McKean</td>
<td>Terrace</td>
</tr>
<tr>
<td>EdNh-9</td>
<td>Artifact Scatter</td>
<td>Agate Basin, McKean, Pelican Lake, Besant</td>
<td>Drainage Coulee</td>
</tr>
<tr>
<td>EdNh-10</td>
<td>Artifact Scatter</td>
<td>Agate Basin, McKean, Avonlea</td>
<td>Drainage Coulee</td>
</tr>
<tr>
<td>EdNh-14</td>
<td>Recurrent Feature</td>
<td>Old Women’s</td>
<td>Valley Ridge</td>
</tr>
<tr>
<td>EdNh-15</td>
<td>Single Feature</td>
<td>European</td>
<td>Hummocky Moraine</td>
</tr>
<tr>
<td>EdNh-18</td>
<td>Single Feature</td>
<td>European</td>
<td>Hummocky Moraine</td>
</tr>
<tr>
<td>EdNh-27</td>
<td>Recurrent Feature</td>
<td>Old Women’s</td>
<td>Valley Ridge</td>
</tr>
<tr>
<td>EdNh-35</td>
<td>Artifact Scatter</td>
<td>Old Women’s</td>
<td>Drainage Coulee</td>
</tr>
<tr>
<td>EdNh-36</td>
<td>Artifact Scatter</td>
<td>Old Women’s</td>
<td>Terrace</td>
</tr>
<tr>
<td>EdNh-37</td>
<td>Artifact Find</td>
<td>Old Women’s</td>
<td>Hummocky Moraine</td>
</tr>
<tr>
<td>EdNh-50</td>
<td>Artifact Scatter</td>
<td>McKean, Oxbow, Avonlea, Old Women’s</td>
<td>Valley Ridge</td>
</tr>
<tr>
<td>EdNh-58</td>
<td>Artifact Scatter</td>
<td>Avonlea, Old Women’s</td>
<td>Terrace</td>
</tr>
<tr>
<td>EdNh-75</td>
<td>Artifact Scatter</td>
<td>Old Women’s</td>
<td>Slump Block</td>
</tr>
<tr>
<td>EdNh-77</td>
<td>Artifact Scatter</td>
<td>Besant, Old Women’s</td>
<td>Slump Block</td>
</tr>
<tr>
<td>EdNi-6</td>
<td>Artifact Scatter</td>
<td>Agate Basin, McKean</td>
<td>Bench</td>
</tr>
<tr>
<td>EdNi-8</td>
<td>Buried Artifact Scatter</td>
<td>Old Women’s</td>
<td>Terrace</td>
</tr>
<tr>
<td>EdNi-9</td>
<td>Buried Artifact Scatter</td>
<td>Old Women’s, European</td>
<td>Terrace</td>
</tr>
<tr>
<td>EdNi-10</td>
<td>Buried Artifact Scatter</td>
<td>Middle Period</td>
<td>Drainage Coulee</td>
</tr>
</tbody>
</table>

78
<table>
<thead>
<tr>
<th>Site Number</th>
<th>Site Type</th>
<th>Chronological Position</th>
<th>Landform</th>
</tr>
</thead>
<tbody>
<tr>
<td>EdNJ-11</td>
<td>Single Feature Site</td>
<td>Old Women's</td>
<td>Slump Block</td>
</tr>
<tr>
<td>EdNJ-19</td>
<td>Artifact Scatter</td>
<td>European</td>
<td>Terrace</td>
</tr>
</tbody>
</table>

The various multi-component sites indicate preferred areas of occupation over long periods of time. In particular, EdNh-1, situated on the valley rim at the confluence of the Moose Jaw and Qu’Appelle Rivers, incorporates several thousand years of occupation highlighting the significance of this locale.
Chapter 7.

Conclusions

What is referred to as the gray literature in heritage resource management is not often accessed nor is it heavily relied upon for interpretation in academic archaeology. Yet the range of records that constitute this literature can contain valuable information, albeit with limitations. This is particularly true in consideration of the archaeology of the Qu’Appelle Valley. Indeed, without this literature, there would be limited data available for reconstruction and understanding of Qu’Appelle prehistory. This final Chapter summarizes the salient points of this thesis with a focus on the archaeological record of the study area. The review, at least implicitly, illustrates the potential and beneficial contributions of the gray area literature in this regard.

Plains First Nations histories, indigenous oral traditions, historic and ethno-historic data, and the archaeological record attest to human-use of the Qu’Appelle River Valley for at least several millennia. Archaeological finds in the valley indicate early occupation by peoples of the Agate Basin complex, perhaps as early as 10,500 years ago with continued occupation through the Middle Period phases of Mummy Cave, Oxbow, McKean, Duncan, Hanna, Pelican Lake and Besant (Millar 1986). The bulk of recorded sites with in situ occupation, however, relate to the Late Period, a temporal period determined by Peck (2011), and Epp and Dyck (1983) to postdate 1350 BP. This is undoubtedly the case for the south-central valley defined as my study area, as illustrated in Chapters 5 and 6. My focus in this conclusion, out of necessity, is on the Late Period, relative to its culture-history, valley use, and cultural interactions as best as they may be inferred through these data.

7.1. Geographic Summary and Review

In general, river valley systems with their unique ecologies and rich biological diversity are areas of cultural significance in the past as well as the present. Their environments nevertheless are typically dynamic and subject to variation over time. During the Late Period in the Qu’Appelle River Valley, there was a shift from a climatic episode dominated by warm and arid conditions, to a cooler and moister one (Epp and
Dyck 1983; Meyer and Epp 1990; Leyden 2004). Yet, across the Late Period there continued to be a general aridity on the prairies of southern Saskatchewan and adjacent North Dakota. The Qu’Appelle River, thus, would have been attractive to migrating grazing animals, primarily bison, and therefore the humans that relied upon them (McDonald 2016). For First Nations people, the valley might also be considered a literal oasis as it provided a source for refuge, fuel, and other resources during the long prairie winters, especially in comparison to the arid and exposed prairie landscape beyond the valley rim.

The attractiveness of the Qu’Appelle Valley for prehistoric occupation notwithstanding, it is notable that valley slopes were subject to erosion and slumping, with side terraces in a probable state of continuous transformation. This geomorphological dynamism has an impact on archaeological visibility, and a consideration of this dynamism is essential in searching for and locating archaeological sites in the valley. Post-depositional processes have impacted, mixed, and buried sites, possibly with previous occupations, generating, at times, a palimpsest in the archaeological record. Additionally, the development of valley walls and the rotational nature of many slump blocks therein include the potential of ephemeral water collection in higher elevations. The position of some habitation sites within these terrains, therefore, potentially indicate strategic occupation, as well as seasonality as these basins dry-out approaching winter months (Vickers 1991).

7.2. Ethnographic Summary and Review

The plains cultural area is vast, incorporating roughly 2,000,000 km² of continental grasslands across North America. The broad and dynamic landscape features frequent breaks, including river valleys such as Qu’Appelle, which serve as critical landscapes to several plains indigenous groups in transit and as habitation locales across the plains. As discussed in Chapter 3, the most likely groups to be present in the Qu’Appelle by the early Historic Period are the Plains Cree, the Assiniboine, and the Blackfoot Confederacy.

The Plains Cree were predominantly a trade-centered group who sought economic and military alliances against the Blackfoot Confederacy and, throughout the Ethnographic Period, remained a primary enemy of the Blackfoot (Milloy 1990). In their
efforts to retain economic wealth, the Cree acted as a “middle man” between multiple plains groups and European traders. Yet, and in spite of their relative economic prosperity, the Cree remained at a disadvantage among plains groups through a general inability to acquire horses. Horses, in this sense, were not just a symbol of wealth but a necessity for hunting, warfare, and transport (Milloy 1990). The Plains Cree/Blackfoot hostilities culminated in the Battle of Belly River in 1870, resulting in a negotiated peace and subsequent treaty signature in 1874 in Fort Qu’Appelle.

The Assiniboine were the most dominant indigenous group in south-central Saskatchewan, and like the Cree, benefited from an economically profitable trade-relationship through their “middle man” positions with European traders and their Cree allies. The ethnographic history of the Assiniboine is closely related with that of the Plains Cree as the groups shared an alliance, allowing for some degree of trade control over firearms and other European goods. However, the Assiniboine, unlike their Cree allies, acquired and employed horses by as early as the 1750s (DeMallie and Miller 2001; Vickers 1986). The Assiniboine were greatly afflicted by disease in the 19th century, resulting in smaller band sizes, and by 1851, a combination of conflict and disease left the Assiniboine vulnerable to eradication. The Assiniboine signed an agreement with the United States Government in exchange for peace, which would eventually lead to the foundation of the reservations system (DeMallie and Miller 2001).

The Blackfoot Confederacy was a powerful plains group which claimed ownership of a massive territory in southern Alberta and Saskatchewan as well as southward into Montana. They had a significant historical influence over other indigenous groups. The Blackfoot had developed an equestrian-based cultural system and economy where they traversed an expansive territory in pursuit of bison herds and other resources. They also were staunch warriors (Ewers 1958) being in conflict not only with other Plains groups but also American fur-trappers in the 19th century. There is general agreement that Blackfoot territory extended into Saskatchewan, but no consensus on how far east this might have been. The Blackfoot themselves claim their traditional territory extends to the east of present-day Regina (McMillan and Yellowhorn 2004).

Dynamic cultural interactions on the Great Plains were characteristic of the Ethnographic Period, and likely throughout later prehistory. Alliances, disagreements,
hostilities, and trade are all aspects of interaction influencing relationships between cultural groups and defining territorial boundaries. The Plains Cree and Assiniboine remained allied against the Blackfoot for many decades, although this did not prevent trade from occurring between the allied Cree and the Assiniboine with the Blackfoot. These sorts of complex interactions still influence modern land-claims and dispute over traditional territories (McMillan and Yellowhorn 2004; Reeves and Kennedy 2016).

7.3. The Archaeological Record and its Interpretation for Late Period Archaeology in the Qu’Appelle River Valley of South-Central Saskatchewan

The Late Period on the northern plains beginning ~1350 BP has been defined by the exclusive use of the bow and arrow, the presence of pottery, and the fluorescence of communal bison hunting (Peck 2011; Epp and Dyck 1983). The period is considered to potentially extend backward to ~ 1700 BP based on Avonlea materials dating to that time (Peck 2011, 335; Reeves 1983). Epp and Dyck (1983) place the Late Period as beginning with the Besant phase based on the inference that Besant people produced pottery. The Late Period, however, is connected with the bow and arrow, and it is suggested that Besant is more appropriately placed in the Middle Period (Peck 2011, 335). Within the Qu’Appelle Valley, there are a number of sites associated with the Avonlea and Old Women’s phases that meet the definitional requirements as given. There is, however, the presence of Besant phase material recovered from EdNh-77 which may suggest temporal overlap. Besant phase points are taken to be atlatl dart tips with implications for subsistence economy and other aspects of society. Besant phase materials are further identified for other recorded sites in the study area as described in Chapter 6, as well as in other areas of the Qu’Appelle River Valley reported upon by Millar (1986). Whether Besant predates, is transitional to or overlaps with later prehistoric phases remains to be determined.

Avonlea projectile points are the earliest true arrowhead on the northern plains and one of the most widely distributed. Avonlea phase sites occur not only on the plains but in the parklands, foothills, and mountain front regions (Peck 2011; Reeves 1983; Vickers 1986, 92). Avonlea points typically are made from locally available materials, while the use of exotic silicate materials is comparatively rare (Peck 2011, 338; Brumley and Dau 1988, 42). Peck (2011, 355) has referred to the Avonlea culture as “migrant
archers from the east,” suggesting their highly mobile nature and likely origin from the eastern woodlands (Walde 2006).

Avonlea phase materials are limited in the Qu’Appelle Valley archaeological record, accounting for a total of 11 sites between this and Millar’s (1986) study. As the first true arrowheads on the plains, the Avonlea point marks a distinct technological transition with inferred woodland origins. Avonlea peoples are typically attributed with large-scale communal bison hunting employing traps, blinds, and jumps, some sites having bison bone accumulation up-to 6 m thick (Kehoe 1988; Reeves 1990). Diagnostic Avonlea cultural materials with faunal remains at EdNh-58 attest to Avonlea presence and bison hunting in the central segment of the Qu’Appelle drainage.

As Peck (1996; 2011; Peck and Ives 2001), and Byrne (1973) describe, primary diagnostic materials for the Old Women’s Phase culture are its distinctive and well-defined projectile points, and late variant Saskatchewan Basin Complex pottery. There is an overlapping temporal period between the Avonlea Phase and the Old Women’s Phase, although this is relatively limited (Peck 2011). Byrne (1973) suggested continuity between the Avonlea Phase and Old Women’s Phase with Old Women’s Phase points and ceramics developing out of Avonlea forms. Peck (2011: 367), based on Byrne, suggests the phases should be integrated within a single Saskatchewan Basin complex.

Avonlea and Old Women’s phases share a similar spatial distribution in the western Canadian Plains, but differ in their inferred origins. Old Women’s Phase is believed to trace origins to south-central Alberta according to Brumley and Dau (1988, 51) while the origins of Avonlea materials seems to be the eastern woodlands as noted. There are, however, a few sites in the plains that exhibit co-occupations of the Avonlea and Old Women’s Phases, including the Upper Kill site, the Empress site, and the Ramillies kill site (Peck 2011). These sites all occur in Alberta; co-occupation sites in Saskatchewan are rare. Notable among these are the Estuary site, the Hartley site, and the Newo Asiniak site, all situated around the South Saskatchewan River (Peck 2011). EdNh-58 in the Qu’Appelle study area could potentially fall within this category of co-occupation through further research. The radiocarbon dates acquired from the site nevertheless indicate two distinct periods of occupation.
Millar’s (1986) study listed a total of 66 Late Period sites in Qu’Appelle, 59 of which are Old Women’s Phase based on the presence of pottery and diagnostic projectile points. Of the 118 sites within my study area specifically, the majority, are Old Women’s Phase as well.

7.4. Cultural Interactions and Ethnic Identifications

The Late Period in the Qu’Appelle River Valley and the surrounding area appears to have been a time of significant interaction between different ethnographic groups, including ancestors of modern Cree, Blackfoot, and Assiniboine people. A definitive correlation between an archaeological phase or complex and an ethnic or linguistic group is always difficult to demonstrate in a conclusive fashion. For later prehistory where the connection can be made between archaeological sites and ethnographic peoples, the interpretations are somewhat less tenuous.

Arguments for the connection between the Blackfoot and Old Women’s Phase projectile points seem relatively firm on the basis of cultural material and traditional history of Old Women’s Buffalo Jump near Cayley, Alberta (Peck 2002; Reeves 1993). The presence of Old Women’s projectiles at EdNh-58, 75, and 77, in addition to pottery sherds with a punctate design, a determining characteristic of this archaeological phase, allow for the possible inference of ancestral Blackfoot in the valley (Boras et al. 2013; Boras et al. 2016; Boras et al. 2017; Macdonald 2014). Indeed, the dominance of Old Women’s Phase materials in Qu’Appelle in the Late Period is intriguing (See Appendix A and B). At the same time, the presence of ancestral Blackfoot culture in Southern Saskatchewan has been somewhat contested in the past.

Some anthropologists, historians, and ethnohistorians have restricted Blackfoot traditional territory significantly from what the Blackfoot people consider to be their traditional lands. Dempsey’s (2001, 604) description of Blackfoot traditional territory is an oval shape, wherein the northern boundary is present along the North Saskatchewan River, the southern boundary is marked at the Milk River tributary, and the western boundary ceasing at the Rocky Mountain continental divide. Dempsey (2001) indicated that ethnographic evidence placed the eastern border of Blackfoot traditional territory within Alberta and ending in the western Cypress Hills, a suggestion that the Blackfoot disagree with. This view has largely changed in the last decade, and the eastern
boundary has since been expanded from the western Cypress Hills, to the eastern Regina Plain (Conaty 2015). The expansion of Blackfoot territory can be attributed to a better understanding of Old Women’s Phase materials, particularly iniskim, a ceremonial artifact that is solely associated with the Blackfoot, and found in situ with Old Women’s Phase materials (Peck 2001). Reeves and Kennedy (2016, 1-3) posit that the Blackfoot presence in areas of Saskatchewan, including those near the Alberta/ Saskatchewan border, only occurred largely in the years after 1500 BP. They alternatively argue that the Gros Ventre, and not the Blackfoot, are the more likely inhabitants of southwestern Saskatchewan, based on their interpretations of ethnohistorical data, sacred geography, and ceremonial practices of the group. As with Dempsey (2001), the Blackfoot largely dispute the claims of Reeves and Kennedy (2016), and consider much of southern Saskatchewan to be within their traditional lands (Conaty 2015, Ewers 1958; Oetelaar and Oetelaar 2006).

7.5. Qu’Appelle River Valley and Late Plains Subsistence/Settlement Systems

This study has used the data from three significant well-preserved sites that I was involved in locating, assessing and excavating under a large-scale heritage assessment project that crossed the Qu’Appelle Valley, north of Moose Jaw. Additionally, and in association within my study area, are 115 recorded sites largely documented from other heritage impact assessments. These form a database to explore settlement/subsistence systems for at least the later prehistory of the study area.

Identified by stone circles (tipi rings), habitation sites are commonplace on the valley side and rim. Yet as described in Chapter 6, site size is dominantly limited to between one and four circles. This suggests smaller groups in transit within the area, possibly tracking bison herd movement. Larger habitation sites defined by ten or more stone circles are limited to four occurrences also illustrating the use of the area by sizeable populations in the past. It also is notable that sites of any type are all but absent within the valley bottom. If the Qu’Appelle valley bottomlands were being employed as wintering locales, this would not be expected. The lack of archaeological survey across the valley bottomlands may account for this situation, however. Future research is required to address this issue.
It is likely, then, that smaller groups of Late Period hunters used the valley most often. Yet again, the current evidence for bison hunting in the Late Period in Qu’Appelle is surprisingly limited. There are relatively few sites with evidence of butchering and processing, and sites with any type of faunal assemblage are restricted in numbers. Site EdNh-58 potentially represents a small Avonlea/Old Woman’s bison kill while site EdNh 75 is interpreted as a bison butchering site. Subsistence economies for both Avonlea and Old Women’s phases are centered around mass kills employing jumps and surrounds, site types where sizeable bone beds from butchering activities have accumulated. It is difficult to explain the absence of these site types other than by survey coverage and sampling skew. That is, the restricted areas examined during the HRIA process are too limited in scope for discovery of this type of site. Jumps and surrounds also require specific landscape features including cliffs with run-up access or landforms where suitable traps could be set. Jumps and surrounds are consequently limited in distribution on the landscape more generally. Again, unrestricted research in the central Qu’Appelle Valley may help to resolve this anomaly.

Beyond the above, what I can say with certainty is that late prehistoric site numbers and distributions anticipate a full use of the Qu’Appelle Valley landscape during at least the Old Women’s phase. The valley provided freshwater sources, sheltered landforms and a range of other resources for exploitation. Whether fall, spring summer or winter occupation, or a combination of seasons, remains to be determined.

7.6. Trading Southeast – Knife River Flint

Archaeological assemblages throughout the Qu’Appelle River area incorporate a diverse array of lithic materials employed for stone tool manufacture. Two lithic types dominate, however. The most abundant is Swan River Chert, a tool stone type occurring in archaeological contexts from south-central and southwest Manitoba across the western Plains and north extending into the parklands of Saskatchewan and Alberta (Low 1996). Colors vary from cream white to medium gray to yellowish to those with an orange or reddish hue. Bedrock source locations for this material are rare, (Grasby, Gryba, and Bezy 2002; Kooyman 2000) but it abundantly occurs in Pleistocene gravels across the Plains (Johnson 2012). In this respect, it would have been readily available in the Qu’Appelle valley for stone tool production. Heat treatment of Swan River Chert further enhances this material’s suitability for flaking (Low 1996).
The second most abundant material in our excavations for the Belle Plain spur line project was Knife River Flint. As also illustrated in Chapter 6, several sites through the valley area similarly incorporate Knife River Flint as a component in the stone tool assemblage (see Appendix A). Knife River Flint is acquired from quarry sites in central western North Dakota, which stands as the sole currently known and agreed upon primary source area for this raw material type. Knife River Flint is typically translucent with caramel to almost reddish-brown color. It is highly distinctive and easily recognized. Its widespread distribution across the western Plains and beyond identifies this material as a sought after and valued tool stone.

The geological strata from which Knife River Flint originates dates to the late Eocene. That said, it typically is recovered from secondary gravel deposits that range in age from the late Eocene, to lag deposits near the modern surface (Evilsizer 2016; Murphy 2014). There are a number of known Knife River Flint quarries in North Dakota where quarry pits were excavated into the source gravels for extraction of this material (Evilsizer 2016; Murphy 2014). The mining of Knife River Flint has occurred since at least the Cody Complex in the Early Period of Plains prehistory (Splawinski 2014). Given distances from quarry sources to various archaeological sites across the northern Plains, long-distance trade is the accepted explanation for Knife River Flint distributions (Root 1992). Although trade networks with western Plains cultures remain unclear, Root (1992, 1997) suggests that preforms were made near acquisition sites, and exchanged with neighboring groups and then subsequently down the line.

Quarry sites in North Dakota are roughly 400 km southwest of the central stretch of the Qu’Appelle River in southern Saskatchewan. If Root (1992 is correct, then trade in preforms would result in few or no cortex-bearing flakes. At sites EdNh- 58, EdNh-75, and EdNh-77, the largest majority of Knife River Flint flakes are small and tertiary, conforming to expectations for preform trade. From whom and how this material was acquired is unknown. The implications for cultural interactions in exchange networks, and trade in other commodities are nevertheless present.

7.7. Final Comment on Gray Literature Archaeology

Throughout the thesis, I have referred to the substantial resource in gray literature produced through heritage resource management studies. This includes
reports of different types, variable documentation for individual sites as recorded on
government forms, as well as other non-published materials, such as the work of Millar
(1986). I also have noted that the gray literature can have limited interpretive value since
it is underwritten by land-use developments of various scales and levels of disturbance.
Furthermore, site documentation may be minimal in cases where site avoidance is
possible. Without the gray literature for the area of the Qu’Appelle Valley I have
examined, there would be virtually no basis on which to build an archaeological
framework. Of the 118 sites in this study area, 100 of these were reported through
impact assessment work; the remaining 18 were recorded through amateur studies (See
Appendix A). While only a few sites have been sparingly shovel tested to explore
subsurface deposits, many sites have surface features such as cairns or tipi ring
clusters. That said, site distributions, based on these data, and by landform types can
then be examined. Additionally, surface scatters of artifacts can also include
chronologically diagnostic artifact types. When integrated with data from the few
excavated sites, a picture of at least the Late Period begins to emerge.

As a conclusion, it is interesting to note that Millar’s (1986) study of the
Qu’Appelle River valley as a whole, completed more than 30 years ago faced many of
the same limitations as the current study. Much of Millar’s data, however, was not
generated by impact assessment work but, rather, avocational archaeologists and the
occasional academic undertaking. While it is beyond the scope of this thesis, it would be
truly interesting to revisit Millar’s project today adding in the gray literature and data
recorded since 1986. I suspect we would not only be able to fine tune a landscape
sensitivity model, as Millar had attempted, but we undoubtedly would be able to more
comprehensively interpret the archaeology of the Qu’Appelle Valley, as a whole. HRIA
work and associated gray literature provide a continuously growing foundation for future
research opportunities in Saskatchewan prehistory, and elsewhere. It is time for
archaeologists to synthesize these data where they exist, and to continuously update
those syntheses for their possible insights in the future, thereby realizing the true
potential of gray literature, and of heritage resource management.
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Appendix A.

Site Form Information

This section describes and elaborates on the gray data acquired from site forms and HRIA reports, and serves as the foundation for the inference of land-use in the Qu’Appelle Valley. The information from these gray data includes the site number, when the site was recorded, the status following development, development leading to the site discovery, position relative to the Qu’Appelle River, NTS map sheet number and general description of the site setting and contents. In order to preserve Saskatchewan’s heritage, these data do not specify location, but serve the purpose of establishing a baseline of information for interpreting the valley. The following map includes the full study area with the site distribution throughout the Qu’Appelle River Valley. The satellite imagery is from Google Earth (2018).
Site Number: EdNg-21
Recorded: April, 22/1992
Status: Avoided
Project: Gravel Pit Development
Position: South Side of Valley
NTS Map Reference: 72 I/11

Site Description:

EdNg-21 is listed as a recurrent feature site. The site is located on a valley terrace overlooking the eastern Qu’Appelle River in native prairie grasses ~ 360 m from the Qu’Appelle River. The site is on the south side of the river with a northern aspect and absent of woody vegetation. No artifacts are present at the site and no excavations were performed. Features present include 12 stone circles, partial circles, and arcs. This is one of the larger habitation sites in the valley indicating larger groups present in Qu’Appelle during the spring or fall months, and the farthest site to the east in the study area.

Saylor, S. 1992 EdNg-21 Saskatchewan Archaeological Resource Record. Saskatchewan Culture and Youth. Regina, Saskatchewan.

Project Update: Additional work due to conflict with development project.
The site was threatened by a proposed gravel pit development. The stone circles where mapped and tested as a mitigation measure. Testing yielded 3 quartzite flakes, 1 white chert flake, 2 brown chert flakes, 6 pieces of fire cracked rock, 5 grey-brown chert flakes, 2 grey chert core fragments, 1 grey chert biface fragment, 1 back chert flake. 6 of the 12 stone circles were destroyed following the mitigation. Controlled excavation did not occur.

Stoddart, E. 1992 EdNg-21 Update Form Saskatchewan Archaeological Resource Record. Saskatchewan Culture and Youth. Regina, Saskatchewan.
Site Number: EdNg-25
Recorded: September, 1996
Status: Avoided
Project: Oil and Gas Pipeline Development
Position: South Side of Valley
NTS Map Reference: 72 I/11

Site Description:

EdNg-25 is listed as an artifact find site. The site is located on a high terrace in native prairie grasses ~ 520 m from the Qu’Appelle River. A deep coulee is located to the south of the site area. The site is currently absent of vegetation although it is likely that trees have been cleared form the area. The site is on the south side of the channel with a northern aspect. A single chalcedony flake was recovered and the site was tested. No features were present at the site. Chalcedony is a cryptocrystalline material that is relatively rare in assemblages in Qu’Appelle.

Brandon, J.

Project Update: Re-located due to additional project conflict.
The site was re-located as an additional pipeline was proposed in conflict with the site. No materials were observed, the pipeline was given clearance to proceed and the site area was destroyed.

Novecosky, Brad
Site Number: EdNg-26
 Recorded: September, 1996
 Status: Avoided
 Project: Oil and Gas Pipeline Development
 Position: South Side of Valley
 NTS Map Reference: 72 I/11

Site Description:

EdNg-26 is listed as an artifact find site. The site is located on a high terrace in native prairie grasses ~ 450 m from the Qu’Appelle River. The site is currently absent of vegetation although it is likely that trees have been cleared from the area. The site is on the south side of the channel with a northern aspect. Three pieces of chert debitage were recovered and the site was tested. No features were present at the site. The debitage is within 200 m of EdNg-25.

Lewis, C.

Project Update: Re-located due to additional project conflict.
The site was re-located as an additional pipeline was proposed in conflict with the site. No materials were observed, the pipeline was given clearance to proceed and the site area was destroyed.

Paquin, Todd
Site Number: EdNh-1 (Stoney Beach Midden)
Recorded: December, 14/ 1959
Status: Highly Disturbed
Project: Oil and Gas Pipeline Development
Position: East Side of Valley
NTS Map Reference: 72 I/11

Site Description:

EdNh-1 is listed as an artifact scatter site. The site is located on the valley ridge overlooking the Qu’Appelle River in cultivation ~ 250 m from the Moose Jaw River. The site is located on prairie terrain near the crest of the Qu’Appelle River Valley at the top of several coulee systems on the east side of the channel with a western aspect. Debitage (Chert, Chalcedony, Quartzite, Jasper), burnt and unburnt bone fragments, biface fragments, pottery sherds, retouched flakes, spall tools, an Old Women’s Phase point base, glass, metal, stoneware, wooden farm tools. 4500 + items including Oxbow, McKean, Duncan, Hanna, Pelican Lake, Besant, Avonlea, Old Women’s Phase, and Historic diagnostic materials. Additionally, knives, scrapers, awls, graver, debitage and sherds, 2 reconstructed vessels. The site had been disturbed through vandalism in the past. The site is located in, and on the edge of a cultivated field. The site was tested and excavations were recommended. No features were present at the site.

Kehoe, T. 1959 EdNh-1 Saskatchewan Archaeological Resources Record. Saskatchewan Culture and Recreation. Regina, Saskatchewan.

Project Update: Re-located due to pipeline development conflict

The site was re-located as an additional pipeline was proposed in conflict with the site. Additional materials were collected from the site including 2 Besant points, a prairie side-notched point, and 4 unidentifiable points, 15 bifaces, 2 end scrapers, 1 uniface, 1 maul, 8 cores, 26 utilized flakes, 520 lithic flakes, 2 ceramic shards, 11 bison bones, 125 unidentifiable bones, 4 shell fragments. The site was excavated during the re-location revealing an ochre stained burial pit with complete and articulated woman and child at base, 4 hearths, 2 fire broken rock concentrations, and a historical building foundation. The controlled excavations include excavations by J. Hodges (1950s and 1960s, no report or publication) and University of Regina field school (1974- no report). The lithic
materials recovered features primarily Swan River Chert, as well as Knife River Flint, shale, quartzite, quartz, chert, pebble chert, petrified wood. The site was re-visited until the late 1970s and marks a significant amount of un-published data in the Qu’Appelle Valley. Relative dates from this site indicate the presence of Mummy Cave complex indicating Early-Middle Period occupation of the Qu’Appelle Valley.

Hjermstad, Ben


Project Update: Re-located due to pipeline development conflict

The site was relocated as an additional project was in conflict with the site area. 4 scrapers, 2 unifaces, 9 partial bifaces, 10 flakes, 1 retouched flake, 1 Plains Side-Notched point were recovered. The project was given approach to proceed and no additional work was performed at this time. However, the site form states that people in the area have been looting the site for years.

Golly, Stuart

2010 EdNh-1 Update Form Saskatchewan Archaeological Resources Record. Saskatchewan Tourism, Parks, Culture, and Sport. Regina, Saskatchewan.

Project Update: Re-located due to pipeline development conflict

The site was relocated as an additional project was in conflict with the site area. An Oxbow point was recovered from the surface. The entire site area is now cultivated.

Golly, Stuart

2010 EdNh-1 Update Form Saskatchewan Archaeological Resources Record. Saskatchewan Tourism, Parks, Culture, and Sport. Regina, Saskatchewan.
Project Update: Re-located to delineate site boundaries.

The site was relocated to delineate site boundaries and determine the portion of the site in the Buffalo Pound Provincial Park. Additional materials recovered include 2 worked flakes, 5 partial bifaces, 4 scrapers, 1 unidentified point, 1 partial scraper. Looting at the site is obvious.

Golly, Stuart
2011 EdNh-1 Update Form Saskatchewan Archaeological Resources Record.
Saskatchewan Tourism, Parks, Culture, and Sport. Regina, Saskatchewan.

Project Update: Re-located to delineate site boundaries

The site had been re-visited a total of 12 times to determine disturbances occurring in the area. Material recovered from the surface include 6 partial bifaces, and 2 scrapers. As the site is tilled frequently by local landowners’ additional materials are disturbed and re-positioned on the surface, where Golly makes recoveries. Looting and cultivation are constant risks to the site, although the final update to EdNh-1 occurred in 2014.

Golly, Stuart
2014 EdNh-1 Update Form Saskatchewan Archaeological Resources Record.
Saskatchewan Tourism, Parks, Culture, and Sport. Regina, Saskatchewan.

Site Number: EdNh-4
Recorded: April, 1963
Status: Highly Disturbed
Project: Amateur Survey
Position: East Side of Valley
NTS Map Reference: 72 I/11
Site Description:
EdNh-4 is listed as an artifact scatter site. The site is located on the valley ridge overlooking the Qu’Appelle River in cultivation ~ 300 m from the Moose Jaw River. The surrounding terrain is comprised of flat-fields and the beginnings of coulee systems that enter the Qu’Appelle Valley near the Moose Jaw River and Qu’Appelle River confluence. The site is located prominently on the east side of the valley with a western aspect. Materials recovered include points, scrapers and hand blades comprised primarily of Knife River Flint. The projectile point types are unidentifiable. The site was not excavated as all materials were recovered from the surface. No features are present at
the site. The archaeologist describes the points as “small and triangular” and potentially indicates Late Period projectile points, although it is uncertain.

Hodges, J.V.  
1963  EdNh-4 Saskatchewan Archaeological Resources Record. Department of Natural Resources, Saskatchewan Museum of Natural History: Archaeological Survey. Regina, Saskatchewan.

Project Update: Re-located for avoidance by undetermined development

EdNh-4 was re-located and further work was recommended based on an unidentified development project. The site location was also moved based on inaccurate data supplied to Saskatchewan Heritage during the initial site recording.

Hein, Lisa  
2016  EdNh-4 Update Form Saskatchewan Archaeological Resources Record. Saskatchewan Tourism, Parks, Culture, and Sport. Regina, Saskatchewan

Site Number: EdNh-7  
Recorded: December, 22/1964  
Status: Highly Disturbed  
Project: Amateur Survey  
Position: West Side of Valley  
NTS Map Reference: 72 I/11  
Site Description:  
EdNh-7 is listed as an artifact and feature site. The site is located on a valley terrace in native prairie grasses ~ 5 m from the Moose Jaw River. The immediate western terrain of the site is wooded and is likely prone to flooding given the proximity to the Moose Jaw River. The site is on the west side of an eastward meander with an eastern aspect. Materials recovered from the site include “Crude” side notched points and “crude” tools. The site was excavated and few materials were recovered, although the projectile points have been indicated as Middle Period McKean points. No features are present at the site. This site, along with EdNh-40, are the only sites recorded in the valley bottomlands.

Gryba, Eugene, N.  
1964  EdNh-7 Saskatchewan Archaeological Resources Record. Department of Natural Resources, Saskatchewan Museum of Natural History: Archaeological Survey. Regina, Saskatchewan.
**Project Update:** Re-located for avoidance by Waterline

EdNh-7 was re-located as a potash waterline was proposed in direct conflict with the site area. During this time, the site was determined to be a Duncan site and Swan River Chert debitage, Knife River Flint debitage, jasper flake, 3 bone fragments were recovered. 6 stone circles were also added to the site inventory.

Young, Patrick
2009   EdNh-7 Update Form Saskatchewan Archaeological Resources Record. Saskatchewan Tourism, Parks, Culture, and Sport. Regina, Saskatchewan

**Site Number:** EdNh-9  
**Recorded:** May, 16/1968  
**Status:** Highly Disturbed  
**Project:** Amateur Survey  
**Position:** East Side of Valley  
**NTS Map Reference:** 72 I/11  
**Site Description:**

EdNh-9 is listed as an artifact scatter site. The site is located in a coulee system entering the Qu’Appelle Valley in wooded terrain ~ 1000 m from the Moose Jaw River. The site is located in a drainage coulee on the south side of the Qu’Appelle Valley downslope from EdNh-4. The forested terrain appears dense with steep-sided coulee ridges to the north and south of the site area. The site is sheltered from the east with a western aspect and is located on the eastern channel wall near the confluence between the Moose Jaw and Qu’Appelle Rivers. Materials recovered from the site include Agate Basin, Pelican Lake, Hanna, Besant, Old Women’s Phase, and Avonlea projectile points, end scrapers, and bifaces. No excavations occurred at the site as all materials were recovered from the surface. No features are present at the site. Few sites in the Qu’Appelle Valley indicate repeated use of the valley over a course over centuries.

Pavjent, Donald
Site Number: EdNh-10  
Recorded: May, 7/1970  
Status: Highly Disturbed  
Project: Amateur Survey  
Position: East Side of Valley  
NTS Map Reference: 72 I/11  

Site Description:  
EdNh-10 is listed as an artifact scatter site. The site is located in a coulee system entering the Qu’Appelle Valley in wooded terrain ~ 675 m from the Moose Jaw River. The site is located in a drainage coulee on the south side of the Qu’Appelle Valley downslope from EdNh-1. The forested terrain appears dense with steep-sided coulee ridges to the north and south, and the site is positioned at the foot of a coulee crest with a western aspect. Materials recovered from the site include Agate Basin, McKean Old Women’s Phase, and Avonlea projectile points, end scrapers, and bifaces, knives, choppers and pottery. No excavations occurred at the site as all materials were recovered from the surface. No features are present at the site. Few sites in the Qu’Appelle Valley indicate repeated use of the valley over a course over centuries, which is indicated here by multiple diagnostic projectile points.

Watson, G.  

Site Number: EdNh-12  
Recorded: September, 8/ 1981  
Status: Avoided  
Project: Gravel Pit Development  
Position: East Side of Valley  
NTS Map Reference: 72 I/11  

Site Description:  
EdNh-12 is listed as a burial (?) site. The site is located on a slump block in native prairie grasses ~275 m from the Qu’Appelle River. The grave is described as being fairly deep into the ground and re-filled with stones. The prominent position of the site offers a clear view of the confluence between the Moose Jaw and Qu’Appelle Rivers, as well as several ephemeral water bodies and relict oxbow lakes. There is a clear absence of
other sites on the same landform potentially suggesting the significance of this site. The site is located on the eastern side of the channel at the confluence location with a western aspect. No artifacts are present at the site and no excavations were performed. Features present include an oval-shaped depression filled with cobbles.

Tasker, Anne  

Site Number: EdNh-13  
Recorded: June, 14/ 1989  
Status: Disturbed  
Project: Gravel Pit Development  
Position: South Side of Valley  
NTS Map Reference: 72 I/11  
Site Description:  
EdNh-13 is listed as a burial site. The site is located on a slump block in native prairie grasses ~ 600 m from the Qu’Appelle River. The site is located in what is likely cleared and reclaimed terrain adjacent to highway 642. EdNh-13 is on the south side of the channel with a northern aspect and is generally secluded from other sites. No artifacts are present at the site and no excavations were performed. Features present include a large, central cairn presumed to be a prehistoric burial surrounded by 15 stone circles. Five additional circles were reported as destroyed by an adjacent gravel pit development project. The site is described as being at risk of “pot-hunters” potentially indicating surface or near-surface pottery in the valley, as well as general public knowledge of site locations, creating a risk of looting for artifact scatter sites.

Saylor, S., M. Thomas  
Site Number: EdNh-14
Recorded: November, 12/ 1981
Status: Disturbed
Project: Road Development
Position: West Side of Valley
NTS Map Reference: 72 I/11
Site Description:
EdNh-14 is listed as a recurrent feature site. The site is located on prairie uplands overlooking the Moose Jaw River and Qu’Appelle River confluence. The adjacent western terrain is the beginning of a coulee system entering the Qu’Appelle Valley near EdNh-43 and 44, which are both surface artifact sites. The site is located in native prairie grasses ~ 800 m from the Moose Jaw River. EdNh-14 is on high prairie with no discernable aspect, making the site relatively exposed compared to other habitation sites. Materials collected from the site include a pottery sherd, fire cracked rock, chalcedony and chert debitage. Features at the site include 10 stone circles, several of which were disturbed by adjacent development. This is one of the larger habitation sites in the valley indicating larger groups present in Qu’Appelle during the spring or fall months.

Tasker, Anne

Site Number: EdNh-15
Recorded: June, 24/ 1982
Status: Avoided
Project: Gravel Pit Development
Position: West Side of Valley
NTS Map Reference: 72 I/11
Site Description:
EdNh-15 is listed as a historic single feature and artifact scatter site. The site is located on prairie uplands overlooking the Moose Jaw River and Qu’Appelle River confluence. The site is located in native prairie grasses ~ 730 m from the Moose Jaw River on the west side of the channel with an eastern aspect. Materials collected from the site include glass shards, pop bottles, shoe polish bottle, stoneware jug, metal scraps, china, barbed wire, bottles plastic. Features at the site include a historic foundation.
Site Number: EdNh-16
Recorded: July 26, 1982
Status: Avoided
Project: Gravel Pit Development
Position: West Side of Valley
NTS Map Reference: 72 I/11
Site Description:
EdNh-16 is listed as a recurrent site. The site is located in a drainage coulee overlooking the Moose Jaw River and Qu’Appelle River confluence. The immediate area is described as a terrace edge bordering a western scarp between 2 lobes of a large coulee system. The site is on the western side of the valley with a clear eastern aspect and is downslope from EdNh-45 and 46. The site is located in native prairie grasses ~ 500 m from the Moose Jaw River. Materials collected from the site include 1 quartzite split cobble, a chalcedony flake from the surface, and 11 fire cracked rock fragments, 4 pieces of quartzite debitage, 1 piece of chalcedony debitage, and 2 unidentified pieces of debitage from test pits. Features at the site include 2 stone circles.

Site Number: EdNh-18
Recorded: July 6, 1985
Status: Avoided
Project: Gravel Pit Development
Position: East Side of Valley
NTS Map Reference: 72 I/11
Site Description:
EdNh-18 is listed as a single feature site. The site is located on the valley ridge overlooking the Qu’Appelle Valley in native prairie grasses ~ 200 m from a seasonal pond. The site is on the east side of the valley with a clear western aspect and prominent view of much of Qu’Appelle. No artifacts are present at the site and no excavations were performed. Features present include a single cairn. Cairn sites such
as this can have a multitude of utilities including marking preferred hunting locations and serving as navigational guides. This cairn is somewhat unique in the valley in that the cairn is surrounded by a circle of stones, potentially indicating some kind of significance for the feature.

Saylor, S.  

Project Update: Re-Location for Potential Impact for Gravel Pit Expansion Project  
The updated site-from for EdNh-18 lists the site as a recurrent feature, adding an additional cairn to the site registry. No artifacts were recorded, and no excavations were performed during the site re-visit.

Rudolph, Lisa  

Site Number: EdNh-19  
Recorded: November, 1990  
Status: Avoided  
Project: Electrical Transmission Line  
Position: West Side of Valley  
NTS Map Reference: 72 I/11  
Site Description:  
EdNh-19 is listed as a single feature site. The site is located on the valley ridge overlooking the Qu’Appelle Valley in native prairie grasses ~ 400 m from the Moose Jaw River. The site is located on the western side of the channel with an eastern aspect and is adjacent to several wooded coulee systems. No artifacts are present at the site and the immediate area was tested. Features present include a single stone circle. The circle includes and eastern void and potential central hearth.

Balcom, R.  
**Project Update:** Re-Location for Potential Impact of Pipeline Project

EdNh-19 was re-located and redefined as a recurrent feature site. The inventory was increased from 1 stone circle to 10. No materials were recovered.

Young, Patrick

**Site Number: EdNh-20**

**Recorded:** Spring 1993  
**Status:** Avoided  
**Project:** Traditional Land Use Survey  
**Position:** North Side of Valley  
**NTS Map Reference:** 72 I/11  

**Site Description:**

EdNh-20 is listed as a traditional cultural location and burial site. A site form for this site was not available and data was derived from the SHCB master site list. The site is located on a slump block in native prairie grasses ~ 1200 m from the Qu'Appelle River. The immediate terrain includes several wooded coulee systems and an alluvial fan. The site is downslope from EdNh-22 and along the same landform as EdNh-72. No artifacts are present at the site and the immediate area was tested. Features present include a burial mound. The site is on the north side of the channel with a prominent southern aspect.

Saskatchewan Heritage

Site Number: EdNh-21
Recorded: September, 1994
Status: Avoided
Project: Road Development
Position: North Side of Valley
NTS Map Reference: 72 I/11

Site Description:
EdNh-21 is listed as an artifact scatter site. The site is located on the valley crest overlooking the Qu’Appelle River in cultivation ~ 1000 m from the river. The site is located prominently on the north side of the channel with a southern aspect. There are coulee drainage systems to the southeast of the site and several sites downslope. Materials present at the site include Swan River Chert shatter, a brown chalcedony flake, 3 bone fragments, 6 ceramic pieces, and 2 pieces of glass. The latter 2 artifact listings are historical denoting disturbance to the site. The site was tested and no features are present. The site has clear indications of past disturbance given then presence of glass and ceramics. Swan River Chert, however, is a valuable material that was used in many lithic reduction sites throughout Qu’Appelle.

Callaghan, R.

Project Update: Re-Location for Potential Impact of Transmission Line
EdNh-21 was re-located and no new data was added to the site. The site was staked for avoidance and not impacted by the development.

Malasiuk, Jordyce
2014 EdNh-21 Update Form Saskatchewan Archaeological Resource Record.
Saskatchewan Tourism, Parks, Culture, and Sport. Regina, Saskatchewan.
Site Number: EdNh-22
Recorded: September 1994
Status: Impacted, Monitored
Project: Pipeline Development
Position: North Side of Valley
NTS Map Reference: 72 I/11
Site Description:
EdNh-22 is listed as a burial site. The site is located on a bench in native prairie grasses ~ 1500 m from the Qu’Appelle River. The site is located prominently on the north side of the channel with a southern aspect. There are coulee drainage systems to the southeast of the site and several sites downslope. No materials were recovered from the site and the area was monitored during development. Features present at the site include an oval-shaped cairn with a large boulder placed at the presumed head of the burial mound. It is possible that the position of this, and EdNh-20, has some kind of significance for the culture responsible as both burials are located in similar settings within ½ of a kilometre of each other. This burial, however, is unique to other recorded burials in the valley as a large boulder (~ ½ m across) has been used to create the mound with many small cobbles.

Callaghan, R.

Project Update: Re-Location for Potential Impact of Pipeline Development
EdNh-22 was re-located and considered to be disturbed by development. As such, the site was approved for impact by the development company. No materials were observed.

Malasiuk, Jordyce
Site Number: EdNh-23  
Recorded: May, 28/1996  
Status: Destroyed  
Project: Gravel Pit Development  
Position: West Side of Valley  
NTS Map Reference: 72 I/11  
Site Description:  
EdNh-23 is listed as a recurrent feature site. The site is located on a terrace in native prairie grasses ~ 380 m from the Qu’Appelle River. The site is located on the highest point of the landform on the western side of the channel with a south-southeast aspect. No materials were recovered from the site and the area was destroyed by development. It is likely that the site has been destroyed. Features present include 2 cairns. Germann and Brewer describe the position as an extensive boulder field with glacial till exposures, potentially indicating a lithic acquisition location as very few sites make mention of these exposures.

Germann, C. and Brewer, G.  

Site Number: EdNh-24  
Recorded: May, 28/1996  
Status: Avoided  
Project: Gravel Pit Development  
Position: West Side of Valley  
NTS Map Reference: 72 I/11  
Site Description:  
EdNh-22 is listed as artifact scatter site. The site is located on a terrace in cultivated terrain ~ 600 m from the Qu’Appelle River. The landform is on the western side of the channel and the site has an eastern aspect, with woody vegetation at the base of the slope. Materials recovered include a Swan River Chert core, brown pebble chert core, quartzite spall uniface, quartzite debitage. The area has since been cultivated and it is likely that the site has been destroyed. There are no features present at the site.

Germann, C. and Brewer, G.  
Site Number: EdNh-25  
Recorded: September, 1996  
Status: Destroyed  
Project: Pipeline Development  
Position: North Side of Valley  
NTS Map Reference: 72 I/11  
Site Description:  
EdNh-25 is listed as artifact find site. The site is located on a bench in native prairie grasses ~ 225 m from the Qu’Appelle River. The site is between several ephemeral basins with dense shrub grasses on the north side of the channel with a southern aspect. The slope of the landform gently dissipates to the southeast into the Qu’Appelle floodplain. Materials recovered include 4 pieces of chert debitage. The area was located in conflict with a pipeline development project, which was given approval to proceed with monitoring. There are no features present at the site. The site is upslope from EdNh-39 and downslope from EdNh-26.

Lewis, C.  

Project Update: Monitoring Results from Pipeline Development  
EdNh-25 was monitored during construction and yielded additional cultural materials. The materials are 10 pieces of fire cracked rock of an unspecified material.

Kozakavich, Stacy  

Site Number: EdNh-26  
Recorded: September, 1996  
Status: Destroyed  
Project: Pipeline Development  
Position: North Side of Valley  
NTS Map Reference: 72 I/11  
Site Description:  
EdNh-26 is listed as artifact find site. The site is located on a saddle in native prairie grasses ~ 400 m from the Qu’Appelle River. Materials recovered include a piece
chert debitage. The terrace is elongated and bordered by low lying basins on the north side of the channel with a southern aspect. The area was located in conflict with a pipeline development project, which was given approval to proceed with no further work. There are no features present at the site.

Lewis, C.

**Project Update: Monitoring Results from Pipeline Development**
EdNh-26 was monitored during construction. No additional materials were observed.

Kozakavich, Stacy

**Site Number: EdNh-27**
**Recorded: September, 5/ 1996**
**Status: Destroyed**
**Project: Pipeline Development**
**Position: North Side of Valley**
**NTS Map Reference: 72 I/11**
**Site Description:**
EdNh-27 is listed as recurrent feature. The site is located on the valley ridge on prairie level in native prairie grasses ~ 400 m from the Qu’Appelle River. The site is on the north side of the channel and prominently positioned overlooking the Qu’Appelle Valley with a southern aspect. Materials recovered include 5 pieces of lithic debitage (one quartzite, one quartz, 3 chert), and 3 pieces of fire cracked rock. The area was located in conflict with a pipeline development project, which was given approval to proceed with avoidance of the site. There are 2 stone circles at the site. Despite the recommendation for avoidance, the site was impacted and destroyed without a monitor present. Subsequent surveys yielded no additional information. This site is one of few in the study area with evidence of fire. The fire cracked rock is not substantial.

Brandon, J.
**Project Update:** Monitoring Results from Pipeline Development

EdNh-27 was monitored during construction. Additional materials include a Knife River Flint preform, 2 chert retouched flakes, 2 Swan River Chert flakes, 3 quartz flakes, 1 chert flake, 1 large ungulate metacarpal, 117 ceramic sherds (112 body, 7 shoulder, 8 rim) considered to be Old Women's Phase Pottery. The original features were confirmed to be destroyed, although an additional ring was recorded to the south of the initial features. Despite a lack of excavations at the site, the Old Women's Phase pottery present indicates Late Period occupation to the eastern edge of the study area.

Kozakavich, Stacy  

**Site Number: EdNh-30**
**Recorded:** August, 25/1998
**Status:** Avoided
**Project:** Borrow Pit Development
**Position:** North Side of Valley
**NTS Map Reference:** 72 I/11

**Site Description:**

EdNh-30 is listed as single feature site. The site is located on an intermediate terrace landform overlooking the south end of Buffalo Pound Lake in native prairie grasses ~ 200 m from the river. The site is on the north side of the channel with a southern aspect and surrounded to the east and west by wooded coulee systems. No archaeological materials were recovered and no excavations were performed. Features at the site include a single cairn.

Germann, Carlos  
Site Number: EdNh-31
Recorded: November, 24/ 1998
Status: Destroyed
Project: Pipeline Development
Position: North Side of Valley
NTS Map Reference: 72 I/11
Site Description:
EdNh-31 is listed as an artifact find site. The site is located on a bench overlooking the Qu’Appelle River in native prairie grasses ~ 1300 m from the Qu’Appelle River. The site is located on the north side of the channel on the edge of a terrace adjacent to a coulee system with a southern aspect. A chert flake was recovered during equipment stripping of the pipeline right of way. Testing was performed at the area. There are no recorded features at this site.

Himour, Brad

Site Number: EdNh-32
Recorded: November, 24/ 1998
Status: Destroyed
Project: Pipeline Development
Position: North Side of Valley
NTS Map Reference: 72 I/11
Site Description:
EdNh-32 is listed as an artifact find site. The site is located on a bench overlooking the Qu’Appelle River in native prairie grasses ~ 675 m from the Qu’Appelle River. The site is located near the base of the landform slope adjacent to a woody area. EdNh-32 is on the north side of the channel with a southern aspect, and is downslope from EdNh-68. A chert flake was recovered during equipment stripping of the pipeline right of way. Testing was performed at the area. There are no recorded features at this site.

Himour, Brad
Site Number: EdNh-34  
Recorded: October, 10/ 2001  
Status: Destroyed  
Project: Pipeline Development  
Position: East Side of Valley  
NTS Map Reference: 72 I/11  
Site Description:  
EdNh-34 is listed as an artifact scatter site. The site is located on a bench overlooking the Qu’Appelle River in native prairie grasses ~ 900 m from the Moose Jaw River. The site is adjacent to woody terrain to the north and is downslope from EdNh-1 on the east side of the channel with a western aspect. A chert end scraper and Knife River Flint flake were recovered from the surface. Shovel testing yielded a calcine bone fragment, 3 Swan River Chert tertiary flakes, a long bone shaft and tooth fragment, Swan River Chert shatter and unidentifiable bone fragment. There are no recorded features at this site.

Hjermstad, Ben and Novecosky, Brad  

Site Number: EdNh-35  
Recorded: October, 10/ 2001  
Status: Avoided  
Project: Pipeline Development  
Position: East Side of Valley  
NTS Map Reference: 72 I/11  
Site Description:  
EdNh-35 is listed as an artifact scatter site. The site is located on a coulee ridge overlooking the Qu’Appelle River in native prairie grasses ~ 800 m from the Moose Jaw River. The site is adjacent to woody terrain to the north and is downslope from EdNh-1 on the east side of the channel with a western aspect. An Old Women’s Phase pottery sherd was collected on the surface. Shovel testing yielded 6 Swan River Chert flakes, 1 chert flake, 1 calcine bone fragment, 4 tarsals, 13 long bone fragments, and 2 pieces of fire cracked rock. There are no recorded features at this site. Mitigation yielded no additional materials and the site was destroyed. Given the presence of Old Women’s
Phase pottery at EdNh-35 and EdNh-1, both on surface, it is possible that remains from this site originated at the EdNh-1 scatter.

Hjermstad, Ben and Novecosky, Brad  

Site Number: EdNh-36  
Recorded: October, 10/ 2001  
Status: Destroyed  
Project: Pipeline Development  
Position: East Side of Valley  
NTS Map Reference: 72 I/11  
Site Description:  
EdNh-36 is listed as an artifact scatter site. The site is located on a terrace overlooking the Qu’Appelle River in native prairie grasses ~ 800 m from the Moose Jaw River. The site is downslope from the EdNh-34 and 35 scatters along the east side of the channel with a western aspect. Shovel testing yielded various unidentified faunal remains and a pottery sherd. There are no recorded features at this site. Mitigation was recommended; however, the site was avoided. The presence of pottery at this site indicates a Late Period occupation, synonymous with the upslope site EdNh-35 and 1.

Hjermstad, Ben and Novecosky, Brad  

Site Number: EdNh-37  
Recorded: October, 10/ 2001  
Status: Destroyed  
Project: Pipeline Development  
Position: West Side of Valley  
NTS Map Reference: 72 I/11  
Site Description:  
EdNh-37 is listed as an artifact find site. The site is located on prairie overlooking the Qu’Appelle River in native prairie grasses ~ 300 m from the Moose Jaw River. The site is adjacent to several habitation sites and coulee systems with woody vegetation on the west side of the channel with an eastern aspect. Shovel testing yielded a Knife River
Flint Plains Side-Notched projectile point base. There are no recorded features at this site. The site was destroyed by development. The presence of a Plains-Side Notched base made from an exotic material is significant in the area, particularly given the presence of several Old Women’s Phase sites within ~1500 m to the east. The Old Women’s Phase scatters, however, did not contain Knife River Flint debitage in their assemblages.

Hjermstad, Ben and Novecosky, Brad

Site Number: EdNh-39
Recorded: September, 11/ 2001
Status: Avoided
Project: Pipeline Development
Position: North Side of Valley
NTS Map Reference: 72 I/11
Site Description:
EdNh-39 is listed as an artifact scatter site. The site is located on an alluvial fan overlooking the Qu’Appelle River floodplain in native prairie grasses ~ 320 m from the river. The site is located on the north side of the channel with a southern aspect at the confluence of several coulee systems. Shovel testing yielded 27 bone fragments. There are no recorded features at this site. The site was avoided by development. It is possible, that based on the lack of lithic materials or evidence of butchering on the faunal remains that the site is a natural death.

Paquin, Todd and Novecosky, Brad
Site Number: EdNh-40
Recorded: October, 6/ 2006
Status: Disturbed
Project: Pipeline Development
Position: South Floodplain
NTS Map Reference: 72 I/11
Site Description:
EdNh-40 is listed as an artifact find site. The site is located in the Qu’Appelle River floodplain in cultivation ~ 370 m from the river. The artifact was located in a cultivated field adjacent to relict meanders from the Qu’Appelle River. Artifacts recovered from the site include 4 pieces of fire cracked rock and a retouched quartzite flake. No excavations were performed at this site. There are no recorded features at this site. The site was avoided by development.

Kavanagh, Kennsy

Project Update: Re-Assessment for Pipeline Development
EdNh-40 was updated and relisted as an artifact scatter site. Additional materials include one core and 2 flakes of Swan River Chert and 4 bone fragments.

Wondrasek, Rob

Project Update: Re-Assessment for Pipeline Development
Additional faunal materials were recorded at EdNh-40 which include 35 unidentified bone fragments. The remains were observed during backhoe deep testing of the site area.

Malasiuk, Jordyce
Site Number: EdNh-43  
Recorded: May, 5/ 2006  
Status: Disturbed  
Project: Pipeline Development  
Position: West Side of Valley  
NTS Map Reference: 72 I/11  
Site Description:  
EdNh-43 is listed as an artifact scatter site. The site is located on the valley ridge overlooking the Moose Jaw river and Qu’Appelle River confluence in native prairie grasses ~ 1450 m from the Moose Jaw River. The site is adjacent to a drainage coulee and EdNh-44 on the west side of the channel exposed with no discernible aspect. Artifacts recovered from the site include a basalt core, Swan River Chert, jasper, and quartzite flakes and 1 burned bone. No excavations were performed at this site. There are no recorded features at this site. The site was avoided by development.

Enns-Kavanagh, Kristen and LJ Butch Amundson  

Site Number: EdNh-44  
Recorded: May, 5/ 2006  
Status: Disturbed  
Project: Unspecified Development  
Position: West Side of Valley  
NTS Reference: 72 I/11  
Site Description:  
EdNh-44 is listed as an artifact find site. The site is located on the valley ridge overlooking the Moose Jaw river and Qu’Appelle River confluence in native prairie grasses ~ 1230 m from the Moose Jaw River. The site is adjacent to a drainage coulee and EdNh-43 on the west side of the channel exposed with no discernible aspect. Artifacts recovered from the site include 2 Swan River Chert flakes. No excavations were performed at this site. There are no recorded features at this site. The site was not impacted by development.

Enns-Kavanagh, Kristen and LJ Butch Amundson  
2006  EdNh-44 Saskatchewan Archaeological Resource Record. Saskatchewan Culture and Youth. Regina, Saskatchewan.
Site Number: EdNh-45
Recorded: April, 1/ 2006
Status: Disturbed
Project: Unspecified Development
Position: West Side of Valley
NTS Map Reference: 72 I/11
Site Description:
EdNh-45 is listed as an artifact find site. The site is located on the upland slope of the Qu'Appelle Valley overlooking the Moose Jaw river and Qu'Appelle River confluence in native prairie grasses ~ 450 m from the Moose Jaw River. The site is on the west side of the channel, exposed with no discernable aspect. Adjacent to the site are EdNh-46 and EdNH-16, a cairn and habitation site, respectively. The artifact comprising this site is a broken Swan River Chert knife. No excavations were performed at this site. No features were recorded at this site. The site was not impacted by development.

Friesen, Nathan

Site Number: EdNh-46
Recorded: April, 1/ 2006
Status: Disturbed
Project: Unspecified Development
Position: West Side of Valley
NTS Map Reference: 72 I/11
Site Description:
EdNh-46 is listed as a single feature site. The site is located on the upland slope of the Qu'Appelle Valley overlooking the Moose Jaw river and Qu'Appelle River confluence in native prairie grasses ~ 550 m from the Moose Jaw River. The site is on the west side of the channel, exposed, with no discernable aspect. No excavations were performed at this site. No artifacts were discovered at this site and no excavations were performed. Features recorded at the site include a large cairn. The cairn is largely overgrown with grasses and visible components are limited.

Friesen, Nathan
Site Number: EdNh-48 (Lafarge Circle Site 2)  
Recorded: September, 28/2010  
Status: Avoided  
Project: Gravel Pit Development  
Position: South Side of Valley  
NTS Map Reference: 72 I/11  
Site Description:  
EdNh-48 is listed as a single feature site. The site is located on a prairie upland overlooking the Qu’Appelle River in native prairie grasses ~ 80 m from a seasonal pond. The site is on the south side of the channel and prominently positioned overlooking the Qu’Appelle Valley. Wooded coulee systems are present to the north as well as ephemeral drainage basins adjacent to the site area. No artifacts were recorded and no excavations were performed. Features present at the site include a stone circle.

Rudolph, Lisa, and Kim Wutzke.  

Site Number: EdNh-49 (Lafarge Circle Site 1)  
Recorded: September, 28/2010  
Status: Avoided  
Project: Gravel Pit Development  
Position: South Side of Valley  
NTS Map Reference: 72 I/11  
Site Description:  
EdNh-49 is listed as a recurrent feature site. The site is located on prairie upland overlooking the Qu’Appelle River in native prairie grasses ~ 90 m from a seasonal pond. The site is on the south side of the channel and prominently positioned overlooking the Qu’Appelle Valley. Wooded coulee systems are present to the north as well as ephemeral drainage basins adjacent to the site area. No artifacts were recorded and no excavations were performed. Features present at the site include 4 stone circles to the northwest of EdNh-48.

Rudolph, Lisa, and Kim Wutzke.  
Site Number: EdNh-50
Recorded: July, 2/2011
Status: Avoided
Project: Unspecified Project
Position: East Side of Valley
NTS Map Reference: 72 I/11

Site Description:
EdNh-50 is listed as an artifact scatter and midden site. The site is located on a valley ridge overlooking the Qu’Appelle River in cultivation ~ 1000 m from the Moose Jaw River. The site is positioned in cultivation in the same field as EdNh-1, up slope from EdNh-34 and 35. EdNh-50 is on the eastern side of the channel, exposed, with no discernable aspect. Artifacts recovered from the site include 13 pieces of ceramic, 1 bone ornament, 4 projectile points including Old Women’s Phase and McKean points, 2 preforms, 2 scrapers, 2 partial points, 1 spokeshave and a partial uniface. There are no features at the site. Given that this site is in the same field as Ednh-1, and also contains Old Women’s Phase materials, it is possible that cultivation operations have spread the same site over a larger area, or alternatively, represents a larger occupation area of Old Women’s Phase groups.

Golly, Stuart

Project Update: Re-Assessment to Delineate Boundaries
Additional materials recovered from the site include 8 partial bifaces, 3 points (Old Women’s Phase, Oxbow, Besant) 9 scrapers, 1 notched knife and 9 ceramic pieces. The site is at risk from subsequent cultivation operations and will be consistently disturbed year-to-year.

Golly, Stuart
Site Number: EdNh-51
Recorded: December, 9/ 2012
Status: Disturbed
Project: Electrical Transmission Line
Position: East Side of Valley
NTS Map Reference: 72 I/11
Site Description:
EdNh-51 is listed as a single feature site. The site is located on a valley terrace in native prairie grasses ~ 1600 m from the Qu’Appelle River. The site is located on the east side of the channel below the valley ridge and is located near wooded coulee systems, as well as EdNh-52. No artifacts were recorded and no excavations were performed. Features present at the site include a stone circle.

Cloutier, Riel

Project Update: Re-location for Rail Line Development
The update form includes several shovel tests conducted around the stone circle. No artifacts were recovered despite additional work.

Boras, Don

Site Number: EdNh-52
Recorded: December, 9/ 2012
Status: Disturbed
Project: Electrical Transmission Line
Position: East Side of Valley
NTS Map Reference: 72 I/11
Site Description:
EdNh-52 is listed as a recurrent feature site. The site is located on a valley terrace in native prairie greases ~ 1300 m from the Qu’Appelle River. The site is located on the east side of the channel below the valley ridge and is located near wooded coulee systems, as well as EdNh-51. No artifacts were recovered from the site and no excavations were performed. Features at the site include 2 stone circles.
Project Update: Re-location for Rail Line Development
The update form includes several shovel tests conducted around and between the stone circles. No artifacts were recovered despite additional work.

Boras, Don

Site Number: EdNh-54
Recorded: June, 6/ 2013
Status: Disturbed
Project: Electrical Transmission Line
Position: West Side of Valley
NTS Map Reference: 72 I/11
Site Description:
EdNh-54 is listed as a single feature site. The site is located on valley ridge in native prairie grasses ~110 m from a seasonal pond. Immediately adjacent to the site is a wooded drainage coulee and a downslope terrace. The site is positioned of the west side of the channel with an eastern aspect. Several lithic artifacts were recovered from the site, which include chert, sandstone, and quartzite flakes/ flake fragments. Several shovel tests were performed at the site and features include a stone circle.

Huynh, Tam

Project Update: Re-Location for Potential Impact Through Transmission Line Development
The update form includes additional lithic materials. Seven flakes, ten shatter fragments, three flake fragments, two core fragments composed from cherts, sandstones, and quartzites were recovered. The site form does not distinguish between material and lithic types. The stone circles were also mapped at this time.
Site Number: EdNh-55
Recorded: June, 18/ 2013
Status: Avoided
Project: Gas Pipeline Development
Position: North Side of Valley
NTS Map Reference: 72 I/11
Site Description:
EdNh-55 is listed as a single feature site. The site is located on a valley bench in native prairie grasses ~ 940 m from the Qu'Appelle River. The site is central to the landform located between two wooded coulee systems on the north side of the channel with a southern aspect. No artifacts were recovered from the site and no excavations were performed. Features at the site include a stone circle.

Site Number: EdNh-56
Recorded: June, 18/ 2013
Status: Avoided
Project: Gas Pipeline Development
Position: North Side of Valley
NTS Map Reference: 72 I/11
Site Description:
EdNh-56 is listed as a recurrent feature site. The site is located on a bench in native prairie grasses ~ 940 m from the Qu’Appelle River. The site is on the north side of the channel with a southern aspect, and adjacent to a wooded drainage coulee system. No artifacts were recovered and no excavations were performed. Features present at the site include 3 stone circles.
Site Number: EdNh-57  
Recorded: August, 23/ 2013  
Status: Avoided  
Project: Rail Line Development  
Position: North Side of Valley  
NTS Map Reference: 72 I/11  
Site Description:  
EdNh-57 is listed as a recurrent feature site. The site is located on the valley ridge overlooking the Qu’Appelle River in native prairie grasses ~ 140 m from an unnamed stream. The site is upslope from a densely wooded area on the north side of the channel with a southern aspect. No artifacts were recovered and shovel tests did not yield cultural materials. Features present at the site include 2 stone circles and a cairn.

Boras, Don  

Site Number: EdNh-58  
Recorded: August, 22/ 2013  
Status: Destroyed  
Project: Rail Line Development  
Position: North Side of Valley  
NTS Map Reference: 72 I/11  
Site Description:  
EdNh-58 is listed as an artifact scatter site. The site is located on a valley terrace in native prairie grasses ~ 25 m from an unnamed stream. The site is positioned on the north side of the channel with a southeastern aspect. The contents and specific information regarding this site are discussed in Chapter 5 of this thesis. The site was destroyed by development.

Boras, Don  
Site Number: EdNh-59  
Recorded: August, 22/ 2013  
Status: Avoided  
Project: Rail Line Development  
Position: North Side of Valley  
NTS Map Reference: 72 I/11  
Site Description:  
EdNh-59 is listed as an artifact/ feature combination site. The site is located on sloping prairie upland terrain approaching the Qu’Appelle Valley in native prairie grasses ~ 130 m from an unnamed stream. The site is prominently positioned overlooking the tributary channel draining into the Qu’Appelle River to the south. The site is on the north side of the channel with a southern aspect. Two core fragments were recovered from the surface, and shovel testing provided no additional materials. Features at the site include 4 stone circles. EdNh-58 is downslope of the site, although there is no evidence to suggest that these sites are associated.

Boras, Don  

Site Number: EdNh-60  
Recorded: August, 23/ 2013  
Status: Destroyed  
Project: Rail Line Development  
Position: West Side of Valley  
NTS Map Reference: 72 I/11  
Site Description:  
EdNh-60 is listed as a recurrent feature site. The site is located on sloping prairie upland terrain approaching the Qu’Appelle Valley in native prairie grasses ~ 125 m from an unnamed stream. The site is positioned of the west die of the channel with an eastern aspect. The coulee in this area is moderately sloped and becomes more steeply sloped to the south as it approaches the Qu’Appelle River. No materials were recovered from this site and shovel testing proved negative. Features at the site include 2 cairns.

Boras, Don  
Site Number: EdNh-62
Recorded: October, 21 / 2013
Status: Destroyed
Project: Gas Pipeline Development
Position: North Side of Valley
NTS Map Reference: 72 1/11
Site Description:
EdNh-62 is listed as a burial site. The site is located on a bench in native prairie grasses ~ 1150 m from the Qu’Appelle River. The site is located on the north side of the channel and prominently positioned with a southern aspect. EdNh-56 is downslope of the site area with a drainage coulee separating the 2 sites. A petrified wood biface, 15 pieces of human remains were recovered from the site. The human remains included 5 cranium fragments, 4 femur shaft fragments, 1 tibia shaft fragment, 3 unidentified long-bone shaft fragments, and 2 maxillary molar fragments. Additional bison, bird, canid, rabbit, and rodent remain were also recovered from the burial feature. The site was impacted during construction activates and essentially destroyed. It is suggested that the site is the remnants of a bundle burial. Topsoil screening was performed and yielded no additional materials. Features at the site include the burial pit.

Young, Patrick

Project Update: Additional Information from Osteological Study
The update form describes the identification of 2 cairns likely associated with the site. Dr. Ernie Walker provided an approximate date range of 2000-3000 YBP at this time.

Friesen, Nathan
Site Number: EdNh-63  
Recorded: August, 18 / 2014  
Status: Disturbed  
Project: Electrical Transmission Line Development  
Position: North Side of Valley  
NTS Map Reference: 72 I/11  
Site Description:  
EdNh-63 is listed as an artifact find site. The site is situated on the uplands adjacent to the north crest of the Qu’Appelle River Valley, the site was identified in a low area north of a high rise in a rolling prairie landscape that has been extensively cultivated throughout the years. The nearest water source is a seasonal pond ~ 200 m from the site. EdNh-63 is positioned on the north side of the valley, exposed, with no discernible aspect. Artifacts recovered at the site include a Swan River Chert biface. The site was shovel tested and no features are present.

Huynh, Tam  

Site Number: EdNh-64  
Recorded: August, 18 / 2014  
Status: Disturbed  
Project: Electrical Transmission Line Development  
Position: North Side of Valley  
NTS Map Reference: 72 I/11  
Site Description:  
EdNh-64 is listed as an artifact scatter site. The site is located on the valley ridge overlooking the Qu’Appelle River in cultivation ~ 50 m from a seasonal pond. Positioned on the north side of the valley, EdNh-64 is located in the same field as EdNh-63, both of which are disturbed through cultivation. Artifacts recovered at the site include a Swan River Chert core and flake, a quartzite core, and a chalcedony flake. The site was shovel tested and no features are present. Few Swan River Chert cores have been recovered in the study area, although the raw material is the dominant stone for tool manufacturing.

Huynh, Tam  
Site Number: EdNh-65
Recorded: August, 20/ 2014
Status: Disturbed
Project: Electrical Transmission Line Development
Position: North Side of Valley
NTS Map Reference: 72 I/11
Site Description:
EdNh-65 is listed as an artifact scatter. The site is located on a valley ridge in native prairie grasses ~ 60 m from a seasonal pond. EdNh-65 and 66 are located on the same landform surrounded by wooded drainage coulees with western aspects. Artifacts recovered at the site include 3 Swan River Chert flakes and 13 pieces of fire cracked rock. The site was shovel tested and no features are present.

Huynh, Tam

Site Number: EdNh-66
Recorded: August, 20/ 2014
Status: Disturbed
Project: Electrical Transmission Line Development
Position: North Side of Valley
NTS Map Reference: 72 I/11
Site Description:
EdNh-66 is listed as a single feature site. The site is located on a valley ridge overlooking the Qu’Appelle River in native prairie ~ 80 m from a seasonal creek. EdNh-65 and 66 are located on the same landform surrounded by wooded drainage coulees with western aspects. No artifacts were recovered from the site and shovel testing was performed in the surrounding area. Features at the site include a single cairn.

Huynh, Tam
**Project Update:** In conflict with Electrical Tower Location
The update form describes shovel testing of the cairn. No materials were recovered and the site was avoided by construction.

Huynh, Tam  

**Site Number: EdNh-67**  
**Recorded:** August, 18 / 2014  
**Status:** Disturbed  
**Project:** Electrical Transmission Line Development  
**Position:** North Side of Valley  
**NTS Map Reference:** 72 I/11  
**Site Description:**  
EdNh-67 is listed as an artifact scatter. The site is located on the valley ridge overlooking the Qu’Appelle River in cultivation ~ 250 m from a seasonal creek. The site is prominently situated overlooking EdNh- 65 and 66 at the beginning of a drainage coulee system. Artifacts recovered from the site include a Swan River Chert flake, and a quartzite unidirectional core and hammerstone. The site was shovel tested with no additional materials and no features were present.

Huynh, Tam  

**Site Number: EdNh-68**  
**Recorded:** October, 19 / 2014  
**Status:** Disturbed  
**Project:** Pipeline Development  
**Position:** North Side of Valley  
**NTS Map Reference:** 72 I/11  
**Site Description:**  
EdNh-68 is listed as an artifact scatter. The site is located on a valley terrace in native prairie grasses ~ 125 m from a seasonal creek. The site is positioned on the north side of the valley with a southern aspect and is upslope rom EdNh-32. Artifacts recovered from the site include a quartz biface, a quartzite retouched flake, a Swan River Chert
retouched flake, a chert utilized flake, a chert core, and 7 pieces of debitage. Materials were recovered from shovel testing. No features were present.

Malasiuk, Jordyce  

**Project Update:** In conflict with Electrical Tower Location  
The update form describes controlled excavation of the site. The excavation units yielded 5 pieces of debitage, 1 quartzite core, and 1 petrified wood utilized flake along with 4 faunal fragments.

Malasiuk, Jordyce  

**Site Number: EdNh-69**  
**Recorded:** October, 21 / 2014  
**Status:** Disturbed  
**Project:** Pipeline Development  
**Position:** South Side of Valley  
**NTS Map Reference:** 72 I/11  
**Site Description:**  
EdNh-69 is listed as an artifact scatter. The site is located on prairie upland in native prairie grasses ~ 125 m from a seasonal creek. The site is positioned on the south side of the valley, exposed, with no discernable aspect on the edge of a densely wooded area. Artifacts recovered from the site include 31 pieces of Swan River Chert, 10 Knife River Flint, 10 silicified wood, 7 chert, 6 quartzite, 6 quartz, 2 chalcedony, 2 silicified siltstone and 1 porcellanite debitage. Tools at the site include 1 chert wedge, 1 silicified wood biface, 1 Knife River flint endscraper as well as 5 cores and 7 pieces of fire cracked rock. Faunal remains include 4 unidentified bone fragments and a bivalve shell fragment. Materials were recovered from shovel testing. No features were present.

Malasiuk, Jordyce  
Site Number: EdNh-70
Recorded: October, 24/ 2014
Status: Disturbed
Project: Pipeline Development
Position: South Side of Valley
NTS Map Reference: 72 I/11
Site Description:
EdNh-70 is listed as an artifact scatter. The site is located on prairie upland overlooking the Qu’Appelle River in native prairie grasses ~ 560 m from the river. The site is positioned on the south side of the channel downslope from EdNh-69. Subsurface testing recovered 7 Swan River Chert, 4 silicified wood, 3 quartz, 2 quartzite, 1 chalcedony and 1 siltstone debitage, 1 chalcedony core, 2 Swan River Chert retouched flakes, 1 chert retouched flake. Materials were recovered from shovel testing. No features were present.

Malasiuk, Jordyce

Site Number: EdNh-72
Recorded: October, 19/ 2014
Status: Disturbed
Project: Pipeline Development
Position: North Side of Valley
NTS Map Reference: 72 I/11
Site Description:
EdNh-72 is listed as a single feature site. The site is located in a valley drainage in native prairie grasses ~ 35 m from a seasonal pond. The site is situated on the north side of the channel with a southern aspect near the escarpment of the Qu’Appelle Valley on the edge of a drainage coulee system. No artifacts were discovered at this site and shovel testing proved negative. Features present at the site include a single stone circle.

Malasiuk, Jordyce
Site Number: EdNh-73  
Recorded: October, 11 / 2014  
Status: Avoided  
Project: Pipeline Development  
Position: North Side of Valley  
NTS Map Reference: 72 I/11  
Site Description:  
EdNh-73 is listed as an artifact scatter site. The site is located on a bench landform in wooded terrain ~ 20 m from a seasonal pond. The site is situated of the north side of the channel with a southern aspect. Artifacts discovered at this site include a piece of chert shatter, a Swan River Chert flake and retouched flake. Additionally, 6 unidentifiable bone fragments were also recovered. There are no features present at this site.

Malasiuk, Jordyce  

Site Number: EdNh-74  
Recorded: October, 22/ 2014  
Status: Avoided  
Project: Pipeline Development  
Position: North Side of Valley  
NTS Map Reference: 72 I/11  
Site Description:  
EdNh-74 is listed as an artifact find site. The site is located on a terrace landform in wooded terrain ~390 m from the Qu’Appelle River. The site is situated of the north side of the channel with a southern aspect. Artifacts discovered at this site include 2 quartz flakes. Shovel testing at this site proved negative. There are no features present at this site.

Malasiuk, Jordyce  
Site Number: EdNh-75  
Recorded: August, 12/ 2015  
Status: Destroyed  
Project: Rail Line Development  
Position: West Side of Valley  
NTS Map Reference: 72 I/11  
Site Description:  
EdNh-75 is listed as an artifact find site. The site is located on a slump block landform in native prairie grasses ~10 m from an unnamed stream. Excavations and shovel testing at this site yielded abundant materials which are discussed in Chapter 5 of this thesis. No features are present at this site.

Boras, Don  

Site Number: EdNh-76  
Recorded: May, 22/ 2015  
Status: Destroyed  
Project: Rail Line Development  
Position: North Side of Valley  
NTS Map Reference: 72 I/11  
Site Description:  
EdNh-76 is listed as an artifact find site. The site is located on a slump block landform in native prairie grasses ~5 m from an unnamed stream. The site is situated on the north side of the channel with a western aspect and surrounded by wooded coulee systems. 246 bones and bone fragments were scattered throughout the area, both on and underneath the surface. Most of the buried material was identified as bison; material on the surface and some buried included domestic cattle, cervids and small mammal were found as well. Possible cut marks were noted on a bison metacarpal and scapula, and modern saw marks were observed on a cervid (possibly elk) bone; some bones appeared to have been burnt. No primary context could be associated with the material because of the disturbance in the area. No features are present at this site.

Boras, Don  
Site Number: EdNh-77  
Recorded: June, 8, 2015  
Status: Disturbed  
Project: Rail Line Development  
Position: West Side of Valley  
NTS Map Reference: 72 I/11  
Site Description:  
EdNh-77 is listed as an artifact find site. The site is located on a slump block in native prairie grasses ~1200 m from the Qu’Appelle River. All material was distributed throughout the site area, and in generally low densities, but the densest concentrations of material, measured by the number of materials recovered from individual shovel tests was along the west side of the site, near the base of the valley wall and near an ephemeral drainage. The soils in the area are poorly developed in a more or less pure sandy matrix. It is our view that the site is located on an ancient slump block overlain by fluvial and aeolian sands. No features or suspected features or concentrations of material indicative of the presence of any significant activity areas or features were located. The prevalence of two material types, Swan River Chert and Knife River Flint and large quantities of flakes, fragments and small debitage suggest that lithic reduction was an important activity at the site. As noted material was distributed at various depths and there was no intervening sterile layer between artifacts at any depth.

Boras, Don  

Site Number: EdNh-78  
Recorded: July, 9/ 2015  
Status: Disturbed  
Project: Electrical Transmission Line Development  
Position: East Side of Valley  
NTS Map Reference: 72 I/11  
Site Description:  
EdNh-78 is listed as a single feature site. The site is located on a valley ridge overlooking the Qu’Appelle River in native prairie grasses ~ 250 m from a seasonal creek. The site is positioned on the east side of the channel adjacent to wooded coulee systems and on the border of a cultivated field that EdNh-4 is located within. No artifacts
were recovered and no excavations were performed. Features present at the site include a single cairn.

Cloutier, Riel

Site Number: EdNh-79
Recorded: May, 7/ 2017
Status: Disturbed
Project: Road Development
Position: South Side of Valley
NTS Map Reference: 72 I/11
Site Description:
EdNh-79 is listed as an artifact find site. The site is located on a valley ridge overlooking the Qu’Appelle River in native prairie grasses ~ 440 m from the Qu’Appelle River. The site is positioned on the south side of the channel with a northern aspect and is prominently situated at the top of several wooded coulee systems entering the Qu’Appelle Valley. The artifacts recovered include 2 pieces of Swan River Chert shatter, and 3 pieces of miscellaneous chert debitage. The site was shovel tested and no features are present.

Wolfe, Kara

Site Number: EdNh-80
Recorded: May, 7/ 2017
Status: Disturbed
Project: Road Development
Position: South Side of Valley
NTS Map Reference: 72 I/11
Site Description:
EdNh-80 is listed as an artifact find. The site is located on a valley ridge overlooking the Qu’Appelle River in native prairie grasses ~ 570 m from the Qu’Appelle River. The site is positioned on the south side of the channel with a northern aspect and is prominently situated at the top of several wooded coulee systems entering the Qu’Appelle Valley.
EdNh-80 is upslope from EdNh-79. The artifact recovered is a Swan River Chert flake with evidence of heat treatment. No additional materials were recovered during shovel testing at the site. No features are present.

Wolfe, Kara

Site Number: EdNh-81
Recorded: May, 8/ 2017
Status: Disturbed
Project: Road Development
Position: East Side of Valley
NTS Map Reference: 72 I/11
Site Description:
EdNh-81 is listed as an artifact find. The site is located on a slump block in native prairie grasses ~ 160 m from the Qu’Appelle River. The site is situated on the east side of the channel with a northwestern aspect and positioned between several densely wooded groves. The artifact recovered is a quartzite flake. Shovel testing did not yield additional materials, and no features are present at the site.

Kevinsen, Brent

Site Number: EdNh-82
Recorded: May, 8/ 2017
Status: Disturbed
Project: Road Development
Position: East Side of Valley
NTS Map Reference: 72 I/11
Site Description:
EdNh-82 is listed as an artifact find. The site is located on the valley ridge overlooking the Qu’Appelle River in native prairie grasses ~ 160 m from the Qu’Appelle River. The site is positioned on the east side of the channel near the beginning locations of several wooded coulee systems. The site is exposed with no discernible aspect. The artifact
recovered is a single piece of quartzite debitage recovered from a shovel test. Additional testing yielded no materials and no features are present at the site.

Kevinsen, Brent

Site Number: EdNh-83
Recorded: May, 8/ 2017
Status: Disturbed
Project: Road Development
Position: East Side of Valley
NTS Map Reference: 72 I/11
Site Description:
EdNh-83 is listed as a recurrent feature site. The site is located on the valley ridge overlooking the Qu’Appelle River in native prairie grasses ~ 570 m from the Qu’Appelle River. The site is positioned on the east side of the channel near the beginning locations of several wooded coulee systems. No artifacts were recovered and no excavations were performed at the site. The features present include 2 cairns.

Kevinsen, Brent

Site Number: EdNi-6
Recorded: September, 6/ 1971
Status: Destroyed
Project: Road Development
Position: South Side of Valley
NTS Map Reference: 72 I/11
Site Description:
EdNi-6 is listed as an artifact find site. The site is located on a bench landform in cultivation ~ 880 m from Buffalo Pound Lake. The site is situated on the south side of the channel, exposed, with no discernible aspect. Artifacts present at the site include an unspecified number of Agate Basin and McKean points. No excavations were performed at the site as the material was found on the surface in a cultivated field. Despite the lack of context for these projectile point finds, EdNi-6 marks one of few sites with a relative
date, and indicates Early and Middle Period occupation of the valley. It is suggested by Watson that the site has been looted by locals, and likely more artifacts are present in private collections.

Watson, G.
1971 EdNi-6 Saskatchewan Archaeological Resource Record. Saskatchewan Culture and Youth. Regina, Saskatchewan.

Project Update: In Conflict with Pipeline Development
The update form describes shovel testing of the site and additional materials recovered. The site description is changed from an artifact find to an artifact scatter. A silicified wood flake and Swan River Chert flake are recovered at this time.

Young, Patrick

Site Number: EdNi-7
Recorded: May, 7/1973
Status: Destroyed
Project: Road Development
Position: South Side of Valley
NTS Map Reference: 72 I/11
Site Description:
EdNi-7 is listed as a burial site. The site is located on a terrace in native prairie grasses ~5 m from Buffalo Pound Lake. The site is positioned on the south shores of Buffalo Pound Lake, with a northern aspect. The site was impacted by development and recorded afterwards. No context is described and the site location is an estimate based on the salvage operations undertaken by Watson. No artifacts are present at the site and salvage excavations were performed. Features present include a burial pit that had been impacted by road development operations.

Watson, G.
1973 EdNi-7 Saskatchewan Archaeological Resource Record. Saskatchewan Culture and Youth. Regina, Saskatchewan.
Site Number: EdNi-8 (Beer in the Rain Site)
Recorded: July, 28/ 1981
Status: Disturbed
Project: Subdivision Development
Position: North Side of Valley
NTS Map Reference:
Site Description:
EdNi-8 is listed as a buried artifact scatter. The site is located on a terrace in native prairie grasses ~ 20 m from Buffalo Pound Lake. The site is positioned on the north side of the channel with a southern aspect. A steep slope and several wooded coulee systems are adjacent to the site. Artifacts present at the site include pottery sherds dating the site in the Late Period. No excavations occurred and no features are present at this site. It is suggested by Dyck that the site has been looted by locals, and likely more artifacts are present in private collections.

Dyck, Ian
1981 EdNi-8 Saskatchewan Archaeological Resource Record. Saskatchewan Culture and Youth. Regina, Saskatchewan.

Project Update: In Conflict with Cottage Subdivision
The update form describes additional materials found at the site including fire cracked rock, a bison tooth, and a Swan River Chert flake. Erosion and looting seem to have affected the site.

Amundson, L. J

Site Number: EdNi-9 (Sudden Gale Site)
Recorded: July, 28/ 1981
Status: Disturbed
Project: Cottage Development
Position: North Side of Valley
NTS Map Reference: 72 I/11
Site Description:
EdNi-9 is listed as a buried artifact scatter. The site is located on a terrace in native prairie grasses ~ 30 m from Buffalo Pound Lake. The site is positioned on the
north side of the channel with a southern aspect. A steep slope and several wooded coulee systems are adjacent to the site. Artifacts present at the site are described as “everything – historic and prehistoric pottery, bone, flakes, glass, iron, etc.” No excavations occurred and no features are present at the site. Likely a Late Period occupation site based on the prehistoric pottery present therein. Despite the lack of description for the artifacts located at this site, it is clear that the area has been disturbed and prehistoric artifacts have been mixed with historic and modern items. Regardless, the site can be referenced as a Late Period site based on the prehistoric pottery. It is suggested by Dyck that the site has been looted by locals, and likely more artifacts are present in private collections.

Dyck, Ian

Site Number: EdNi-10 (Good Catch Site)
Recorded: July, 28/ 1981
Status: Disturbed
Project: Cottage Development
Position: North Side of Valley
NTS Map Reference: 72 I/11
Site Description:
EdNi-10 is listed as a buried artifact scatter. The site is located on a terrace in native prairie grasses ~ 5 m from Buffalo Pound Lake. The site is positioned on the north side of the channel with a southern aspect. A steep slope and several wooded coulee systems are adjacent to the site. Artifacts present at the site include a Pelican Lake and Hanna point, a chert flake, and several large bison bone fragments. No excavations occurred and no features are present at the site. Despite the lack of context for these projectile point finds, EdNi-6 marks one of few sites with a relative date, and indicates Early and Middle Period occupation of the valley. It is suggested by Dyck that the site has been looted by locals, and likely more artifacts are present in private collections.

Dyck, Ian
1981  EdNi-10 Saskatchewan Archaeological Resource Record. Saskatchewan Culture and Youth. Regina, Saskatchewan.
Site Number: EdNi-11  
Recorded: July, 7/ 1988  
Status: Disturbed  
Project: Cottage Development  
Position: North Side of Valley  
NTS Map Reference: 72 I/11  
Site Description:  
EdNi-10 is listed as a surface scatter. The site is located on a terrace in native prairie grasses ~ 15 m from Buffalo Pound Lake. The site is positioned on the north side of the channel with a southern aspect. A steep slope and several wooded coulee systems are adjacent to the site. Artifacts present at the site include possible beads. No other artifacts were located and the site informants refused to disclose any artifacts in their possession. It is suggested by Melit that the site has likely been looted for years, and any diagnostic or potentially valuable materials have been removed. No excavations occurred and no features are present at the site.

Melit, L.  

Site Number: EdNi-12  
Recorded: October, 23/ 1991  
Status: Disturbed  
Project: Subdivision Development  
Position: North Side of Valley  
NTS Map Reference: 72 I/11  
Site Description:  
EdNi-12 is listed as a single feature. The site is located on a terrace in native prairie grasses ~ 15 m from Buffalo Pound Lake. The site is positioned on the south side of the channel with a northern aspect. The landform is between 2 densely wooded coulee systems. No artifacts were recovered from the site and no excavations were performed. Features present at the site include a cairn.

Saylor, S.  
1991  EdNi-12 Saskatchewan Archaeological Resource Record. Saskatchewan Culture and Youth. Regina, Saskatchewan.
Site Number: EdNi-13 (Marquis Site)
Recorded: October, 6/ 1994
Status: Disturbed
Project: Subdivision Development
Position: South Side of Valley
NTS Map Reference: 72 I/11

Site Description:
EdNi-13 is listed as a recurrent feature site. The site is located on a bench in native prairie grasses ~ 500 m from the Qu’Appelle River. The site is positioned on the south side of the channel with a northern aspect. The landform is between 2 densely wooded coulee systems. No artifacts were recovered from the site and no excavations were performed. Features present at the site include 4 stone circles.

Amundson, L.J

Site Number: EdNi-14
Recorded: October, 8/ 2008
Status: Destroyed
Project: Road Development
Position: South Side of Valley
NTS Map Reference: 72 I/11

Site Description:
EdNi-14 is listed as an artifact find site. The site is located on a terrace in native prairie grasses ~ 100 m from the Buffalo Pound Lake. The site is positioned on the south side of the channel with a northern aspect. The landform is between 2 densely wooded coulee systems. Artifacts recovered from the site include a Swan River Chert flake. No features are present at the site and shovel testing proved negative.

Young, Patrick
2008 EdNi-14 Saskatchewan Archaeological Resource Record. Saskatchewan Culture and Youth. Regina, Saskatchewan.
Site Number: EdNi-15  
Recorded: November, 12/2009  
Status: Avoided  
Project: Road Development  
Position: North Side of Valley  
NTS Map Reference: 72 I/11  
Site Description:  
EdNi-15 is listed as a recurrent feature site. The site is located on prairie upland terrain in native prairie grasses ~ 550 m from Buffalo Pound Lake. The site is positioned on the north side of the channel, exposed, with no discernible aspect. A steep slope and several wooded coulee systems are adjacent to the site. No artifacts are present at the site and no excavations were performed. Features present include 2 stone circles.

Young, Patrick, Mike Marjowski, and Katie Zdunich  

Site Number: EdNi-16  
Recorded: August, 13/2012  
Status: Avoided  
Project: Transmission Line Development  
Position: North Side of Valley  
NTS Map Reference: 72 I/11  
Site Description:  
EdNi-16 is listed as an artifact find site. The site is located on prairie upland terrain in native prairie grasses ~ 500 m from Buffalo Pound Lake. The site is positioned on the north side of the channel, exposed, with no discernible aspect. A steep slope and several wooded coulee systems are adjacent to the site. Artifacts recovered from the site include a chert flake and 2 quartz flakes. Shovel testing at the site was identified as being off-right of way, and testing was halted. No features are present at this site.

Cloutier, Riel  
Site Number: EeNj-9
Recorded: June, 14/ 1983
Status: Disturbed
Project: Transmission Line Development
Position: North Side of Valley
NTS Map Reference: 72 I/12
Site Description:
EeNj-9 is listed as an artifact scatter site. The site is located on a terrace in native prairie grasses ~ 50 m from Buffalo Pound Lake. The site is positioned on the north side of the channel, exposed, with a southern aspect. A steep slope and several wooded coulee systems are adjacent to the site. Artifacts recovered from the site include a Hudson’s Bay trade point and catlinite pipe fragments. No excavations were performed at the site and no features are present.

Tasker, A. and Melit, L.

Site Number: EeNj-13
Recorded: June, 6/ 1989
Status: Destroyed
Project: Cottage Subdivision Development
Position: North Side of Valley
NTS Map Sheet: 72 I/12
Site Description:
EeNj-13 is listed as an artifact scatter site. The site is located on a terrace in native prairie grasses ~ 100 m from Buffalo Pound Lake. The site is positioned on the north side of the channel, exposed, with a southern aspect. A steep slope and several wooded coulee systems are adjacent to the site. Artifacts recovered from the site include a piece of Swan River Chert debitage, quartzite spall, 20 bone fragments. No shovel testing at the site proved negative and no features are present.

Saylor, S.
Site Number: EeNj-17
Recorded: June, 28/ 2002
Status: Disturbed
Project: Road Development
Position: South Side of Valley
NTS Map Reference: 72 I/12
Site Description:
EeNj-17 is listed as single feature site. The site is located on the valley ridge in a cultivated field ~ 225 m from an unnamed stream. The site is positioned on the south side of the channel with a northern aspect. No artifacts were recovered from the site. No shovel testing at the site proved negative. Features present at the site include a single cairn.


Site Number: EeNj-18
Recorded: October, 2003
Status: Destroyed
Project: Subdivision Development
Position: North Side of Valley
NTS Map Reference: 72 I/12
Site Description:
EeNj-18 is listed as an artifact feature combo site. The site is located on a terrace in native prairie grasses ~ 5 m from Buffalo Pound Lake. The site is positioned on the north side of the channel, exposed, with a southern aspect. Artifacts present at the site include unspecified lithics. The site was not tested and features include a stone circle.

Site Number: EeNj-19  
Recorded: October, 2003  
Status: Disturbed  
Project: Pipeline Development  
Position: North Side of Valley  
NTS Map Reference: 72 l/12  
Site Description:  
EeNj-19 is listed as an artifact scatter site. The site is located on a terrace in native prairie grasses ~ 300 m from Buffalo Pound Lake. The site is positioned on the north side of the channel, exposed, with a southern aspect. A wooded drainage coulee ends to the north of the site. Artifacts present at the site include historic debris such as saw cut board with wire and hand cut nails, remains of a horse-drawn sled and barbed wire. No features are present at the site.

Hjermsted, Ben  

Site Number: EeNj-20  
Recorded: October, 13/ 2006  
Status: Avoided  
Project: Subdivision Development  
Position: North Side of Valley  
NTS Map Reference: 72 l/12  
Site Description:  
EeNj-20 is listed as a single feature site. The site is located on a ridge above Buffalo Pound Lake in native prairie grasses ~ 85 m from Buffalo Pound Lake. The site is positioned on the north side of the channel, exposed, with a southern aspect. No artifacts were present at the site and no excavations were performed. Features present at the site include a stone circle.

Amundson, L.J, and Bronson, J.E  

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Site Number: EeNj-21
Recorded: October, 13/ 2006
Status: Disturbed
Project: Subdivision Development
Position: North Side of Valley
NTS Map Reference: 72 I/12
Site Description:
EeNj-21 is listed as a single feature site. The site is located on a ridge above Buffalo Pound Lake in wooded terrain ~ 50 m from Buffalo Pound Lake. The site is positioned on the north side of the channel, exposed, with a southern aspect. No artifacts were present at the site and no excavations were performed. Features present at the site include a stone circle.

Amundson, L.J, and Bronson, J.E

Site Number: EeNj-22
Recorded: August, 27/ 2008
Status: Disturbed
Project: Road Development
Position: South Side of Valley
NTS Map Reference: 72 I/12
Site Description:
EeNj-22 is listed as a multiple feature site. The site is located on a terrace in native prairie grasses ~ 60 m from Buffalo Pound Lake. The site is positioned on the south side of the channel with a northern aspect. Immediately to the northwest of the site area is a densely wooded coulee system. No artifacts were present at the site and no excavations were performed. Features present at the site include a stone circle and a cairn.

Enns-Kavanagh, Kristin M.
Site Number: EeNj-23
Recorded: June, 1/ 2011
Status: Avoided
Project: Waterline Development
Position: South Side of Valley
NTS Map Reference: 72 I/12
Site Description:
EeNj-23 is listed as a multiple feature site. The site is located on a saddle in native prairie grasses ~ 280 m from Buffalo Pound Lake. The site is positioned on the south side of the channel with a northern aspect overlooking a densely wooded coulee system. No artifacts were present at the site and no excavations were performed. Features present at the site include a stone circle.

Schiele, Brad, and Markowski, Mike

Site Number: EeNj-24
Recorded: June, 1/ 2011
Status: Avoided
Project: Waterline Development
Position: South Side of Valley
NTS Map Reference: 72 I/12
Site Description:
EeNj-24 is listed as a multiple feature site. The site is located on a terrace in native prairie grasses ~ 30m from Buffalo Pound Lake. The site is strategically positioned to allow for significant protection from the elements, surrounded by wooded coulees and ridges. No artifacts were present at the site and no excavations were performed. Features present at the site include 3 stone circles and 1 cairn.

Schiele, Brad, and Markowski, Mike
Site Number: EeNj-25
Recorded: June, 2/2011
Status: Avoided
Project: Waterline Development
Position: South Side of Valley
NTS Map Reference: 72 I/12
Site Description:
EeNj-25 is listed as a recurrent feature site. The site is located on a terrace in native prairie grasses ~ 115m from Buffalo Pound Lake. The site is positioned on the south side of the channel with a northern aspect overlooking densely wooded coulee systems to the east and west. No artifacts were present at the site and no excavations were performed. Features present at the site include 2 stone circles.

Schiele, Brad, and Markowski, Mike

Site Number: EeNj-26
Recorded: June, 2/2011
Status: Avoided
Project: Waterline Development
Position: South Side of Valley
NTS Map Reference: 72 I/12
Site Description:
EeNj-26 is listed as a multiple historic feature site. The site is located on a bench in wooded terrain ~ 300m from Buffalo Pound Lake. The site is positioned on the south side of the channel with a northern aspect overlooking densely wooded coulee systems to the south and southeast. No artifacts were present at the site and no excavations were performed. Features present at the site include 1 house, 1 small out-building, 1 cobble and mortar foundation, 1 cobble and mortar wall.

Schiele, Brad, and Markowski, Mike
Site Number: EeNj-27
Recorded: June, 2/ 2011
Status: Avoided
Project: Waterline Development
Position: South Side of Valley
NTS Map Reference: 72 I/12
Site Description:
EeNj-27 is listed as a single feature site. The site is located on a valley ridge in native prairie grasses ~ 650 m from Buffalo Pound Lake. The site is positioned on the south side of the channel with a northern aspect. No artifacts were present at the site and no excavations were performed. Features present at the site include 1 stone circle.

Schiele, Brad, and Markowski, Mike

Site Number: EeNj-28
Recorded: June, 2/ 2011
Status: Avoided
Project: Waterline Development
Position: South Side of Valley
NTS Map Reference: 72 I/12
Site Description:
EeNj-28 is listed as a multiple feature site. The site is located on a bench in native prairie grasses ~ 560 m from Buffalo Pound Lake. Immediately to the northwest of the site area is a densely wooded coulee system with several ephemeral drainage basins. No artifacts were present at the site and no excavations were performed. Features present at the site include 3 stone circles, 2 circular cobble mounds with interior depression, 1 elongated cobble mound with interior depression.

Schiele, Brad, and Markowski, Mike
Site Number: EeNj-29
Recorded: June, 2/ 2011
Status: Avoided
Project: Waterline Development
Position: South Side of Valley
NTS Map Reference: 72 I/12
Site Description:
EeNj-29 is listed as a recurrent feature site. The site is located on a terrace in native prairie grasses ~ 320 m from Buffalo Pound Lake. Immediately to the northwest of the site area is a densely wooded coulee system with several ephemeral drainage basins. No artifacts were present at the site and no excavations were performed. Features present at the site include 2 stone circles.

Schiele, Brad, and Markowski, Mike

Site Number: EeNj-30
Recorded: June, 2/ 2011
Status: Avoided
Project: Waterline Development
Position: South Side of Valley
NTS Map Reference: 72 I/12
Site Description:
EeNj-30 is listed as a single feature site. The site is located on a bench in wooded terrain ~ 700 m from Buffalo Pound Lake. Immediately to the northwest of the site area is a densely wooded coulee system with several ephemeral drainage basins. No artifacts were present at the site and no excavations were performed. Features present at the site include 1 stone circle.

Schiele, Brad, and Markowski, Mike
2011 EeNj-30 Saskatchewan Archaeological Resource Record. Saskatchewan Tourism, Parks, Culture, and Sport. Regina, Saskatchewan

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Site Number: EeNj-31
Recorded: June, 2/ 2011
Status: Avoided
Project: Waterline Development
Position: South Side of Valley
NTS Map Reference: 72 I/12

Site Description:
EeNj-31 is listed as a recurrent feature site. The site is located on a terrace in native prairie grasses ~ 600 m from Buffalo Pound Lake. Immediately to the northwest of the site area is a densely wooded coulee system with several ephemeral drainage basins. No artifacts were present at the site and no excavations were performed. Features present at the site include 4 stone circles. This site, along with EeNj - 32, 33, and 34 potentially form a stone circle village, or large-scale occupation site given their proximity and identical settings on the same landform.

Schiele, Brad, and Markowski, Mike

Site Number: EeNj-32
Recorded: June, 2/ 2011
Status: Avoided
Project: Waterline Development
Position: South Side of Valley
NTS Map Reference: 72 I/12

Site Description:
EeNj-32 is listed as a single feature site. The site is located on a terrace in native prairie grasses ~ 500 m from Buffalo Pound Lake. Immediately to the northwest of the site area is a densely wooded coulee system with several ephemeral drainage basins. No artifacts were present at the site and no excavations were performed. No artifacts were present at the site and no excavations were performed. Features present at the site include 1 stone circle. This site, along with EeNj - 31, 33, and 34 potentially form a stone circle village, or large-scale occupation site given their proximity and identical settings on the same landform.
Schiele, Brad, and Markowski, Mike

Site Number: EeNj-33
Recorded: June, 2/ 2011
Status: Avoided
Project: Waterline Development
Position: South Side of Valley
NTS Map Reference: 72 I/12
Site Description:
EeNj-33 is listed as a single feature site. The site is located on a terrace in native prairie grasses ~ 730 m from Buffalo Pound Lake. Immediately to the northwest of the site area is a densely wooded coulee system with several ephemeral drainage basins. No artifacts were present at the site and no excavations were performed. No artifacts were present at the site and no excavations were performed. Features present at the site include 1 stone circle. This site, along with EeNj - 31, 32, and 34 potentially form a stone circle village, or large-scale occupation site given their proximity and identical settings on the same landform.

Schiele, Brad, and Markowski, Mike

Site Number: EeNj-34
Recorded: June, 2/ 2011
Status: Avoided
Project: Waterline Development
Position: South Side of Valley
NTS Map Reference: 72 I/12
Site Description:
EeNj-34 is listed as a recurrent feature site. The site is located on a terrace in native prairie grasses ~ 580 m from Buffalo Pound Lake. Immediately to the northwest of the site area is a densely wooded coulee system with several ephemeral drainage basins. No artifacts were present at the site and no excavations were performed. No artifacts were present at the site and no excavations were performed. Features present at the site include 12 stone circles. This site, along with EeNj- 31, 32, and 33 potentially form a
stone circle village, or large-scale occupation site given their proximity and identical settings on the same landform.

Schiele, Brad, and Markowski, Mike


Site Number: EeNj-35
Recorded: June, 2/ 2011
Status: Avoided
Project: Waterline Development
Position: South Side of Valley
NTS Map Reference: 72 I/12
Site Description:
EeNj-35 is listed as a recurrent feature site. The site is located on a terrace in native prairie grasses ~ 50 m from Buffalo Pound Lake. The site is positioned on the south side of the channel with a northern aspect and is between Buffalo Pound Lake and a small ephemeral drainage basin. The immediate area is absent of woody vegetation and the site is downslope from the conglomeration of sites comprised of EeNj-31, 32, 33, and 34. No artifacts were present at the site and no excavations were performed. Features present at the site include 2 stone circles.

Schiele, Brad, and Markowski, Mike


Site Number: EeNj-36
Recorded: June, 2/ 2011
Status: Avoided
Project: Waterline Development
Position: South Side of Valley
NTS Map Reference: 72 I/12
Site Description:
EeNj-36 is listed as a recurrent feature site. The site is located on a terrace in native prairie grasses ~ 25 m from Buffalo Pound Lake. The site is positioned on the south side of the channel with a northern aspect surrounded by densely wooded basins and coulee
systems. No artifacts were present at the site and no excavations were performed. Features present at the site include 2 stone circles.

Schiele, Brad, and Markowski, Mike

Site Number: EeNj-37
Recorded: October, 11/ 2013
Status: Avoided
Project: Rail Line Development
Position: North Side of Valley
NTS Map Reference: 72 I/12
Site Description:
EeNj-37 is listed as a multiple feature site. The site is located on prairie upland in native prairie terrain ~ 780 m from Buffalo Pound Lake. The site is positioned on the north side of the channel, exposed, with no discernible aspect. No artifacts were present at the site and no excavations were performed. Features present at the site include 3 stone circles and 3 cairns.

Wood, Barry

Site Number: EeNj-38
Recorded: October, 11/ 2013
Status: Avoided
Project: Rail Line Development
Position: North Side of Valley
NTS Map Reference: 72 I/12
Site Description:
EeNj-38 is listed as a recurrent feature site. The site is located on a terrace in wooded terrain ~ 800 m from Buffalo Pound Lake. The site is positioned on the north side of the channel, exposed, with no discernible aspect. No artifacts were present at the site and no excavations were performed. Features present at the site include 2 cairns.
Wood, Barry  

Site Number: EdNj-1
Recorded: June, 5/ 1989
Status: Destroyed
Project: Unspecified Development
Position: South Side of Valley
NTS Map Reference: 72 I/12
Site Description:
EdNj-1 is listed as a burial site. The site is located on an alluvial fan on a bench landform in wooded terrain ~ 200 m from Buffalo Pound Lake. The site is positioned on the south side of the channel with a northern aspect surrounded by densely wooded basins and coulee systems. No artifacts were present at the site and salvage operations were performed to preserve human remains. The burial was completely destroyed by construction. No features are known at the site as the assessment was post-impact.

Walker, Ernest  

Site Number: EdNj-2
Recorded: October, 11/ 2013
Status: Avoided
Project: Rail Line Development
Position: North Side of Valley
NTS Map Reference: 72 I/12
Site Description:
EdNj-2 is listed as a single feature site. The site is located on a saddle landform in native prairie grasses ~ 175 m from Buffalo Pound Lake. The site is positioned on the northern side of the channel with a southern aspect surrounded by densely wooded basins and coulee systems. No artifacts were present at the site and no excavations were performed. Features present at the site include 1 stone circle.

Wood, Barry  
Site Number: EdNj-3
Recorded: October, 11/ 2013
Status: Avoided
Project: Rail Line Development
Position: North Side of Valley
NTS Map Reference: 72 I/12
Site Description:
EdNj-3 is listed as a single feature site. The site is located on a knoll landform in native prairie grasses ~ 120 m from Buffalo Pound Lake. The site is positioned on the northern side of the channel with a southern aspect surrounded by densely wooded basins and coulee systems. No artifacts were present at the site and no excavations were performed. Features present at the site include 1 stone circle. This site, along with EdNj- 4, 5, 6, and 8 potentially form a stone circle village, or large-scale occupation site given their proximity and identical settings on the same landform.

Wood, Barry

Site Number: EdNj-4
Recorded: October, 11/ 2013
Status: Avoided
Project: Rail Line Development
Position: North Side of Valley
NTS Map Reference: 72 I/12
Site Description:
EdNj-4 is listed as a single feature site. The site is located on a knoll landform in native prairie grasses ~ 150 m from Buffalo Pound Lake. The site is positioned on the northern side of the channel with a southern aspect surrounded by densely wooded basins and coulee systems. No artifacts were present at the site and no excavations were performed. Features present at the site include 1 stone circle. This site, along with EdNj- 3, 5, 6, and 8 potentially form a stone circle village, or large-scale occupation site given their proximity and identical settings on the same landform.

Wood, Barry
Site Number: EdNj-5  
Recorded: October, 11/ 2013  
Status: Avoided  
Project: Rail Line Development  
Position: North Side of Valley  
NTS Map Reference: 72 I/12  
Site Description:  
EdNj-5 is listed as a single feature site. The site is located on a bench landform in native prairie grasses ~ 220 m from Buffalo Pound Lake. The site is positioned on the northern side of the channel with a southern aspect surrounded by densely wooded basins and coulee systems. No artifacts were present at the site and no excavations were performed. Features present at the site include 1 stone circle. This site, along with EdNj- 3, 4, 6, and 8 potentially form a stone circle village, or large-scale occupation site given their proximity and identical settings on the same landform.

Wood, Barry  

Site Number: EdNj-6  
Recorded: October, 11/ 2013  
Status: Avoided  
Project: Rail Line Development  
Position: North Side of Valley  
NTS Map Reference: 72 I/12  
Site Description:  
EdNj-6 is listed as a recurrent feature site. The site is located on a bench landform in native prairie grasses ~ 50 m from Buffalo Pound Lake. The site is positioned on the northern side of the channel with a southern aspect surrounded by densely wooded basins and coulee systems. No artifacts were present at the site and no excavations were performed. Features present at the site include 2 stone circles. This site, along with EdNj- 3, 4, 5, and 8 potentially form a stone circle village, or large-scale occupation site given their proximity and identical settings on the same landform.

Wood, Barry  
Site Number: EdNj-7
Recorded: October, 11/ 2013
Status: Avoided
Project: Rail Line Development
Position: North Side of Valley
NTS Map Reference: 72 I/12
Site Description:
EdNj-7 is listed as a single feature site. The site is located on an isolated knoll landform in native prairie grasses ~ 30 m from Buffalo Pound Lake. The site is positioned on the northern side of the channel with a southern aspect surrounded by densely wooded basins and coulee systems. No artifacts were present at the site and no excavations were performed. Features present at the site include 1 stone circle. The site is downstream, from the conglomeration of sites comprised of EdNj-3, 4, 5, 6, and 8.


Site Number: EdNj-8
Recorded: October, 11/ 2013
Status: Avoided
Project: Rail Line Development
Position: North Side of Valley
NTS Map Reference: 72 I/12
Site Description:
EdNj-8 is listed as a recurrent feature site. The site is located on a knoll landform in native prairie grasses ~ 60 m from Buffalo Pound Lake. The site is positioned on the northern side of the channel with a southern aspect surrounded by densely wooded basins and coulee systems. No artifacts were present at the site and no excavations were performed. Features present at the site include 2 stone circles. This site, along with EdNj- 3, 4, 5, 6, potentially form a stone circle village, or large-scale occupation site given their proximity and identical settings on the same landform.

Site Number: EdNj-9  
Recorded: October, 11/2013  
Status: Avoided  
Project: Rail Line Development  
Position: North Side of Valley  
NTS Map Reference: 72 I/12  
Site Description:  
EdNj-9 is listed as a single feature site. The site is located on a valley ridge in native prairie grasses ~ 100 m from Buffalo Pound Lake. The site is positioned on the northern side of the channel with a southern aspect surrounded by densely wooded basins and coulee systems. No artifacts were present at the site and no excavations were performed. Features present at the site include 1 stone circle. The site is downstream, from the conglomeration of sites comprised of EdNj-3, 4, 5, 6, and 8, and is also upslope from EdNj-7.

Wood, Barry  
2013  EdNj-9 Saskatchewan Archaeological Resource Record. Saskatchewan Tourism, Parks, Culture, and Sport. Regina, Saskatchewan

Site Number: EdNj-10  
Recorded: October, 11/2013  
Status: Avoided  
Project: Rail Line Development  
Position: North Side of Valley  
NTS Map Reference: 72 I/12  
Site Description:  
EdNj-10 is listed as a single feature site. The site is located on a valley ridge in native prairie grasses ~ 60 m from Buffalo Pound Lake. The site is positioned on the northern side of the channel with a southern aspect surrounded by densely wooded basins and coulee systems. No artifacts were present at the site and no excavations were performed. Features present at the site include 1 stone circle. The site is upstream from the conglomeration of sites comprised of EdNj-3, 4, 5, 6, and 8, and is also downslope from EdNj-2.

Wood, Barry  
Site Number: EdNj-11
Recorded: March, 10/ 2015
Status: Avoided
Project: Rail Line Development
Position: North Side of Valley
NTS Map Reference: 72 I/12
Site Description:
EdNj-11 is listed as a single feature site. The site is located on a stabilized slump in wooded terrain ~ 600 m from Buffalo Pound Lake. The site is positioned on the north side of the channel, exposed, with no discernible aspect. No artifacts were present at the site and no excavations were performed. Features present at the site include 1 stone circle.

Boras, Don

Site Number: EdNj-12
Recorded: April, 20/ 2016
Status: Disturbed
Project: Subdivision Development
Position: South Side of Valley
NTS Map Reference: 72 I/12
Site Description:
EdNj-12 is listed as an artifact scatter site. The site is located at a coulee base in wooded terrain ~ 175 m from Buffalo Pound Lake. The site is positioned on the south side of the channel near the mouth of a coulee system, and upslope from a terrace and EdNj-13, located therein. Artifacts present at the site include flakes and shatter made from chalcedony, quartzite, and quartz. Additionally, 100 pieces of highly fragmented bone were recovered, several pieces displayed burn marks. There are no features at the site and the area was shovel tested.

Pollio, Cara
Site Number: EdNj-13
Recorded: April, 20/ 2016
Status: Destroyed
Project: Subdivision Development
Position: South Side of Valley
NTS Map Reference: 72 I/12
Site Description:
EdNj-13 is listed as an artifact find site. The site is located on a flooded terrace in native prairie grasses ~ 20 m from Buffalo Pound Lake. The site is positioned on the south side of the channel near the mouth of a coulee system, and downslope from a wooded coulee system, in which EdNj-12 is located. Artifacts present at the site include a quartzite flake and piece of Swan River Chert shatter. Shovel testing yielded no additional materials. There are no features at the site and the area was shovel tested.

Pollio, Cara

Site Number: EdNj-14
Recorded: April, 20/ 2016
Status: Avoided
Project: Subdivision Development
Position: South Side of Valley
NTS Map Reference: 72 I/12
Site Description:
EdNj-14 is listed as an artifact find site. The site is located on a flooded terrace in native prairie grasses ~ 20 m from Buffalo Pound Lake. The site is positioned on the south side of the channel between several densely wooded coulee systems, and upslope from EdNj-12 and 13. Artifacts present at the site include a piece of quartzite shatter and a silicified peat preform. Materials were recovered during shovel testing. There are no features at the site and the area was shovel tested.

Pollio, Cara
Appendix-B.

Raw Gray Data

This section presents the raw data acquired from gray literature, which is elaborated on in Appendix A. The information acquired from gray literature is specific to the sites described, although does not elaborate on aspects of the Qu’Appelle landscape on the whole, or how the archeological record exists therein.
<table>
<thead>
<tr>
<th>Site</th>
<th>Type</th>
<th>Landform</th>
<th>Veg.</th>
<th>Feature</th>
<th>Artifacts</th>
<th>Test</th>
<th>Excavated</th>
<th>Status</th>
<th>Position</th>
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Appendix C.

Heritage Resource Impact Report Summaries

This section briefly outlines the HRIA reports acquired for this study. The acquisition of these reports was limited due to numerous factors, and many reports requested were unavailable for distribution. The reports that are presented here are associated with completed projects by HRM professionals, approved by reviewers, and not restricted by developers. In many cases, proponent approval is required to gain access to HRIA reports. The following table presents the full list of reports requested in relation to those that were available for further study.

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**Permit Number:** 82-23  
**Date of HRIA:** Fall, 1982  
**Site Recorded:** EcNb-4  
**Project:** Pipeline Monitoring Project  
**Report Description:**  
This source consists of a letter submitted to the SHCB stating that heritage compliance had been achieved through the duration of pipeline construction activities. The letter briefly describes EcNb-4, its status and the immediate terrain. Monitoring of the site impacts were
performed and no evidence of heritage resources were observed during either of the 2
monitoring days, nor the test excavations performed in the trench. The submitted letter
stated that as the monitoring and mitigation studies were completed without the location of
additional materials, that no further work need take place at the site. The sites were
recorded during a conventional HRIA with surface survey and judgmentally placed shovel
tests, this report describes site-impacts as they occur.

Kelly, Michael. E.
1982 TransCanada Pipeline’s Limited Line Looping at EcNb-4. Saskatchewan
Culture and Youth. Regina, Sk.

Permit Number: 01-111
Date of HRIA: November, 2001
Site(s) Recorded: EdNg-21
Project: Gravel Pit Development
Report Description:
This source consists of an assessment of a proposed gravel pit development in the
Qu’Appelle River Valley. The report describes the highly destructive nature of the project
and the potential to completely destroy archaeological sites potentially in conflict with the
site area. Surface survey of the project footprint indicated opportunistic survey of rodent
burrows and previous gravel tests with minimal shovel testing. The stone circles recorded
at the site were tested but did not yields artifacts. Despite limited testing in and around the
features, the project was given approval to proceed. With the destruction of the site in mind,
the author remained optimistic for the potential of increasing the archaeological knowledge
of the area and improving site prediction in Qu’Appelle through the location of the site. The
sites were recorded during a conventional HRIA with surface survey and judgmentally
placed shovel tests.

Stoddart, Eleanor
2001 Historical Resources Impact Assessment of Proposed Eason Gravel Pit
Calgary, Alberta.
Permit Number: 10-1930
Date of HRIA: November, 2010
Site(s) Recorded: EdNh-18, 48, 49
Project: Gravel Pit Development

Report Description:

This source describes the assessment of a gravel pit in the Qu’Appelle River Valley and potential adverse effects to a recorded archaeological site in conflict with the project (EdNH-18). The sites were considered of significance and scheduled for avoidance. Surface survey of the project indicated additional archaeological features that were later recorded as sites. EdNh-48 and 49 are both feature sites near EdNh-18. The sites were not tested prior to construction, and if the project and the potential to impact the site, test excavations were recommended. No artifacts were discussed in the report. The sites were recorded during a conventional HRIA with surface survey and judgmentally placed shovel tests.

Rudolph, Lisa
2010   HRIA of a Lafarge Gravel Pit S1/2-12-19-24 W2M. Stantec Consulting Ltd.
Regina, Sk.
Permit Number: Not Stated
Date of HRIA: November, 2013
Site(s) Recorded: EdNh-62
Project: Pipeline Development
Report Description:
This source describes the destruction and post-impact assessment of EdNh-62, a burial site on the north side of the Qu’Appelle River Valley channel. The site was destroyed by a pipeline development during soil stripping operations. The burial is interpreted as a single prehistoric human burial with few lithic remains, although the context of the site is indiscernible given the impact to the burial pit. Carbon dating was recommended but not performed on the remains. No diagnostic artifacts were recovered, and therefore, no reliable date could be assigned to the site.

Walker, E  

Permit Number: 13-095
Date of HRIA: July, 2013
Site(s) Recorded: EdNh-63, 64, 65, 66, and 67
Project: Pipeline Development
Report Description:
This source describes the assessment of a pipeline development project in the Qu’Appelle River Valley and associated discovery of 5 archaeological sites along the project right of way. EdNh-63 and 64 were successfully avoided by the development project, although EdNh-65, 66, and 67 were partially impacted by soil stripping operations. An archaeologist was recommended to monitor the construction operations as both surface features and artifacts were present during the pre-impact assessment. The sites were recorded during a conventional HRIA with surface survey and judgmentally placed shovel tests.

Huynh, Tam  
Permit Number: 13-098  
Date of HRIA: August, 2013  
Site(s) Recorded: EdNh-53, 54  
Project: Transmission Line  
Report Description:  
This source describes the assessment of a transmission line project along the valley walls of Qu’Appelle. Two sites were recorded during the assessment of the project, both of which were disturbed. The sites were recommended to be avoided by the development, which was achieved, and additional subsurface testing of the project area during a post-impact assessment. EdNh-53 falls outside of the study area and is listed as an artifact find site consisting of a single quartzite uniface in undulating terrain. The sites were recorded during a conventional HRIA with surface survey and judgmentally placed shovel tests.

Huynh, Tam  

Permit Number: 14-134  
Date of HRIA: November, 2014  
Site(s) Recorded: EdNh-63, 64, 65, 66, and 67  
Project: Transmission Line  
Report Description:  
This source describes an additional assessment of the landscape in which EdNh-63, 64, 65, 66 and 67 are located for a new development project. The recorded sites were revisited and no additional information was recorded during this time. With this in mind, many archaeological sites that are avoided and preserved through heritage conservation efforts cannot yield additional information as there is none to be gleaned. For example, single find sites are all but absent of the potential for additional data. However, as heritage resources are, in the strictest sense, non-renewable, all sites must be treated as the only one of their kind.

Huynh, Tam and Zdunich, Katie  