

EQUESTRIAN HUNTER-GATHERERS AND THE ANIMAL TRADE OF THE
WESTERN GREAT PLAINS AND ADJACENT ROCKY MOUNTAINS, 1800–1860

by

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Equestrian Hunter-Gatherers and the Animal Trade of the Western Great Plains and Adjacent Rocky Mountains, 1800–1860

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This study uses data from historical accounts, paleoclimatic records, and the archaeological record to understand how equestrian hunter-gatherer groups of the western Great Plains and adjacent Rocky Mountain regions influenced and participated in the Fur Trade economy of these regions. The manner Euroamerican trappers and traders of the early to mid-nineteenth century depended on Native groups is analyzed using these datasets in a new synthesis of this intricate relationship. The narrative that emerges shows how game animal provisioning of trappers and traders, particularly at permanent trading post locations, was an important aspect of the fur trade and a key to the societal syncretism of this time. Equestrian hunter-gatherers of the study region also maintained control of the critical large mammal resource—the bison—that was the basis for the robe and provisioning trade. This Native-centered ethnohistory documents Indian groups as savvy participants in this economic sphere who maintained independence and affluence, as opposed to reliance on Euroamerican trade goods.

For Ada and Norman, Marion and Clarence,
you are why I appreciate the world around me and what came before.

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CHAPTER 1: INTRODUCTION

I close my eyes and walk a thousand years, A thousand years that aren't mine...

—Kim A. Thayil and Matthew D. Cameron

This study is an attempt to better understand better the animal skin trade during a time encompassing classic Fur Trade Era (ca. 1807–1840) of the western Great Plains and adjacent Rocky Mountain region in terms of the relationships developed between the indigenous hunter-gatherer groups and European trappers and traders. Untangling the complex and ever-shifting social, political, and economic interactions of the Indian groups who subsisted on animal resources for food, shelter, and ideological balance with the economically-driven extraction of animal skins for foreign markets by the Euroamericans requires an understanding of how these animal resources were used and controlled by each group. Both used and controlled, as the story of the animal skin trade during its heyday in the early to mid-nineteenth century is one of economic syncretism, mutualism, and even dependence that too often has been told to the exclusion of the true power brokers of this era—the equestrian hunter-gatherers of the mountains and plains.¹

In addition to the historic record, this study utilizes both archaeological and paleoenvironmental datasets to argue that Indian groups of this era were much more influential to the animal skin trade process than has been described previously. The inclusion of archaeological data is important in that these data help to tell the story outside of the known written narrative and help provide a robusticity that the economically driven and often spare contemporaneous Euroamerican accounts do not provide. This is not to say that the historic accounts are secondary to this study or lacking as they certainly are invaluable to this study and important points of reference and insight to the literate Euroamerican experience on the economic frontier and social hinterlands of this area. However, it is only through a combination of the written narratives and the archaeological record that this study crafts a new and more nuanced fur trade era history.

¹ I use the term “equestrian hunter-gatherer” here and elsewhere to generally describe the Indian groups discussed in this study. This term is slightly more apt than pastoralist in this situation, but acknowledges that these groups, particularly those on the Great Plains, could be termed pastoralists. Terms such as “equestrian nomads” are also applicable (see Bethke 2017; Isenberg 2000; Mitchell 2015).

As Hyde (2011:289) rightly states, “It is important to avoid telling the story only from the perspective of loss in the present. For people living in the middle decades of the nineteenth century, Indian Country existed. It offered great opportunity, and its residents fought hard to protect it.” This study will attempt to supersede the “disease and cultural destruction” metanarrative to really understand how these societies were living day to day during this time and to develop an understanding of their quality of life. These were times of prosperity and economic success for indigenous people, as evidenced by the stature and growth of Plains groups in particular (Prince and Steckel 2003). This was a good time in terms of acquiring new goods and technologies and enhanced quality of living (e.g., horses and metal).

Although this materials contact could be good, certainly disease contact was horrific. However, hunter-gatherers in particular are resilient people who have faced occasional starvation and group dislocations and environmental stress throughout their history. They had survived by adaptive response in the past, so, loss of cultural capital aside, this was digested in their society, at least in the short term. These groups likely came from a long history of societal coalescence and fission due to band or clan-based social systems. Plains and mountain hunter-gatherer societies were highly malleable and used to socially disruptive events or changing political relationships along with a high degree of adaptability to new environments, climates, and technologies. The goal of this study is to reveal how the conscientious and autonomous decisions that indigenous groups made in the face of these outside processes and of outsider peoples could result in a life well-lived despite the first-order appearance of disruption and cultural declension.

Previous studies focused on trans-Columbian history have shown that the Indian groups of the New World had sophisticated responses to European technologies and cultures (Cobb 2003; Mitchell 2011; Rogers and Wilson 1993; Scheiber and Mitchell 2010). And there is a new emphasis on how Indians shaped the colonial and early empire period of nation building, particularly in western North America. Exquisite studies demonstrate how this happened in the Mexican/American borderlands during the 1830s–40s (DeLay 2008), as well as during the eighteenth and early nineteenth centuries when Spanish, French, and British vying for economic control of the western interior were confronted by and fell under the dictates of Native hegemony (e.g., Comanche and Osage) which propelled these forces

(DuVal 2006; Hämäläinen 2008; Weber 2005). This study seeks to add a chapter to this history by understanding how Indian groups of the western Great Plains, Central and Southern Rocky Mountains negotiated with the animal skin economy, and the trappers and traders who entered this region to conduct business—a time equally important in understanding the depth and breadth of Native impacts to the early period of nation making.

This focus of this study roughly begins at the beginning of the nineteenth century shortly before the Louisiana Purchase of 1803, when Euroamerican exploration and trade began to open up the region to Euroamerican trade and ends in 1860 shortly after the discovery of gold in Southern Rocky Mountains (1858), which provided the catalyst for European settlement of western Plains and adjacent Rocky Mountains. This event effectively spelled the end of any mutualism between Native and Euroamerican groups. This study synthesizes data derived from a prominent western Great Plains trading post (Fort Vasquez), an intermountain trading location at or near a trade post (Fort Davy Crockett location [FDCL]), and a suite of similarly-aged Indian camps (Little Snake River drainage [LSRD] sites), along with historic accounts and paleoenvironmental data.

The overarching goal of this proposed research is to understand the role of Native Americans in the overall economic and social trajectories of the early to mid-nineteenth century (ca. 1800-1860) which encompasses the Fur Trade Era (FTE) of the western Central Plains and adjacent Central/Southern Rocky Mountain regions (Figure 1). The prevalent mountain man-based fur trade history ignores important aspects of the animal skin trade in these regions and diminishes the indigenous influence and input crucial to this system. Archaeology is strategically placed to help write a Native-centered history of this period, as the archaeological record of these historic hunter-gatherer groups provides insight into these societies outside of the purview of written records.

This study will attempt to elucidate the influences that Native groups had on this trade, particularly after the onset of the bison robe trade, a time when Native groups were providing this important resource to Euroamerican traders. In terms of subsistence, my study would like to understand how Euroamerican subsistence resource gathering was influenced and/or provided by Indian groups and how successful was this attempt to control the resource base.

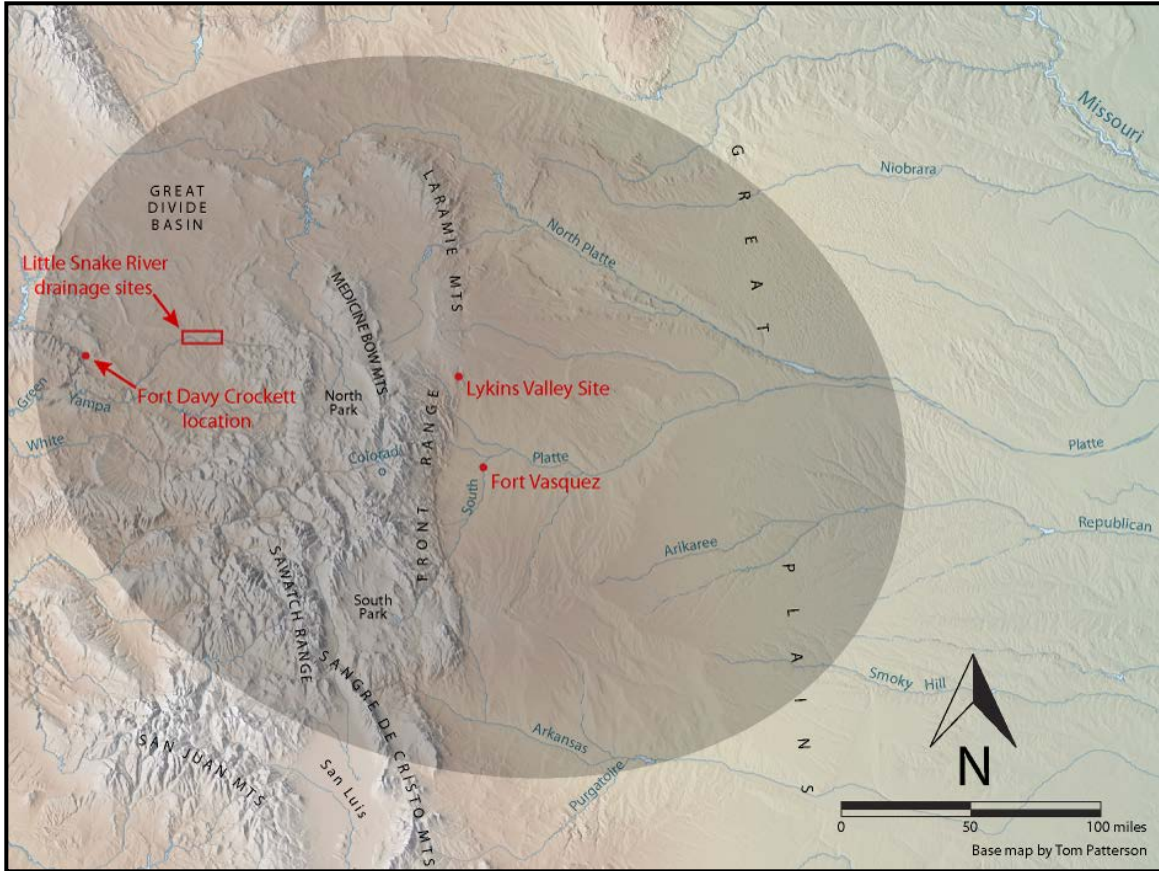


Figure 1. Map of study area (shaded) showing investigated sites.

It is also important to understand to what degree this had a negative impact on the environment due to the new economic incentive provided by the bison robe trade.

As an introductory vignette, the following narrative of Robert Newell—a memorandum about his days in the fur trade—simultaneously illuminates the Euroamerican experience and underscores what Euroamerican accounts generally lack in terms of the Native experience. The historic lacunae of this and other accounts provide interpretative and scientific space for inclusion of archaeologically-derived explanations and additions to the known history.

Doc Newell and the Animal Trade

Robert “Doc” Newell signed on as a trader for Bent, St. Vrain & Co. in Independence, Missouri, leaving May 2, 1836, to travel to Fort William (owned by Bent, St. Vrain & Company and subsequently known as Bent’s Old Fort) on the Arkansas River (Johansen 1959:33). Following a brief trip to the South Platte River with William Bent, he went to trade with the Arapahos and wintered with them on Fountain Creek along the Front Range until

November 8, 1836. Directed to the South Platte again, along with five men, Newell traded with the wintering Cheyenne, where he stayed until May of 1837 (Johansen 1959:33). This location is in all likelihood the location of Fort Vasquez and Fort Lupton, which later would shortly be joined by Fort Jackson and Fort St. Vrain—a location central to this study.

That spring Newell returned to Fort William on the Arkansas River, delivering the traded animal skins to the company. Returning to the South Platte post Fort Vasquez (owned by Andrew Sublette and Louis Vasquez), Newell left for “the mountans” on May 19, 1837 with Philip Thompson, who later was a partner in Fort Davy Crockett located in Brown’s Hole (Johansen 1959:34). They travelled west through North Park to the head of the Little Snake River, encountering “the Snake village four or five hundred lodges from thare to green river” before traveling to the Ham’s Fork River, briefly joining in an on-going battle between trappers/traders and some Bannock Indians. Newell’s party continued to the mouth of Horse Creek where many gathered for the annual rendezvous and were awaiting goods to arrive from St. Louis, arriving on June 10, 1837 (Johansen 1959:34). Here, Newell hired on with Lucien Fontenelle and Alexander Drips of the American Fur Company for the period of one year to trade with the Crow.

Newell left the rendezvous with a small party of Crow and two other traders travelling northeast, encountering a party of “black feet” who fired upon the party, killing one man on a fork of the Tongue River (Johansen 1959:34). Eventually the party made it to the Crow village on the Little Bighorn River August 17, 1837. Newell faced a difficult task: the Crow had increasingly been robbing and killing white traders passing through their territory, so Newell, with “a small Supply of goods” was to “induce them to let the whites pass in peace” (Johansen 1959:34). While at the camp, news came that smallpox had broken out at Fort Van Buren on the Yellowstone River. This resulted in the Crow hastily retreating westward to the head of the Wind River before encamping again, wearing out their horses in the punishing move. Newell left this group with five men on October 20, 1837, to look for another Crow camp purportedly located on the Bighorn River. Failing to locate the village he continued to Fort Van Buren, on the Yellowstone River (Robertson 1999:236), narrowly avoiding a party of Blackfeet in the process (Johansen 1959:35).

Samuel Tolloch, the *bourgeois* or director of Fort Van Buren, which at the time was subjected to horse raids by the Crow, who had also robbed and likely killed four men in the

preceding weeks. Newell attempted to leave the post on December 13, 1837, but his party of seven, robbed of its horses during the first night, was forced to return to the fort on foot (Johansen 1959:35). Newell left the post to retrieve furs from a camp on the Powder River noting the arduous winter travel conditions with the deep snow forcing foot travel.

He left the post for good December 29, 1837 with a small party of eight and travelled to the Powder River country where 80 of his company had encamped (Johansen 1959:36). It was a hard winter and spring, as Newell notes: “A tremendous Storm” on March 4, 1838, and “our time is principally Spent in peeling cotton wood bark for horses as that is their principal food” (Johansen 1959:36). On March 29, Newell’s party left the Powder River camp “in search of bevvver” travelling up the Yellowstone to the Madison River where they overtook a band of Blackfeet and killed several of them in the ensuing battle with no loss to the trappers. The party continued through the mountains to the Snake River having had horses stolen by rival trappers/traders along the way.

By June 17, 1838 Newell was in the Jackson Hole area and in search of Andrew Drips (his boss) and his supplies (Johansen 1959:37). Drips was located on a fork of the Popo Agie River, at a time when low numbers of pelts and high supply prices left many of the trappers disgruntled, even resorting to abandoning the company and absconding with supplies and horses. Newell left the rendezvous and traveled to Pierre’s Hole before leaving on August 5, 1838 for “the hudsons bay Co on Snake river with my woman and two little boys” (Johansen 1959:37).

Newell and family arrived at the Hudson’s Bay Company’s Fort Hall, under the direction of Francis Ermatinger, where they were “well received” despite the fact that “times is hard and peltries low provisions scarce Indians in a bundance going all parts in Serch of Something to Stay in their Stomachs” (Johansen 1959:37). Newell eventually left Fort Hall and joined Drips in Pierre’s Hole before encamping for the winter in the upper Green River Basin by November 20, 1838. However, this was not to be Newell’s last winter stop, for he relocates to a camp of Bannock and Snake near Ham’s Fork, likely due to lack of game near the initial winter camp (Johansen 1959:38). Newell apparently spent the spring and early summer trapping and/or trading in the upper Green River Basin before returning to Fort Hall on July 20, 1839. Newell left Fort Hall August 11, 1839 to trade at Brown’s Hole. We will conclude our portion of Newell’s narrative with the entry: “1839 On to Browns hole 1st of

September Baker arrived for Bent & St Vrain to trade 23d Biggs from Vasques 25th opposition high” (Johansen 1959:38). For our purposes, this entry chronicles the end of a very intense and dynamic 27-month period of trade and travel carried out and/or witnessed by Newell.

Brown’s Hole was an important wintering and trading location for both Indians and Euroamericans during (and before) the first decades of the nineteenth century (Eddy 1982, Dale 1941), and this place was the target of wandering Euroamerican traders from posts to the east and west (Johansen arrived from Fort Hall). Although not explicitly mentioned in this narrative, Brown’s Hole was the location of a short-lived trading post known as Fort Davy Crockett constructed in 1839. This post, along with the aforementioned Fort Vasquez (called Vasques by Newell), play crucial roles in the fur trade history of the area. The archaeology of those roles provides fundamental insight for the subsequent arguments presented in this study.

Newell soon left Brown’s Hole and returned to Fort Hall, acquiring more goods and supplies before eventually returning to Brown’s Hole later that winter (Johansen 1959:38–39). He left for Fort Hall (again) on February 7, 1840 with 300 beaver pelts arriving at the fort after an arduous journey of 45 days. In the summer of that year, he attended the American rendezvous wherein he noted “times was certainly hard no beaver and every thing dull,” and he was shot at by a “Moses Harris” with whom he had “Some diffiquilty” (Johansen 1959:39). This may have been the last straw for Newell for, at the rendezvous, he hired out to guide missionaries travelling to settle in the Willamette Valley and after gathering his family from Fort Hall, took the party west where he arrived at the end of 1841 and lived out his days (Johansen 1959:39).

Robert Newell’s Memoranda chronicles his time as a trapper and trader in the western Great Plains and Rocky Mountains between 1829 and 1842. Although not the most famous of the mountain men², Newell worked and lived with most of the *dramatis personae* of the fur trade during his years trapping and trading. Sparsely written, poorly spelled, and generally lacking in detail, Newell’s narrative is just as important for what it lacks as for what it

²The terms “mountain man” or “mountain men” are used throughout this work to describe the male trappers and traders of European ancestry who were central to the fur trade. These terms will characterize those individuals or groups that trapped animals and/or traded for animal commodities—men such as Doc Newell—rather than attempting to differentiate the different acts and trying to specifically label those who “trapped” versus those who “traded” when that historic knowledge is missing.

includes. It chronicles the dynamism of the time and the complex and interconnected relations of those involved in the fur trade. What it does not do, however, is provide detail into the many Indian groups that were important and discerning participants in the process. It is these historical voids that this study addresses through both a more nuanced reading of the historic accounts and a detailed analysis of the archaeological record of this time.

The narrative demonstrates the complex confluence of trade and traders that took place throughout the western Great Plains and adjacent Rocky Mountain region. In a roughly two-year period, Newell worked for two different trading companies, travelled thousands of miles, attended two American rendezvous, spent time at four posts owned by four different trading companies, and had interactions with five different Indian groups (Figure 2). It also illustrates the shortcomings in the historic record of this time and place concerning solid detail about the day-in/day-out or quotidian lives of the Indian groups so central to this narrative. Although mentions of Indian groups are common throughout Newell's writing there is a noted lack of any specific information about these groups as they are basically referenced in terms of trading and/or fighting.

Robert Newell's writings describe a time when Euroamerican economic interests collided with Indian groups of the western Great Plains and Rocky Mountains with little thought given to the ultimate outcome. Adventurous men such as Newell saw economic opportunity and aggressively pursued the animal resources that were the source of this wealth—a stereotypical or classic and dated description of the FTE. It relegates Indian groups to the sidelines or as somewhat non-autonomous participants in the trade. It neglects to tell how Indian groups influenced this economy through sophisticated trading relationships and consumer behavior (Carlos and Lewis 2010; Ray 1974; Sleeper-Smith 2009), as well as dictated the geopolitical landscape of trade both in permanent trading post and impermanent trading camps (Hämäläinen 1998; Newton 2012a; White 1978).

It also fails to tell the story of trade in Indian-produced bison robes and even native-owned horses, which were paramount in the western Great Plains of the late 1830s. As a corollary to this trade, Indians were essential provisioners of the permanent posts established in the first few decades of the nineteenth century, which is a primary focus of the following study. On the surface it would appear that the killing of bison for robe production would have provided ample meat for the posts. However, this relationship is not so straightforward and

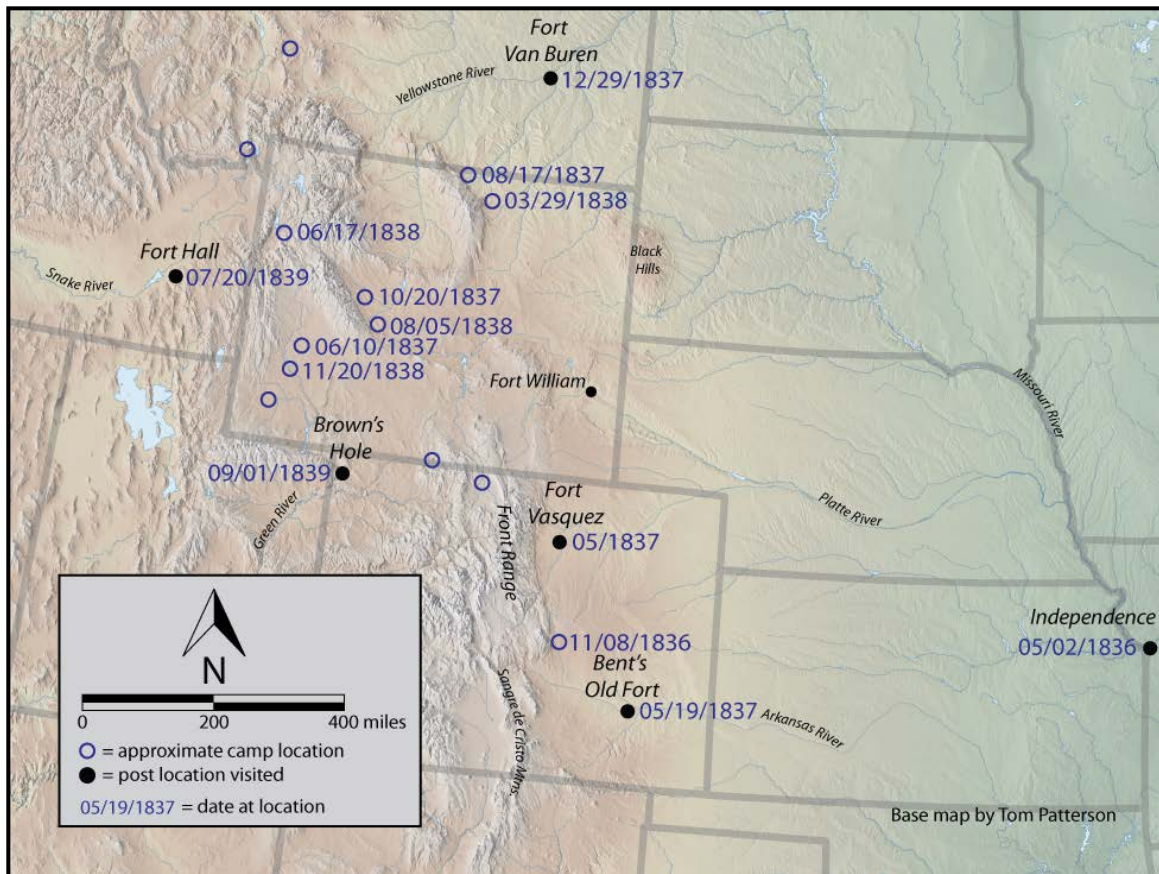


Figure 2. Map of Robert Newell's travels 1836-1839.

the consumption of bison for robes as we will see does not conform to the same dictates as bison consumption as a food resource. Supplying the food that the post occupants ate was an important part of this sophisticated trading relationship in that Indian groups had to balance the needs of a bison robe trade with the increased consumption of these animals by the mountain men.

Newell and company, like Lewis and Clark before them (Ronda 1984), faced periods of food stress and this, I believe, led to a dependence on Native groups for these resources at least periodically. The pursuit of furs and trade by the mountain men along with a naïve understanding of the country within which they were residing were issues leading to dependence on the indigenous hunter-gatherers for game animals at times and certainly when tethered to permanent trading posts with diminishing proximate high-utility large mammal food resources. This is not to say that this was a constant issue for the mountain man, but at times and places the dependence on the better adapted Native groups provided an opportunity for trade taken advantage of by the latter and provides an important demonstration of Native

agency during this time. The archaeology of the trade posts and Native camps presented here provides evidence of this nuanced relationship that has heretofore been largely ignored or glossed over in the Euroamerican accounts of the period.

CHAPTER 2: METHOD AND THEORY IN POSTCONTACT AND FUR TRADE ERA ARCHAEOLOGY

[A]rchaeological research on historic period sites served more as a means of gaining a backward glance at earlier cultural periods and less as a critical source of evidence for illuminating the realities of Native people's lives and struggles in colonial America.

—Patricia Rubertone (2000:427)

Newell's story highlights the number of distinct indigenous social groups in the area I focus on here. However, archaeologists have struggled to find material markers for most of these groups. The lack of clear archaeological ethnic indicators for most post-horse hunter-gatherer groups has confounded Plains and Rocky Mountain archaeologists since the early twentieth century (Church et al. 2007; Kornfeld et al. 2010; Hanson 1998). This lack of ethnicity in the record is confounded by the dearth of sites from this period with solid archaeological integrity. What follows is a mostly theoretic discussion of the issues and understanding of postcontact and post-horse hunter-gatherer archaeology which are discussed to provide a foundation for the more specific study that is the focus of this work.

Temporally, the era of the equestrian hunter-gatherer in the western Central Plains and adjacent Rocky Mountain regions can be roughly bounded by the Pueblo Revolt of 1680 (viewed as a primary agent in the dissemination of horses to Native groups [Forbes 1959; Haines 1938a]) and the discovery of gold along the Colorado Front Range in 1858 (an event that catalyzed permanent Euroamerican settlement and Indian removal in the region). During this time, Native interaction with persons of European ancestry and acquisition of European-derived goods and technologies varied greatly in terms of the regionally varied contact processes and scale. Documentation of the Plains and Rocky Mountain Indian groups via written accounts is generally sparse and committed to European-oriented (versus Native-centered) descriptions of indigenous peoples in terms of European-derived economic or colonial pursuits. As a result, although there are written accounts, the native narrative is largely unknown. This is especially true of the western Great Plains and adjacent Rocky Mountain regions, which were not the focus of European settlement and trading systems until much later than other portions of the continent. Gaps in the historic narrative mirror gaps in the archaeological research, and a survey of the existing archaeological literature germane to the region also indicates the archaeological record of this period is scanty, especially compared to the precontact occupation of the region.

Alison Landals (2004:233-234) indicates the Protohistoric, or Contact Period, in the Northern Plains lasted approximately 175 years, roughly one-eighth as long as the preceding Late Prehistoric period and fairly accurately reflects the existing ratio (7:1) of known Late Prehistoric to Contact period sites in southern Alberta. As this ratio demonstrates, equestrian-era sites even as a complete record would be relatively rare in the overall archaeological record.

The first edition of *Prehistoric Hunters of the High Plains*, by George Frison, was characterized by Bruce Trigger (1983:415) as an archaeological text that “provide[s] an opportunity to reassess the role that can be played by archaeological data in the writing of native history.” Yet, by the second and even third edition of this seminal synthesis of Northwestern Plains and Central Rocky Mountain archaeology, only four pages are specifically devoted to the Protohistoric Period; the section concludes with “we know relatively little of the protohistoric period and the exact movements of the various Indian tribal groups concerned” (Frison 1991:122-125; Kornfeld et al. 2010:135–138).

Many have acknowledged the difficulties of inferring ethnic identity through the archaeological record and noting group size and lack of sedentism compound the archaeology of postcontact groups (Baker et al. 2007; Hanson 1998:456). Furthermore, postcontact studies have historically been hampered not only by issues of archaeological representation, but also by a corpus of theory that, until the past twenty years, has generally diminished Native agency and oversimplified the process of cultural interaction following contact (Ehrhardt 2005; Mitchell 2011; Rogers 1990; Wilson and Rogers 1993).

Beginning in the 1980s, inspired by the up-coming quincentennial anniversary of Christopher Columbus’s first voyage to the Americas, there was a large increase in the anthropological, archaeological and historical investigation of the effects of European colonization on indigenous groups (Bamforth 1994:95; Thomas 1991). This renewed interest generated new research challenging the traditional archaeological models of how indigenous groups negotiated their interactions with Europeans and European technology. The new research has shown that earlier models of how Native groups adapted to their postcontact setting not only oversimplified the process, but also greatly diminished indigenous agency.

Initially, acculturation models were used to explain indigenous adaptation to European society following contact (cf. Herskovits 1937; Quimby 1966; Quimby and Spoehr 1951). In

these models, Native groups acquired trade items because of an inevitable process through which the adoption of “superior” European technology became the accepted or unavoidable outcome. Acculturation models diminish Native agency and place European technologies as the causative force driving and directing the cultural change in Native systems (Ehrhardt 2005:5). These models place European technology above all other Native concerns and seek to frame these goods as undeniably beneficial to indigenous culture. The narrative of quick replacement of stone by metal is a particularly prevalent mechanism used to explain postcontact technological change “fed by Eurocentric biases and modern beliefs on the inevitability of technological progress” (Rodríguez-Alegría 2008:33). Recent research has demonstrated Native peoples were selective in trade good acceptance and often directed trade and European processes on the frontiers and hinterlands of North America (Carlos and Lewis 2010; Greene and Plane 2010). As Samuel Wilson and J. Daniel Rogers (1993:3) indicate, “the culture change undergone by Native American peoples was neither one-sided nor solely governed by European intentions and strategies.”

This approach correctly views Native peoples as independent and active in the contact process, playing a dominant role in the creation of their own history rather than reliant on the contingencies of European process (Ehrhardt 2005:5). Indigenous peoples are no longer viewed as the irrepensible accepters of European technology, but fully logical actors in their choices and uses of the technology, placing the contact studies in a new and exciting light. It broadens the scope of studies beyond the “acceptance of trade items path to acculturation” view into one that must elucidate a broader range of Native culture in order to understand their postcontact lifeways. Combined with fine-grained and accessible paleoenvironmental datasets (e.g., Cook et al. 1999; Cook et al. 2007; Stahle et al. 2007) and building on the work of environmental historians (cf. Binnema 2001; Flores 2001; West 1995), an important environmental component can be introduced to these studies as well.

In the Plains and Rocky Mountains, the archaeological record of postcontact or historic Native groups is primarily delineated by the presence of European-derived trade items and/or horse remains. These classes of artifacts are often the only unambiguous evidence a Native American site was occupied following European contact. These artifacts, although explicit in defining postcontact occupation, often lack temporally diagnostic attributes and through their presence alone have proven elusive as the means to elucidate other facets of Native lifeways,

particularly aspects of societal change. It is acknowledged much more than trade goods were exchanged in the myriad and complex frontier interactions between colonizer and indigenous; however, as a central and archaeologically approachable residue of this interaction, trade goods as postcontact material culture are fundamental to this research. Trade items, as units of analysis, were inclusive to many of the processes Native groups were undergoing from the very point of contact to historic subjugation.

Postcontact studies are afforded the existence of a contemporaneous written record that can be integrated into research designs. Although these records often have a Eurocentric and/or androcentric bias, along with uneven coverage of the postcontact period, they are valuable sources of data. Before applying historical or ethnohistorical documents to archaeological research, however, they must initially be critically examined to determine relevance (Wood 1990). Archaeologists should not “abandon the evaluation of such sources to historians, accepting their [historians’] judgments at face value even in the absence of critical historical work” (Galloway 2006:55). This is not to say archaeologists must have extensive training in historiographic methods or perform primary source research for their information. Recognizing proper historical scholarship is an exercise in critical reading or consultation with historians versed in the subject. Moreover, many examples of historical research incorporate archaeological data and even environmental data, which demonstrate an understanding of the issues of archaeological research (cf. Binnema 2001; Calloway 2003; Fenn 2014; Isenberg 2000; West 1998).

Kent Lightfoot (1995:205), addressing the use of historic records in archaeology, provides six criteria used to determine relevance: (1) time of observation, (2) cultural context of text, (3) the nature of the text, (4) the training of the observer, (5) the method of observation, and (6) degree to which other independent observations corroborate the account. Using historical documents to inform and understand archaeological research is important, but uncritical use of historic and ethnohistoric documents and privileging the information provided in these documents over the archaeological record is a problem. The archaeological data should remain at the forefront because they can elucidate the lifeways of “the people without history” (*sensu* Wolf 1982).

Designing research to illustrate the history of non-literate indigenous cultures existing after contact with literate European societies should involve the inclusion of historic and

ethnohistoric accounts to bolster and compare to the archaeological record. However, disparities between the two types of evidence arise because, “[a]rchaeological data constitute a partial record of what has been made and used rather than of what human beings have thought and what deeds they performed” (Trigger 1983:416). The “thought and the deed” constitute much of the historic record and articulating the two requires a careful consideration of what cultural aspects each describes.

Along with the integration of historic records, a synthesis of historic and prehistoric archaeologies is necessary for postcontact studies (Lightfoot 1995). Both prehistoric and historic archaeologies can contribute to understanding postcontact Native lifeways and both need to be utilized, not only for theory building, but also for methodological development and artifact analysis. Therefore, a recursive relationship between the historical “known” and the “unknown” of the postcontact Native archaeology provides a more comprehensive understanding for both archaeologies.

Historic archaeologists have traditionally been occupied with the location of sites of historic importance (Rubertone 2000:432). While focusing on historically documented sites is an important endeavor, it has resulted in an emphasis on sites related to European exploration and colonization. However, the knowledge gleaned from these sites can be applied to the archaeology of sites with no historical ties in the written record by providing a baseline of comparison to the undocumented sites. As well, the focus on sites documented in early European narratives has led to an emphasis on contact as the important defining phenomena delineating the post-Columbus indigenous experience.

Highlighting contact incorrectly relegates the period after to a teleological inevitability where European agency sets the agenda. While it is certainly true contact did alter both Native and European social trajectories, separating *contact* from postcontact *colonialism* is crucial in order to approach the issues of Native culture change and agency following contact (Silliman 2005). Throughout postcontact times and the expansion of Europeans from coastal areas there are well-documented instances demonstrating Europeans were rarely operating from a position of power and Native groups maintained power and autonomy over large areas of the continent well into the nineteenth century (cf. DuVal 2006; Hämäläinen 2008; White 1991). Native autonomy insured there was constant negotiation between Natives and

Europeans where each side interacted and adapted to the other's considerations. And this relationship frames postcontact studies in a much more nuanced and complex manner.

The implementation of the direct-historic approach in the study of Plains Village Indian groups during the early nineteenth century, which uses information from the historic past to help interpret the prehistoric archaeological record, introduced a historical component to archaeological research (Steward 1942; Strong 1935; Wedel 1938). However, Betty and Harold Huscher (1943:4), working on Ute sites in the Western Slope region, felt archaeology could contribute little to our understanding of post-horse societies. Noted Plains archaeologist Waldo Wedel came to a similar conclusion near the end of his career after failing to discern any archaeological signature attributable to a specific Plains equestrian hunter-gatherer group (Church et al. 2007:71).

The Huschers and Waldo Wedel were certainly not alone in holding this opinion of postcontact archaeology: long after this statement was published archaeologists have continued to lament the frustrating aspects of the postcontact hunter-gatherer archaeological record. Especially in the case of postcontact and post-equestrian hunter-gatherers, the archaeological record of the western Central Plains and adjacent Rocky Mountains has been less than forthcoming when compared to the contemporaneous record uncovered at Great Plains village sites, with their substantial earthen features and semi-sedentary to sedentary agriculturalist occupations (Mitchell 2011). The lack of an extant record and robust historic accounting have been acute issues in the study of post-horse hunter-gatherers for nearly a century at this point. However, while these empirical problems are important, contact studies have been historically hampered as much or more by theories and models that oversimplified the postcontact processes in the New World.

The need for a more holistic understanding of the post-horse period brings the focus back to the archaeological record, not only to help write Native history but as a paleoenvironmental archive, and how it can be researched to elucidate larger and more important processes of postcontact change. The archaeological record is as important to our understanding of the contact era as the concomitant historic accounts. The historic record provides important data in understanding how European/Euroamericans viewed and interacted with Native groups. However, these accounts often lack the everyday detail and nuanced understanding in their Native group observations. And through no fault of their own,

the written observations of the explorers, trappers, and traders are limited to their specific interaction sphere and actions outside of this sphere cannot be documented. Despite the importance of historic and ethnohistoric documents in the study of equestrian hunter-gatherers, it is crucial to note the shortcomings of these data and to implement judiciously historic accounts into these analyses.

With the notable earlier exception of the information gathered by the Corps of Discovery during their 1804-06 expedition across the West (see Ronda 1984:113-117), early historic accounts from the Upper Missouri region accounting village life, especially the important works of proto-ethnographers, such as Karl Bodmer, George Catlin and Prince Maximilian of Wied-Neuwied, were often drawn to the exotic aspects of Native life and much less to the quotidian details of daily life and family practices (Barbour 2001; Mitchell 2011:102). George Catlin, who visited the Plains in the early 1830s, felt (as did many at the time) that American Indians were doomed to assimilation/extinction and was determined to capture them in painting, as well as collect Native material culture (Catlin 1973). This is an important consideration elsewhere and, along with the primary focus on Eurocentric economic interactions and possibilities, as well as a largely judgmental opinion of what was observed (Ronda 1984:113), provides a valid confirmation for the use of archaeology in the creation of Native histories.

This study is not necessarily concerned with writing a “trans-Columbian” history; here the focus will be on Native groups well acquainted with Europeans and/or European-derived goods. However, even trans-Columbian histories must not view their precontact starting point as a stationary target because these histories must synchronize both the beginning and end of the study with sociocultural, economic, and environmental processes that are in flux or “moving targets” in a sense. This discussion is more concerned with downstreaming from a time, albeit a brief “quasi-stasis,” when items such as horses and metal trade goods may have improved the affluence of Native societies at the cusp of full-blown colonialist settlement and Native agency loss.

It is important to note the equestrian hunter-gatherer archaeological record may document groups antecedent and even unrecognizable to historically described groups; thus historic accounts may not provide adequate analogy and imply precontact cultural stasis or continuity that did not exist (Mitchell 2011:40-41). It is also important to consider that new Native

societies or even ethnicities born out of colonial processes were part of the postcontact landscape. Ideas or studies that attempt to target specific tribal identity before those documented historically may not be feasible or as important as a direct historic approach implies or attempts.

Questions of pre- to postcontact cultural change and ethnicity in the archaeological record, like many other archaeological endeavors, will become more approachable as more data are gathered from archaeological studies and combined with a more directed and nuanced historiography, which incorporates the archaeological record as an “archival” source. This is an approach that analyzes the record in a recursive manner before, during, and after historic and ethnohistoric record consultation, acknowledges colonial processes, and emphasizes the process of contact and subsequent interactions rather than the event (Mitchell 2011; Mitchell and Scheiber 2010; Silliman 2005). This approach views these interactions either directly or through materials exchange as largely taking place in a “middle ground” colonialism where social and economic relationships between Natives and Europeans result in new values and even social norms in practice (White 1991).

As postulated by historian Richard White (2009:247) based on his seminal study of French and Algonquian relations in the *pays d'en haut* primarily during the eighteenth century, this approach explicitly acknowledges a historical and cultural bias because Europeans were literate:

[K]nowledge of Indians was diffused far from the site of actual contact. Such knowledge, unchallenged by actual experience with Indians, survived as a potent cultural relict...[l]ong after it ceased to govern the actions of those who actually lived among Indians...[A]ctual Indians and whites of widely different social class and status had, for a variety of reasons, to rely on each other in order to achieve quite specific ends.

The Native group held often militaristic and economic power (cf. Binnema 2001; DeLay 2008; Hämäläinen 2008), but groups managed to successfully negotiate in a syncretic society where market economy and traditional or ritual exchange was incorporated.

Although the middle ground model is built around economic interaction, it is relevant to social history and can incorporate environmental factors. The implied syncretism developed between Native and European/Euroamerican, despite often disparate goals and understandings of the relationship, was born out of the need for each group to succeed. The

middle ground relied on the inability of both sides to gain their ends through force, with the critical element of discourse being mediation, although the specter of violence did always exist, particularly in the course of commerce (White 2009a; White 2009b:306). Since European/Euroamericans were often at a disadvantage in terms of logistics or military capability, the middle ground model often affords a realistic framework through which to understand hinterland interactions.

The middle ground existed on two distinct levels: It was the product both of daily practice and of formal diplomatic relations between distinct peoples. As White (2009a:249) indicates, the latter is easiest to perceive for historians. However, the former is most approachable in the archaeological record. What was created through the social action of the middle ground was a very different world from that portrayed in early ethnographies, one not conforming to the acculturation model of gradual and inevitable Indian adoption of European values (White 2009a:293). The hinterland interactions in the western Central Plains and adjacent Rocky Mountains, unlike the colonialist history of the *pays d'en haut*, lack a formal accounted record of negotiation given the focus on small-scale interactions and relationships. The proposed analysis in the study region provides an ample means through which to vet this model in a region where the environmental, economic, imperialistic, and temporal aspects of Indian-European interaction are markedly different from those in the French *pays d'en haut*.

Analysis of the Postcontact Archaeological Record

Because social processes operate at the temporal and geographical scales of human lives, archaeological reconstruction of the processes must be scaled appropriately.

—Mark Mitchell (2007:159)

The archaeology of postcontact groups has long been a focus of research, particularly in the Great Plains where the visibility of recent Plains Village sites prompted early excavations at these locations (Mitchell 2011; Strong 1940; Wedel 1938; Will and Spinden 1906).

Although postcontact indigenous groups have been the focus of archaeological investigations, archaeologists often viewed postcontact archaeology as a means to understand the deeper past rather than worth investigating on its own merit (Steward 1942; Wedel 1938). Lack of success in identifying the archaeology of equestrian Plains Indian groups prompted

research into other facets of the archaeological record. Emphasis on elucidating ethnicity from the record has led to a lack of overall synthetic research into postcontact Native groups.

Elucidating the specific ethnic or tribal identity of hunter-gatherers in the archaeological record has proven difficult in most circumstances. Beyond historic accounts that contain the geographical, temporal, and ethnic specificity necessary to locate these occupations, overt evidence of group identity is difficult to find in other pre-, peri-, and postcontact contexts. Precontact or prehistoric hunter-gatherers leave little ethnically diagnostic material culture in the archaeological record and even when there is generally accepted evidence of group identity, it is not without some ambiguity.

Many historically known groups lack discernable pre- or pericontact archaeological correlates. Given the influence of colonial processes, groups such as the Comanche lack a known stone projectile point type or distinctive pottery (Gelo 2013:80; Newton 2011:57). Given the paucity of known and/or accepted ethnic markers from the postcontact archaeological record of both indigenous camps and European/Euroamerican trading centers there is little to link specific localities to specific groups. Moreover, the range in movement, overlap, and multi-ethnic aggregation of group territories in post-horse contexts makes the concept of bounded tribal territories problematic.

These issues need not hamper the study of historic equestrian hunter-gatherers, however, as material culture homogeneity, while making it difficult to differentiate ethnicity or group identity, also indicates these groups were living similar lifestyles. Plains and mountain equestrian hunter-gatherers were exposed to the same suite of trade goods, particularly after the advent of the FTE proper. It is not necessary to look at ethnicity other than in a broad sense to study the Indians of this era. However, there are means to ascertain group identity in the archaeological record. When used critically, historic accounts probably provide the best evidence of group identity. Historic accounts describing territoriality and timing coherent with archaeological site location and occupation date(s) provide a strong argument for group identity.

In the study region, as elsewhere in North America, the majority of postcontact archaeological studies have focused on permanent occupations, such as the aforementioned village sites of the Middle Missouri and early trade forts. Trade fort archaeology, such as carried out at Bent's Old Fort and Fort Vasquez, on the western Central Plains, has produced

important data and information (Judge 1971; Moore 1973). While this work provides insight into trade relations, it has not been used until now to specifically provide information on the Indian trading partners, nor has it been used to compare with the equestrian hunter-gatherer archaeology of the trading hinterlands. Currently, the postcontact archaeology of equestrian hunter-gatherer hinterland camps in the study area is limited to few controlled excavations at sites such as the Lykins Valley and Riverbend, along with isolated or limited surface components consisting of European-derived trade goods recorded during contract (or cultural resource management) archaeology surveys (Buff 1983; McKee 1988; Ohr et al. 1979; Newton 2008).

The acquisition of European trade goods by Natives was a process best understood in the context of the available materials. European traders out in the hinterlands or on the frontier did not have an unlimited supply of material to trade and Native groups did not have an infinite supply of resources required for trade (Bamforth 1993:50). It is understood following the point of initial contact, trade expanded and increased as European populations and material distribution systems were established. Early postcontact research employed a relative yield of the amount of European trade items in a site assemblage as a measure of the length of contact with Europeans—low numbers of trade goods equated to early contact and increasing yields indicated later occupations able to accumulate more trade materials (Ray 1978:26). This model dictated groups closest to trading loci should have the most trade goods in their site assemblages.

Archaeological studies of contact era sites have also shown indigenous technologies, particularly chipped stone technology, persisted after the introduction of European trade goods (Cobb 2003). These studies indicate different responses to the introduction of these goods diverged from the straightforward “acceptance as superior to traditional stone tools” dogma of early acculturation models. Metal tools were incorporated into Native systems as high-status goods rather than tools (Cobb and Ruggiero 2003), or found to be inferior to stone tools for some tasks (Bayman 2003). In other cases, metal trade goods were remanufactured to serve new functions in Native cultures rather than as intended (Ehrhardt 2005). Ratio analysis of European-derived trade goods may be misleading in some cases: the hypothesis proposed by Arthur Ray (1978) dictates middleman groups or groups closest to the trading center would have *less* trade goods because they passed on most, if not all, of

their goods to Native groups peripheral to themselves (see also Orser 1984). This implies that the end-of-the-line groups would have the greatest amount of trade good discard, which could lead to misinterpretation as to their access to trade goods and positioning within the trading network.

Archaeologically testing this hypothesis would be difficult, however, because it would require a large sample of sites encompassing the entire network, which could potentially be quite extensive and encompass vast geographic space. In 1801, for example, a group of Arapaho visited Chesterfield House on the Saskatchewan River to trade, and informed the trader it had taken forty-four days of travel from their home territory (Binnema 2001: 171). Another problem with testing Ray's "middleman hypothesis" is records of exact trade good flows beyond those kept at the posts themselves are virtually nonexistent, severely limiting the amount of archeological truthing carried out on a precise and fixed trade network (Orser 1984:9). The utility of trade good artifact ratios as unambiguous markers of position both temporally and spatially within a trade network is limited, but there certainly are other informative aspects of trade goods.

To help understand trade good flow it is critical to delineate the manufacturing origins of these items. Determining the nation of origin of a trade item can contribute data about trade routes, European interaction, and temporal issues. Understanding the origins, types, and volumes of items traded can provide important insight into archaeological research (cf. Ray 1974). The homogeneity of a spatially discrete trade good assemblage in terms of manufacturing origin may provide clues as to the manner of acquisition. If all of the trade goods were manufactured in the same nation this may be indicative of sustained trade with a certain European nationality or acquisition from a permanent trading locus where supplies are available as a "package" of certain classes of trade goods, such as those described by Preston Holder (1955). Conversely, a more heterogeneous mix of trade items may indicate trade is more sporadic or goods acquired through indirect trade. These scenarios arguably indicate that this trade took place preceding established trading posts, or the trade good artifact recovery location was a trading hinterland lacking firsthand access to European/Euroamerican merchandise. However, the heterogeneous origins of a spatially discrete trade good assemblage could imply privileged access to goods coming from different colonial sources (Newton 2008:99).

The reuse of trade good material for Native needs is an aspect of trade good analysis that can provide additional insights into postcontact lifeways. The use of metal from items such as kettles to manufacture arrow points is a classic example of the appropriation of European-derived materials into existing indigenous technological systems. Cut pieces of metal and specifically shaped artifacts may be archaeological evidence of this process.

The process by which European trade goods were incorporated into Native material culture, whether modified or not, has a temporal component potentially assessed through trade good assemblage analysis. The replacement of utilitarian goods with European goods by the Iroquois at Onondaga sites took several decades (Cobb and Ruggiero 2003:25). Before this time, copper kettles were being broken down into fragments and recycled into more familiar objects. Application of these types of precepts to the postcontact archaeological study of the Great Plains and adjacent Rocky Mountain regions through a specific focus on metal artifacts may reveal the timelines of metal trade good incorporation in these areas.

CHAPTER 3: BEAVER, BISON, AND HORSES: THE HISTORIC ANIMAL TRADE CONTEXT

On the Great Plains of the American West during the two centuries spanned by 1680 and 1880, almost three dozen Native American groups adopted horse-propelled, bison hunting cultures that literally defined “Indianness” for Americans and most of the world

—Dan Flores (1991:466)

As the Corps of Discovery made its way up the Missouri River in the fall of 1804, the expedition passed numerous abandoned Native villages that gave evidence of an indigenous population collapse. Passing one abandoned Mandan village, subsequently identified as Double Ditch Village, William Clark’s journal entry chronicles the aftermath of introduced disease and warfare in the Mandan villages; it documents the abandonment of the Double Ditch Village in the face of these pressures. It describes a scene vastly different from that encountered by the French trader Gaultier de Varennes, the Sieur de la Vérendrye, who visited Double Ditch Village in 1738 and described a bustling trade center (Smith 1980).

The accounts of Clark and La Vérendrye are, in a sense, bookends to the well-documented declension narrative that includes the themes of epidemic disease and Native group conflict, both ultimately caused by European colonization (Ramenofsky 1987; Fenn 2001). The case of Double Ditch Village serves to illustrate two points salient to this archaeological and historical study of the postcontact Native groups: change happened very quickly, and epidemic disease was possibly the most critical catalyst for this change. However, it is difficult to see the impacts of postcontact processes like these for the equestrian hunter-gatherer groups who lacked sedentary population centers that can be tracked in the historic record.

The historic animal skin trade mapped onto an extensive pre-existing trading network that connected Indian groups nationwide and involved the exchange of a myriad of goods (Swagerty 1991). It is important to understand that the historic animal skin trade was one portion of a larger trade system where animal food products and livestock were exchanged for European-derived trade goods.³ Not only were the mountain men interested in monetary

³ An attempt is made following here to refer to the corpus of goods manufactured either in the United States or Europe and traded to Indian groups simply as “trade goods” to dichotomize from the goods received from the Indians.

gain through furs and robes, but also these trappers and traders needed subsistence and a means of transport.

The following contexts draw from previous research and on-going research into the origins and instances of horse domestication and animal trade captured in the extant historiography. The western Great Plains and adjacent Rocky Mountain region is emphasized in these accounts, along with instances of trade and contact which illustrate important processes or concepts of the historic animal skin trade. This is organized to provide a context germane to the research focus of this study rather than the entirety of the regional occupational history—an accounting of the historic records that contain geographically, ethnically, and/or temporally relevant references to the project area.

Equestrian Background

The horse, a New World species, took a circuitous route in order to reappear on the doorstep of indigenous hunter-gatherers in the western Great Plains and Rocky Mountains. The modern horse (*Equus caballus*) evolved on the North American continent and eventually migrated to Asia and beyond over the Bering Land Bridge during the Pleistocene. Subsequently the New World horse (*Equus occidentalis*) became extinct during the terminal Pleistocene (MacFadden 1992:3). It was on the central Asian steppes where the horse was first domesticated over four millennia ago (Anthony 2007; MacFadden 1992).

Evolutionary adaptation to steppe environments meant that horses thrived in the western Central Plains environment and a quick study of European equestrianism meant Plains Indians were equestrian themselves within decades of contact with these animals. The development of equestrianism by Indian groups of the western Central Plains and adjacent Rocky Mountain regions took place outside the European historical narrative as this region remained almost perfectly in the hinterland of European or Euroamerican encroachment, due in large part to it being a disputed territory of France and Spain, and later America and Spain, until the early nineteenth century.

The Spanish expeditions (1540-1542) led by Hernando DeSoto and Francisco Vásquez de Coronado are generally credited with bringing the first horses onto the Great Plains (Wissler 1914:1). The Coronado expedition, in particular, was the first to come in contact with tribes on the western Southern Plains in 1541. Clark Wissler (1914) theorized these expeditions

afforded the first horse acquisition opportunities for native groups in the form of animals that were lost or had strayed from the Spanish herds. This stray theory of horse acquisition has been refuted by later studies (Haines 1938a; Roe 1955), which present convincing evidence showing the initial Spanish expeditions neither had enough female animals nor lost enough animals to establish a viable breeding population for Native Americans to use. The records from the DeSoto expedition also indicate Native groups who came in contact with these initial expeditions often killed horses because they associated horses with the hated Spanish (Haines 1938a:114).

Indigenous acquisition of horses most likely began with the trade, capture, and/or theft of animals from the stock raising centers in Spanish New Mexico beginning in the early seventeenth century (Forbes 1959; Haines 1938b:429). The use of native labor at the missionaries and ranches of the Spanish provided indigenous groups with the opportunity to learn how to raise and manage horses (Haines 1938b:429-431). This knowledge eventually allowed native groups to raid Spanish herds. As herd animals with no social attachments to human groups in the sense of pack animals like dogs, horses were relatively easy to steal which was a boon to raiders (Landals 2004:244). Events such as the Pueblo Revolt of 1680 provided further opportunities for the transfer of horses from Spanish to native groups (Haines 1938b). Although intuitively satisfying, these observations and the model of Spanish-derived horses lack rigorous archaeological or genetic quantification. There are, however, numerous accounts of early Spanish-derived horses in the Great Plains and adjacent regions.

Father Marest of the Kaskaskia mission wrote in 1700 that the Kansas and Pawnee Indians of the lower Missouri valley carried on commerce with the Spanish based on the fact he had seen Spanish horses (Nasatir 2002:6). In 1706 or 1707, a French trader named Derbanne, with a small party of men, ascended the Missouri River from its confluence with the Mississippi River for nearly 400 leagues, where he claimed to have seen horses either stolen or purchased from the Spanish (Nasatir 2002:9). These early accounts give credence to the swift dispersal of horses (and often mules) throughout the Great Plains and Rocky Mountains primarily through inter-tribal trade or raiding, with the Northern Plains being the last to acquire the animals around the mid-eighteenth century.

Building on the research of Clark Wissler (1914), Francis Haines (1983b) developed the seminal model of Spanish-derived horse diffusion throughout the Great Plains and Rocky Mountains that has largely been accepted by subsequent scholars (see Roe 1955; Secoy 1953). Based on this model, Indian groups north of the Southern Plains and in the adjacent Rocky Mountain regions would have likely obtained horses by the early 1700s. This is substantiated by the oft-cited account told to David Thompson: In the winter of 1787-88, while wintering with the Piegan in the foothills of the Northern Rockies, Thompson was told by an adopted aged Cree named Saukamapee, whom he estimates to be a 75-80 year old, of battles in the 1730s against mounted Eastern Shoshone groups who were the first contact the Piegan, and other northern groups, had with horses (Tyrell 1916:328-334).

However, a majority of the early accounts containing references to Spanish-derived horses resulted from contact with Middle Missouri Villagers. Jacques D'Eglise was a Spaniard who came from St. Louis to trade with Mandan on the Upper Missouri in 1790-92 (Nasatir 2002:82). His was the first documented Spanish visit to the Mandan Villages; however, D'Eglise met a Frenchman named Menard who had been living with the Mandan for fourteen years, or since the late 1770s (Nasatir 1927). While there, D'Eglise was told the Mandan traded directly with the English; however, he saw horses and mules, along with saddles and bridles in "Mexican style" (Nasatir 2002:161; Nasatir 1927:49). Some of these animals were "marked with well-known letters" that were likely Spanish brands (Nasatir 2002:333).

After formation of the Missouri Company in 1793, Jean Truteau was tasked with building a fort among the Mandan for trade, as well as to maintain good relations with Indian groups to the west, especially the Snake, or Shoshone, and to gather geographical information concerning drainages, distance to the Rocky Mountains and the Spanish settlements (Nasatir 2002:86-87). Along with Thompson's account, Truteau's writing contains some of the earliest references to horses and the Shoshone Indians in the Northern Plains and indicates the Shoshone were an important group in the late eighteenth century. Groups in the Intermountain West, particularly the Ute of the Western Slope and Shoshone of the Green River Basin, had earlier access to horses through direct access to the Spanish livestock raising centers in the case of the former, and along with kinship ties and steady trade with the horse-rich Comanche in the case of the latter.

The Spanish-derived model of horse dispersion would imply the major northward route for these animals was likely up through the Western Slope or along the Rocky Mountain Front Range whereby horses from New Mexican sources would have been funneled from the Ute and Comanche groups to the north (Haines 1938b; Roe 1955). The accounts of Ute captives in Santa Fe indicate this group had access to horses and the means to develop equestrian skills as early as the middle of the seventeenth century (Forbes 1959:200). Trader William Ashley journeyed through Ute territory in 1824 on his way to the rich beaver trapping grounds located along the Continental Divide in the area of the Green River. Ashley came in contact with a Ute group near the confluence of the White, Duchesne, and Green rivers who were armed with few guns and primarily bows and arrows, but “their horses were better than Indian horses generally are east of the mountains and more numerous in proportion to the number of persons.” (Dale 1991:146-147).

The early spread of horses northward to this region would have been facilitated by Ute and/or Comanche access to the Southern Plains/Pecos Region horses and, in the case of the latter, inter-relatedness with the Shoshone. However, this model does not account for later animosity between the Ute and Shoshone, or for the relationship between the Shoshone and Comanche, who after the 1720s controlled the Southern Plains with its extensive horse herds and supplied horses for their Shoshone relations.

John Ewers (1955:11) hypothesized there was a horse-trading locus in the Green River Basin where the Shoshone received horses from the southern plains and southwest via the Comanche and/or Ute that they, in turn, traded to more northern and western groups such as the Crow and Nez Perce. Pekka Hämäläinen (1998) postulates a trading center of the Comanche on the Arkansas River in the Big Timbers region whereby Southern Plains goods were traded to Central and Northern Plains groups and vice versa. This is the region where Bent’s Fort was later located because the founders of the fort mapped on to this previous trading locus based on advice from the Cheyenne.

The introduction of the horse was responsible for some of the most significant cultural changes ever witnessed during the Indian occupational history of the region (Frison 1991:122). Hunting methods and logistics were changed with horses as new hunting techniques and weaponry (e.g., the short bow) were developed for mounted hunting. The speed and mobility of equestrian hunters afforded pursuit hunting of animals and lessened the

need for communal, topographically-based hunting systems. Indigenous equestrian hunters could pursue animals rather than having to drive or ambush them as before. As beasts of burden, horses allowed for larger amounts of meat to be procured and moved over greater distances.

Caring for individuals or herds of large ungulates, such as the horse, requires finding habitation sites in areas with suitable forage and shelter. Historic accounts indicate the horse herds of Plains tribes could be quite numerous. One account from 1833 of the expedition of Prince Maximilian of Wied-Neuwied up the Missouri River indicates the Crow were in possession of between 9,000 and 10,000 horses (Thomas and Ronnefeldt 1976:36).

The forage requirements of a herd this size would have been immense, and would both have limited camp locations to a few specific places on the landscape and required full-time allocation of individuals from the group for the care and maintenance of the herd. Alan Osborn (1983:586) calculated a horse weighing 409 kilograms requires 7.8 kilograms of solid food and 23.1 kilograms of water a day. A Civil War-era account of Native American villages indicates some of the hardships of keeping horses fed throughout the winter: General George Custer wrote of his winter campaign of 1868-69 that, “we invariably discovered them [villages] located upon that point of the stream promising the greatest supply of cottonwood bark [which was fed to the horses as winter forage], while the stream in the vicinity of the village was completely shorn of its supply of timber” (Cutright 1969:86-87).

These historic accounts provide some indication of the extent and foraging costs that equestrian adoption could incur; as well, the Spanish-derived model of horse dispersal indicates Southern Plains raised and adapted animals were being brought north. Taken together, the acquisition and costs of horses are best explained by the Great Plains environment. However, the region of study includes mountains as well as intermountain basins and plateaus with different climate and topography than the Great Plains, yet horses were present.

There has been a commonly held tenet in the historic scholarship that horses in the Northern Plains suffered mightily in winter, resulting in a mortality rate high enough that northern horse herds needed constant replenishment from the Southern Plains animals (see Hämäläinen 2008:70-71). Part of this misconception could be based on the constant south to

north trade in valuable, previously broke horses and mules that were captured or raised in the Southern Plains or adjacent regions. There was considerable economic and political incentive to acquire these animals, and this trade often operated independently of environmental concerns.

In 1807, David Thompson, while in charge of the construction of a trading post in the eastern flanks of the Northern Rocky Mountains, subsisted largely on horse, which he procured from wild herds in the area (Tyrrell 1916:377-378). The existence of feral horse herds in the extreme Northwestern Plains, as mentioned by Thompson, is evidence these animals were able to survive the harsh winters at least in some regions. This assertion has an empirical grounding in the observations of Frank Gilbert Roe (1955) and modern populations of feral horses in many marginal northern areas of the western United States.

Fur Trade Background

There are many important histories of the FTE written, beginning with Hiram Chittenden's (1902) magnum opus, *The American Fur Trade of the Far West*. However, these histories traditionally view the fur trade of the western Great Plains, Central and Southern Rocky Mountains as a Euroamerican or European endeavor. Native groups are usually found on the literary periphery, only showing up to trade or fight and quickly becoming addicted to European-derived trade goods and technologies. However, as recent scholarship has taught, this relationship was neither so simple nor so one-sided. Building on the seminal work of James Ronda (1984), whose *Lewis and Clark Among the Indians* shifted the focus of this period by keying in on Native influence and agency, the thesis of this study is that Plains and Rocky Mountain Indian groups profoundly impacted the FTE of the region and this can be demonstrated using both historic and archaeological records.

The rich animal skins particularly of the furbearing animals in the northern portion of North America initially attracted Europeans to these areas with the intent of trading European-derived goods made of metal and glass for these skins (Sleeper-Smith 2009). Some of the earliest encounters between Native North Americans and Europeans were the product of these trading interactions. This exchange certainly drove some of the earliest encounters in the area. The Spaniards witnessed indigenous trade fairs and exchange between Puebloan groups and neighboring hunter-gatherers involving agricultural goods traded for

animal products, including skins. Not long after the initial Spanish exploration of the American Southwest, the largely undocumented *entradas* of trappers and traders began. Based in Spanish settlements such as Taos and Santa Fe, by the early eighteenth century these entrepreneurs were trapping and trading in the Colorado Plateau and Western Slope region (Weber 1968).

By the late eighteenth century, trappers and traders from Spain, France, and England were obtaining furbearing animals in the region and conducting trading fairs to obtain horses and other animal products including bison robes and meat. These trade fairs mapped on to earlier indigenous trading systems and were later mapped onto by Euroamerican traders for the location of their trading (e.g., Bent's Old Fort, and the Rocky Mountain rendezvous) (Ewers 1954; Swagerty 1988, 1991; Wood 1980). The sedentary villagers along the upper Missouri River became particularly important to the late eighteenth and early nineteenth century trade as strategically located middlemen with long experience in goods exchange (Mitchell 2011). The flow of goods up and down the Missouri River was critical to the trade. Small parties of trappers-traders continued to journey into the Central and Southern Rocky Mountains to trap animals, particularly furbearers, into the early 1800s. These early trappers-traders were limited in number largely due to restrictive Spanish policies of trading and trapping in the hinterlands, as well as generally disallowing trapper-traders from other empires to extract resources from what they viewed as Spanish territory.

Following the Louisiana Purchase of 1803, American trappers and traders began to enter the region in greater numbers, particularly north of the Arkansas River even though the Spanish maintained this region was still their territory. Given this atmosphere, trapping and trading remained sporadic, or at least covert, in this area up into the 1820s. In the 1820s, however, dramatic political and territorial changes resulted in a drastically different trapping and trading atmosphere in the region; the primary event that caused this was the Mexican Revolution of 1821 and subsequent expulsion of the Spanish from the Southwest. This resulted in the opening of trade between the United States and Mexico, particularly with the opening of the Santa Fe Trail, and the advent of significant trapping and trading.

Earlier attempts to establish trading posts on the upper Missouri River drainage, such as Fort Manuel (or Raymond) in 1807–13 at the confluence of the Bighorn and Yellowstone rivers (Douglas 1964; Drumm 1964) were supplanted in the 1820s–30s by more permanent

and substantial trading posts such as Fort Union and Fort Clark along the upper Missouri River (Barbour 2001; Wood et al. 2010). Posts along the Arkansas River and Platte River tributaries helped to establish a permanent presence of mountain men and trade goods in the intermountain west. Commercial trapping ventures were outfitted which sent men out to trap animals for the company.

Begun in 1824 by William Ashley, the annual trading rendezvous held in the Central Rocky Mountains really ushered in the classic fur trade era. The rendezvous were an integral part of what David Wishart (1979) has termed the Rocky Mountain Trapping System, which generally consisted of groups of Euroamerican/European trappers either employed or given credit by the various fur trading companies, or independent. These trappers would meet or rendezvous in the summer to trade their fur intake for goods. Of course, the numerous rendezvous that took place in the Green River Basin and its periphery provided trading opportunities for the Indian groups of the region.

By the mid-1830s bison robes had replaced beaver pelts as the dominate type of traded animal skin throughout the Great Plains and trading posts constructed in the western Great Plains during this time were built to accommodate the bison robe trade (Newton 2012a). On the western Great Plains, the construction of these posts coincided with a shift in the late 1830s from trade in beaver pelts to trade in bison robes. As the market for beaver pelts largely crashed in the late 1830s, a strong market for bison robes developed. These market trends were primarily dictated by European fashion, where beaver felt hats fell out of fashion (replaced by silk) while bison robes, primarily used as carriage blankets, became popular.

The western Great Plains supported large bison herds, which provided the resource for the coveted robes (West 1998). The bison robe trade differed from the earlier furbearing animal skin trade in that bison robes were a product produced by the Plains Indian groups of the region. Indian groups hunted the bison and processed their hides into robes, which were traded to Euroamerican traders at trading posts or temporary trading camps. This shifted the dynamics of the animal skin trade drastically and resulted in a trade primarily catering to Native groups. The location of trading posts, the type of goods traded, and timing of this trade was dictated by Native preference. Bent's Old Fort on the Arkansas River, Fort William on the North Platte River, and the South Platte trade forts are examples of Native place influencing trading loci (Hämäläinen 1998, White 1978, Newton 2012a). These posts were

all located in areas where Indian groups overwintered and these locales have significant evidence of postcontact use by Indian groups.

However, other than a few posts such as Bent's Old Fort and Fort William (aka Laramie), the majority of these trading posts was not economically sustainable and did not last very long. In his overview of the fur trade in Colorado, William Butler (2012) indicates there were 24 trading posts built in the state between 1800 and 1850. The average length of operation for 10 posts built in Colorado between 1828 and 1837 was about 7 years (Butler 2012). Although the Southern Plains bison robe trade remained strong into the 1840s; to the north the combination of overhunting and waning furbearer markets took its toll and the fur trade diminished to a nominal level by the mid-1840s.

Exploration and Contact in the Context of Native Geopolitical Landscape

As the animals were running away and jostling against one another, they came to a barranca, and so many cattle [bison] fell into it that it was filled and the other cattle crossed over them. The men on horseback who followed them fell on top of the cattle, not knowing what had happened. Three of the horses that fell disappeared, with their saddles and bridles, among the cattle, and were never recovered.

—Pedro de Castañeda de Nájera (2002:195)

The direct contact of bison and horses described by Coronado's chronicler, Castañeda de Nájera, was probably the first time these two species had come face to face in the Great Plains since the Pleistocene Epoch. This was the beginning, in the Plains at least, of a complicated relationship, both ecologically and culturally-derived, between these animals. Perhaps no technological change had a more profound impact in the western Great Plains than the introduction of the domesticated horse, and of objects manufactured from metal to the indigenous hunter-gatherer groups who occupied or came to occupy this region.

Scholars cogently argue that particular trade objects, such as the gun and the horse, had a more profound impact than other trade goods on Plains Indian cultural trajectories (Ewers 1955; Secoy 1953). The impact of the gun may be overemphasized, perhaps even an artifact of early frontier and warfare models, for the long-lived use of the bow and arrow and its effectiveness in both hunting and equestrian warfare over early flintlocks, percussion cap,

and even breech loading rifles militates against its effectiveness (see Milner 2005 for example).

The following section describes and discusses the early contacts and historic interactions between Europeans or Euroamericans and the indigenous populations of the Plains and mountains. The locations, relationships, and movements of these groups as documented beginning in the sixteenth century and up into the nineteenth century provide important context to understanding the systematics of the period of study focused on here. The expansive mobility gained through horse acquisition led to new social dynamics in the region. Contact initiated both indigenous groups and colonizers into new relationships, trading systematics, and even economies. How, when, and where Indian groups came in contact with these exotic peoples and their exotic goods is only one part of a complex process of interaction, but these accounts provide important information about the beginnings of a new era in the region, a time of vast change but also important continuity.

The Spanish were the first to enter the Great Plains in 1541, when Francisco Vásquez de Coronado led a large expedition into the Southern Plains, possibly as far north as the Kansas River (Schroeder 1962). The Spanish were seeking a kingdom called Quivira, described to them as a place of great wealth. The Contact Era in the western Great Plains began with this *entrada*, which encountered nomadic Querechos and Teyas whose ethnic and archaeological identity is still the subject of scholarly debate, but were likely Apachean and Caddoan groups (Boyd 2001; Habicht-Mauche 1992; Hickerson 1994).

Over 260 years after Coronado's encounters with the Southern Plains Querechos and Teyas, the Corps of Discovery led by Meriwether Lewis and George Clark in 1805 encountered Shoshone, Flathead, and Nez Pierce groups in the Rocky Mountains, most of whom had never seen a European or Euroamerican, although they knew of them and had horses and other goods obtained ultimately from them (Ronda 1984). This corroborates with the somewhat apocryphal, though historically accurate, captivity narrative of Charles LeRaye. LeRaye was travelling up the Yellowstone River near the mouth of the Bighorn River in the fall of 1801 when he encountered a group of Flathead and a group of Shoshone, neither of whom, he claimed, had ever seen a European, but possessed some glass trade beads and edged iron weaponry (South Dakota State Historical Society 1908:175). And in September of 1811, Wilson Price Hunt met a group of Shoshone just east of the Wyoming

Range of which several, “never having seen whites, were much pleased by our visit” (Rollins 1995:287). In the latter two cases these groups certainly had knowledge of European/Euroamericans and possessed horses and a limited amount of other European-derived materials. From Coronado to Hunt, these accounts demonstrate the diverse timing of direct contact in the region and the different ways in which these scenarios occurred.

The Southern Plains and Southwest provide an example of a rapidly changing geopolitical landscape in the postcontact period. Juan Paez Hurtado, in 1715, led an expedition out of Santa Fe to punish Apachean groups who had raided Picurías and Taos pueblos. Primarily following the Canadian River east, Hurtado was unable to locate the raiders despite seeing signs of recent Apache activity (Thomas 1935:22-26). However less than five years later, it was Comanche and Ute groups who were committing depredations against both settler and Apache along the northern frontier of New Spain, and Antonio Valverde y Cosío was dispatched in 1719 to combat the raiders (Thomas 1935; Weber 1992:168).

The Comanche in particular were in the midst of an expansion out into the Southern Plains, displacing previously entrenched Plains Apache groups (Hämäläinen 2008). During this expedition, Valverde y Cosío met Apache groups along the upper Arkansas River who told him of French settlements and trade relations with the Pawnee and Jumano societies to the east. As a direct result of the information obtained by Valverde, Pedro Villasur led an ill-fated expedition east and north across the Plains where they were eventually attacked and nearly wiped out at the confluence of the Platte and Loup rivers by a group of Pawnees, Otos, and possibly Frenchmen (Bilgri 2012; Thomas 1935; Weber 1992:171).

Shortly thereafter, Etienne de Véniard, sieur de Bourgmont, was commissioned by the French government to establish relations with Plains Apache groups to bolster trading and establish French claims to the region (Norall 1988). In 1724, Bourgmont led an expedition from Fort d’Orléans west up the Missouri River to a Kansa village before turning southwest and traveling into the Central Plains. Bourgmont eventually arrived at a Plains Apache village near the Great Bend of the Arkansas River and made a successful bid to establish peaceful relations with these people (Norall 1988:57-80). The Plains Apache groups in the Southern Plains at this time were being attacked and driven from the region by Comanche

raiders, who by the 1750s had completely expelled the Plains Apache and controlled most of the region (Hämäläinen 2008).

The Vérendrye brothers (sons of the *Sieur de la Vérendrye*), in 1742-43, explored into northeastern Wyoming and probably made it as far as the Black Hills and possibly the Bighorn Mountains (Smith 1980:1-3). The brothers were looking for new sources of furs as well as the fabled “Sea of the West,” which was thought would provide a passage to the Indies (Tennant 2007:113-115). Travelling west up the Missouri River, the Vérendryes met an Indian among the Arikara who spoke Spanish. He told them the route to Spanish settlements was three weeks on horseback and dangerous due to having to pass through territory of the Shoshone (Nasatir 2002:33-34).

Juan María Antonio de Rivera was the first documented European to enter the Colorado Plateau and provides some of the earliest descriptions of the region based on two expeditions into the area in 1765 (Baker 2009:42-43; Leiby 1984). Rivera references the Comanche as enemies of the Ute and indicates that they were well established in the territory north of the Colorado River and east into Kansas (Leiby 1984). Leaving out of Abiquiu, Rivera made it as far north as the Gunnison River in search of the Ute informants who had earlier promised the governor in Santa Fe to lead the Spaniards to silver sources and the source of the Colorado River (Cutter 1977).

Fray Silvestre Vélez de Escalante of the 1776 Domínguez-Escalante expedition who traveled through the Southern Rocky Mountains and Colorado Plateau region, references a 1686 Spanish document written by Fray Alonso de Posada that relates the Green River “separated the Yuta nation from the Comanche” (Warner 1995:52). They encountered various Ute groups and were warned of Yamparika Comanche with whom the Ute were in conflict. The Franciscans were told Comanche territory began north of the White River but were also told the Comanche had moved east possibly to the Rio de Napeste (Arkansas River) by a Ute who had gone to steal horses from them (Warner 1995:47-48). This could very likely be an instance of using the name Comanche to describe various Shoshonean groups in the region with close ethnic and linguistic ties. If taken at face value this reference, albeit secondary, would be the earliest known to the Comanche and likely the earliest to a Shoshonean group located north of the Ute. Later, Jean Truteau in 1795 was told by the Cheyenne that the Comanche occupied the territory of the Platte drainage (Nasatir 2002:91).

David Thompson was told by the Piegan of the Northern Plains that they went on a war party in search of Shoshone in 1787 and, having proceeded south a great distance without locating any of their enemy, continued south until it is estimated they made it into the Spanish Southwest (Tyrrell 1916:370-371).

David Thompson is told a story by a Chippewa of an attack on a Cheyenne village in the late 1790s where the Cheyenne had horses and Chippewa guns; however, the Chippewa were unwilling to press their attack until most of a village was gone on a bison hunt (Tyrrell 1916:261-263). Thompson is later told of a massacre of Chippewa by Sioux who had horses as well and “[w]hile they keep the Plains with their Horses we are not a match for them; for we being foot men....[u]ntil we have Horses like them, we must keep to the Woods, and leave the Plains to them” (Tyrrell 1916:264). This passage, while not explicitly referring to environmental differences and how they influenced horse acquisition, is a strong implication that in wooded areas horses did not convey any type of military advantage. As well, the implication is that horses have a military advantage in Plains warfare, even against groups such as the Chippewa, with earlier access to guns than the more western Siouan groups. This account conflicts, however, with accounts of later battles on the Northern Plains where guns appear to have given groups a military advantage over mounted groups, although the battle described was fought entirely on foot (see Tyrrell 1916:330-332).

This brings up questions about how the differential acquisition of horses and guns resulted in an uneven balance of power with access to guns being militarily more important than access to horses. It is interesting that some groups with first access to horses in certain regions of the Plains, such as the Shoshone and Apache were pushed out, whereas groups with later access such as the Comanche and Lakota become very powerful (see Hämäläinen 2003). Focusing on the gun as the main transformative metal-derived artifact diminishes the impacts of other items – knives and metal containers – that also influenced profound change (Carlos and Lewis 2010). The role of the gun, both as a prestige item and foregrounded in the postcontact warfare of the Plains, overemphasizes the role in this change. The overall use of the gun and its differential acquisition by Plains Indians certainly increased the historical emphasis on its role in postcontact change. The horse, on the other hand, was undeniably the most transformative “technology” of the vast array of traded items brought to the New World by Europeans, particularly in the Great Plains and intermountain regions.

The Kiowa have somewhat enigmatic origins as Kiowa-Tanoan language speakers described as a Plains group by the 1720s (Levy 2001:907; Mooney 1898). They are later described as living in the Northwestern Plains in the vicinity of the North Platte River and Black Hills in the 1805 accounts of Lewis and Clark (Levy 2001:907). While detained in Santa Fe in 1807, Pike encountered a trader named James Purcell who had come to the upper Platte to trap in 1804 and was subsequently captured by the Kiowa released and ended up in the company of some Arapaho who brought him to Santa Fe in 1805 (Jackson 1966:59–60). If Purcell is correct in his recollection of being on the Upper Platte, then his account may mark the Kiowa in transition to the Southern Plains, which culminated in an alliance and shared territory with the Comanche in 1806 (Mooney 1898:163-165). Pike’s recounting of Purcell, along with his own exploration of the Upper Arkansas, is one of the burgeoning number of Euroamerican accounts that can be traced to the first decades of the nineteenth century.

Warren Ferris (1940:310), who traveled throughout the Rocky Mountains as a trapper and trader in the 1830s, describes the Shoshone, or “Snakes on the Plains”, as a group who “range in the Plains of Green River as far as the Eut [Uinta] mountains...they sometimes ascend the Snake River [Bitter Creek] of the Soos-so-dee [Green River] and visit the Arrappahoes, on the sources of the Platte and Arkansas....They are at war with the Eutaws, Crows, and Blackfeet but rob and steal from all their neighbors, and any body else whenever an opportunity occurs.” In speaking of the Eutaws [Ute], Ferris (1940:311-312) says, “because there are no buffalo in their country, and they are obliged in winter season to construct cabins of cedar branches, which are by no means comfortable....They are, by far, the most expert horsemen in the mountains.” The Arapaho (Ferris 1940:313) were friendly with the Shoshone, Blackfoot, Gros Ventre, and Comanche, but were at war with the Ute, Crow, and Sioux.

The German physician Friedrich Wislizenus stayed at Fort Davy Crockett on the Green River in August of 1839 before leaving the fort and following the Little Snake River up to Savory Creek (Wislizenus 1912:129–136). He notes at this time that the Crow lived in the vicinity of the Bighorn Mountains but frequented the country of the North Platte and Sweetwater rivers, which “are considered by the Indians as a common war ground” (Wislizenus 1912:76). On November 27, 1842 Rufus B. Sage, on his return trip east, reaches

the “Yampah, or Little Snake” and indicates this “section of the country hereabouts is inhabited by the Snake Indians from whom the river...derives its name” (Sage 1857:285–286).

These preceding historical accounts provide some insight into the complex and dynamic geopolitical landscape of the post-horse Great Plains and adjacent Rocky Mountain regions. These vignettes show how at different times and places during the period of study firsthand contact and/or secondhand descriptions of Native locations or territories can provide insight into the ethnicity of material culture recovered from the archaeological record. Conversely, the vague general locations and shifting patterns of territory or groups movements described underscores the difficulty in pinning down a historically known group with an archaeological signature. This again reinforces the importance of archaeology in developing a more robust understanding of the daily lives of these peoples who existed beyond the written record.

Historic Knowledge of the Region

As mentioned above, the Spanish were the first to enter the Great Plains, when Francisco Vásquez de Coronado led a large expedition into what is now central Kansas (Schroeder 1962). The Spanish were seeking a kingdom called Quivira that was described to them as a place of great wealth but were unimpressed by what they found. The chronicler of the expedition, Pedro de Castañeda de Nájera (2002:195), documents that the Spaniards saw “nothing but cattle [bison] and sky” during their initial entrada into the Llano Estacado and beyond. They made it as far as a Teya (Wichita) Village on the Arkansas River before turning back in frustration encountering bison hunting Querechos (likely Plains Apache) and other Teya groups along the way. This expedition marks the first time western (albeit Southern) Great Plains groups encountered Europeans and initiated the postcontact era. There is no direct evidence (historical or otherwise) of sixteenth or even seventeenth century European exploration of the project area, although undocumented travel in this area may certainly have occurred. It is during the eighteenth century that documented French and Spanish exploration in proximity to the project area encounters the Native group(s) who likely occupied the sites discussed in this report.

In 1705 a Frenchman named Laurain said that he had been up the Missouri, had visited the Indian tribes on the river, and had gone as far as the frontier of New Mexico”

(Loomis and Nasatir 1967:38). Another Frenchman claimed in a memoir that he had founded a post 200 leagues above the Red River in 1720 and gone inland to the northwest crossing several mountains. On the upper Arkansas he came upon six Indian villages who told him of mineral wealth in the area between the Arkansas and the Missouri rivers as well as a mountain range that extended west-northwest in the environs of the upper Arkansas (Nasatir 2002:59).

The Vérendrye brothers, in 1742–43, explored into northeastern Wyoming and probably made it as far as the Black Hills and possibly the Bighorn Mountains (Smith 1980:1-3). The brothers were looking for new sources of furs as well as the fabled “Sea of the West,” which was thought would provide a passage to the Indies (Tennant 2007:113-115). Travelling west up the Missouri River, the Vérendryes met an Indian among the Arikara who spoke Spanish. He told them the route to Spanish settlements was three weeks on horseback and dangerous due to having to pass through territory of Snake Indians (Nasatir 2002:33-34).

The aforementioned Juan Rivera was the first documented European to enter the Colorado Plateau and provides some of the earliest descriptions of the region based on two expeditions into the area in 1765 to look for silver sources (Baker 2009:42-43; Leiby 1984). The Spanish party ultimately was unsuccessful in their quest but certainly provide some of the first European descriptions of the Ute groups and inter-tribal relations in the region in terms of on-going hostilities between the Ute and groups to the north and east (Baker 2009:42; Leiby 1984). The Dominguez-Escalante expedition travelled through the Colorado Plateau in 1776 where they encountered various Ute groups and were warned of Yamparika Comanche with whom the Ute were in conflict (Warner 1995).

David Thompson was told by the Piegan that they went on a war party in search of Snake (Shoshone) in 1787 and continued south not finding any Shoshone until they encountered a pack train of Spaniards (Tyrrell 1916:370-371). They attacked behind shields because they had few guns, but the Spaniards retreated leaving horses and mules which were loaded with silver. The Piegan left the silver and came back north with about 30 horses and a dozen mules. Thompson indicates the war party started at about 53° 20'N and went 1500 miles directly south to 32° latitude, which would have placed them in the American Southwest (Tyrrell 1916:370-371). Although this account is of an exceptional and therefore memorable

event, it does show the incredible and dynamic range of postcontact groups that in this case travelled far south of the project area.

The Louisiana Purchase of 1803, which transferred possession of the Louisiana Territory to America, ushered in the era of Euroamerican exploration. The acquisition of this land by America combined with the expulsion of the Spanish from New Mexico in 1821 opened the Great Plains and Rocky Mountains to the uncontested trade and settlement that marks the middle part of the 19th century. Prior to this, the vast expanse had yet to be defined and quantified.

Francois Antoine Larocque in 1805 travelled up the Yellowstone and up the Powder River to the Bighorn Mountains with a party of Crow and encountered Shoshone. According to Larocque at the time the Shoshone:

[A]re all on good terms with the Rocky Mountains [Indians (Crow)] with whom they carry on such a trade as the Flatheads. This nation is very numerous & each tribe had different names. The more southern tribes have dealings with the white[s] of New Mexico from whom they get thick striped Blankets, Bridles & Battle axes in exchange for Buffaloe robes and Deer skins, but it is probable that this Trade of the Snakes is carried on at a second or thir[d] hand and that they themselves have no direct trade with the Spaniard[s] (Wood and Thiessen 1985:220).

William Ashley was an entrepreneur who was on his way to the rich beaver trapping grounds located along the Continental Divide in the area of the Green River, when winter forced him to make camp on the Cache la Poudre River for three weeks in 1824 (Morgan 1964:84). He eventually continued his journey up the Poudre and over the Laramie Plains to the Green River. In the Green River Basin, his horses were stolen by a Crow war party returning from a raid on the Shoshone (Dale 1991:132-133). Ashley came in contact with a Ute group near the confluence of the White, Duchesne, and Green rivers who were armed with few guns and primarily bows and arrows, but “their horses were better than Indian horses generally are east of the mountains and more numerous in proportion to the number of persons” (Dale 1941:146-147). Thomas James was in Santa Fe in 1822 when it was visited by 50 or so Ute who were “mounted on the most elegant horses I had ever seen” (James 1966:159-160).

In 1827 Ceran St. Vrain and Sylvestre Pratte led a party of trappers north from Abiquiu trapping through the southern Rocky Mountains. Part of their trapping territory included the Little Snake River (Utley 1997:108). Eventually the party made it to North Park where Pratte

dies from illness and one of the party, 'Pegleg' Smith, is wounded by an Indian bullet. Following this, St. Vrain leads the party to the Green River where they wintered and then returned to Abiquiu the following spring (Weber 1968:169-171).

John Harris and Alexander Sinclair were part of a trapping party who came up the Arkansas River and through the Southern Rocky Mountains to the Green River Basin, then to the "Río de los Sozones" (i.e., Little Snake River) in 1831. The party spent at least a few weeks on the Little Snake in December of 1831 before John Harris led the party to Taos, arriving by the end of January 1832 (Weber 1968:198-199). In 1832, Captain Benjamin Bonneville brought the first wagons into the Green River Basin to participate in the on-going rendezvous market. Along the way the party encountered Crow who had never seen cattle or oxen prior to contacting the wagon train (Irving 2004a:652). On July 13, 1833 Bonneville entered Green River Valley and found it strewn with bison carcasses killed by Shoshone (Irving 2004a:756-757).

William Marshall Anderson was a trader who came west with William Sublette in 1834 and witnessed the beginning of construction of Fort William on the North Platte River (Morgan and Harris 1967:108-111). Eventually the party including Anderson joins the 1834 Rendezvous on the Hams Fork and on July 14 his camp is joined by a large party of Shoshone who stayed for three days. On July 19 the nearby American Fur Company camp was visited by a war party of Shoshone with Ute prisoners, three of whom were "ransomed" by a trader (Morgan and Harris 1967:160-161).

Several journal entries from members of the Peoria party which passed through the region recount the country and its indigenous inhabitants. On August 11, 1839 the party crossed the Little Snake River and thereabouts Obadiah Oakley "met four French trappers. Fourteen days before they had left Brown's Hole and were attacked by the Sac [Ute or Shoshone] Indians on Little Snake river" (Hafen and Hafen 1955:58). Another member of the party, Thomas Farnham indicates the French trappers were attacked by Lakota on the Little Snake River (Hafen and Hafen 1955:291-292). Party member Robert Shortess recounts the passage through the region wherein:

We struck a small stream known as the St. Vrain's Fork [Savery], down which we journeyed to its junction with Little Bear river [Little Snake], an affluent of Green river, traveling some distance down Bear river; thence over a barren desert, and entered Brown's Hole, a fertile and pleasant valley on Green river. No incidents of

the journey are remembered of much interest except passing the spot where a battle had been fought between a party of white hunters and a war party of Sioux, in which the latter were repulsed with a loss on the part of the whites of one man and several animals; Indian loss unknown (Hafen and Hafen 1955:105).

E. Willard Smith on September 27 of the same year travelling down the Little Snake River, “came to a place where some whites had encamped a few days previous for the purpose of killing Buffalo and drying their meat. From the signs around us we thought they must have had a fight with the Indians, probably Sioux. We saw the skeletons of four horses, killed in the fight. The Whites had thrown up a breastwork of logs for a defense. To-night we put our horses in an old horse-pen we found at our camping place, which is on the Snake River” (Hafen and Hafen 1955:172).

On September 29, Smith “left Snake river [possibly at Powder Wash] and about noon came across Indian signs...supposed there must have been about forty Indians, probably a war party of Sioux who had passed but two or three hours previous” (Hafen and Hafen 1955:172). Later noted frontiersman Kit Carson told Smith the about the fight where 20 Lakota attacked seven trappers and two of their Indian wives killing one trapper (Hafen and Hafen 1955:174). Smith made his way to Fort Davy Crockett where he stayed and later took part in a buffalo hunting trip. The hunting party initially camped at the confluence of Muddy Creek and the Little Snake River drying buffalo meat before moving down the Little Snake River having killed 100 bison and six grizzly bears (Hafen and Hafen 1955:175-176). Returning east from Fort Davy Crockett in January of 1840, Smith met a party of 20 Ute just west of the Little Snake River, who were hunting bison and armed with good rifles. Continuing on Smith arrived at the Little Snake River in the area of Powder Wash and camped there for the next four days. On February 2, Smith camped at the confluence of Muddy Creek and the Little Snake River before continuing upstream where they killed a bison the next day (Hafen and Hafen 1955:180).

The German physician Friedrich Wislizenus stayed at Fort Davy Crockett in August of 1839 before leaving the fort and following the Little Snake River up to Savory Creek (Wislizenus 1912:134-136). His party “saw many single buffalo, and small herds” (Wislizenus 1912:136). He notes at this time that the Crow lived in the vicinity of the Bighorn Mountains but frequented the country of the North Platte and Sweetwater rivers which “are considered by the Indians as a common war ground” (Wislizenus 1912:76). On

November 27, 1842 Sage, on his return trip east, reaches the “Yampah, or Little Snake” and indicates this “section of the country hereabouts is inhabited by the Snake Indians from whom the river...derives its name” (Sage 1857:285-286).

In 1843-44, John C. Frémont led one of multiple expeditions who came through the Rocky Mountains for the United States government in order to gather military and scientific information (Jackson and Spence 1970). On his return trip east after mapping the Oregon Trail west to the Pacific Northwest, Frémont and his party travelled through the project area and on June 10, 1844 halted for noon “at a little spring of bad water” (Jackson and Spence 1970: 708). The expedition made it to the Little Snake River the following day and that night on the river Frémont and company “encamped in a fine grove of cottonwood trees, on the banks of the Elk Head [Little Snake] river, the principal fork of the Yampah river, commonly called by the trappers the Bear river. We made here a very strong *corál* and fort and formed the camp into vigilant guards. The country we were now entering is constantly infested by war parties of the Sioux and other Indians and is considered among the most dangerous war grounds in the Rocky mountains” (Jackson and Spence 1970:708-709). The expedition continued up the Little Snake and encamped near the mouth of Battle Creek before continuing to the North Platte River (Jackson and Spence 1970:709-713).

During 1849–50, the study region was crossed by groups of Cherokees heading west to the California gold fields (Fletcher et al. 1999). The southern route of the eponymously named Cherokee trail through the Great Divide Basin passed by these springs as well, and diaries from that time indicate this could be a harsh section of the trail. The route of Frémont and the Cherokee Trail mapped on to earlier trails used by the mountain men and Indians which connected the trading posts. These historic trails were important travel corridors for settlers moving west, who in turn supported the trading posts and forts that were along these routes and after the animal hide trade languished.

The study region was occupied by many different equestrian Native groups during the eighteenth and nineteenth centuries (Figure 3). These ranged from classic Plains Indian Groups like the Cheyenne, Comanche, and Lakota to groups less dependent on Plains resources as occupants of the mountains and/or basin regions, such as the Shoshone and Ute.

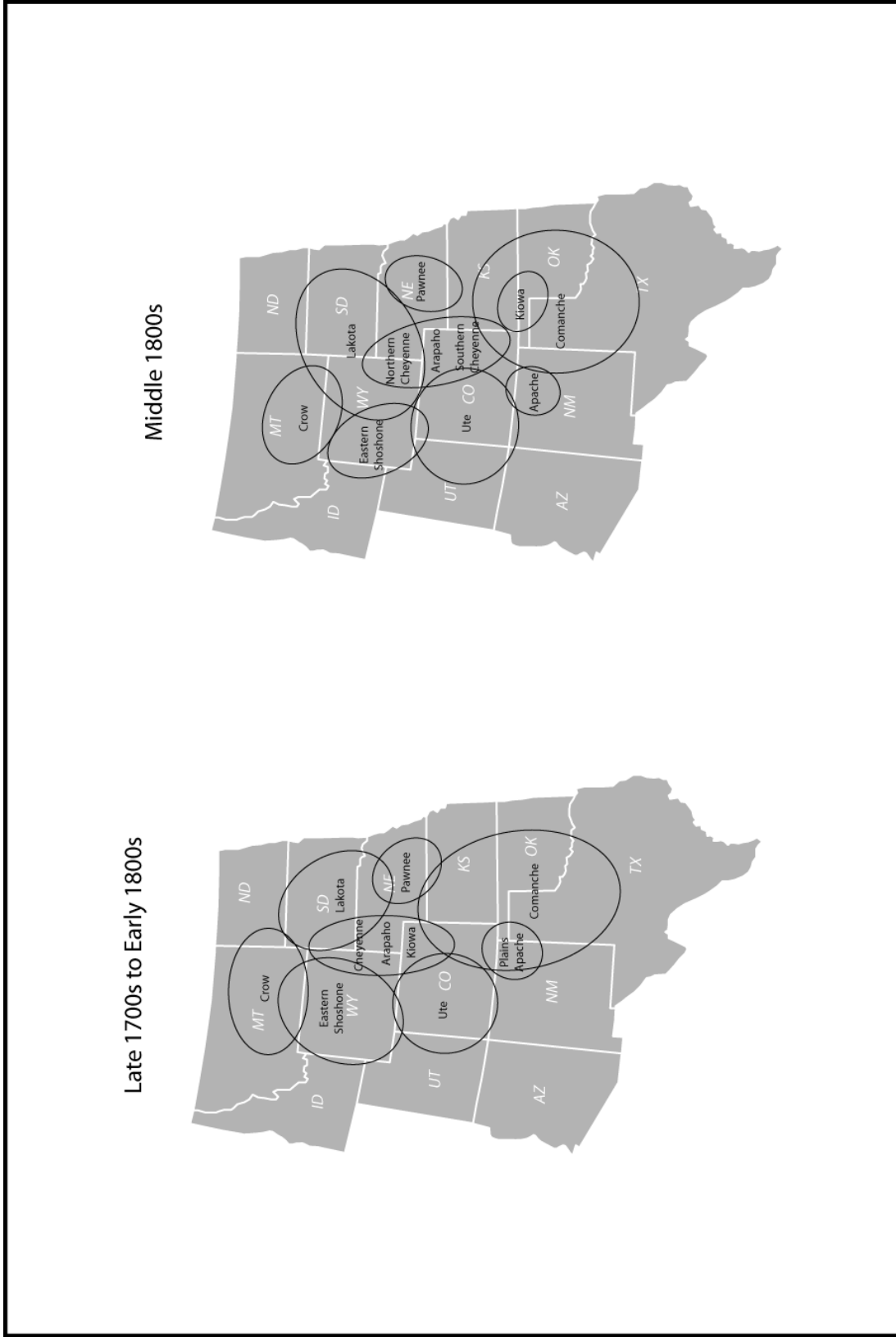


Figure 3. Indian territories approximated in eighteenth and nineteenth century.

Still other groups such as the Arapaho and Crow were associated with several different ecoregions at various times. The political and military prowess of these groups waxed and waned with increasing proximity of westering European/Euroamerican settlement playing a part in this amalgamation. Some groups (e.g., Comanche and Lakota) became successful expansionists while others (e.g., Plains Apache and Shoshone) saw a reduction in territory and/or removal from precontact territory. The degree and way the environmental context, including both equestrian and subsistence concerns, differentially influenced the social responses and postcontact cultural change between mountain and Plains groups provides an archaeological research focus.

Materials Contact and Hinterland Trade

The timing of indigenous acquisition for European-derived materials has a very limited accounting in the historic record. The Native acquisition of European trade goods and materials, like epidemic disease, far outpaced actual direct contact in the study region. As well, archaeological studies have shown that the use of traditional technologies persisted long after contact, implying that these were preferred in some cases over European tools and materials (Cobb 2003; Rogers and Wilson 1993). Therefore, historic references should be carefully read as to what can be interpreted by the presence or absence of European trade goods.

For example, James McKay reports in 1787, the Mandan were still using Native-made pottery (Nasatir 2002:493). This is after well over a century of materials contact with European goods by a group who was central to the regional trading network; Native-made ceramics use at this time suggests important costs and/or preferences resulted in the continued production and use of these items. Similarly, Meriwether Lewis in August of 1805 encountered a Shoshone group who was using “jars made of clay” (Lewis et al. 2002). In this case, Lewis is describing a group beyond direct contact with trading centers and largely surrounded by competing Native groups who greatly hindered Shoshone access to European trade goods. The use of Native-made ceramics here may well have been a product of European trade good inaccessibility more so than preference.

The accessibility to European-derived trade beyond the trading centers was highly dependent on relations to neighboring groups or contact with hinterland European or

Euroamerican traders. The following accounts describe instances of first-time direct trade, as well as references to indirect access and situations where trade good acquisition was not the primary concern. The signature of trade goods or lack thereof in the archaeological record in cases of redistributive or middleman trade makes it difficult to understand what a site trade good assemblage represents (Orser 1984; Ray 1978), but a lack of trade goods can also represent the lack of need or desire for these goods.

In 1754, a Blackfoot chief in the Northern Plains of Alberta declined to establish trade with Hudson's Bay Company laborer Anthony Henday (or Hendry) despite the promise of guns, alluding to the fact that the journey to trade would take them from their food source and horses and saying, "they never wanted food, as they followed the Buffalo and killed them with the Bows and Arrows" (Burpee 1907:338). The Blackfoot disdain for the trade goods and trading system is an important counter to the generally held notion that guns were a needed and sought-after item. Bow-and-arrow use to effectively hunt large mammals, particularly bison, is also emphasized.

During his travels in 1805 with a party of Crow, François-Antoine Larocque traded with a Shoshone group at or near the Bighorn Mountains. Larocque and company traded "a few of those blue Glass Beads they have from the Spaniard, and on which they set such value that a horse is given for 100 grains" (Wood and Thiessen 1985:192). Larocque indicates the Shoshone obtained the blue beads from the Spanish "by the second and third han[d]" (Wood and Thiessen 1985:217). On September 1, 1805 "a Snake Indian arrived, he had been absent since the spring and had seen part of his nation [the Comanche] who trade with the Spaniards; he brought a Spanish B[r]idle and Battle ax, a large thick blanket, striped white and black and a few other articles, such as Beads &c." (Wood and Thiessen 1985:189).

Wilson Price Hunt led a large party of trappers and traders, who later became known as the Astorians, west from the Arikara villages on the upper Missouri River through the Powder River Basin to the Bighorn Mountains in 1811 (Irving 2004b; Rollins 1995). At the east slope of the Bighorn Mountains near their southern end, Hunt encountered Crow to whom he gave presents of tobacco, knives, cloth, gunpowder, bullets and "various trinkets"; his party also traded their worn-out mounts for fresh horses and purchased bison robes and pelts (Rollins 1995:284).

Robert Stuart, returning overland from the Astoria trading venture in the Pacific Northwest with dispatches for New York, was traveling through the Green River Basin in 1812 when his party met some Shoshone (Rollins 1995:160). They proceeded to the Shoshone camp of four “Huts...made principally of Pine branches” and where for “a Pistol, a Breechclout an axe, a Knife a tin Cup two Awls and a few Beads they gave us the only Horse they had & for a few trinkets we got Buffaloe meat and leather for mogasins, an article we much want.” (Rollins 1995:161).

In November of 1815, Jules Demun, partnered with Auguste Chouteau on a substantial trading expedition, entered the western Plains via the Arkansas River. In his brief journal of the trip, which ends abruptly around the mouth of the Huerfano River, Demun chronicles fleeting glimpses of Indians, fear of horses being stolen, lack of food, and frozen limbs (Marshall 1928). He also indicates his party was following a camp of “Americans” headed up the Arkansas River with the same intent and shortly before his journal ends, the Chouteau and Demun party encountered the American trappers (Marshall 1928:207–208).

This account demonstrates the early nineteenth century use of the area by Euroamerican trappers whose presence in the region largely went undocumented—at least partially due to continued claims of Spanish sovereignty over the region. Chouteau and Demun were eventually arrested by the Spanish in 1817 and taken to Santa Fe where they were tried, imprisoned, and had their merchandise confiscated for unlawfully trading in Spanish territory (Ulibarri 1961:263). This is despite being issued a license to trade in the upper Arkansas by the Governor of the Missouri Territory, William Clark.

In fact, the exploits of Chouteau and Demun are later detailed in the journal of Long expedition member Edwin James, who describes the location of their trading camp:

About four years previous to the time of our visit [1820], there had been a large encampment of Indians and hunters on this creek. On that occasion, three nations of Indians, namely, the Kiawas, Arrapahoes, and Kaskaias or Bad-hearts, had been assembled together, with forty-five French hunters in the employ of Mr. Choteau and Mr. Demun of St. Louis. They had assembled for the purpose of holding a trading council with a band of Shiennes. These last had been recently supplied with goods by the British traders on the Missouri, and had come to exchange them with the former for horses. (James 1905:282)

This early nineteenth century account illustrates the multiethnic aggregation of Plains Indian groups in the region and the north-south horses for goods trade network that likely characterized the eighteenth century as well.

Trapping parties out of the Southwest also presented trading opportunities to groups of the Southern Rockies, Colorado Plateau, and Wyoming Basin. Ceran St. Vrain and Sylvester Pratte led a trapping party north from Abiquiu in 1827 who trapped north through the Southern Rocky Mountains, ending up in North Park. Pratte succumbed to rabies and another trapper was wounded by an Indian bullet before St. Vrain led the party to a wintering spot on the Green River and subsequently returned to Abiquiu (Weber 1970:169-171). This party spent some time trapping on the Little Snake River according to Utley (1997:108). John Harris in 1831 led a trapping party out of Taos up to the headwaters of the Arkansas River and eventually to the Green River Basin, where they could be found on the “Río de los Sozones [i.e., Shoshone],” or Little Snake River, in December before returning to Taos in January of 1832 (Weber 1970:198-199).

During the trip west in 1832 to the rendezvous, Captain Benjamin Bonneville notes at forks of the Platte River up the South Platte “lay the route to the Camanche and Kioway Indians” (Irving 2004a:652). Further along, the party encountered Crow who had never seen cattle or oxen prior to contacting the wagon train (Irving 2004 [1837]:652).

On July 13, 1833, Bonneville entered Green River Valley and found it strewn with bison carcasses killed by Shoshone (Irving 2004a:756-757). Later at the rendezvous Bonneville recounts that the rivalry which existed between company trappers from his and the two other main companies (i.e., American Fur Company and Rocky Mountain Fur Company) was forgotten at the gathering and there was little to no ill will, it being more of a celebration than anything (Irving 2004a)

William Marshall Anderson was a trader who came west with William Sublette in 1834 and witnessed the beginning of construction of Fort William on the North Platte River (Morgan and Harris 1967:108-111). Eventually the party, including Anderson, joined the 1834 Rendezvous on the Hams Fork; on July 14, a large party of Shoshone who stayed for three days joined his camp. On July 19, the nearby American Fur Company camp was visited by a war party of Shoshone with Ute prisoners, three of whom were “ransomed” by a trader (Morgan and Harris 1967:160-161).

In 1835, Colonel Henry Dodge led the First Dragoon Regiment in an expedition of over 120 men who were sent west to display the military prowess of the United States and make entreaties to the Plains Indian groups of the region (Pelzer 1926; Perrine 1935; United States Congress 1836). This expedition, after having met a group of Pawnee, travelled up the Platte River then followed its south fork to the Front Range before travelling south to the Arkansas River, which they followed eastward. The region through which these expeditions traveled was changing rapidly and on the threshold of even more dramatic changes. This military expedition was on the vanguard to the opening of the Santa Fe Trail and the establishment of a bison robe trade along the Front Range and the constituent trading posts, respectively, which altered the human demography and biogeography of the region drastically.

The Development of Permanent Trade Centers and Indigenous Influence

For millennia prior to the nineteenth century, ethnohistoric and archaeological research shows extensive trading networks existed throughout the Great Plains and Rocky Mountain regions where both intra- and extra-regional exchange of goods took place (Figure 4). One portion of this system was a Shoshone trading rendezvous that took place in the Green River Basin and was a node between the Middle Missouri and Pacific-Plateau trading systems (Ewers 1951; Swagerty 1988, 1991; Wood 1980). Here Shoshone groups organized trading conventions where goods from Crow, Ute, and possibly Comanche groups were traded with Flathead and Nez Perce groups.

William Ashley mapped on to this existing trading locus in 1824 when he established the rendezvous trapping and trading system in the Central Rocky Mountains (Ewers 1954:431). In 1834, William Bent mapped onto a previously established trading location utilized by the Cheyenne, and possibly earlier Comanche on the upper Arkansas River for the construction of his post (Hämäläinen 1998).⁴ In addition, the 1830s adobe trade forts of the South Platte were founded in proximity to preferred Cheyenne and Arapaho winter camp locations (Newton 2012a).

⁴ See Perkins et al. 2017 for a cogent argument against this being an eighteenth century Comanche trading center.

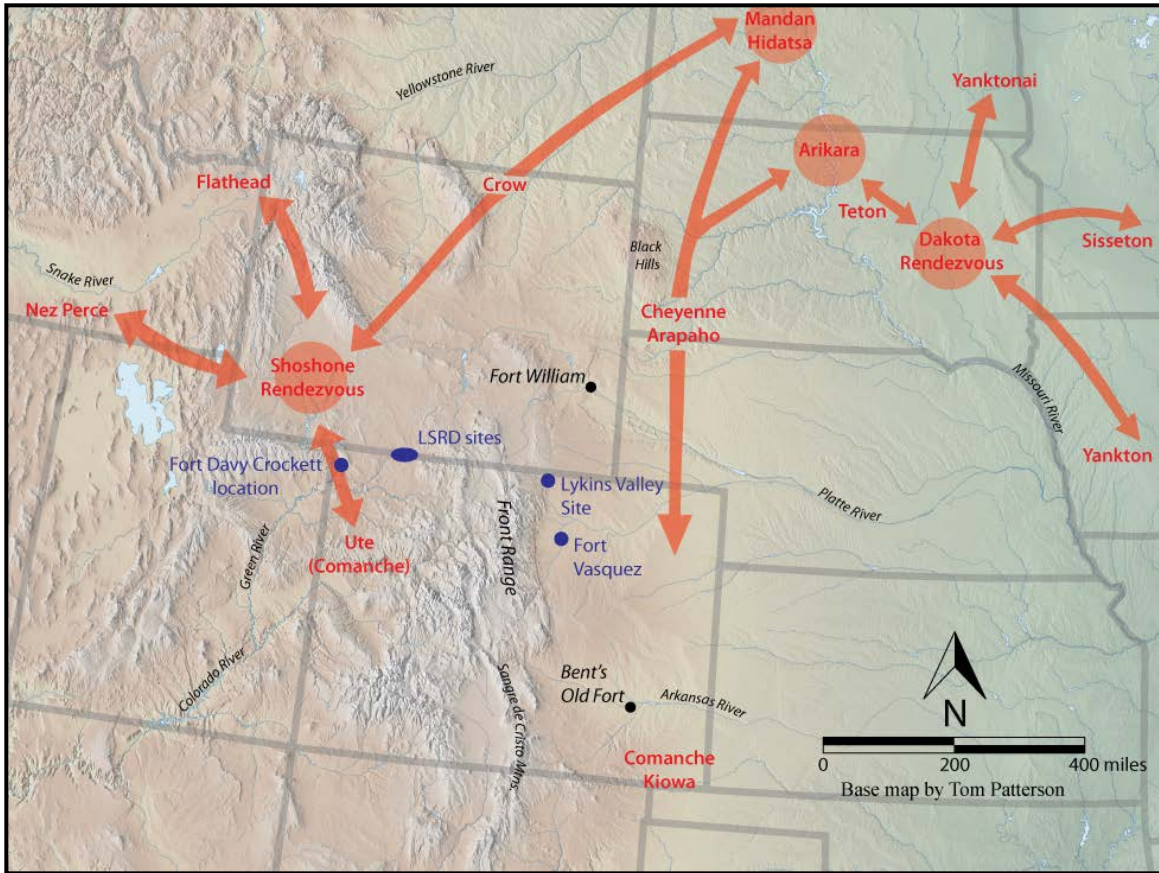


Figure 4. Model of indigenous trade network prior to 1800 (adapted from Ewers 1954).

The establishment of permanent trading posts along with the rendezvous trading system in the western Central Plains and adjacent Rocky Mountain regions following the Mexican Revolution of 1821, which effectively ended any claims of Spanish sovereignty, initiated a period of direct contact and Euroamerican presence on a scale previously unknown in the area. Prior to this, however, numerous documented and undocumented trading ventures meant to establish a permanent post were undertaken and each provided the opportunity for direct trade contact as well as the dispersal of European-derived trade goods.

What follows is a historical overview of the known trade posts in the region beginning with the earliest accounts to demonstrate the complex and shifting economic landscape of the region prior to and including the period of study. It is important to understand, though, these posts operated in conjunction with small-scale hinterland trade that may or may not have involved Europeans and later Euroamericans, and this peripheral trade may have been just as, if not more, important socially and economically than trade carried out at the permanent posts.

Amos Stoddard (1812:147), in his history of the Louisiana Territory states, “[w]hile Louisiana was in the hands of France [before 1762], some of the French traders from the upper Mississippi, transported a quantity of merchandise, by way of the Arkansas, to the Mexico mountains, where they erected a temporary store, and opened a trade with the Indians, and likewise with the Spaniards of north Mexico.” This account indicates pre-1762 (Treaty of Fontainebleau) European occupation of the upper Arkansas.

The Scott County Pueblo (14SC1), a puebloan style structure located among Plains Apache settlements in a settlement thought to be El Cuartelejo in present-day western Kansas, was thought to be an early eighteenth century (ca. 1700–1720) illegal Spanish trading center (Gunnerson 1987:106-107); however, a recent re-examination of the ceramics and site chronology casts doubt on this assertion (Hill et al. 2018). A 1727 Spanish correspondence notes “six Frenchmen apparently settled in El Cuartelejo and built houses near that village” (Loomis and Nasatir 1967:51; Thomas 1935:256–260). Furthermore, an unnamed Frenchman claimed in a memoir he had founded a post 200 leagues above the Red River in 1720, having gone inland to the northwest and crossed several mountains, ultimately arriving on the upper Arkansas River where he came upon six Indian villages whose inhabitants spoke a language unfamiliar to him (Nasatir 2002:59). Whether French or Spanish it is clear that the El Cuartelejo trade was an important and sought-after market for both nations.

Later, to protect an established route into Santa Fe from foreign incursion, especially from Euroamerican trappers and traders, Fecundo Melgares established a fort on the eastern side of Sangre de Cristo Pass sometime between May and October of 1819 (Thomas 1929:54-56). This post was short-lived; it was attacked shortly thereafter by a long-ranging Pawnee war party and suffered the loss of five men, undoubtedly contributing to its quick abandonment (Thomas 1937). The Glenn-Fowler party camped at the location of the fort on February 3, 1822, which Fowler notes as “the Remains of a Spanish fort to apperence ocepied about one year back” (Coues 1898:85).

Fort Davy Crockett, located in Brown’s Hole (or Park), on the Green River was a fur trade era post that plays prominently in the early nineteenth century history of the region (Eddy 1982). This location provides a collection analyzed in this study and whose archaeology will be described in further detail below. Brown’s Park on its own is a noted

wintering location and trading center that attracted groups both before and after the existence of the post.

In 1825, William Ashley the first documented American to visit the park, noted a large abandoned winter camp, which scholars believe was occupied either by the Ute or Shoshone, but likely the latter (Morgan 1964:174). Ashley describes the Native camp “had been judiciously selected for defence....Many of their lodges remained as perfect as when occupied...made of poles two or three inches in diameter, set up in circular form, and covered with cedar bark (Dale 1991:142). Although the park was certainly frequented by both groups, during the fur trade era the Shoshone seem to have been the most numerous and prominent Native inhabitants of the park. Rufus Sage (1857:255) who passed through the area in 1842 indicates Brown’s Hole was the favorite “resort” of the Snake Indians. Certainly, trappers and traders used Brown’s Hole much like the Indian groups as a wintering ground such as the Bean-Sinclair Party in 1831-2 (Hafen 1954). There may have been a post built in the park as early as 1832 (Hafen 1952), but the unequivocal evidence of a post begins in 1837 with the establishment of Fort Davy Crockett, which provided a permanent trading locus in the park.

Fort Davy Crockett was established by Philip Thompson, William Craig, and Prewitt Sinclair (Robertson 1999:101). The aforementioned accounts of the Peoria party, as well as Robert Newell, E. Willard Smith, and Friedrich Wislizenus describe the post and the Native groups who frequented the area. Another trader, Bill Hamilton, indicates while at the post, he traded with Shoshone, Ute and Navaho (Hamilton 1951). The detailed description provided by Thomas Farnham indicates the post “is a hollow square of one story log cabins, with roofs and floors of mud construction in the same manner as those of Fort William [Bent’s Old Fort]. Around these we found the conical skin lodges of the squaws of the white trappers...and also the lodges of a few Snake Indians....And indeed when all the ‘independent trappers’ are driven by approaching winter into this delightful retreat; and the whole Snake village, 2 or 3,000 strong, impelled by the same necessity, pitch their lodges around the Fort...there is not want of customers” (Hafen and Hafen 1955:16).

E. Willard Smith describes an incident in Brown’s Hole where Lakota horse thieves stole 150 animals in the fall of 1839 (Hafen and Hafen 1955). A party of trappers, rather than go after the Lakota raiders, decided to steal horses from the Hudson’s Bay Company at Fort Hall

and a small band of friendly Shoshone. Fearing reprisals from the Shoshone, another group of trappers located and stole back the horses taken by the first group. The horse theft by the trappers led to factious mountain men in the region, and a breakup of the partnership which established Fort Davy Crockett. Those trappers in the initial horse thieving party continued their horse stealing ways in California (Johansen 1959:39). The fort was likely abandoned by this time; later accounts from Brown's Hole do not mention it and it was certainly in ruins by 1844 (Eddy 1982:53; Robertson 1999:102).

Trading loci on the upper Arkansas River, upper South Platte (Robertson 1999; Butler 2012), and at the confluence of the Laramie and North Platte rivers were important fur trading entrepôts during the 1830s–40s (Figure 5). Antonio Montero who came west with William Bonneville built a post (ca. 1834–40) on the Powder River near the Bighorn Mountains to trade with the Crow which was also the 1836–37 winter camp for a brigade of rival trappers including Jim Bridger (Becker 2007; Peterson 2008). Bent's Fort on the Arkansas and Fort William on the North Platte were the primary and longest lived of these posts (Lavender 1954; Robertson 1999). Large volumes of both Native and Euroamerican acquired furs and robes were exchanged for trade goods warehoused at posts such as these.

In the intermountain region to the west, Fort Uintah, or Fort Robidoux as it is also known, was built in 1832 by Antoine Robidoux near the confluence of the Whiterocks and Uinta rivers (Robertson 1999:226). During his stay in 1842 at Fort Uintah, Rufus Sage (1857:232) describes the business at this post as “carried on with the Snake and Utah Indians, living in the neighborhood of this establishment.” Antoine Robidoux built another small trading post near the confluence of the Green and White rivers in 1837. Robidoux built Fort Uncompahgre near the confluence of the Gunnison and Uncompahgre rivers in 1828 (Robertson 1999:227). All these posts catered primarily to the Ute and mountain men in the region and did not survive the collapse of the fur trade in the 1840s.

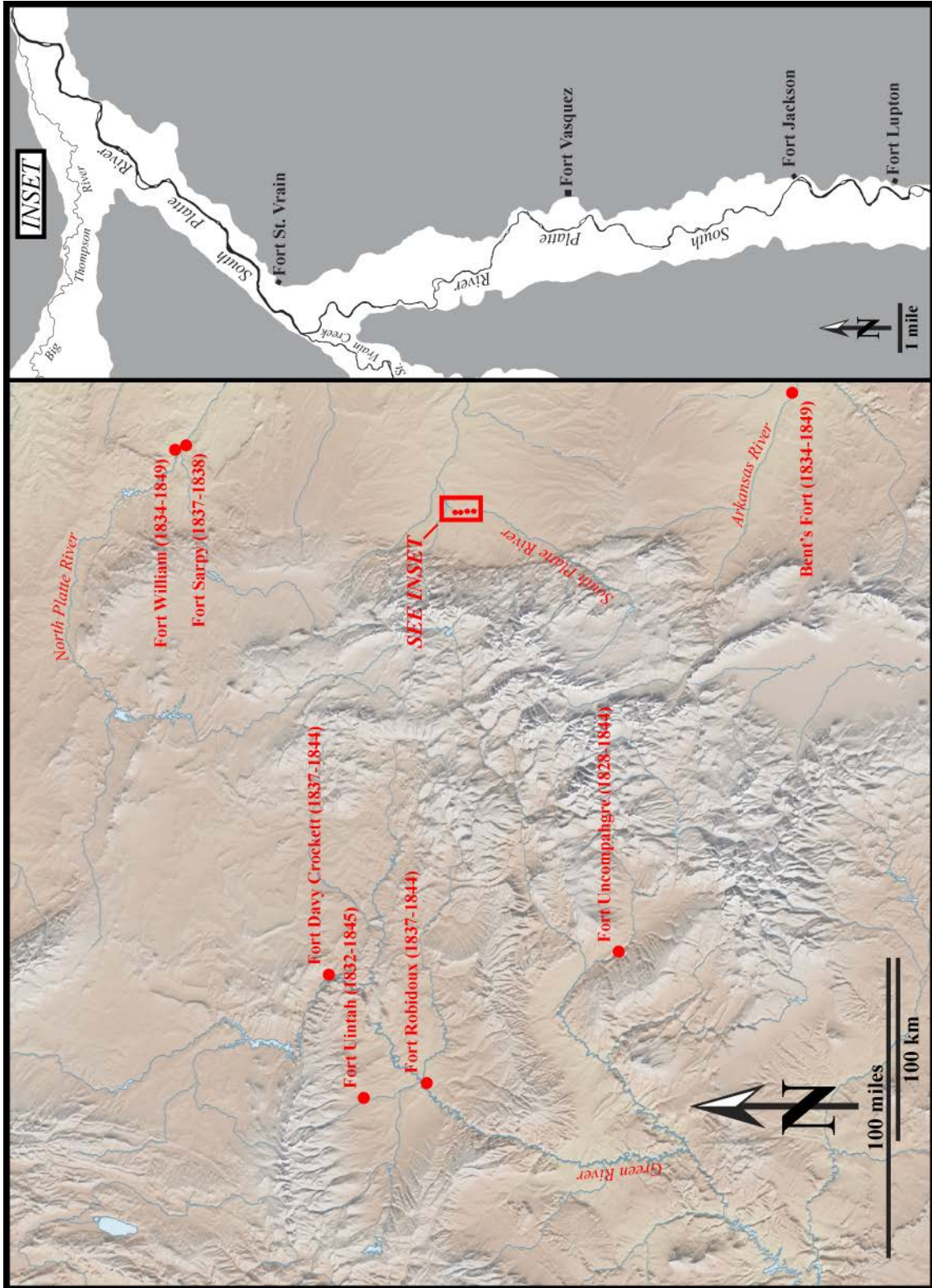


Figure 5. Map of Fort Vasquez and contemporaneous trading posts of the western Great Plains and adjacent Rocky Mountains.

CHAPTER 4: USING ARCHAEOLOGICAL EVIDENCE TO UNDERSTAND HISTORIC PROVISIONING

In their journey up the Arkansas River in the fall and winter of 1821–22 to trade and trap, a party lead by Colonel Hugh Glenn, and chronicled by Major Jacob Fowler, encountered a substantial mixed Indian camp near the confluence of the Arkansas and Apishapa rivers. As the trappers camped nearby attempting to trade for new horses and mules to replace and replenish their depleted stock, more and more Indians joined the camp. Fowler complains the trappers were unable to easily obtain the animals required despite the generally destitute condition of the Indians and his estimate of 20,000 animals in the encampment (Coues 1898:65). Fowler estimates the encampment eventually reached 700 lodges and was composed of Kiowa, Arapaho, Kiowa-Apache (or Plains Apache), Cheyenne, Comanche, and Shoshone.

What started out as a mostly Kiowa camp was joined by members of the other groups it appears in anticipation of trade with Spanish traders who they were scheduled to meet further up river for the winter trade. Accounts of the numbers of occupants per lodge can be estimated at 5,600 using the figure of eight per tipi – the low end of the 8–10 per tipi estimate (Kehoe 1958). This figure works with contemporary accounts of Comanche (1786) and Kiowa-Apache (1820) camps having 11 and 7.8 persons per lodge, respectively (Ewers 1955:24–25).

Eventually, however Fowler (Coues 1898:63) notes, “the Indeans talk of moveing the Buffelow are now drove to Some distance and this I [is] not to [be] thought Straing as about one Hundred of them are Eaten In Camp Each day Sinc our aRivel.” The following day, December 8, 1821, Fowler notes the Indians “furnish [us] With Plenty of the best of buffelow meet at a low Rate bu[t] do not Wish us to Hunt them our Selves – aledgeing We Wold drive the Buffelow all off.”

Given that the trappers had been camped near the Indians for 17 days, the amount of bison consumed is considerable. However, some of the bison may have been processed for robes or the meat stored for later consumption or to trade with the coming Spanish (Mexican) traders as 100 bison per day equates to 13.9 lbs. of bison meat per person per day.⁵ This

⁵ Using an average of 779 pounds of useable meat per bison based on a useable 60% of a 1300 pound animal.

description of the Indian encampment and quantity of bison being consumed provides an important window into the subsistence needs of Plains Indians. As well, the large mixed camp is a prime example of the early nineteenth century coalescence of Indian groups on the upper Arkansas River for trade and animal resources.

On the surface, the hunting prohibition is attributable to the Euroamerican use of guns, which have a loud report that could make the bison skittish or drive them off. Assiniboine of the Northern Plains were known to forbid use of firearms in killing pounded buffalo (Provo 1984:50). However, the traditional post-horse bison hunting method of running animals and shooting them with arrows would have the same effect, especially if hunted daily. It is just as likely the Indians prohibited mountain man hunting in order to benefit from selling them meat. Although bison meat was acquired at what the mountain men considered a “low rate,” their parsimonious trade in horses and mules suggests the Indian groups were not as destitute as Fowler perceives and were trading at a favorable rate to them.

As the Fowler narrative intimates, the trade for meat or food could be an important part of the overall fur trade economy. As informative as Fowler is of an instance of this trade, it is pretty vague concerning the exact motivations for the trading behavior. Indian trading behavior or the indigenous reasoning for the trading decisions Fowler saw understandably escapes his narrative. On the other hand, the lessons learned from the Fowler narrative provide the basis for researching this historical phenomenon and developing questions to guide this research through archaeological investigation.

Equestrian hunter-gatherers such as those congregated on the upper Arkansas River in 1821–22 were committed to managing horse herds and inculcated into the trading sphere of Mexicans and Euroamericans. As such, the value of bison and horse pasture was foregrounded in the Native conscience—protecting and utilizing these resources to enhance political and social relationships while maintaining quality of life. Again, the seeming contradiction of the favorable trade in bison meat with the difficulty in acquiring horse and mules provides an interesting situation to study. The trade motivations that escaped Fowler are looked at in other ways here and with questions that will elucidate or enhance understanding of this situation as well as the greater social power relationships between the Indians and the mountain men.

The primary impetus of this study is to answer the question: How did equestrian hunter-gatherer groups influence and impact the fur trade of the early to mid-nineteenth century in the western Great Plains and adjacent Rocky Mountains? In taking the Fowler narrative as an example or starting point in a sense, it is evident that a larger relationship existed between the Indian groups and the mountain men and trade was more than a simple exchange where both sides benefitted. Evidence from the archaeological record can be brought into play to operationalize this question and understand if these equestrian hunter-gatherers were truly affluent and had demonstrable power or influence over the mountain men with whom they traded.

Does the archaeology of FTE native sites and trade posts contain evidence of Native influence and affluence? One means to address this question is to understand who controlled the animal food resources necessary for survival and the basic quality and quantity of game animal resources traded into the posts. The Fowler account provides, albeit in a less permanent setting, how Plains Indians controlled the animal resources and that Euroamericans found it necessary to rely on them for food at times. Arguing that Indian trade in game animals, particularly large mammals, was a relatively common occurrence can be substantiated by Fowler's and others' accounts (Couess 1898:63; Binnema 2001:117–119). This phenomenon is often associated with trading post provisioning and Native resource allocation of herds, including using fire to help dictate the provisioning trade (cf. Arthur 1975:22–25; Binnema 2001).

In addressing this issue, a determination of if and how these site types differ becomes necessary. Comparing Native camps, Native villages, and Euroamerican trade and military posts based on common artifact types used to compare and contrast the means that animal food resources were utilized provides baseline data enabling further more specific comparisons between the sites. Specifically animal remains are commonly found in all site contexts and provide a relatively equivocal means to extract this information about the posts, villages, and camps analyzed here. The types of animals found in these archaeofaunal assemblages along with the quantities of skeletal portions and numbers of elements has long been shown to be indicative of diet quality (Binford 1978; Emerson 1990; Todd 1983). The analysis of bones from trade posts and outlying Native occupations is the primary focus of this study. Differences in large mammal diet quality among these sites are used to understand

the provisioning trade of the era and how equestrian hunter-gatherers influenced the overall fur trade and mountain man society.

Other measures of affluence derived from other types of artifacts found at outlying Native camps are used to address this question. Rarely documented FTE Native sites provide a rare look at how an interior group or groups articulated with the trade. Access to high-quality or high-utility trade goods will be used to argue these groups attained a particular affluence as the fur trade economy catalyzed permanent trade in the region. And the continuation of indigenous technological practices, particularly stone tool manufacture and use, at these sites will be used to argue that despite ready access to trade goods, these groups did not depend on these items for survival.

A specific archaeological background for each of the sites that are used to understand equestrian hunter-gatherer influence and affluence during the early to mid-nineteenth century is presented below. Details of the sites and their relevance to this study require explanation. Detailing the context of each assemblage introduces the important comparisons and contrasts befitting this study.

Background Information

Fort Davy Crockett Location

The FDCL, in Brown's Park on the Green River, was a location prominent in the FTE history of the Central and Southern Rocky Mountains (Eddy 1982). Established around 1837, Fort Davy Crockett catered to Euroamerican trappers and Indian groups until abandonment in the early 1840s; the post was in ruins by 1844 (Robertson 1999:101).

Brown's Park was a noted wintering location and trading center that attracted groups both before and after the existence of the post. In 1825, William Ashley, the first documented Euroamerican to visit the park, noted a large abandoned winter camp occupied by either Ute or Shoshone, but likely the latter (Morgan 1964:174). Although the park was certainly frequented by numerous Indian groups both before and after the Fort Davy Crockett trade, during the 1820s–30s the Shoshone were the most numerous and prominent Native inhabitants of the park.

Exposed buried cultural deposits discovered in 1974 in the east riverbank of the Green River contained the artifacts analyzed here. Several archaeological investigations at this location between the 1970s and 2000s failed to locate any architectural features associated with the post (Eddy 1982; Waldvogel and Charles 2005; Pfertsh 2003). Riverbank erosion, alluviation, and channel movement since the mid-nineteenth century has clearly removed portions of the site as well as potentially buried and/or destroyed other parts of the site and possibly any remains of the post structures. However, artifacts and bone from an extensive FTE occupation has been recovered at this location, which includes some building materials indicating the post was likely nearby. Most of the archaeological work was carried out in 1980 (Eddy 1982), which resulted in the collection analyzed here.

This is a robust collection with many of the same artifact classes as recovered from Fort Vasquez. This collection has a large faunal component used to show provisioning strategies at these locations. The FDCL, given its geographic location, appears to be a more traditional fur trading post catering to mountain men as much as Indian groups (particularly the Shoshone) and was a noted stopover for early westering settlers. As a location without a definitive post association, it is somewhat different from Fort Vasquez, but is comparable as a largely contemporaneous occupation serving an essentially identical purpose.

The 1980 excavation consisted of test trenches targeting features exposed in the riverbank with additional units oriented on a north-south grid, which approximated the bank edge (Figure 6). The excavations revealed a single discontinuous cultural level encountered primarily between 50 and 110 cm below ground surface (Eddy 1982:65–80).

The majority of the artifacts and bone recovered were from the test trenches targeting the exposed features (Figure 7). The bone and artifact find rates largely mirror one another and even the microtopography of the site area reflects the artifact and bone accumulations at the feature locations. The latter is likely indicative of dump episodes and reflects refuse middens deposited outside the post walls (Walker 1983:8).

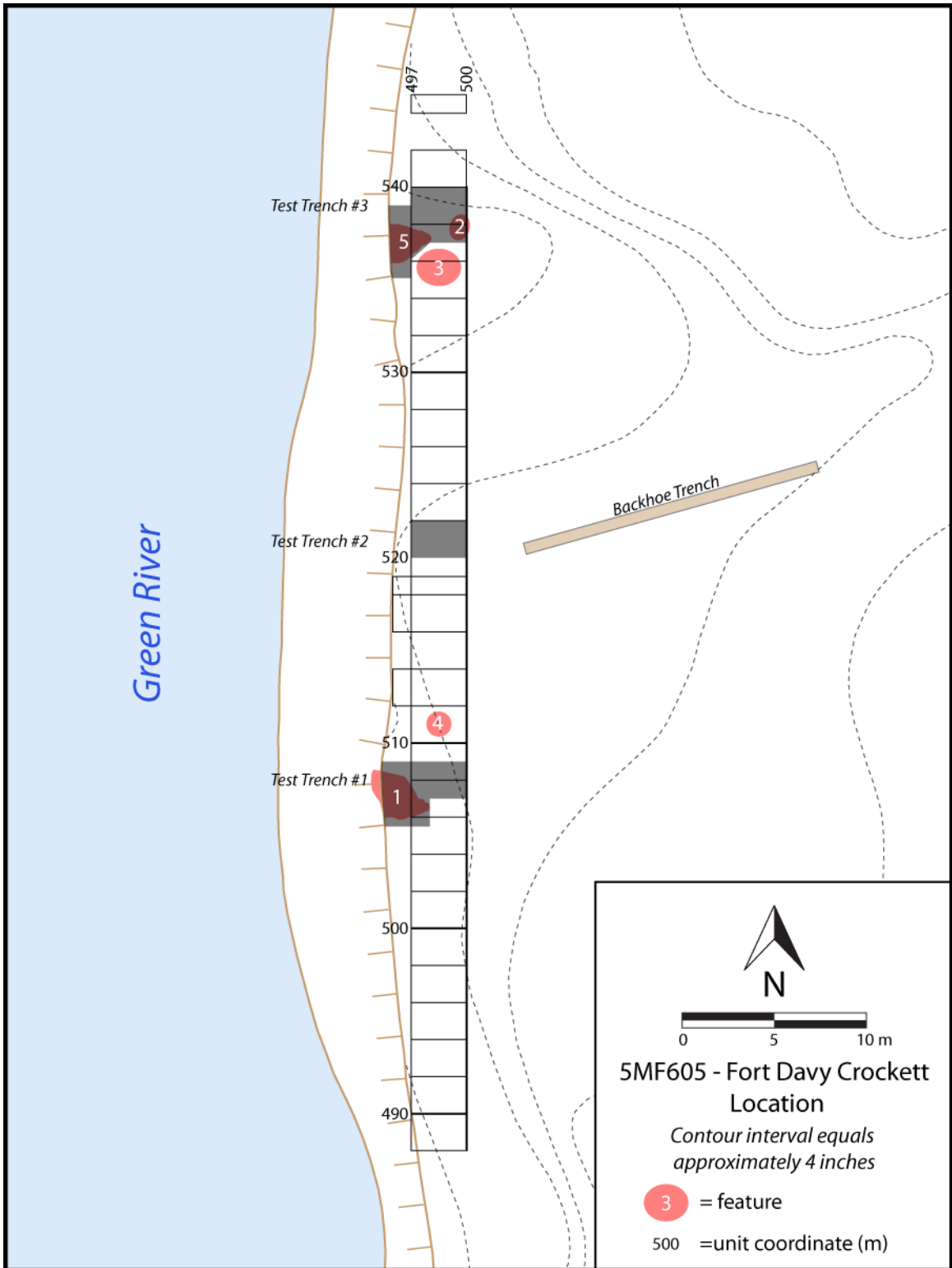


Figure 6. Site map of FDCL (adapted from Eddy 1982).

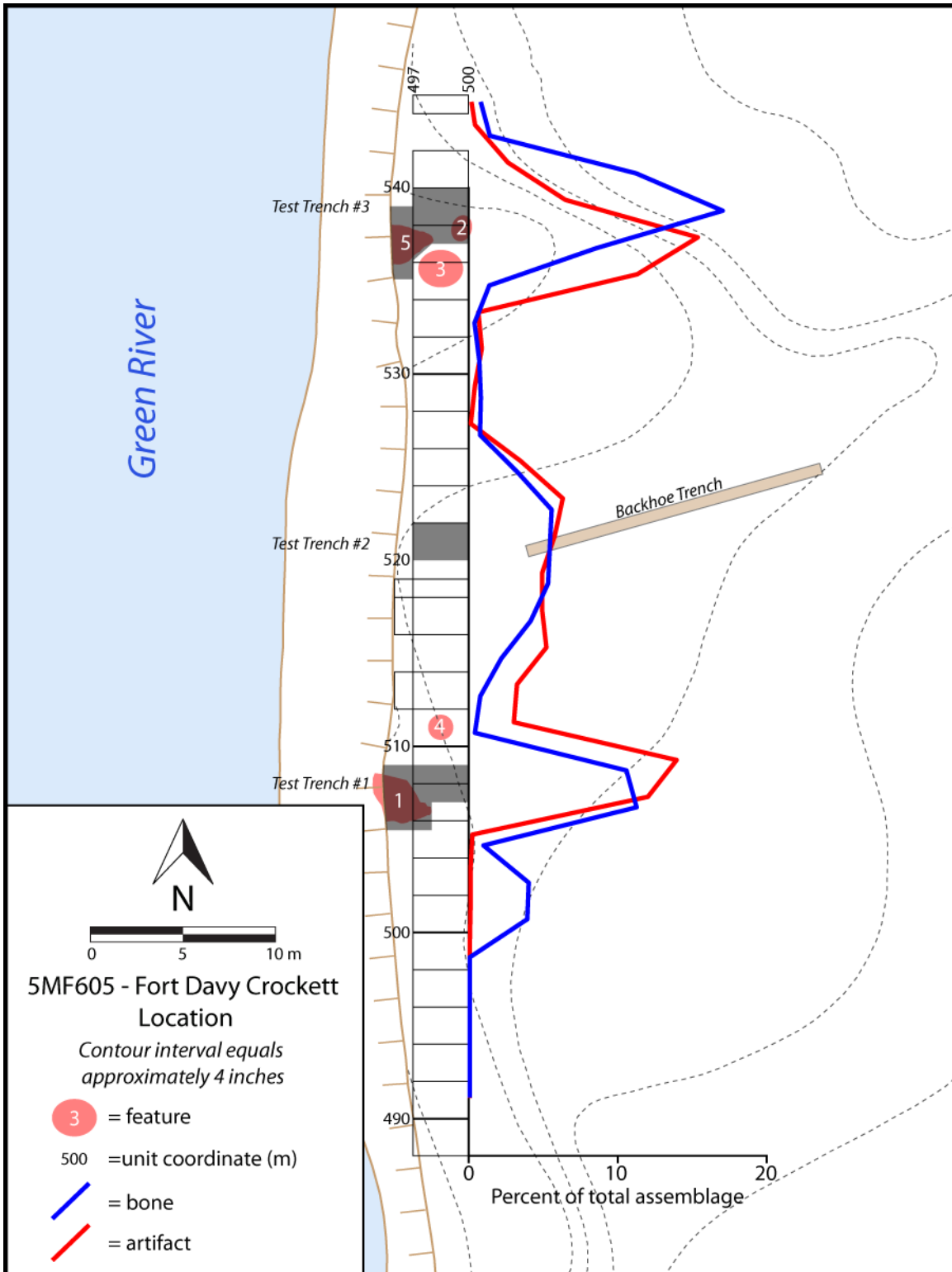


Figure 7. Site map of FDL showing percent of artifacts and bone recovery rates.

In total five features were excavated that contained concentrations of artifacts and faunal remains as well as evidence of burning and other cultural processes. Feature 1 is perhaps the largest and most illustrative example of a Fort Davy Crockett trash midden (Figure 8). This feature contained a concentration of charcoal, rock, bone, and artifacts located between 110 and 160 cm below ground surface (Eddy 1982:65). The lower portion of Feature 1 contained a dense layer of burned, unburned, and butchered mammal bones. Along with the bones, the feature contained a large amount of trade beads along with cloth fragments, window glass, nails, gun parts, chipped stone, ground stone, bone buttons, and a bone-fleshing tool (Eddy 1982:65). The discard of these artifacts and bone, particularly the building materials, suggests the post was nearby. The bone tool, and chipped and ground stone artifacts also suggests Indians took part in the production of this refuse. Despite the lack of identifiable or unambiguous structural features attributable to Fort Davy Crockett, the characteristics of the excavated assemblage as exemplified by Feature 1 are related to the post and interpreted as likely trash discarded from the post.

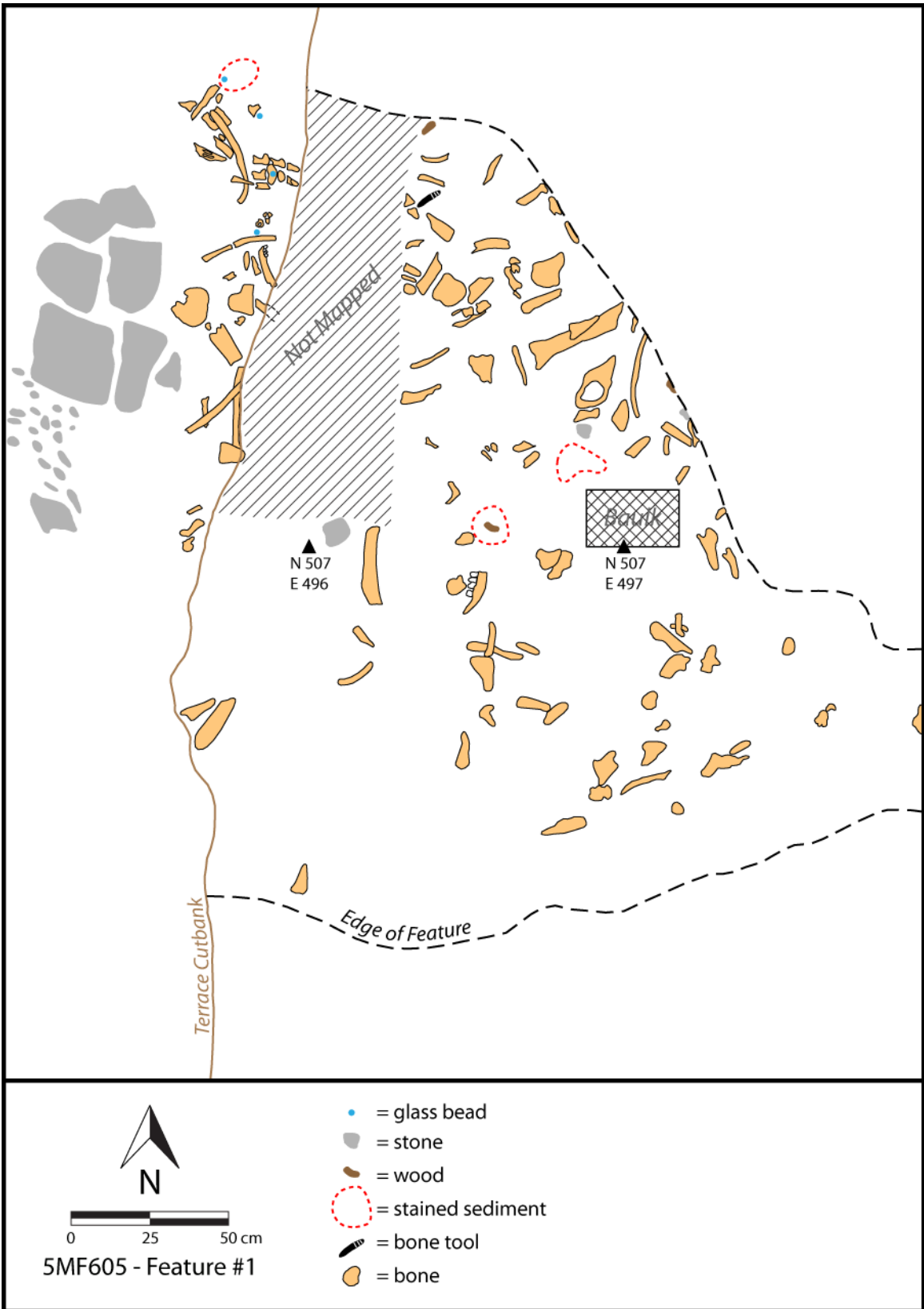


Figure 8. Planview map of Feature #1 excavation at FDCL (adapted from Eddy 1982).

Fort Vasquez

Fort Vasquez was an adobe stockade trade post built by Louis Vasquez and Andrew Sublette on the east bank of the South Platte River in a location that would quickly become surrounded by three other adobe posts in a unique trading post concentration (Newton 2012). Largely financed by William Sublette and supplied out of St. Louis, this post was built in the fall of 1835 to take in bison robes provided by Cheyenne and Arapaho hunters. In a letter dated February 9, 1836, William Sublette reports to Robert Campbell “Vasquez & Sublette had about 50 lodges of Chiens at there fort on the South Fork” (Sublette to Campbell, letter, 2 February 1836, Robert Campbell Family Papers, Missouri History Museum Archives, St. Louis). Fort Vasquez, unlike the FDCL, was involved in both the fur trade and the robe trade. Traders from Fort Vasquez, including Robert Newell, ventured into the mountains to places like Brown’s Park, to trade and/or trap for furs while Cheyenne camps overwintered at Fort Vasquez to trade bison robes procured on the Plains to the east (Johansen 1956). Fort Vasquez was acquired by Lock, Randolph & Company in 1841, but was abandoned in 1842 (Newton 2012a:251; Sage 1857:208), succumbing to mismanagement and bankruptcy, as well as shifting bison herds (Newton 2012a).

Fort Vasquez was excavated by archaeologists from Trinidad State College and Colorado State University between 1963 and 1970. The most extensive excavations took place between 1968–70 and the resultant collection is used in this study (Judge 1971; Judge 1968; Stanford 1968) Based on his excavations carried out between 1968–70, W. James Judge (1971:191–198) surmises there were likely 11 rooms in the original fort, each with a slightly (4–6 inches) subterranean floor compared to the plaza (Figure 9).

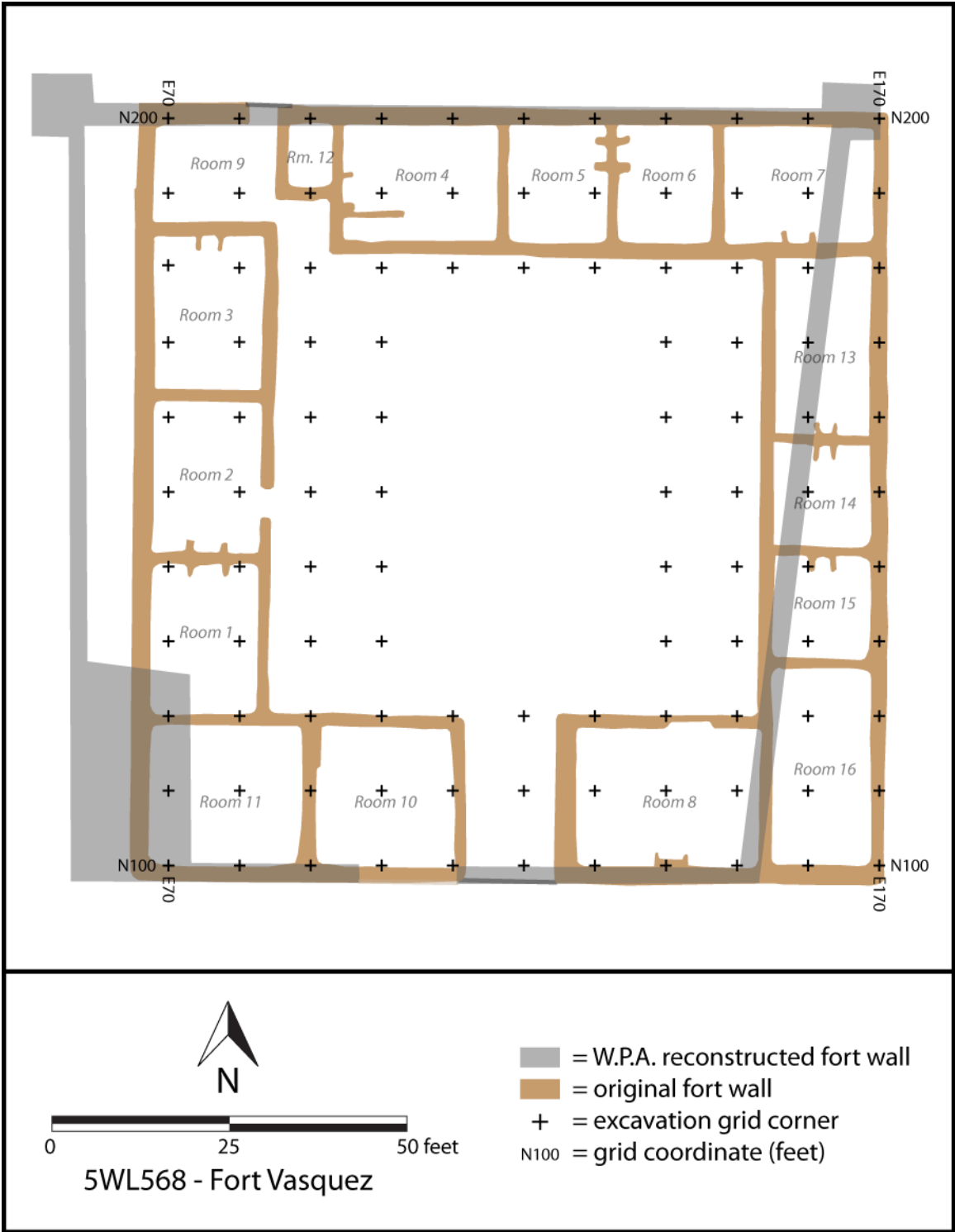


Figure 9. Fort Vasquez site map (adapted from Judge 1971).

There were fireplaces constructed in all but three rooms. The east side of the fort interior along the east wall was a livestock corral where three rooms (Rooms 13–15) were constructed following the abandonment of the post in 1842 for a later occupation (Judge 1971:191–198). Rooms 10 and 11 presumably housed trade good merchandise with Room 1 the main trading room and Room 5 an additional trading room. Rooms 2 and 3 are thought to have been living quarters. Room 4 is interpreted as the kitchen/dining area with Room 12 an adjacent kitchen storage room. Rooms 6 and 7 were living quarters with the latter director's quarters or special guest quarters given its size and more elaborate fireplace. Room 8 was likely a blacksmith shop, and Room 16 is thought to be an equipment storage room (Judge 1971:191–198).

The amounts and types of artifacts found during the excavation are the basis for Judge's interpretations about the room functions. The percentages of provenienced bone and artifacts analyzed during this study show a similar overall pattern with the largest amounts of artifacts, particularly trade goods, in or near the storage rooms and trading rooms and the largest amounts of bone in and near the kitchen and dining rooms (Figure 10).

Feature No. 5 (F5) is a portion of the post interior and located within the purported main trading room that provides a good example of artifact patterning in the interior space of a trade post (Figure 11). F5 is different in expected ways from the midden feature (F1) at the FDCL which the illustration demonstrates. This feature is adjacent to the north wall fireplace in the room and provides a good comparative example to the exterior trash midden feature (Feature #1) at the FDCL (see Figure 8).

Although F5 contains beads, bones, metal and ceramic trade goods, the amounts and types are more consistent with the interior setting. The dispersed nature of the artifacts and bone along with the generally small size of the artifacts is indicative of an area cleaned periodically. Beads are easily dropped and/or lost, and pipe stems may represent artifacts broken and/or dropped. The nails are again small items often dropped or lost, although, in this case, they may be the result of post-abandonment structural deterioration or a remodel or rebuilding episode. Overall, this was a space that was kept clean, and F5 was largely created through the accretional accumulation of small lost items.

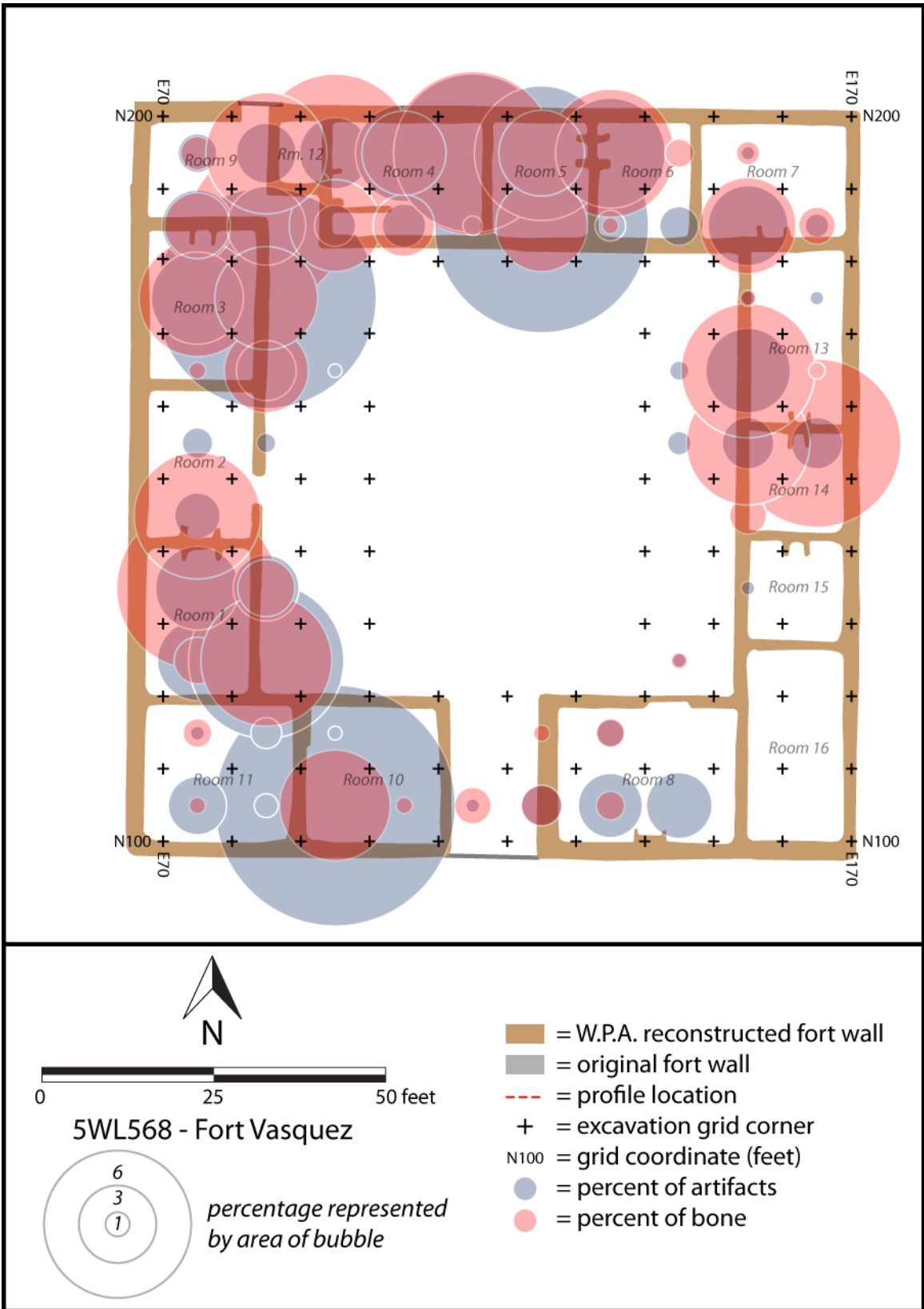


Figure 10. Fort Vasquez site map overlain with bubble chart of artifact and bone find percentages.

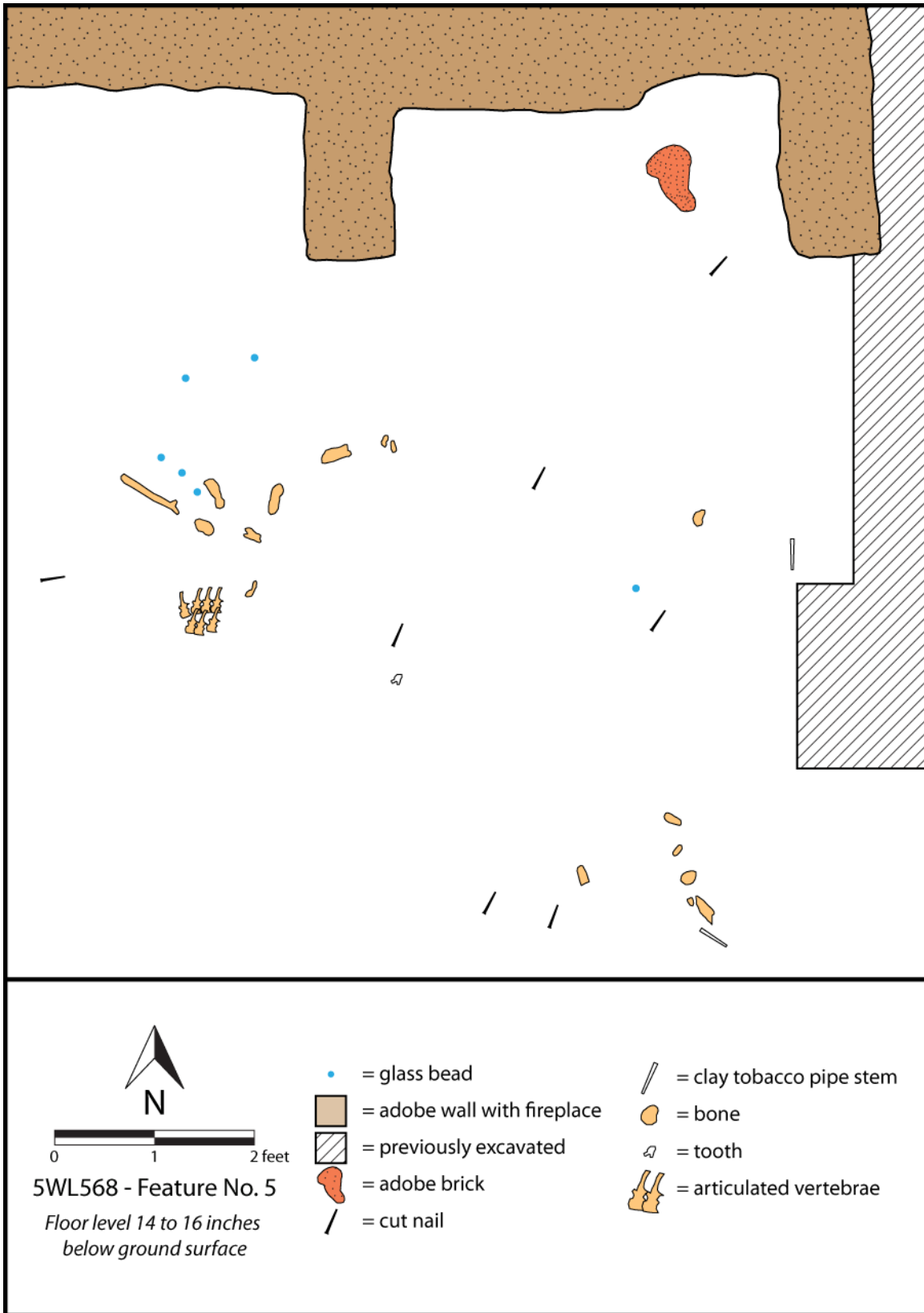


Figure 11. Fort Vasquez Feature No. 5 planview map (adapted from Judge et al. n.d.). Feature is located on next to the north fireplace in Room 1.

The Lykins Valley Site

The Lykins Valley site (5LR263) is a campsite located within the Laramie Range hogbacks at the western edge of the Central Plains. The site is located on a terrace remnant adjacent to a small perennial stream in a relatively sheltered spot hidden from the Plains to the east. The site was excavated in 1974 exposing several hearths in a buried cultural level containing trade goods, chipped stone, ground stone, and butchered bone (Ohr et al. 1979). Stone artifacts include several large endscrapers, side-notched arrow points, arrow point preforms, and grooved abraders. Trade goods consist of glass trade beads, a tinkler cone, a clay tobacco pipe, brass kettle parts, and a gunflint. The faunal assemblage was primarily composed of bison, but also contained mule deer, pronghorn, and horse bone. Seasonally diagnostic attributes indicate animals were brought to the site for consumption from the late summer into winter (Newton 2008:44–45)

Figure 12 shows the mapped artifacts within the excavation block are patterned around the thermal features. The trade goods (primarily glass beads) and faunal artifacts are basically in separate concentrations. The thermal features contain few artifacts, an indication they were being used as centers of activity around which artifacts were discarded or lost. A lack of habitation features suggests this was an outside hearth area and very similar to Binford's (1978:345-355) outside hearth model. If this is in fact an outside hearth, the northern portion of this area was lost to erosion, and the remaining areas could represent both a drop zone around the central hearth feature and a forward toss zone, given the prevailing north to northwest winds in the site area (Newton 2008:106).

The statistical analysis of the map shows significant differences exist in the frequencies of artifact types by grid ($G = 66.876$, $df = 4$, $p < 0.001$). Deviate analysis shows bone and lithics are over-represented in the eastern unit, whereas European items are over-represented in the other two units (Newton 2008:109). Under-representation of bone in the central unit and European items in the eastern unit further substantiate the visual pattern evident on the map and indicate a discard area may be present in the eastern unit south of the hearths for bone and larger debitage. The European items found in proximity to the hearth in the central and western unit were lost rather than actively discarded (Newton 2008:109).

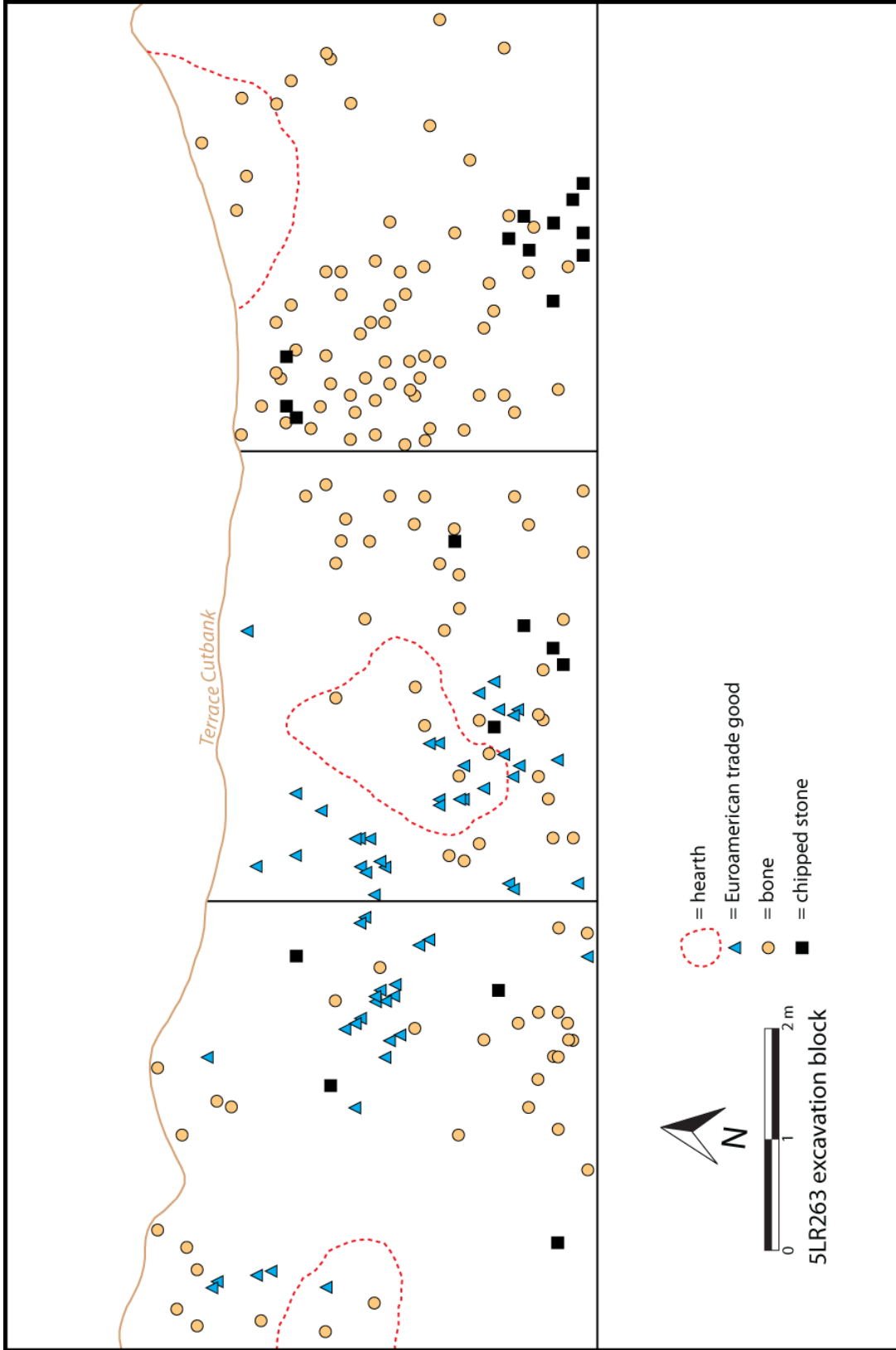


Figure 12. Planview map of Lykins Valley Site excavation block (adapted from Ohr et al. 1979; Newton 2008).

Sampled charcoal from the buried hearths as well as collagen assays from bone samples provide five statistically contemporaneous ($\chi^2 = 3.347, p > .05$) radiocarbon dates (see **Error! Reference source not found.** above). These dates generally indicate an eighteenth or early nineteenth century occupation and when coupled with other temporally diagnostic artifact attributes—a lack of red-on-white compound drawn beads (pre-1830s) and the presence of an English flake gunflint manufactured after 1780—provide a modelled occupation range (using Oxcal 4.0, Bronk-Ramsey 2001) most suggestive of 1815 to 1840 (Newton 2016:67). Overall, the site appears to be the portion of an Indian campsite where a group wintered taking advantage of the sheltered hidden location and nearby wintering animals for sustenance while continuing to use traditional indigenous chipped stone technology and butchering techniques (Newton 2008).

Little Snake River Drainage Sites

The collection from the open camps in the Little Snake River drainage is the product of the testing and excavation of nine sites in 2011 and 2012 by the author (Newton 2012b, 2013). The sites represent a homogenous FTE occupation of the Little Snake River catchment. These sites are in sheltered locations within junipers stands on higher rims or hills located just north of the Little Snake River. Most contain evidence of wooden habitation structures, or wickiups, and a varied suite of trade goods, along with chipped stone artifacts. Excavations at these sites have produced evidence that small hearth centered activity areas within and adjacent to the wickiups contained stone, metal, and glass artifacts. The collections from these sites will provide insight into Native lifeways beyond trade interactions at the Euroamerican posts with a tangible connection to the Fort Davy Crockett trading location as this would have been the one of the closest trading locations (along with the Green River Rendezvous locations).

This novel dataset is a very important aspect of this research as it derives from a suite of FTE Indian campsites remotely located from known trade posts and/or historically known trading locations. Although lacking the numbers of artifacts as those found at Fort Vasquez and the FDCL, the LSRD site assemblages are crucial to understanding how Native groups lived when outside of the Euroamerican contact sphere. Trading ties to the relatively close

FDCL is explored, and these data provide insight into Native economic and resource accumulation practices operating largely independently of Euroamerican trade.

Background information for six sites, which contributed the data used in this study, is presented below beginning with the easternmost site and working west. The sites are located at roughly the same latitude and vary from 1.5 miles (Dugway Site) to 11 miles (48SW13252) north of the Little Snake River. The sites stretch for 29 miles from east to west.

The Dugway Site

The Dugway site (48CR10097) is the easternmost site in the LSRD project included in this analysis (Newton 2013). The site is found on the gradual eastern slopes of a ridge/bench overlooking a deep ephemeral drainage from the west. The site area is located to the west and behind high bluffs overlooking the Little Snake River (the closest modern permanent water) 1.5 mile to the southeast. It contains diffuse stands of juniper and the viewshed at the site is somewhat limited by higher ridges and bluffs surrounding the site.

Although lacking standing wooden habitation structures, or wickiups, tree configurations and poles and branches on the ground indicate these structures likely existed at one time. Trade goods, trade good remanufacturing detritus, ground stone, and chipped stone were found on the surface during the site recording and metal detector survey and additional trade goods were found previously by the informant who initially found the site (Figure 13). This includes concentrations of metal artifacts and tools, some of which are likely tool manufacturing areas. A one- by two-meter test unit was excavated in a location thought to be where a wickiup once stood based on the existing tree configuration and existing poles and branches on the ground. This test unit revealed a portion of a shallowly buried basin-shaped hearth along with associated burned rock, butchered ungulate bone, a glass trade bead, and chipped stone (Figure 14). This includes bison limb bone and a split-cobble scraper (or teshoa) hide working tool. As we will see at other LSRD sites, this configuration is found elsewhere and appears to show a somewhat typical interior hearth and associated activity area.

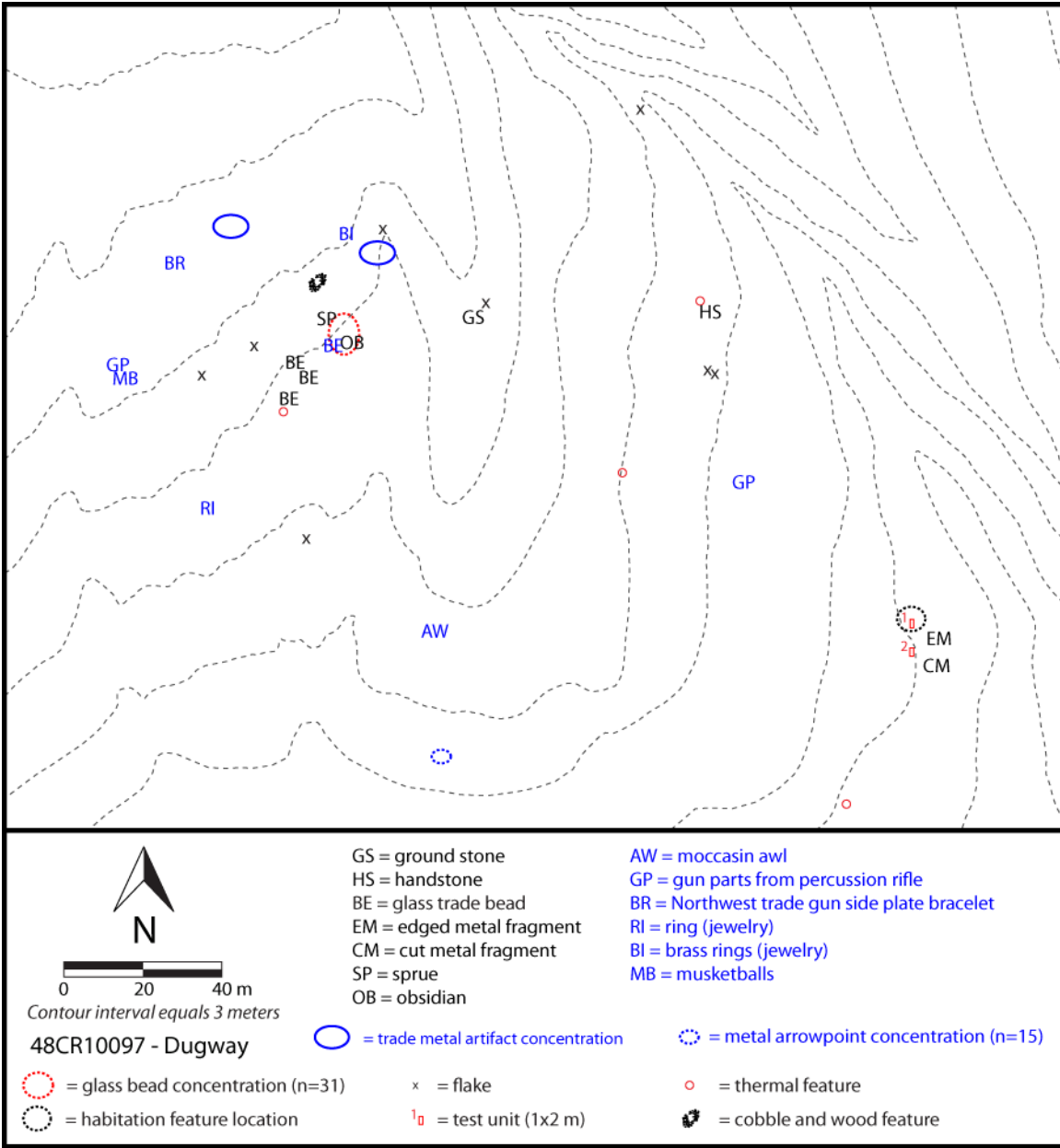


Figure 13. Dugway site map. Artifacts in blue were previously found by informant.

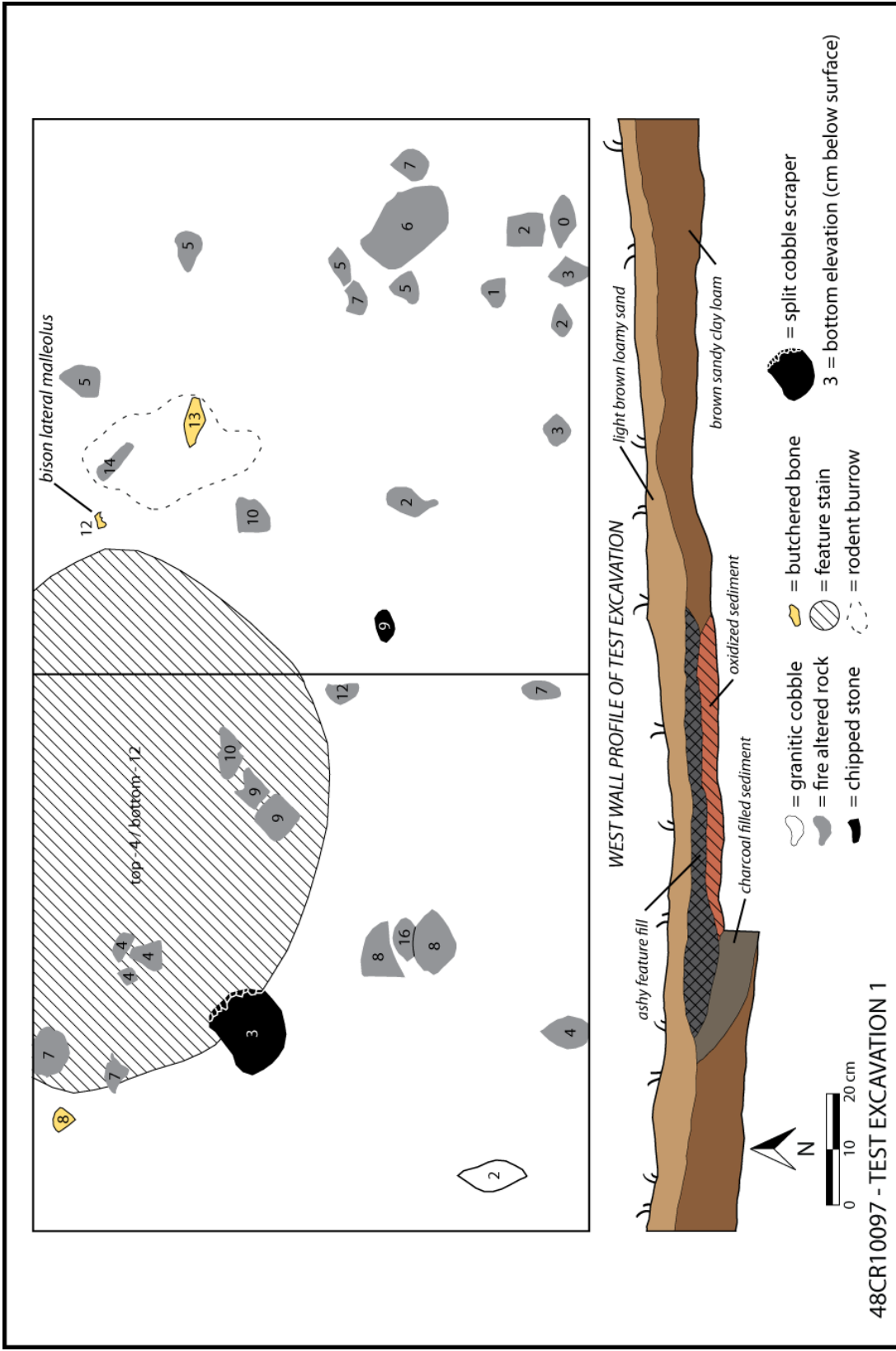


Figure 14. Test unit planview map from Dugway site.

Poison Basin #1 Site

The Poison Basin #1 site (48CR8827) is located on the Red Creek Rim 3.2 miles north-northeast of the Little Snake River (the nearest modern-day permanent water) and 4.2 miles west-northwest of the Dugway site (Newton 2012b). The Poison Basin #1 site is located on the south facing slopes of the Red Creek Rim approximately 0.2 mile south of the edge or overlook of the rim. The site has a good viewshed to the south and overlooks the Poison Basin. The site area is located along the top and less severe side slopes of generally south-southeast trending ridges and fingers formed by an ephemeral drainage system. It is bisected by a deep (20–30 feet) drainage that forks into several tributaries in the upper portion of the site. The site is primarily located in and around the diffuse stands of juniper that populate the top and sides of the Red Creek Rim.

There are 16 habitation structures of various types at the site that are generally termed as wickiups—a word derived from the Proto-Algonquin word “wigwam”—differing from the Ute word for these structures: *kunnee* (Sanfilippo 1998:19). These structures vary in configuration: leaner wickiups are structures where the upright support logs are braced against trees; freestanding wickiups have conical teepee type supports, and lean-to wickiups which are freestanding structures with shed style roofs and one open side (Martin 2016; Martin et al. 2005). Trade goods, trade good remanufacturing detritus, ground stone, and chipped stone were also found on the surface during the site recording and metal detector survey; and additional trade goods which were found previously by the informant who initially found the site are included on the map (Figure 15). Poison Basin #1 site had percussion caps, an iron needle, and brass tacks, artifact types not found at any other LSRD sites.

A test unit placed within a wickiup at the site revealed a hearth and associated artifacts remarkably like artifacts and patterning found in the Dugway site test unit (Figure 16). A shallow hearth was surrounded by a light scatter of butchered and cutmark ungulate bone, chipped stone, metal fragments including remanufacturing detritus, and glass trade beads. The identifiable bone is large ungulate long bone, some of which appears to be elk-sized or larger. Again, a split-cobble hide working tool was found next to the hearth. This hearth-centered activity area lacks the fire-altered rock (FAR) compared to the test unit at the

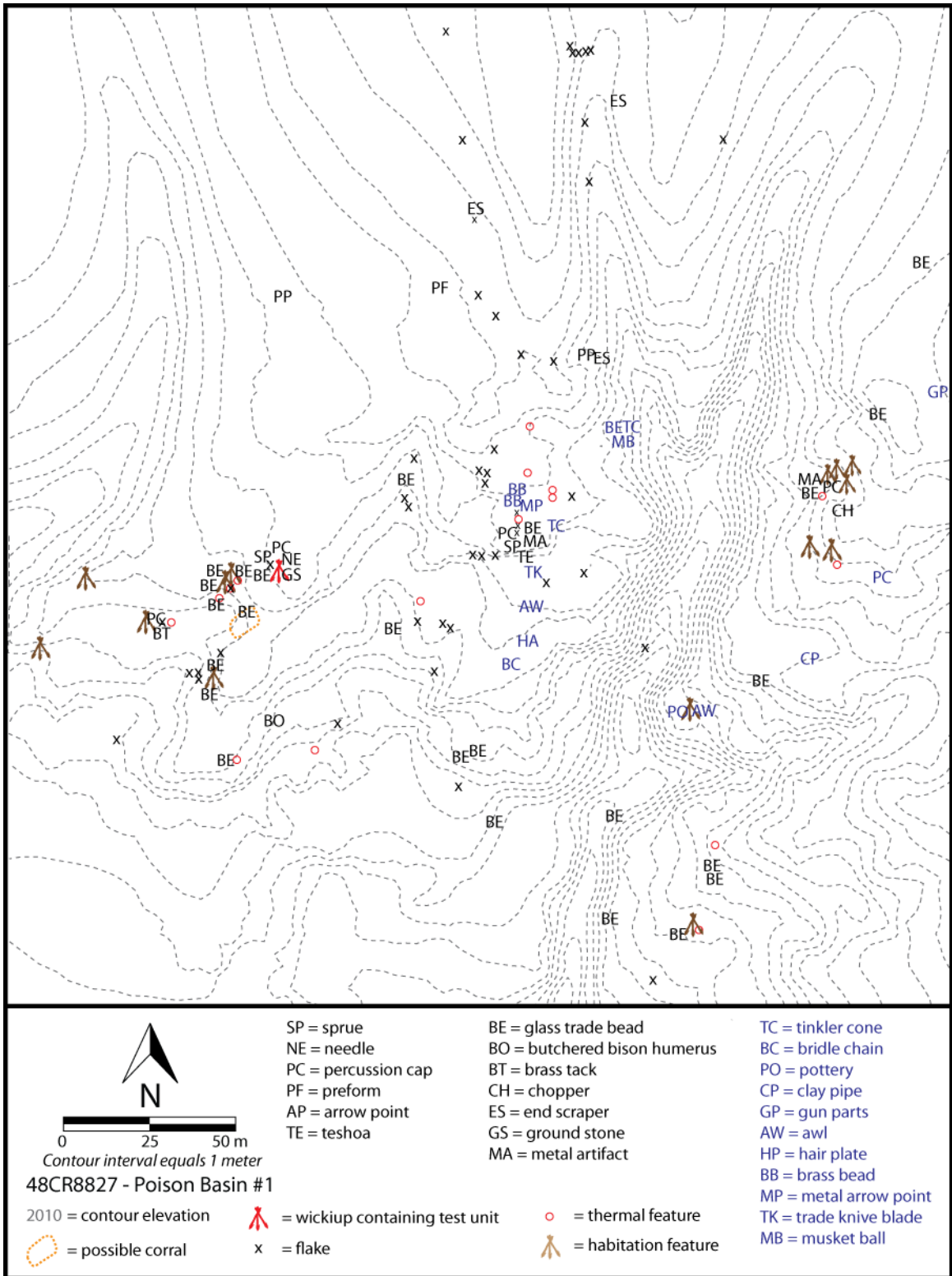


Figure 15. Poison Basin #1 site map. Artifacts in blue were previously found by informant.

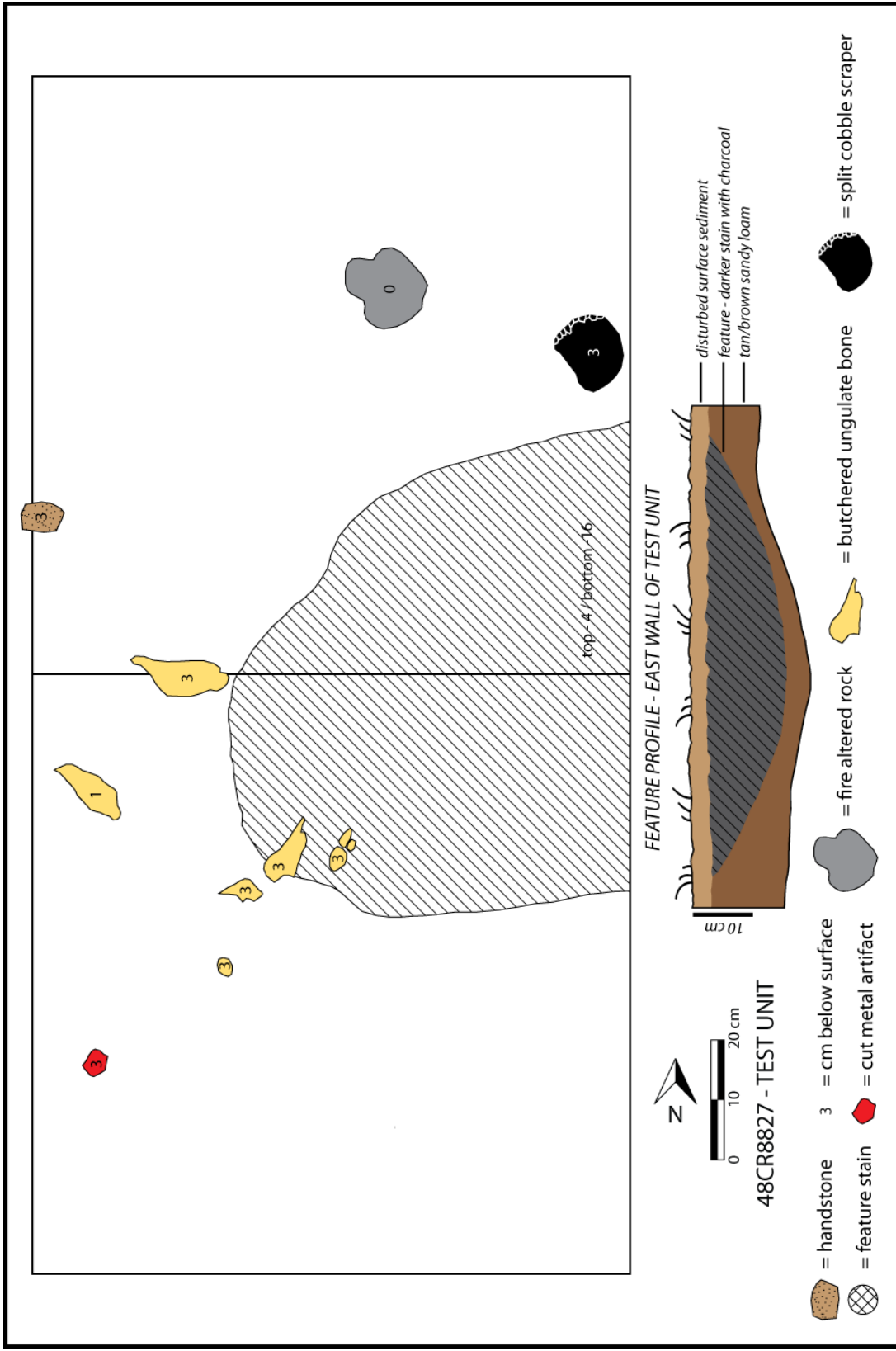


Figure 16. Test unit planview map from Poison Basin #1 site.

Dugway Site, which may be indicative of a differing hearth function—hot rock plant roasting versus heating and/or open flame cooking.

48SW18289

48SW18289 is located 19.2 miles west of the Poison Basin #1 site, 7.5 miles northwest of the Little Snake River, and 6.2 miles east of Upper Powder Spring (the two nearest modern-day permanent water sources) (Newton 2013). The site is in the system of ridges and hills forming the south aspect of Powder Rim approximately 1.3 miles to the north. The Anthill Knob site is located approximately 0.2 mile west on a ridge opposite the ephemeral drainage bordering the site to the west. The general aspect of the site is south to southeast. The lower vegetation at the site consists of sagebrush understory. The ridge on which the site is located offers a relatively limited viewshed to the south ending and a more extensive viewshed to the east-southeast.

There are seven wickiup of various types at the site, which will be described in detail below. Trade goods, trade good remanufacturing detritus, ground stone, and chipped stone were found on the surface during the site recording and metal detector survey (Figure 17). A bridle rein chain fragment, a tinkler cone, and an iron awl found at the site were not found at any other LSRD sites. Most of these artifacts were recovered within and adjacent to a wickiup during metal detector survey (Figure 18).

A test unit within the wickiup yielded six pieces of debitage, a biface fragment, FAR, two glass trade beads, and a cut rectangular piece of casted cuprous metal that is likely a trigger guard portion. A thin, light ashy stain was found in a test unit placed in the metal detector finds area in front of the wickiup, but no cultural materials were found.

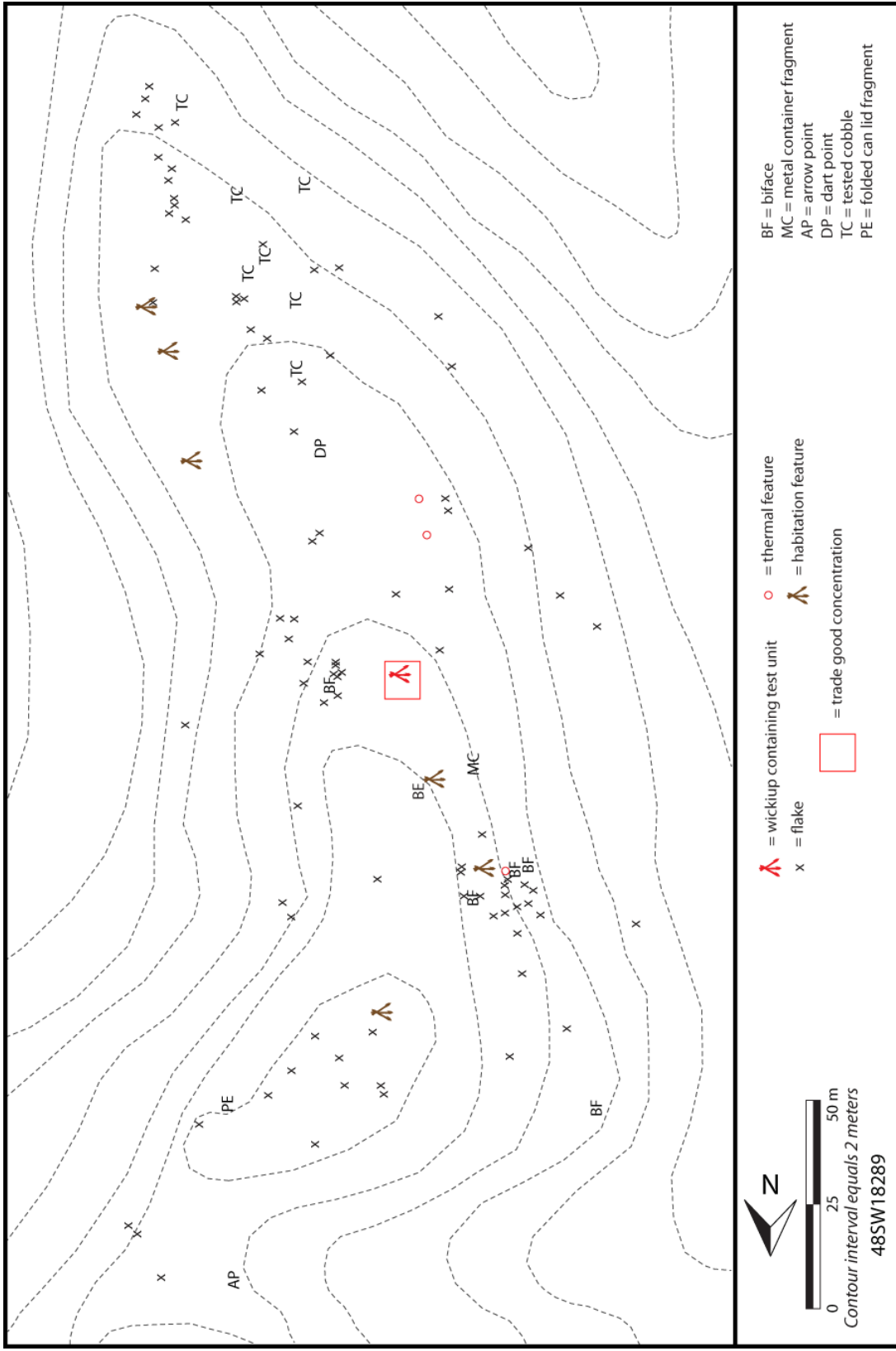


Figure 17. 48SW18289 site map.

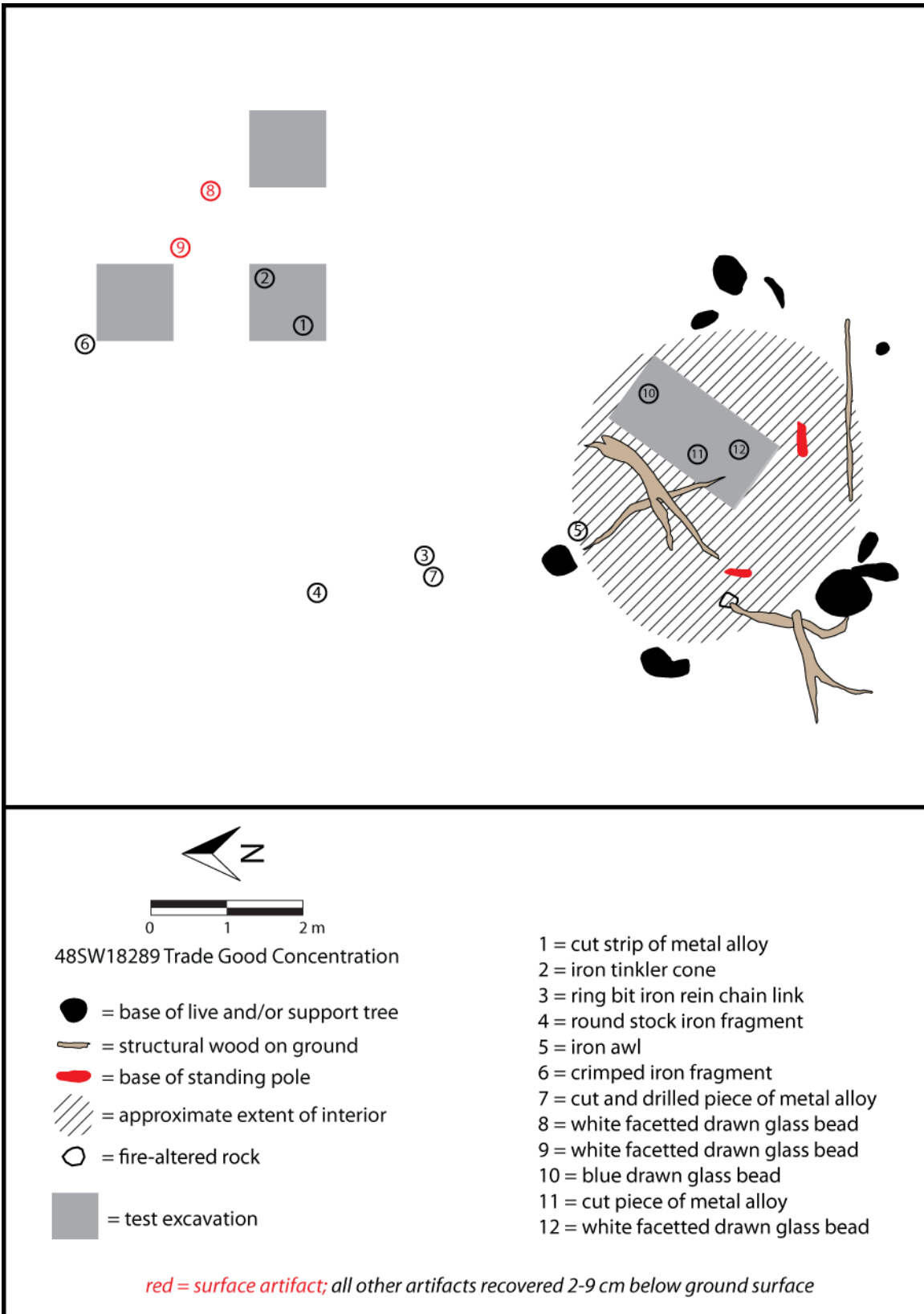


Figure 18. Trade good concentration found at 48SW18289.

Jolley's Camp Site

Jolley's Camp site (48SW18094) is located 1.3 miles south of 48SW18289, 6.4 miles northwest of the Little Snake River and 6.3 miles east-southeast of Upper Powder Spring (the two nearest modern-day permanent water sources) (Newton 2012b). The site is in a small drainage basin or bowl formed by higher ridges of outcropping sandstone that are part of a southeast trending offshoot of the Powder Rim 2.7 miles to the north. The basin opens to the west and drains into a larger south-flowing ephemeral secondary tributary of the Little Snake River. The site area contains diffuse juniper stands with a sagebrush understory. The higher points of the site offer a good viewshed to the south.

There are 15 wickiup of various types at the site, which will be described in detail below. Trade goods, trade good remanufacturing detritus and artifacts, ground stone, and chipped stone were found on the surface during the site recording and metal detector survey as well as found previously by the informant who initially found the site are included on the map. A test unit placed in front of a wickiup revealed a large amount of burned, unburned, and butchered bone primarily (80.6 %) less than two centimeters long. Several larger pieces of bone indicate mule deer and/or pronghorn are included in the test unit faunal assemblage. Four pieces of debitage and two glass trade beads round out the recovered artifacts. No features were found in the test unit and the recovered assemblage may represent a cleaning episode of a nearby feature.

An isolated exterior rock-filled hearth exposed on the surface was excavated at the site. The feature contained a large sample (n=119) of mostly small, late-stage debitage along with a side-notched arrow point and distal projectile point fragment. A radiocarbon dated sample from a fragmented distal right radius of a mule deer or pronghorn located in the hearth indicates this feature was utilized during the postcontact period (see Table 4 below for details) and during the same era as other dated occupations of the LSRD sites.

Anthill Knob Site

The Anthill Knob site (48SW18093) is located 0.2 mile west of 48SW18289, 1.3 miles north of the Jolley's Camp site, 7.5 miles northwest of the Little Snake River and 6.0 miles east of Upper Powder Spring (the two nearest modern-day permanent water sources) (Newton

2012b). The site is located in the system of ridges and hills forming the south aspect of Powder Rim approximately 1.3 miles south of the rim. The site area is in and around diffuse stands of juniper and primarily below sandstone outcrops that, along with the juniper, provide shelter for the location. The lower vegetation at the site consists of sagebrush understory. Higher points at the site offer an excellent viewshed to the south and southeast.

There are 12 wickiup of various types at the site, which will be described in detail below. Trade goods, trade good remanufacturing detritus and artifacts, and chipped stone were found on the surface during the site recording and metal detector survey (Figure 19). Kaolinite tobacco pipe fragments found at the site were not found at any other LSRD sites.

A test unit placed within a wickiup revealed a large amount ($n = 292$) along with 14 pieces of debitage, a biface fragment, FAR, and eight pieces of burned and unburned bone fragments including several mule deer and/or pronghorn long bone fragments. A thin (≤ 4 cm) moderately compact band of dark brown to gray ashy sediment with some scattered small pieces of FAR where most of the beads were recovered is thought to be the interior floor level of the wickiup.

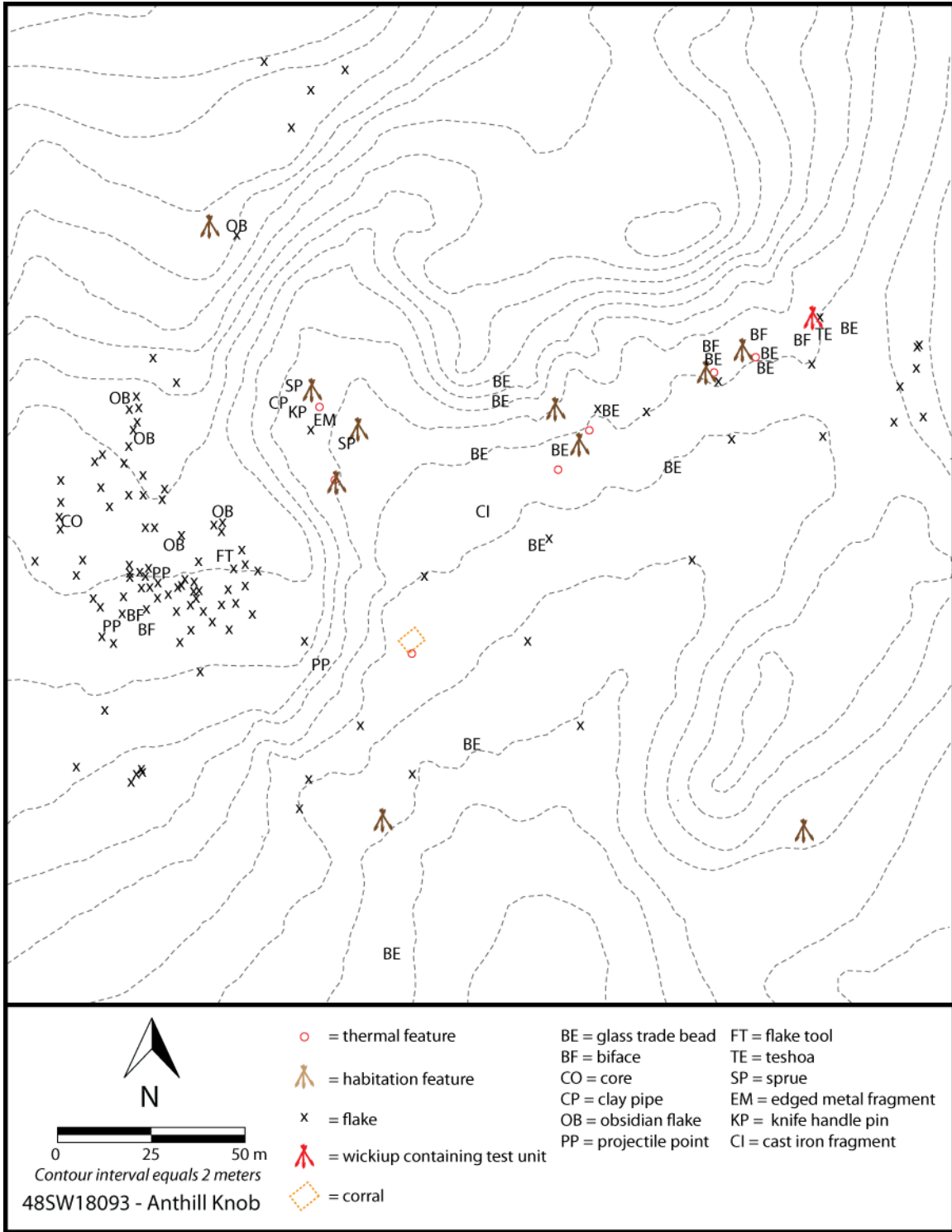


Figure 19. Anthill Knob site map.

48SW13252

48SW13252 is located 5.5 miles west of the Anthill Knob site, 11.5 miles northwest of the Little Snake River, 1.9 miles northeast of Lower Powder Spring, and 0.8 mile southeast of Upper Powder Spring (the three nearest modern-day permanent water sources) (Newton 2012b). The site is in the system of ridges and hills forming the south aspect of Powder Rim approximately 1.9 miles to the north. The ridges and hills are part of a generally south trending ephemeral drainage system beginning at the rim and emptying into Powder Wash—a large south-flowing ephemeral tributary of the Little Snake River. The site is located in and around a small bowl formed by outcropping sandstone and slightly higher hilltops of a hill. The site area contains diffuse juniper stands with a sagebrush understory. The higher points of the site offer a good viewshed to the northeast.

Trade goods, ground stone, and chipped stone were found on the surface during the site recording and metal detector survey (Figure 20). There are 10 wickiup of various types at the site (Figure 21). A test unit placed within a wickiup at the site revealed a hearth and associated artifacts like those found at the Dugway and Poison Basin #1 sites (Figure 22). Excavation revealed the east portion of a shallow hearth which contained and was surrounded by a light scatter of butchered ungulate bone, chipped stone, glass trade beads, and FAR. The hearth contained 45 pieces of burned and unburned bone along with 32 pieces of burned debitage, and 16 burned glass trade beads. Outside of the hearth a medial fragment of a late-stage small shaped biface was found. The larger bone fragments indicate limb bones from mule deer, pronghorn, and/or elk are present, and the basal portion of an elk cranium was found adjacent to the hearth.

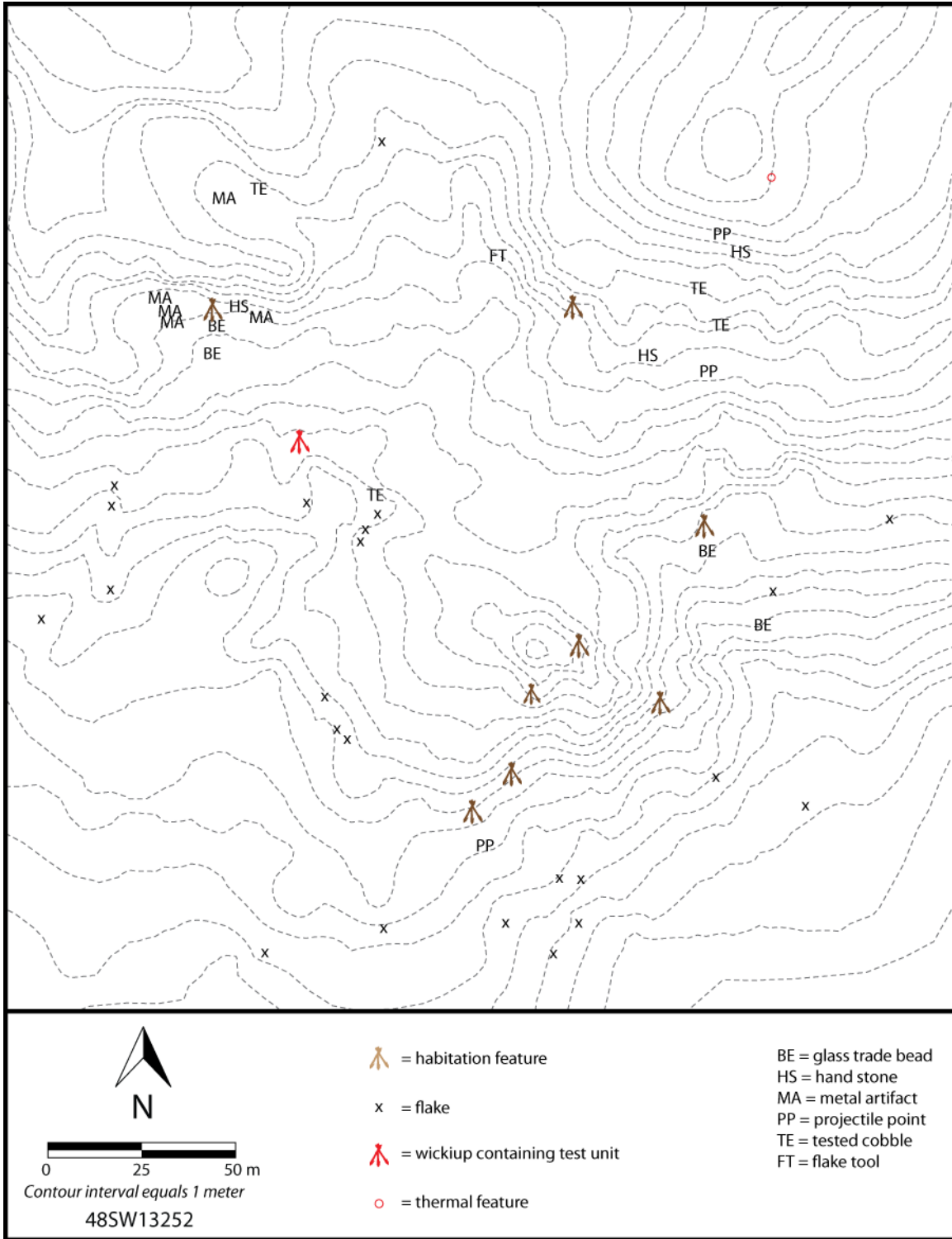


Figure 20. 48SW13252 site map.

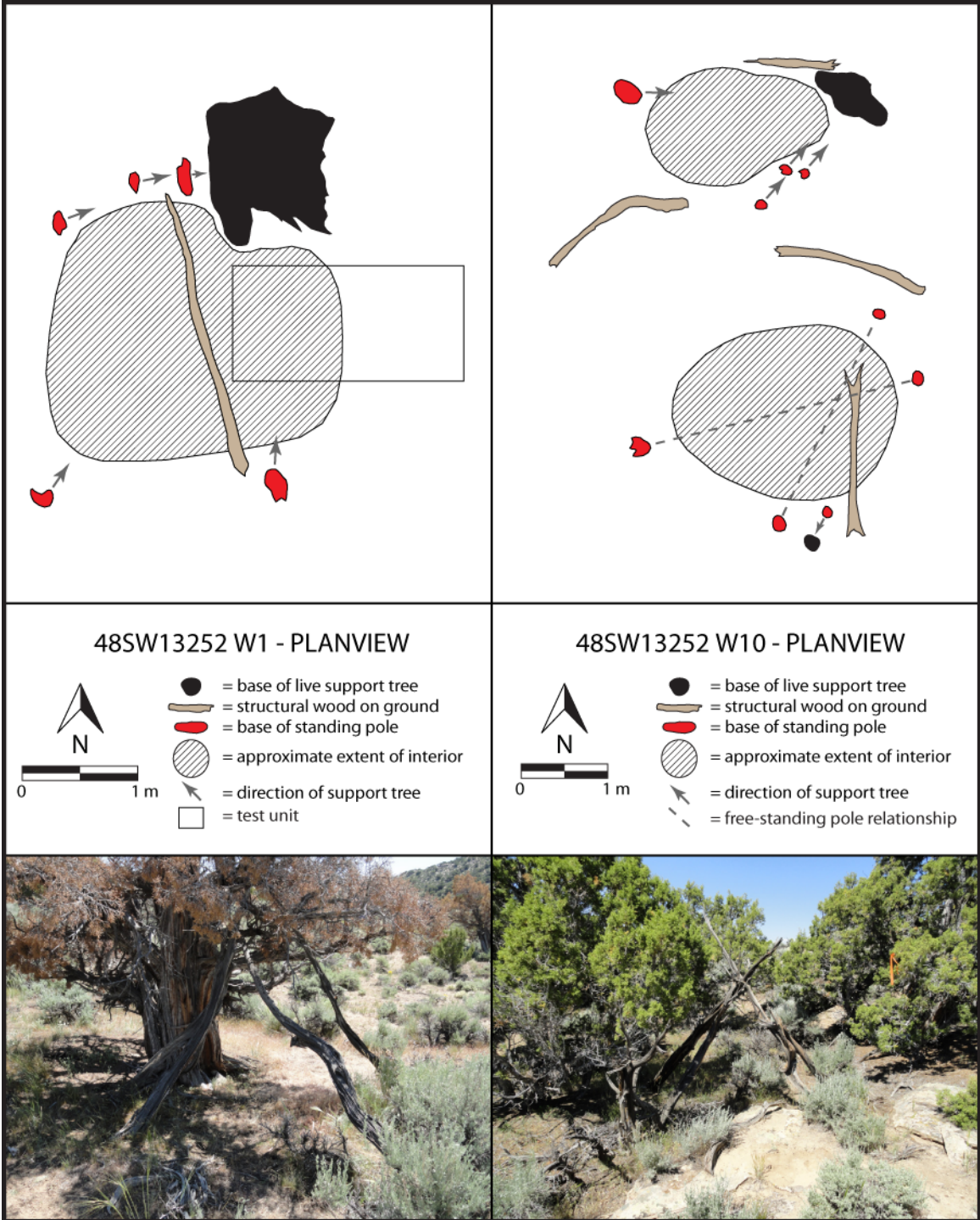


Figure 21. 48SW13252 leaner wickiup (W1) and freestanding wickiup (W10).

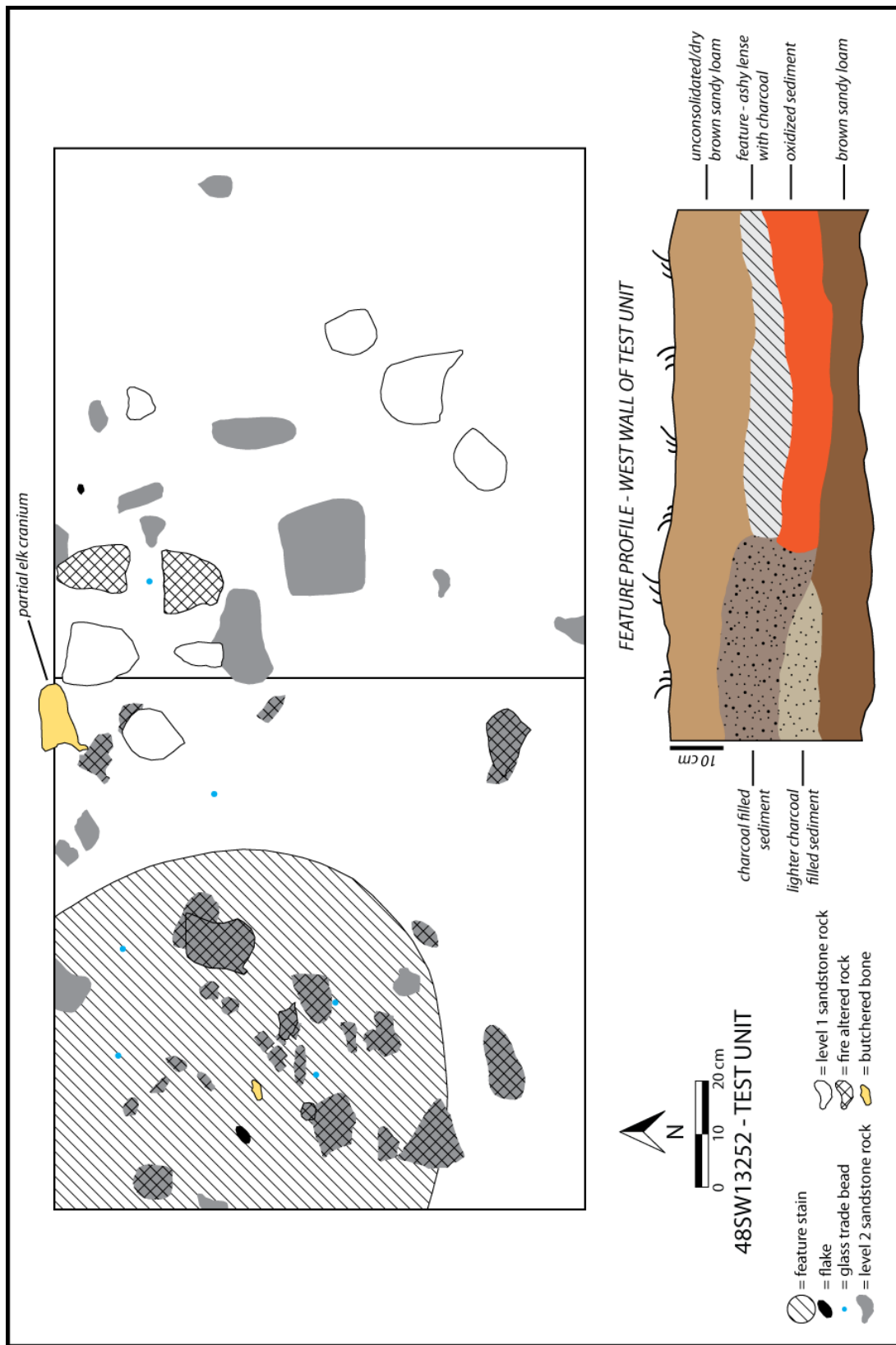


Figure 22. Test unit planview map from 48SW13252.

LSRD Site Synthesis

The LSRD campsites are similar in many characteristics and share diagnostic attributes indicating contemporaneity (Table 1). The sites generally contain wooden habitation structures, glass trade beads, metal artifacts, along with teshoas, flaked, and ground stone. Mule deer and pronghorn-sized or larger ungulates dominate the faunal assemblages. Associated chipped stone artifacts and trade goods, particularly in subsurface contexts, indicates trade goods did not supplant traditional technologies. As well the presence of cut metal shows some of these metal trade goods were being repurposed and remanufactured into items with Native utility, especially in converting metal scrap into arrow points and decorative pieces (Ehrhardt 2005; Martorano et al.2014).

Hundreds of similar wickiup structures are documented to the south primarily in the Colorado Plateau (Martin et al. 2005; Martin 2016). The southern wickiups are primarily found in the pinyon and juniper pine zone. The LSRD wickiups are found in an area that is exclusively juniper and are near the northern extent that these structures are found. Wooden conical lodges are found in the mountains north of the project area, but these represent a vastly different type of structure (cf. Davis 2015).

The wickiup floor area (m^2) between the post-contact sample from the Colorado Wickiup Project ($n = 31$) (Martin 2016) and the measured LSRD wickiup floors ($n = 47$) are significantly different ($t = -4.089$, $df = 69.686$, $p < .001$). The CWP sample has a mean floor area of $5.08 m^2$ ($\sigma = 2.51$), and LSRD sample has a mean floor area of $8.79 m^2$ ($\sigma = 5.40$). This size difference suggests different family sizes between the two samples, possibly indicative of two different group territories with the CWP sampling Ute sites and the LSRD sampling Shoshone sites. However, the larger northern structures counter the ethnographic household size average of 5.01 people based on 11 Shoshone bands and an ethnographic household size average of 6.24 people based on 3 Ute bands (Binford 2001:292).

In the summer of 1805, Meriweather Lewis describes a recent Shoshone camp with “cone-shaped Shoshoni brush wickiups” near the Great Falls of the Missouri River (Ronda 1984:135-136). Warren Ferris (1940:311-312) says of the Ute “because there are no buffalo in their country, and they are obliged in winter season to construct cabins of cedar branches.”

Table 1. LSRD Site Characteristic Comparisons

Site Characteristics	Present (1)/Absent (0)										Total
	48CR8827	48SW18093	48SW18094	48CR10097	48SW13252	48SW18289	48SW18289	48SW13252	48SW18289	Total	
Features	1	1	1	1	1	1	1	1	1	1	8
Wickiups	1	1	0	0	0	0	0	0	0	0	2
Corrals	1	1	1	1	1	1	1	1	1	1	5
Hearths	1	1	1	1	1	1	1	1	1	1	6
Glass Beads	1	1	1	1	1	1	1	1	1	1	7
Ila Blue	1	1	0	1	0	0	0	0	0	0	3
IVa Red/White	1	0	0	1	0	0	0	0	0	0	2
W1c White	1	1	1	1	0	1	0	0	1	1	5
Cut Metal	0	1	0	0	1	1	1	1	1	1	4
Other Metal	1	1	0	1	0	0	0	0	0	0	3
Lead Sprue	1	1	1	0	1	1	1	1	1	1	6
Arrow point	1	1	0	1	0	0	0	0	0	0	4
Teshoa	0	1	1	0	0	1	0	0	1	1	5
Obsidian	1	0	1	1	1	1	1	1	0	0	4
Ground Stone	1	0	0	1	0	0	0	0	0	0	2
Bison	0	1	1	0	0	0	0	0	0	0	2
Deer/Pronghorn	0	0	0	0	1	0	1	0	0	0	1
Elk	0	0	0	1	0	0	0	0	0	0	1
Size Class 4	1	0	0	1	0	0	0	0	0	0	2
Size Class 2-3	0	0	0	0	1	0	1	0	0	0	1
Size Class 3-4	1	0	0	0	0	0	1	0	0	0	2
Metal-Cut Bone	1	1	0	1	0	0	0	0	0	0	6
Euroamerican-Chipped Stone	1	1	1	1	1	1	1	1	1	1	11
Artifact Subsurface Association											
Total	21	18	12	15	11	12	11	12	11	12	

These accounts make it clear wickiup structures were used for winter shelter and were not exclusive to the Ute in the study region.

Four bone collagen samples from similar contexts at four different LSRD sites returned statistically contemporaneous radiocarbon dates that, when calibrated, show the highest probability of an early to mid-nineteenth century use of these sites (Table 2). Diagnostic attributes from the trade beads (red-on-white drawn beads), clay tobacco pipe, the presence of percussion caps, lack of Native-made pottery, and lack of fixed ammunition further points to occupations in the 1830s–1850s. Frequent oscillations in the radiocarbon calibration curve during this period makes these dates relatively imprecise, but the fact the uncalibrated dates are tightly clustered and coherent with the trade good assemblages, which are largely consistent among the sites, provide a good basis for interpreting the Little Snake River drainage occupation as contemporaneous and likely ethnically related.

Geographically these sites are removed from permanent water sources and in sheltered and treed locations. This suggests two possible scenarios: the camps were hidden to protect the occupants and their resources, and/or these camps were cold season or winter occupations. During post-equestrian times horses were a sought-after commodity and horse raiding was a prevalent activity (often associated with warfare) carried out by Indian groups of the region for both economic gain and prestige enhancement (DeLay 2008; Dempsey 1994; Hämäläinen 2008; Hyde 1968; McGinnis 1990; Mitchell 2015). The LSRD site locations would have provided hidden locations for those groups with animals to protect. The remove from water would have required driving the horses to water but these distances would not have been terribly taxing as a daily or nightly event.

The possibility that the LSRD sites were cold season or winter occupations is speculative, but can be argued based on several factors. The LSRD camps are in well-sheltered locations with trees providing material for habitation structure and fuel. Snowfall and/or utilizing winter pasture with open water would have been available. Additionally, these rims are ideal for wintering game animals. Currently, this area is a haven for wintering elk, deer, pronghorn, and 100s of wild horses. Hearths found within several wickiups may also support this assertion. The social implications of wintering in this area and well away from known winter trading locations indicate these group or groups were not completely tied

Table 2. Radiocarbon Dates, Isotopic Data, and Bead Regression Dates from LSRD and Lykins Valley Sites

Site	Context	Material	$\delta^{13}\text{C}$	$\delta^{15}\text{N}$	B.P.	Highest Probability Date Range (A.D.) ^a		Torus Bead Regression Date ^b
						1 σ	2 σ	
Poison Basin #1	Hearth within wickiup	bone collagen	-19.3		150±20 ^c	1728-1767 ($p = .43$)	1722-1781 ($p = .39$)	A.D. 1823
48SW13252	Hearth within wickiup	bone collagen	-19.3		130±20	1833-1879 ($p = .43$)	1800-1891 ($p = .49$)	A.D. 1825
Jolley's Camp	Exterior hearth	bone collagen	-18.5		120±25	1832-1886 ($p = .47$)	1802-1896 ($p = .52$)	A.D. 1833
Dugway	Cultural level	bone collagen	-19.6		130±20	1833-1879 ($p = .43$)	1800-1891 ($p = .49$)	A.D. 1831
Lykins Valley	Thermal feature	charcoal			250±85	1513-1600 ($p = .34$)	1456-1707 ($p = .62$)	A.D. 1828
	Cultural level	bone collagen	-11.9		170±40	1728-1785 ($p = .46$)	1718-1826 ($p = .50$)	
	Thermal feature	charcoal			210±95	1722-1817 ($p = .40$)	1615-1949 ($p = .83$)	
	Cultural level	bone collagen	-16.9	7.1	150±40	1725-1780 ($p = .37$)	1666-1784 ($p = .49$)	
	Cultural level	bone collagen	-8.7		240±40	1635-1677 ($p = .55$)	1619-1685 ($p = .44$)	

^aCalibrated using Calib 7.0.4

^bUsing the following formula: Date = 1887.233+Mean Outside Date[-20.774]+Translucent Ratio[15.184]+Blue Ratio[-7.742] (von Wedell 2011)

^cFour I.SPD dates are statistically contemporaneous ($\chi^2=7.81$ $n > .05$)

into the FTE economy and lacked the need to participate in this trade, possibly because winter trade came to them.

CHAPTER 5: DEFINING THE BOUNDARIES OF THOSE UNBOUNDED: THE PLAINS AND MOUNTAINS ENVIRONMENTAL CONTEXT

In winter...the mounted hunters found the uplands unsuitable for continuous residence....Thus the large summer camps customarily broke into smaller units...which sought the relative safety of broken marginal terrain and timbered valley bottoms. Here the Indians found protection against inclement weather, fuel, water, forage for their horses, and often small game to supplement their stores of dried meat and pemmican.

— Waldo Wedel (1963:9)

Several important economic processes impacted the environment of this region during the postcontact and historic period, including the initial introduction of horses, subsequent equine-based land use, and the impacts of the European and Euroamerican fur trade and the associated Native-based bison robe trade. However, the Plains and Mountain environment provided the baseline resources that made horse reintroduction and the animal skin trade possible. The notoriously variable climate of this region influenced the historic processes of this region and must be considered to fully understand the decisions and actions of those invested in this economy. The locations of the sites and posts studied here provide a good environmental cross-section of the mountains and Plains as described below.

Fort Vasquez and the Lykins Valley Site are located at the edge of the western Central Plains in the Colorado Piedmont region of the Great Plains. Fort Vasquez is located on the second terrace east of the South Platte River near the location of three other contemporaneous posts, which constituted a short-lived and intense trading locus of the bison robe trade (Figure 23**Error! Reference source not found.**). The South Platte River is a major tributary of the Platte River and provided a riparian zone setting replete with trees and grasses for fuel, building materials, and forage. This setting is not unlike Fort Davy Crockett, which was located on the east terrace of the Green River. The South Platte, North Platte, Platte, and Green rivers were important travel corridors for goods and people during the study era.

The Lykins Valley Site is located approximately 55 miles north-northwest of Fort Vasquez. The Great Plains end abruptly about four miles east of the site against a high hogback. Immediately west of the site the eastern slopes of the Laramie Mountains begin. This transitional ecotone supports high diversity and a mile in either direction from the site



Figure 23. Fort Vasquez ruins in 1903. Photograph by Francis A. Cragin.

results in dramatic changes in the environmental setting. This is a sheltered location secluded from the nearby Plains. The site is located on an alluvial terrace immediately adjacent to a perennial stream (Boxelder Creek) in a riparian zone setting (Figure 24).

The LSRD sites are in the timbered ridges and rims that run east-west along the north side of the Little Snake River on the southern edge of the Great Divide Basin. These rims provide a unique intermountain basin setting with good shelter and ecotonal diversity greater than the surrounding areas. The LSRD sites lack nearby permanent water sources but are generally located within a day's travel of water. As Native camps the LSRD sites demonstrate the interplay of social and environmental considerations, which were decidedly different than those that influenced trading post locations, that factored into camp locations during the early to mid-nineteenth century.

The first-order characteristics of the study region include marked warm season and cold season differences, annually variable and patchy precipitation, and a continuum of vegetative regimes controlled by water availability and altitude. These factors influenced animal movements and territories, as well as dictated that hunter-gatherers and mountain men



Figure 24. Overview of Lykins Valley Site with figure standing at corner of excavation block.

alike had to be adaptable and responsive to seasonal and annual environmental variation, which spurred resource scarcity or availability. To live in the mountains and Plains almost always required movement and this becomes more acute following the development of equestrianism and the concomitant nutritional requirements of these animals. Adaptive responses to resource procurement largely followed age-old practices but as equestrian hunter-gatherers attuned to a new trade economy the calculus of survival and subsistence changed. Environmental and climatic factors fundamental to Indian lifeways remained so but with different emphases and for different reasons.

Understanding how and when these goods were introduced and distributed throughout the region is essential to understanding larger historic processes. Previous emphases on European-derived economic and social processes in the region have left notable lacunae in the history of the region, particularly the postcontact Native history. This region witnessed a rich and complex interplay of environmental, social, and economic processes archaeological investigation can help to understand better. Characterized historically as marginal, homogenous, even culturally ephemeral, the study area has a robust, complex, yet understudied postcontact Native history.

The Western Great Plains

Described by the first Europeans that entered it as a land containing “nothing but cattle [bison] and sky” (Castañeda de Nájera 2002 [1940]:195), the Great Plains can be defined by vast openness and homogeneity yet it contains diversity and environments that defy overarching description. In the seminal titled chapter, “Land of Sun and Wind and Grass,” Waldo Wedel (1961: 20-45) delineates the Great Plains and indicates it is a region not only characterized by geographic and environmental heterogeneity, but also by the diverse human adaptations to this variability. On the other hand, the Rocky Mountains and its intermountain basin regions can be characterized by dramatic shifts in vegetative and topographic regimes largely dictated by altitudinal change.

The Great Plains are large enough to encapsulate several subregions, which are carved off the whole for archaeological study purposes. For example, George Frison (1991) in his classic analysis of prehistoric hunter-gatherers in the High Plains effectively limits his study area to the Northwestern Plains of Wyoming and directly peripheral areas. Along the same vein, the study area focus here is limited to the western half of the Central Plains and the adjacent Rocky Mountains—an area that includes portions of the Southern Rocky Mountains of Colorado and intermountain regions of Wyoming. The western Central Plains portion of the study area includes all or portions of the following physiographic regions: the Colorado Piedmont, High Plains, and Plains Border areas (Trimble 1980). The western portion of the study area includes portions of the Central Rocky Mountains, Southern Rocky Mountains, Colorado Plateau and Wyoming Basin physiographic regions (Fenneman and Johnson 1946). These regions did not correlate with cultural or territorial domains of the aboriginal groups of this area; however, it is useful to understand the geographic variability in this area as the correlates of resource availability that influenced group movements, territory, and the marginalization of people.

Bison were the prominent species of the Plains. It is estimated 24–30 million of these animals roamed the Great Plains in the early nineteenth century, with 3–5 million in the Central Plains alone (Flores 1991:470–471; McHugh 1972:16–17; West 1995:52–53). It has also been estimated that there were tens of thousands of horses in the western Central Plains and possibly just as many pronghorn as bison on the Great Plains at this time as well (Flores

1991; Hart 2001). Indian groups in this region during the eighteenth and nineteenth century went from acquiring trade goods largely through indirect Native trade to shifting nascent direct trade with Europeans that ultimately fluoresced into permanent trading locations such as Bent's Old Fort on the Arkansas River and Fort William on the North Platte River.

Nineteenth and early twentieth century historians, perhaps influenced by the desert metaphors used by early Euroamerican explorers (e.g., Zebulon Pike and Stephen Long) to describe the Great Plains, saw the conquest of this region as a product of European-derived technological innovation (Turner 1986; Webb 1981). Anthropologists had similar views of the inhabitability of this region (particularly the western portions) before the introduction of the horse; it was viewed as largely characterized by ephemeral forays into the region with substantial precontact human occupation limited to the more resource-rich margins (Kroeber 1939; Wissler 1912).

The pioneering work of later Plains archaeologists demonstrated that the first-order impressions of homogeneity and aridity masked a remarkable geographic variability capable of sustaining long-term occupations (Strong 1935; Wedel 1963). And additional archaeological inquiry has shown the Plains and even mountains were occupied throughout the year by Paleoindian times (cf., Stiger 2006; LaBelle 2005). These occupations, although widespread, are environmentally constrained, with locations containing resources (especially water) and shelter becoming more important at certain times, especially during the cold season or periods of drought that could cause considerable social upheaval and displacement (Frison 1991; Jones et al. 1999; Meltzer 1999). The availability of these resources to some degree dictates the extant archaeological patterning over a century of archaeological investigations has shown in these regions.

Locating camps in areas where resources and shelter were adequate in the winter months became increasingly important following the adoption of equines that required suitable (or at least passable) forage to survive the generally harsh winters (Osborn 1983). These and other considerations usually dictated location of winter camps in riparian zones and/or the foothills shelter of the Plains or basin margins. Understanding this certainly helps to understand and focus archaeological investigation to these areas, but it does little to help understand the lifeways of these groups at other times of the year and in other types of areas such as the mountains or intermountain basins.

The Plains-based model of seasonal movements does not adequately explain what was going on in the intermountain regions and certainly does not take into account the cultural and social factors influencing equestrian Indian groups. The study of Indian groups in the intermountain regions of the Central and Southern Rocky Mountains brings up issues of territoriality yet indicates the mountains and the Plains occupations lack mutual exclusivity. It is also apparent the scale at which these groups in post-horse times operated seasonally or annually was vastly different than current models of hunter-gatherer subsistence provide. Obviously pedestrian and dog traction versus equestrian mobility and transport systems account for the difference in a general sense, but other social factors were also at play.

In the western Great Plains, multi-group congregations of sizes and ethnic multiplicities at scales undocumented in the prehistoric archaeological record are noted historically (see Coues [1898] for an example of a large post-horse aggregation). As noted elsewhere, these poly-ethnic congregations often resulted from trade or trading opportunities, such as the Jumano traders of the Southwest and Southern Plains (Anderson 1999; Hickerson 1994), or were the result of conflict and/or the negative impacts of European colonization such as the case of Kaskaskia Village on the Illinois River (White 1991) or, most famously, the aggregation of Cheyenne and Lakota groups on the Little Bighorn River in 1876 (Scott et al. 1989). These realities necessitate alternative approaches and new model building to help understand the lifeways of equestrian groups in these littoral areas: approaches and models that incorporate social and economic information along with the ecological data.

The study of Indian groups in the intermountain regions of the Central and Southern Rocky Mountains brings up issues of territory that indicate the mountains and the Plains occupations lack mutual exclusivity. It is also apparent the scale at which these groups in postcontact times operated seasonally or annually is vastly different than current models of hunter-gatherer subsistence provide. Obviously pedestrian and dog traction versus equestrian mobility and transportive systems account for the difference in a general sense, but other social factors were at play. Multi-group congregations of sizes and likely multiplicities previously unheard of in the precontact archaeological record of the non-agricultural areas of the Great Plains due to trade or conflict are documented (Coues 1898).

Little Snake River Drainage and Brown's Park

Eminent Plains archaeologist Waldo Wedel provided the seminal description of surviving winter in the high Plains—by vacating for more favorable and sheltered areas. This description of wintering is apt for areas outside the Plains as well, particularly the broken timbered rims north of the Little Snake River where the LSRD sites are located. Although not the classic river bottom shelter Wedel envisioned, these locations were excellent wintering areas with shelter, wood for fuel and structure, nearby forage areas kept free of snow by wind or topography, and game wintering in vicinity of these locations due to the shelter and forage. These are locations that would be suitable in the warm seasons as well and were undoubtedly used during these times of year.

Shaped by wind and water and settled on sedimentary bedrock, the northern portion of the Little Snake River Drainage is considered part of the Red Desert and is located along the southern edge of the Washakie Basin (Roehler 1973). The Little Snake River heads in the Sierra Madre Mountains east of the project area and tends to peak in May as the river is primarily snowmelt fed (Thompson 2008). The western portion of the project is found in the Cherokee Ridge, a highly eroded and timbered anticline separating the Washakie Basin from the Sand Wash Basin (Keyser et al. 2008:7). The eastern portion of the project area is located on similar rims and mountain foothills extending west from the Sierra Madre Mountains along the north side of the Little Snake River.

The Cherokee Ridge and Powder Rim in particular can be considered “ideal refuge country” with hundreds of sheltered and concealed areas located between the eroded sandstone ridges and uplifts (Keyser et al. 2008:7). These rims and ridges were the last substantial shelter when moving north from the Colorado western slope and conversely would provide some of the nearest winter shelter for groups summering north in the Great Divide Basin or east in the Sierra Madre Mountains. Much like the wintering elk herds of today, human groups left the mountains and made the journey west out into the desert to places like Red Creek Rim, Cherokee Rim, and Powder Rim.

The upper Little Snake River drainage was witness to a fierce battle at the confluence of the Battle Creek and the Little Snake River just west of the LSRD project area (Hafen 1930; Pierce and Mitchell 2015). In 1841, a party of mountain men, their Native wives, and

Shoshone allies were attacked by a large party of Cheyenne, Arapaho, and Lakota, at this location. In the ensuing fight, Henry Fraeb and three other mountain men were killed (Pierce and Mitchell 2015; Hafen 1930). Rufus Sage (1857:286) during his travels up the Little Snake River in the fall of 1842 mentions passing the remains of a “fort, formerly occupied by a company of trappers under the command of Frapp,” near which this battle was fought. Henry Fraeb, along with Peter Sarpy, had built and operated Fort Jackson (1837–38), which was four miles south of Fort Vasquez on the South Platte River (Hafen 1928).

The plains, mountains, and intermountain basins provide a varied environmental setting for the Native and Euroamerican groups during this time. In most of the locations of interest to this study, a short journey results in a quite different environmental setting. Change is based primarily on altitudinal changes and site settings on the edges or ecotonal areas, which border changing biotic regimes. Environmental diversity is important, then and now, and provided a larger resource base in terms of plants and animals as well as seasonal relief from the climate and/or pests.

The Powder Rim and its immediate surrounding hogbacks and cuerdas provide numerous sheltered areas with particularly large juniper trees and moderately thick tree stands (Figure 25). This sets it apart in many respects from other rims to the east based on my reconnaissance. Areas like Cherokee Rim and Red Creek Rim although containing sites lack the numbers of particularly large juniper trees and overall consistent stands along with many particularly sheltered areas. This is a product of the bedrock geology of the Powder Rim which consists of parallel uplifts of sandstone ranging from friable to dense (bordering on quartzite and may contain quartzite in limited pockets) provides areas of shelter between the exposed uplifts beneficial to tree growth and for channeling precipitation.

The Brown’s Park (or Hole) location of Fort Davy Crockett is a well-known wintering ground popular to both Indians and mountain men alike. Brown’s Park is a river bottom area located along the Green River (Figure 26). Brown’s Park is in the river riparian zone with abundant grasses and cottonwood trees that provided both fuel and forage. The surrounding mountainous topography helps to shelter this location. Located at the southern end of the Middle Rocky Mountains, Brown’s Park is near the intersection of several physiographic regions (Colorado Plateau, Basin and Range, Wyoming Basin, and Southern Rocky



Figure 25. Overview of Upper Powder Spring Basin and Powder Rim near west end of LSRD project area.



Figure 26. Brown's Park near Fort Davy Crockett location. Photo courtesy of Megan Van Ness.

Mountains) and relatively close to several major drainages (Green River, Colorado River, and Snake River) trapped by the mountain men.

Regional Environmental Reconstructions

Paleoclimatic data used in environmental reconstructions provides a means to understand forage productivity in the western Great Plains and adjacent Rocky Mountains. The environmental conditions were conditioning factors affecting the economic and social processes of the study era. Proxy measures of drought severity and streamflow rates are used to compare the Plains and intermountain portions of the study area. These proxies provide compelling evidence that largely favorable grazing conditions existed during the study era.

Reconstructed streamflow rates derived from tree ring data confirm that conditions, although variable, were generally favorable and there were significant periods of agreeable vegetation growth (Figure 27). The reconstructed flow rates for the Wind River, a major north flowing tributary of the Yellowstone River, show an overall above average (6.6 percent) streamflow from 1810 to 1840 (data from Watson et al. 2009). The Green River, a major south flowing drainage tributary of the Colorado River, shows an identical trend as the streamflow is 6.6 percent above average from 1810 to 1840 (data from Barnett 2007). This is similar to the reconstructed snow water equivalent records for the Upper Colorado Basin showing average to above average snowpack in the region in the first half of the nineteenth century (Pederson et al. 2011).

Flow rate values more directly reflect the amount of precipitation, particularly the snowpack coming from the mountains, and it is acknowledged streamflow rates do include the annual spring flooding, when the precipitation contributes little to plant growth. However, even in cases of flooding, the increased streamflow would have enriched the riparian zone vegetation of these rivers. As well, although spring snowmelt flooding contributes a significant amount of water to the annual streamflow, as an expected annual event this flooding may only be detrimental in cases of exceptional snowpack. Documentation from the Sierra Nevada Mountains indicates particularly large snowmelt-induced floods persisting into April and May occurred in cases where the snow deposition was more than twice the average amount (Kattelman 1996:1263).

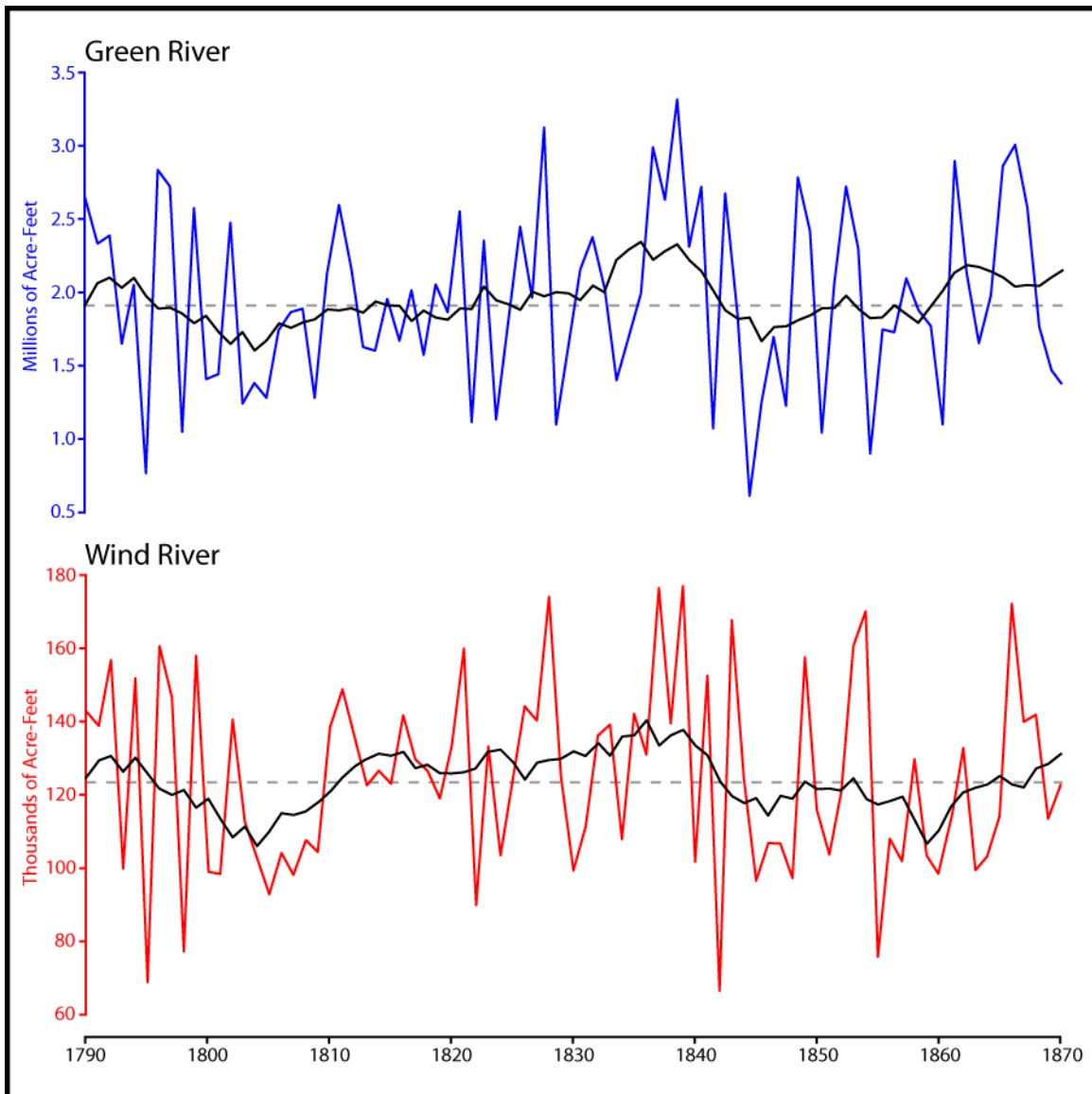


Figure 27. Reconstructed streamflow of Green River and Wind River. Black line is ten-year moving average and dotted line is 80-year average.

Streamflow reconstructions of additional drainages demonstrate interregional variability. The Little Bighorn River, which drains east off the Bighorn Mountains, experienced a 19-year long dry event (below mean gauge streamflow) from 1813 to 1831 (Swindell 2011:40). These data also show a 4-year long wet event (above mean stream flow data) for Bull Lake Creek, a tributary of Wind River, from 1836 to 1839 and a dry event from 1800 to 1809 (Swindell 2011:40); both of which mirror the data presented in Figure 8. Stream flow reconstructions for three drainages flowing east off the Bighorn Mountains show no wet events between 1800 and 1860 (Swindell 2011:40–41).

The Palmer Drought Severity Index (PDSI) is a water-balance model reflecting how much soil moisture is available compared to normal conditions using precipitation and temperature data (Cook et al. 2007; Palmer 1965). The PDSI correlates well with vegetation growth, so it provides a good proxy for rangeland conditions. The PDSI values typically fall within the range of ± 4 , which denotes extreme drought (-4) and extreme wetness ($+4$). Again, using tree ring data, reconstructed PDSI values for the study era indicate variability but overall fairly good conditions when the intermountain and Plains areas of the study region are compared (Figure 28).

PDSI show a period from 1825 to 1841 when conditions were significantly wetter than at other times during the study era (Figure 29). The area containing Fort Vasquez and the Lykins Valley site has moderately wet conditions (PDSI = 1.58) and was significantly wetter than at other times ($\mu = -0.28$, $z = 0.774$) (data from Cook et al. 1999, 2004). This is also the case for the FDCL and LSRD sites where the same period averaged moderately wet conditions

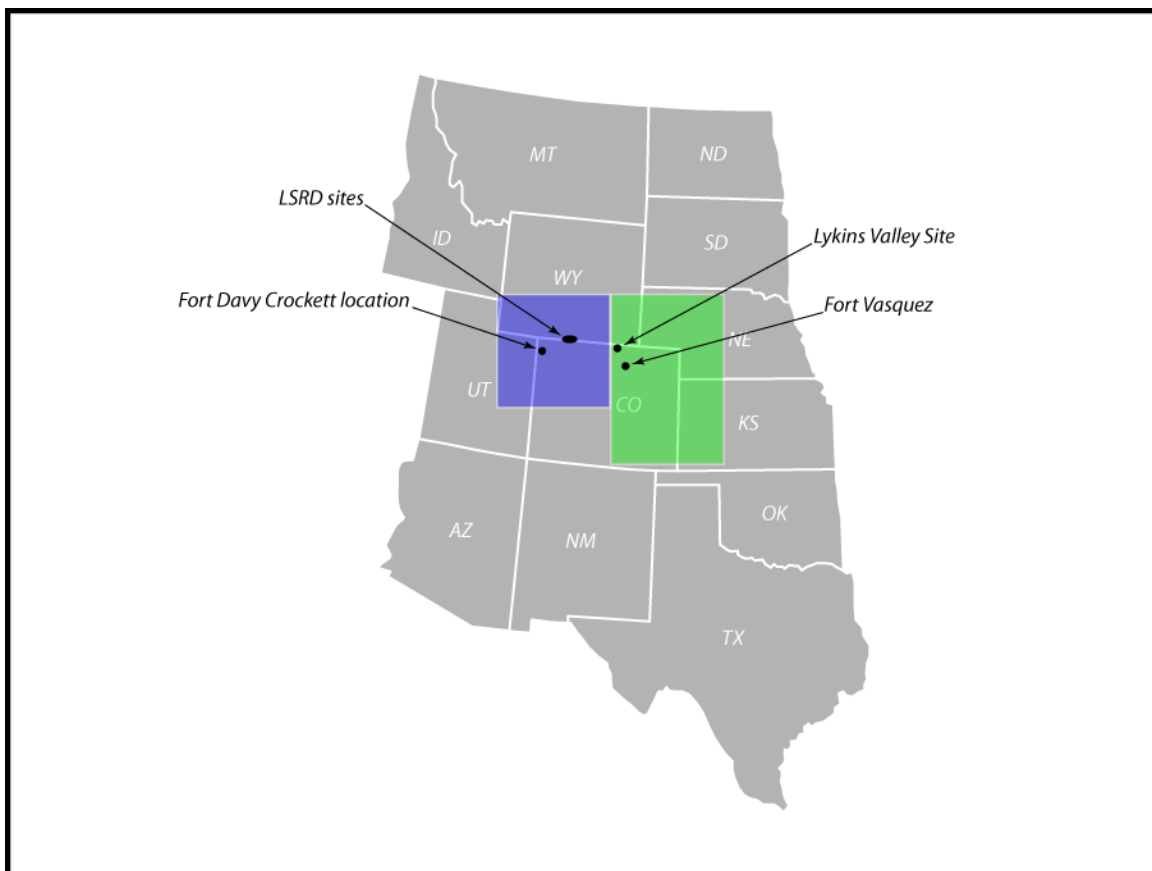


Figure 28. Areas (colored) used to calculate PDSI for each site region.

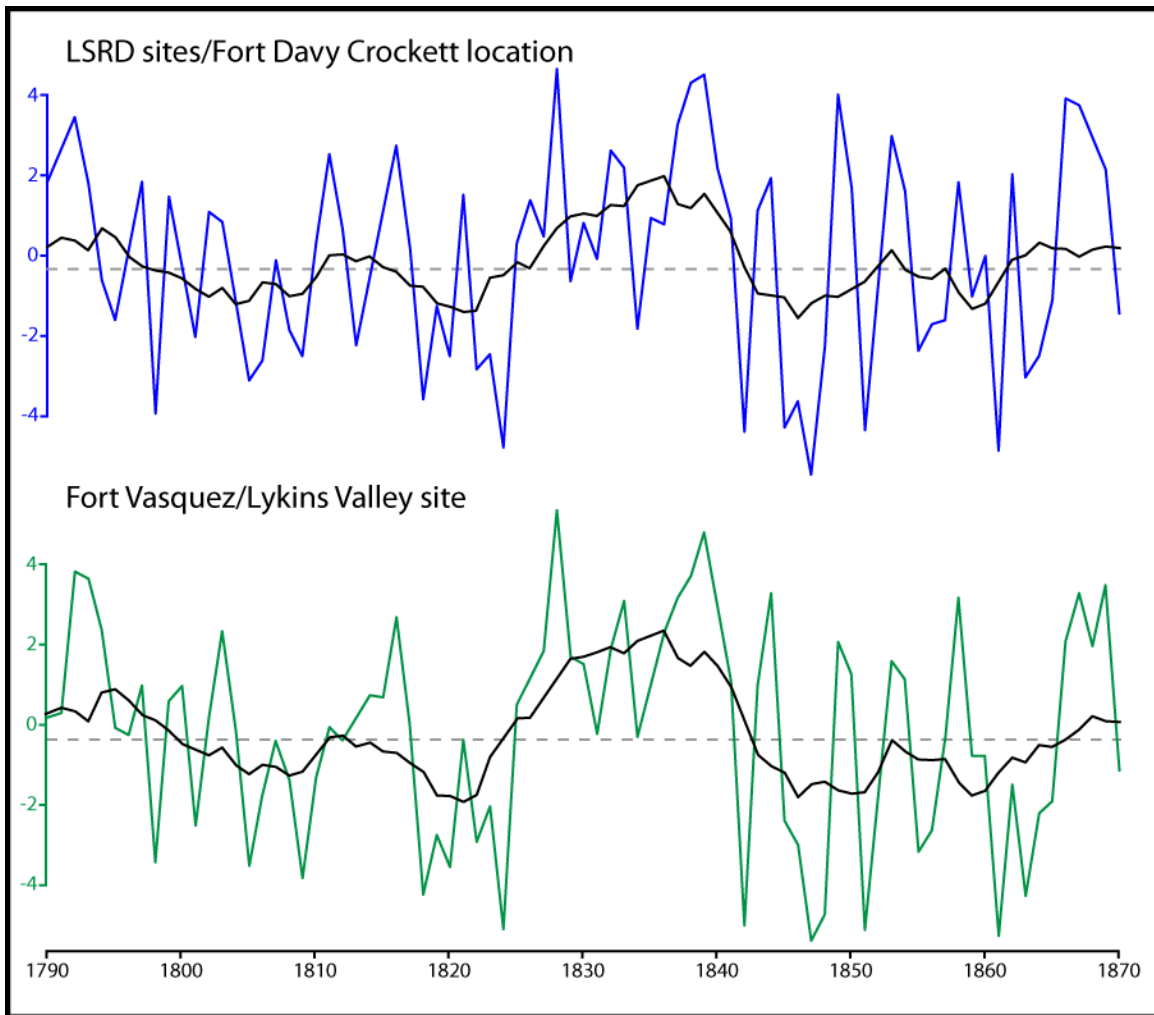


Figure 29. Modeled PDSI history of three study locations. Black line is ten-year moving average and dotted line is average from A.D. 1675–1875.

(PDSI = 2.07) and was significantly wetter than at other times ($\mu = -0.22$, $z = 0.968$) (data from Cook et al. 1999, 2004).

Drought resistant short grasses such as blue gramma and buffalo grass do not benefit from excessive precipitation (Lauenroth et al. 1999; Wedel 1986:16). However, the incipient to moderately wet conditions during this time would have resulted in better overall rangeland grasses, certainly benefiting the less drought-resistant species and riparian vegetation. This forage attracted and held grazing animal herds, particularly the bison that, in turn, attracted the human groups economically involved in the robe trade.

The western Great Plains witnessed a severe drought that lasted from 1845–56, which proved pivotal, along with increased human ecological disruption, in the severe bison

depopulation that followed (Bamforth 1987; Flores 1991; Isenberg 2000; Woodhouse et al. 2002). The below average conditions and severe drought is documented in the extremely dry PDSI values registered during this period in the region surrounding Fort Vasquez and the Lykins Valley Site. These conditions persisted to a lesser degree in the region including the LSRD sites and FDCL.

Geopolitical Context

Equus raising and raiding was an essential part of the geopolitical fabric of western Great Plains and Rocky Mountains (DeLay 2008; Hämäläinen 2008; McGinnis 1990). Locations near bison herds and at good wintering pasture became very important spots on the landscape for equestrian hunter-gatherer groups. These locations subsequently became the locations that mountain men built and/or maintained trade with the Indians (Hämäläinen 1997; Newton 2012a). As such these locations are ideally suited to understand the intersection of geopolitical processes at play during this time. The intersection of ecology and society becomes very acute with permanent trade. Bison herds generally would not have existed in proximity to these posts which necessitated the subsistence trade and Native dependence that is at the heart of this study.

The paleoenvironmental evidence presented above indicates that the areas which are the focus of study benefitted from favorable climate for the most part during the study period. The location of trade posts along rivers is certainly part of a strategy to mitigate resource stress brought on by drought. However, proximity to large mammal game animals is difficult to maintain if the hunting pressure is too great. Equestrian hunter-gatherer groups understood buffer zone ecology and used this phenomenon to their advantage in locating winter camps and trading posts, particularly in the 1830s (Flores 1991; White 1978). The Plains east of Fort Vasquez and the Lykins Valley site was one of these areas and was crucial to the establishment of the bison robe trade on the South Platte River (Newton 2012a).

The favorable combination of climate and animal resources did not last as drought conditions, hunting pressure, and outside economic processes moved trade and opportunity elsewhere. The geopolitical instability derived from high frequency wet/dry climate oscillation and shifting herd animals required mobility and adaptability. Both Indian and mountain man were constantly positioning themselves to take advantage of good

environmental conditions and to mitigate adverse conditions. In the case of the latter, this positioning was often reactionary to Native movements (White 1978) and led to further dependence on Native provided provisions.

CHAPTER 6: WHAT THE ARCHAEOLOGY TELLS US

This project compares material from four sites, including two historically known Euroamerican trading posts and/or trading post locations, and two Native campsites. These collections contain faunal specimens, glass, metal, and ceramic Euroamerican goods, and flaked stone. Using data from Native camps in the hinterlands and collections from trade posts in collections found in the western Great Plains, Central and Southern Rocky Mountains, this study uses a multiproxy approach utilizing traded goods, Native-made goods, food remains, particularly the osteological portions, as well as historic and ethnohistoric and ethnographic accounts.

To better understand equestrian hunter-gatherer involvement in the FTE economy in terms of subsistence and provisioning, the majority of this study is concerned with the faunal remains recovered from these sites and how information derived from the bones demonstrates the important indigenous underpinnings of mountain man food ways. Additional data derived from trade goods and other artifact types also provides support to the interrelationships between equestrian hunter-gatherers and the mountain man during the first six decades of the nineteenth century.

Methods

The analysis of artifacts from the Fort Vasquez, FDCL, the LSRD sites, and the Lykins Valley Site involved both metric and qualitative data taken on thousands of artifacts (Table 3). During this analysis it became apparent that many of the artifacts and types of trade good artifacts were remarkably similar between the different site assemblages. This is not surprising and even expected given that historic accounts point to trade good sources out of St. Louis for the posts in the western Plains and adjacent mountains (cf. Chittendon 1903; Gitlin 2010). As well, accounts such as that by Doc Newell indicates mountain men could work for several different companies and out of different posts also leading to similar trade good materials.

The comparative analysis of common trade items such as glass beads between all the assemblages relies on simple measured variables and color comparisons to elucidate similarities and differences between the bead assemblages. The monochrome torus-shaped

Table 3. Frequency and Percent of Artifacts and Bone from the Analyzed Assemblages

Collection	Artifacts	<i>Percent Artifacts</i>	Bone	<i>Percent Bone</i>	Total	<i>Percent Total</i>
Fort Vasquez	4,468	55.6	2,044	24.4	6,512	39.6
FDCL	1,755	21.8	3,139	37.4	4,894	29.8
LSRD sites	734	9.1	1,678	20.0	2,412	14.7
Lykins Valley Site	1,085	13.5	1,533	18.2	2,618	15.9
Total	8,042		8,394		16,436	

drawn bead (type IIa according to the Kidd and Kidd [1970] bead typology) is the most common bead type that was traded in the region (von Wedell 2011) and are the most common bead type found in the sites analyzed here. Previous metric analysis has shown that this type of bead becomes smaller through time, and smaller assemblage sizes generally indicate beads made more recently (Reher and Scheiber 1993; von Wedell 2011). Bead types and colors can also be diagnostic in terms of presence/absence (Billeck 2008; Davis 1973; Koch 1977). These characteristics are utilized to understand if there are significant differences in how these beads are being supplied to the posts and how they are being consumed by the Indians.

Other artifact classes, particularly those found at the LSRD sites, are analyzed to provide additional evidence of Native affluence and trade good access. The presence or absence of certain artifacts provides additional data to support or refute the manner in which these groups were involved in the trade and if these data can show other characteristics of the quality of life here versus at the mountain man posts. The presence of indigenous chipped stone tools is explored to again argue for indigenous affluence and autonomous cultural continuity during this period.

The amount of faunal material in these collections is utilized to understand Indian and mountain men animal consumption and how this behavior articulated with the fur and bison robe trade of the period. Historic accounts indicate that Plains Indian groups were covetous of the animal resources on which they depended (Binnema 2001; Couess 1898; Isenberg 2000; Krech 2000). One way to understand this archaeologically is to look at the skeletal remains recovered from trading posts that catered to Indian groups in terms of animal portion frequencies and number of species.

The number of different taxa should vary between trade post, Indian camp, and Indian village. These values are analyzed to provide insight into the manner that these differing social aggregations were supplied with game. The number and variety of different taxa at these sites are used to show differences between sites where the occupants were provisioning themselves and sites being supplied with game animals by outside groups.

The frequency of skeletal elements also provides information about how the differing provision strategies were used at these sites. Lewis Binford (1978) and others have shown that when presented with large mammal kills at remote locations from camp, hunter-gatherer groups often make consumer choices in the body parts and frequency of these parts that they choose to transport. The patterning and frequency of skeletal elements either left at the kill site or brought back to the habitation site are indicative of these consumer choices. Using direct counts of skeletal portions via bone type counts and derived measures of frequency such as minimum number of elements (MNI) (Binford 1978; Lyman 1994), the skeletal elements are used to argue for differing provisioning between the different site types analyzed in this study.

The sites used in this study are described in some detail below. The manner of discovery and excavation status of these sites provides important context for the proceeding artifact analyses. The general artifact distributions at the study sites are also presented to show the basis for differing interpretations of site use and occupational history. These sites provide a solid sample of site types used to demonstrate the divergence and convergence of game animal and trade good use during the first six decades of the nineteenth century.

Glass Beads and Other Artifacts

Most of the information both historical and archaeological indicates trade goods coming up out of Missouri particularly from the St. Louis area (Chittendon 1903; Gitlin 2010; Newton 2012). The gunflints from Fort Vasquez and FDCL support this argument as well in that they are predominantly of French origin (Table 4). These percentages differ markedly from an earlier post on the Missouri River (Kipp's Post) which is much closer to English trade good sources. Bent's Old Fort on the Arkansas River has relatively even amounts of English and French gunflints, a reflection of its location on a major travel route used by settlers and traders from all over the continent.

Table 4. Frequencies of Gunflints by Type

Post	Date	French Gunflints	English Gunflints	Reference
FDCL	1837–44	6	3	This study
Fort Vasquez	1835–42	7	2	This study
Bent’s Old Fort	1834–49	25	27	Moore 1973
Kipp’s Post	1826–30	0	23	Woolworth and Wood 1960

Glass beads were popular among Native groups of the region and traded in great numbers throughout the historic period (Figure 30). Source analysis of these artifacts has largely proven unsuccessful; however, metric analysis of large samples of beads does have some utility in differentiating beads temporally and possibly by source (von Wedell 2011). Monochrome torus-shaped drawn beads tended to become smaller through time as manufacturing techniques and preferences became more refined (Reher and Scheiber 1993).

This artifact class is utilized to show potential similarities and differences between samples to demonstrate differential trade good acquisition and/or timing. Beads from Fort Vasquez, FDCL, the Lykins Valley site, and the LSRD sites can be compared to other published and dated sites from the Front Range and Colorado Plateau (Martin et al. 2011; Martin and Brown 2010; von Wedell 2011) (Table 5). As stated earlier, historic accounts demonstrate a connected network of traders between the Plains and the mountain regions and analysis of the trade goods indicates these assemblages are generally homogenous indicating trade goods are coming from the same source.

A comparison of bead sizes demonstrates most of the sites have a close size relationship, particularly most of the LSRD sites, and with size variations largely consistent with temporal differences (Figure 31). The dates or date ranges tend to correlate strongly with the bead size (Figure 32). The timing of these sites dictates the differences in the torus-shaped bead assemblages and there does not appear to be differential trade good origins for these artifacts.

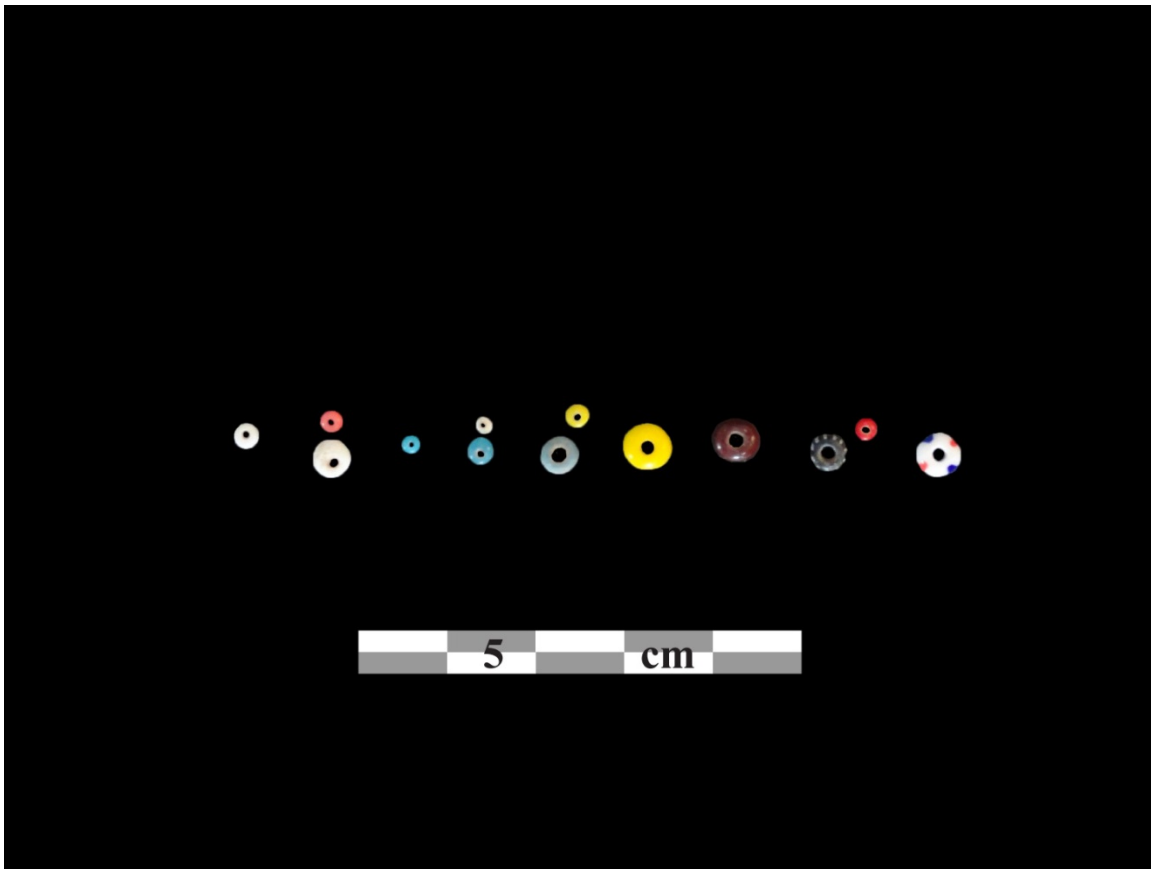


Figure 30. Examples of torus-shaped monochrome and polychrome beads from Fort Vasquez.

Table 5. Summary Statistics of Monochrome Torus-Shaped Bead Assemblages.

Site	Date	Outer Diameter			Length		
		<i>N</i>	μ	σ	<i>N</i>	μ	σ
Disappointment Draw	ca. 1893	10	1.86	0.14			
Ute Hunter's Camp	1881-82	154	1.88	0.26			
Weinmeister	ca. 1850-80	966	1.72	0.15	935	1.16	0.18
Pisgah Wickiup Village	1853	22	2.92	0.37			
48SW13252	ca. 1830-50	76	2.80	0.46	76	2.06	0.51
Anthill Knob	ca. 1830-50	244	2.81	0.32	253	2.14	0.30
Dugway	ca. 1830-50	25	2.58	0.58	31	1.83	0.50
Poison Basin #1	ca. 1830-50	39	3.02	0.51	40	2.23	0.46
FDCL	1837-44	811	2.51	0.44	811	1.75	0.43
Fort Vasquez	1835-42	2898	2.41	0.37	2897	1.81	0.35
Lykins Valley	ca. 1815-40	418	2.67	0.41	418	1.92	0.39

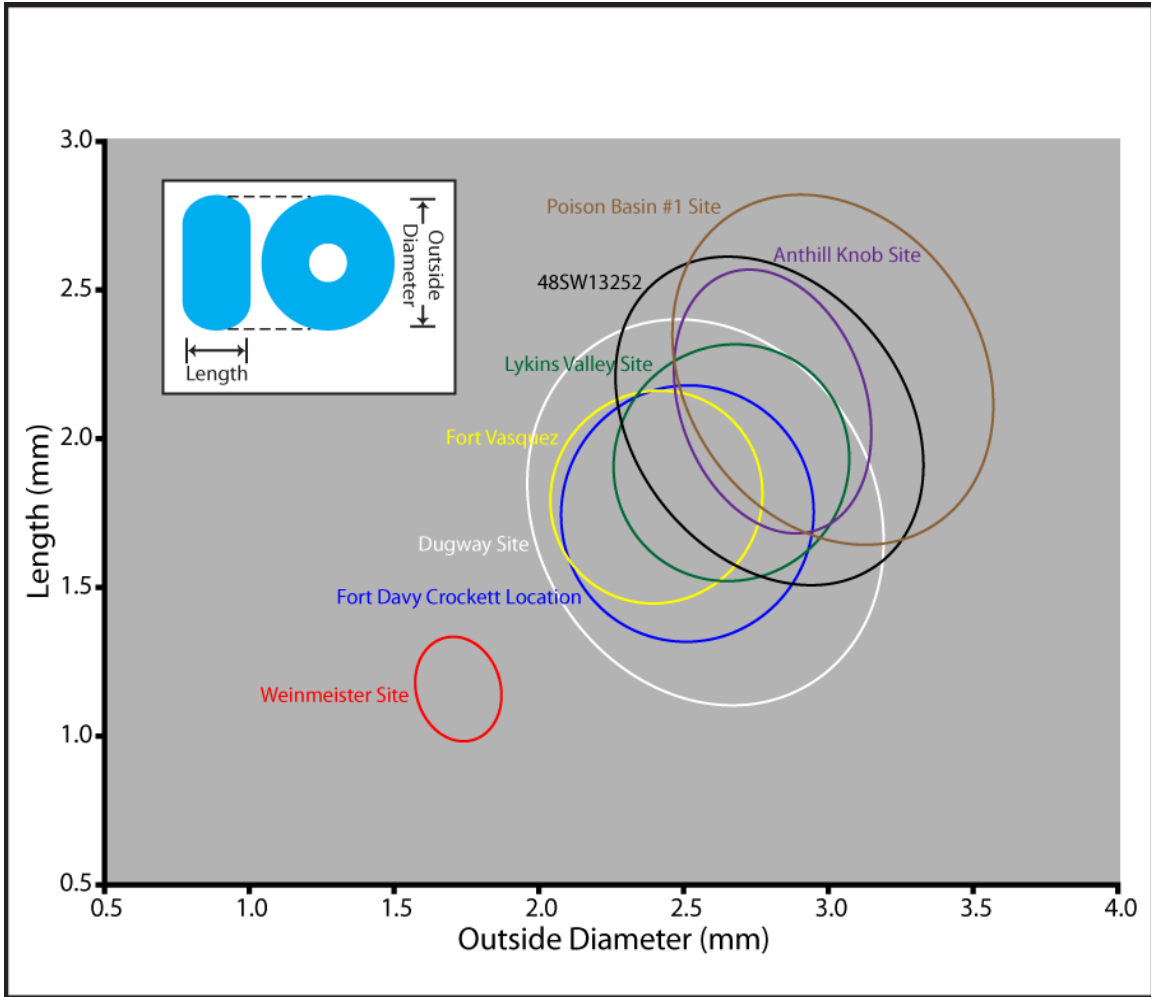


Figure 31. One standard deviational ellipse bead size comparison of monochrome torus-shaped bead assemblages.

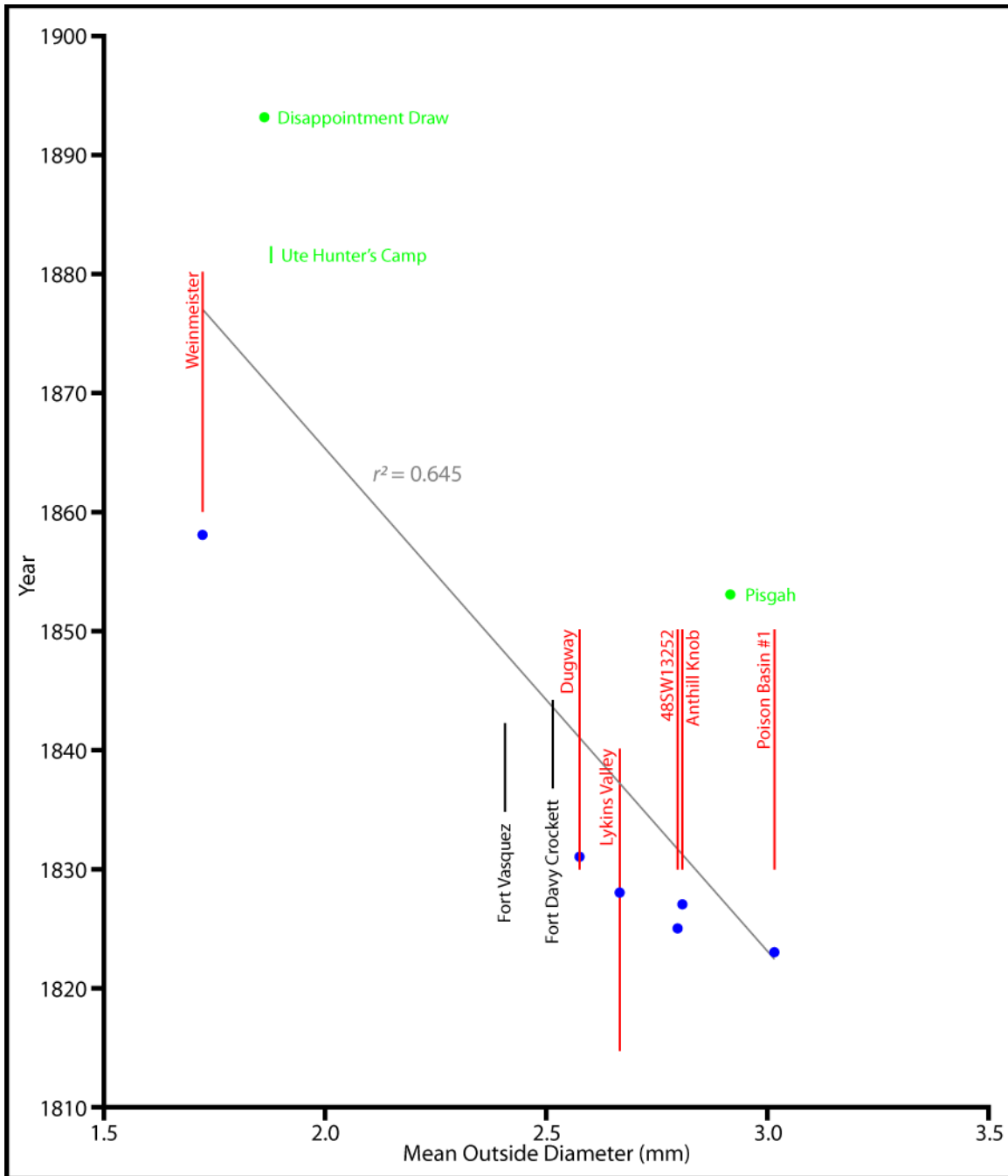


Figure 32. Occupation range and outside diameter comparison. Blue circles are bead regression dates, green sites are dated by dendrochronology, red sites are dated by artifacts and radiocarbon dating, and black sites are dated by historic accounts.

Native preference for certain bead colors and types is documented in the economic records of the fur trade (cf. Carlos and Lewis 2010). Comparison of blue and white monochrome torus-shaped beads (Type IIa) shows that the latter are more numerous in four of six trading post or fort assemblages, and in several cases by a large margin (Table 6). If these ratios reflect Native bead preference, it is clear white beads were more sought after in

Table 6. White and Blue IIA Bead Frequencies

Post or Camp	Date	Blue IIA Beads	White IIA Beads	Reference
Fort Pierre II	1855–66	1038	1232	Smith 1960
Fort Clark	1831–60	2154	49	Billeck and Badorak 2003
Kipp’s Post	1826–30	800	694	Woolworth and Wood 1960
FDCL	1837–44	289	521	This study
Fort Vasquez	1835–42	409	1959	This study
Bent’s Old Fort	1834–49	1041	7986	Moore 1973
Lykins Valley site	1815–40	211	239	Newton 2008

the study area. This is also the case at the Lykins Valley site, an equestrian hunter-gatherer camp with a moderately sized bead assemblage. White, as a bead color, was popular amongst most Plains hunter-gatherer groups (Koch 1977:65). Kipp’s Post and Fort Clark on the Missouri River, which catered to different Indian groups than those in the study area, show a preference for blue beads and/or could reflect different trade good sources.

Metal Artifacts

As a suite of similar Native camps from the FTE, the LSRD sites provides an opportunity to look at other artifacts and assess trade access and affluence of these groups based on the quality and quantity of other trade goods found at these locations. The presence of high quality and high utility items is shown to be indicative of sufficient trade good access. This is understandable during the FTE when this economy brought trade to most groups and permanent trading posts throughout the region. Groups previously removed from trading loci were brought trade by the mountain men who penetrated the interior Rocky Mountains largely in search of furs. This appears to be the case for the LSRD sites.

All of the LSRD sites contain metal artifacts that are indicative of good trading access (Table 7). Complete and partial trade knives are found at four of the sites, percussion caps found at Poison Basin #1 indicate post-flintlock trade guns were available to the site occupants and lead sprue found at several of the sites indicates the ability to manufacture ammunition (Figure 33). In addition, cut metal and metal pieces that appear to be the detritus from remanufacture are common. Metal in and of itself does not particularly indicate

Table 7. Metal Artifacts from LSRD Sites

Site	Reference
Dugway site	Strike-a-light, earrings, tinkler cones, hawk bells, bridle parts, gun parts, cut brass, trade knife, arrowhead, knife blade
Poison Basin #1	Brass tacks, lead sprue, percussion caps, trade knives, cut copper
48SW18289	Tinkler cone, cut cuprous metal, gun parts, awl, cut iron or steel, bridle part
Jolley's Camp site	Trade knife, lead sprue, cut brass
Anthill Knob site	Gun part, cut iron or steel, lead sprue
48SW13252	Cut iron or steel

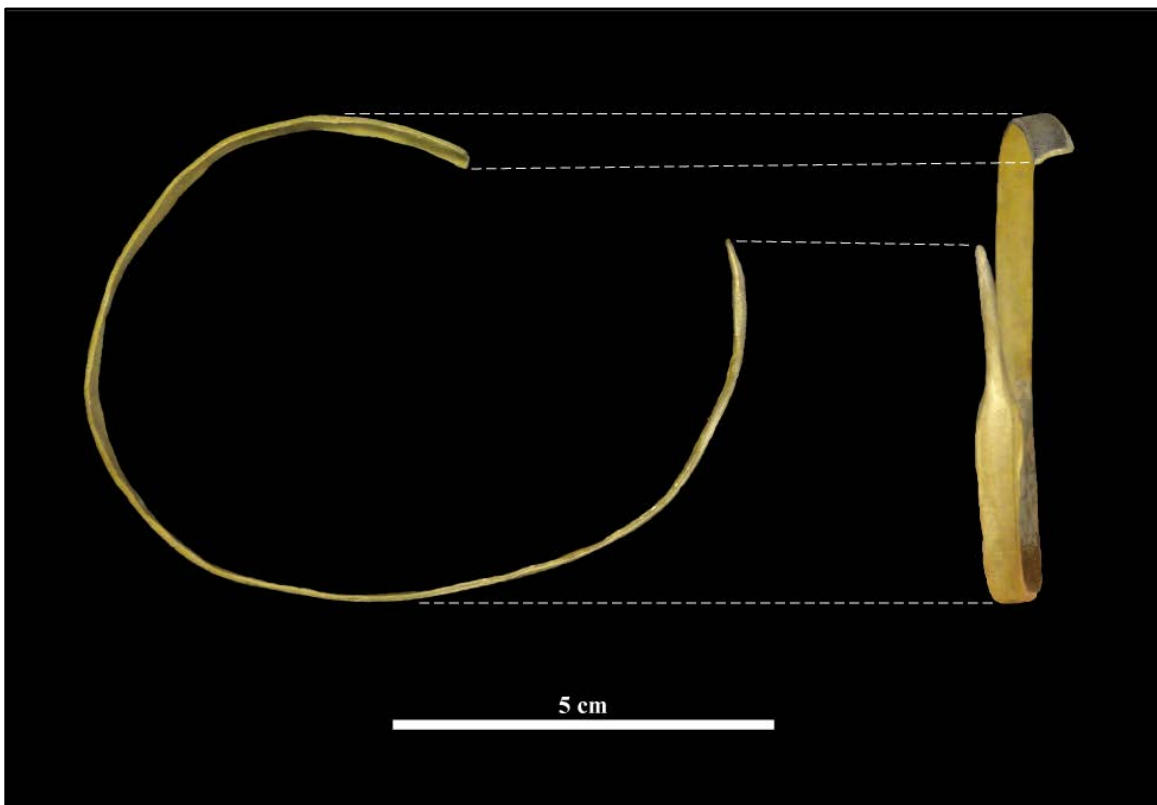


Figure 33. Cut and shaped cuprous metal band found at 48CR18289.

affluence; however, the types of metal do provide the basis to argue access and even affluence. Artifacts made of metal alloys containing lead or copper found at the sites are manufacturing debris from repurposing expensive, even high demand, items such as guns or other machined items.

The access to trade goods evidenced by these artifacts is argued here to show that the groups in the LSRD were able to access high end items and may have been repurposing these items for other uses, although the use of materials provided by broken trade goods is well documented. Access to trade is evidenced by the trade goods at the LSRD sites, but these sites also demonstrate a cultural continuity in the manufacture and use of chipped stone tools. The association of stone tools with trade items in buried contexts at all six of the LSRD sites is a clear indication that this technology persisted despite good access to trade goods. The use of chipped stone tools implies these items remained useful and/or culturally significant even with the access to trade goods. This association and its prevalence throughout these sites is particularly powerful evidence that these were not instances of need or secondary use when trade good tools were not available but rather a constant and continued practice that was augmented by trade goods such as knives and guns. This is important in that it demonstrates both access and independence which could be taken together as characteristic of affluence. This is further supported by the prevalence of high utility animals (i.e., large mammals) in the site faunas indicative of a high-quality diet.

Bison Hunting and Trade

French Trader Pierre Tabeau, who chronicled an 1803–05 trading expedition to the upper Missouri, recognized early on that equestrian hunter-gatherers of the Plains and mountains were ill-suited for the non-bison fur trade:

1st. All the wandering nations which subsist only on the buffalo do not dwell very long in the places suitable to the beaver, the otter, and the bear, all animals hostile to the prairies.

2nd. They disregard all other hunting and are unskilful at it.

3rd. The facility of buffalo-hunting with the arrow, as it requires only going to meet the animals, makes them dislike all fatigue. The beaver can be obtained only by activity and industry as they are nowhere common enough to be hunted with the arrow or the gun.

4th. None of these nations values our merchandise highly and, if we except some iron implements, they have more liking for their skins, white as alabaster, which they

work upon and ornament in different ways and which are, throughout the Upper Missouri, the foremost fancy goods.

5th. They find in the buffalo cow, as I have elsewhere remarked, everything necessary to them and much that is superfluous and, for this hunt, they rightly prefer the bow and arrow to our guns and ammunition. If they desire the latter, it is for war alone (Abel 1939:163).

Bison are an essential part of the trade and subsistence for both mountain man and Indian and warrant further discussion in the role they played during the study era. These animals populated the Plains in vast numbers and less so in the mountains and intermountain basins. There is historic and archaeological evidence that they existed in such numbers that bison were sought after as a food source and traded resource in all environments.

Scattered prehistoric bison kills attest to the availability of these animals in the intermountain areas. The known bison kill sites indicates the intermountain regions of the study area, particularly the Great Divide Basin were witness to communal bison hunting for at least five millennia, but this area lacks the overall number of bison kills indicating lower populations than on the Great Plains (Miller and Scoggin 2017; Smith et al. 2008; Newton and Byerly 2008). As with any variable climate and animal resource there will certainly be both times of plenty and times of scarcity. Trade in bison products was nothing new either. In 1706, Sieur de Bienville was told by two Canadians that Spanish traders came to the Missouri Indian villages to trade for buffalo hides to make harnesses for their mules (Nasatir 2002:9). Hudson Bay Company trader John Macdonell's journal from 1793–75 indicates roughly 72 % of Indian transactions wholly or partially involved traded meat, dried meat, tongues, and/or grease (Provo 1984:32).

The acquisition and consumption of bison meat is one of the key practices on the Plains and surrounding areas. In the seventeenth and eighteenth century, mestizo *Ciboleros* out of the Spanish southwest ventured onto the Southern Plains for extended bison hunts, running the animals on horseback and dispatching them with long lances using tactics and technology certainly borrowed from Comanche, Apache, Kiowa, or Ute groups (Blackhawk 2006; Branch 1997; Isenberg 2000, Weber 1980). These hunters returned from the Plains with wagons loaded with dried bison meat, tongues, and tallow to trade within the Spanish settlements.

The first half of the nineteenth-century Northern Plains was witness to the mixed-blood *Métis* bison hunters who carried out extended hunts to the south and west of their communities along the Red River (Binnema 2001). They moved out onto the Plains in caravans of two-wheeled carts which were used to transport the acquired bison resources back to their homes (Binnema 2001, Isenberg 2000). These hunts were substantial, resulting in huge amounts of bison meat and other products being brought back from the hunt (Table 8). Prince Maximilian of Wied estimates 600 to 800 bison were being consumed at Fort Union on the Upper Missouri River in the 1830s (Witte and Gallagher 2008:230). In 50 days of travel up the Missouri River in present-day North Dakota and Montana in 1805, the Corps of Discovery (33 members) killed 79 deer, 9 bighorn sheep, 8 pronghorn, 50 elk, 44 adult bison, 7 bison calves, and 12 grizzly bears for food and materials such as hides (Martin and Szuter 1999:39).

Later, E. Willard Smith, who had left Fort Vasquez and come across the Laramie Basin before travelling down the Little Snake came to a place on September 27, 1839 where “some whites had encamped a few days previous for the purpose of killing Buffalo and drying their meat” (Hafen and Hafen 1955:172). In October of the same year, Smith was part of a hunting party out of Fort Davy Crockett that kills 100 bison (and 6 grizzly bear) in several days hunt along the Little Snake River (Hafen and Hafen 1955:175-176).

Yet other hunts, particularly in the winter, could be unsuccessful, as Robert Newell in 1838 described while wintering in the Snake River Plain (Johansen 1959:38). And on the Northern Plains, Lakota groups experienced a “starving winter” in 1832–33 when the bison herds due to a mild winter failed to show up to the usual wintering grounds on the Missouri River (Clow 1995). Winter hunting of bison (and likely other animals) was prevalent throughout prehistory as well (Cooper 2008). The ability to procure bison throughout the winter was important most years. The aforementioned Fowler account of Plains Indian bison consumption during the winter of 1822–23 is one particularly informative example (Coues 1898).

Table 8. Métis Bison Hunting Expeditions and Returns (from Ross 1856)

Years	Number Expeditions	Carts/Year ¹	Total Number Bison Killed	Bison/Year
1820–25	5	610	118,950	23,790
1825–30	5	750	146,250	29,250
1830–35	5	895	174,525	34,905
1835–40	5	1,090	212,550	42,510

¹Average of thirty-nine bison per loaded cart worth \$5 each (Ross 1856).

Warren Ferris (1940:41–42) in journal entry of July 7, 1830 on Bear River:

Heretofore we had found the meat of the poor buffalo the worst diet imaginable, and in fact grew meager and gaunt in the midst of plenty and profusion. But in proportion as they became fat, we grew strong and hearty, and now not one of us but is ready to insist that no other kind of meat can compare with that of the female bison, in good condition.

Mountain man Osborne Russell chastises trappers under the employ of Jim Bridger who in 1835–36 wintered “very poor and it was their own fault for the valley was crowded with fat Cows when then arrived...but instead of approaching and killing their meat for the winter they began to Kill by running on horseback which had driven the Buffalo all over the Mountain” (Haines 1955:39). Russell indicates deep snow subsequently kept game out of the valley and the men were limited to some bulls they were able to kill that were in very poor shape. Fort Davy Crockett was known by the derisive moniker *Fort de Misere* (Fort Misery) due to poor living conditions, which were witnessed by Frederick Wislizenus in August 1839 (Wislizenus 1912:129). The fort’s inhabitants lacked meat and were eating “a lean dog” purchased from the Indians (Wislizenus 1912:129–130). Faunal material recovered from the site support this: six of the 21 dog specimens identified in the faunal assemblage having butchering marks from metal tools (6 chopmarks and 7 cutmarks total).

David Wishart (1979:35) concludes in his seminal study of the fur trade that “[t]he Rocky Mountain Trapping System decayed not only because its main fur-bearer, the beaver, was depleted but also because the main source of provisionment, the mountain bison, was destroyed.” He cites the accounts of noted mountain men, Lucien Fontenelle and Thomas Fitzpatrick, who both state the bison numbers become greatly diminished beginning in the 1830s (Wishart 1979:34–35). There is little reason to doubt the veracity of these claims as the intrusion of hundreds of mountain men, their companions, and coeval Indian groups would impact the numbers of bison in the Green River Basin and Snake River Plain for instance.

However, outside of these large intermountain basins, bison numbers in the Rocky Mountains were never comparable to those on the Great Plains and there were several other species that could be hunted in lieu of bison. Mule deer, mountain sheep, elk, and even pronghorn were available with the former two species often very numerous. It is difficult to argue the diminished bison numbers were a partial cause of the intermountain fur trade demise but rather an *effect* of this trade and a reason the bison robe trade remained strong on the Plains (Table 9).

The 1830s also witnessed the decline of the beaver trade through both lack of market and readily accessible areas becoming trapped out while bison remained an important trade item. A lack of beaver was lamented in the Plains early on. A trader named Guenneville who left an Arikara village in August 1804 accompanying a Cheyenne group in the Black Hills region throughout the winter and into the spring saw beaver only three times and was only able to trade for 84 pounds of pelts in his journey (Abel 1939:87). It is around the same time (ca. 1803–05) Pierre Tabeau reports “some Chayennes coming from the Black Hills, found so many [bison] in their journey of seventy leagues that they reckoned them as countless” (Abel 1939:71).

Table 9. Compilation of Bison Product Returns

Company or Post or Trader	Year	Number	Commodity	Reference	Comment
Alexander Henry	1801	31	robes	Isenberg 2000	Single British fur trader (Henry) shipped to Montreal
Alexander Henry	total 1802-08	150	robes	Isenberg 2000	Single British fur trader (Henry) shipped to Montreal
Northwest Company	1805	1,135	robes	Isenberg 2000	Shipped to Montreal
American Fur Company	1812	12,000	robes	Isenberg 2000	
All traders	1825	184,000	robes	Isenberg 2000	Shipped to New Orleans
Fort Jackson	1838	2,920	robes	Newton 2012a	Shipped to St. Louis by Peter Sarpy and Henry Fraeb
American Fur Company	1839	45,000	robes	Chittendon and Richardson 1905	
Bent's Old Fort	1839	6,000	robes	Newton 2012a	Shipped to Liberty, Missouri by Bent, St. Vrain & Co.
W. Sublette and Robert Campbell	1839	1,600	robes	Newton 2012a	Shipped from upper Platte and traded in Missouri, likely from Fort William (Fort Laramie)
American Fur Company	1840	67,000	robes	Chittendon 1903	Shipped to St. Louis
All traders	1847	110,000	robes	Chittendon and Richardson 1905	Shipped to St. Louis
American Fur Company	1848	25,000	tongues	Chittendon 1903	Shipped to St. Louis, probably in 1847, and based on Pierre-Jean De Smet account
Missouri River traders	1849	110,000	robes	Hatton 1849	Hatton's estimated annual average shipped to St. Louis from Indian trade
Fort Pierre	1849	75,000	robes	Isenberg 2000	
All companies	1850	100,000	robes	Allen 1876	Shipped to St. Louis
Upper Missouri Outfit/ American Fur Company	1853	88,927	robes	Chittendon and Richardson 1905	
Fort Union	1857	30,000	robes	Allen 1876	According to Frank Gerard
Fort Clark	1857	5,000	robes	Allen 1876	According to Frank Gerard
Fort Pierre	1857	19,000	robes	Allen 1876	According to Frank Gerard
American Fur Company	1859	50,000	robes	Isenberg 2000	Pierre Chouteau's estimate of annual amount purchased his firm

Bones

Native American and Euroamerican butchering practices differed in fundamental ways. Lacking efficient chopping or sawing tools, Native American butchering was primarily a muscle stripping process potentially followed by bone fracturing for marrow or to process bone grease (Frison 1991). Even after the introduction of metal tools, evidence from postcontact Native camps, such as the Lykins Valley site, indicates butchering practices remained largely unchanged (e.g., Newton 2008). There is also some evidence that metal knives and axes may not have been traded in the numbers (and by inference not as preferred as) suggested by the popular narrative (Carlos and Lewis 2010).

Euroamerican butchering generally was heavily reliant on axes and saws when available. Animals were chopped or sawed into smaller portions to reduce carcasses into more manageable units for consumption. This would often result in bone-in cuts of meat and would leave distinctive butchering marks on the bone. The frequency and location of metal axe and saw marks, along with comparison in the location and types of bone breakage are used to demonstrate important differences between the faunal assemblages central to this study, as well as when compared with other previously analyzed assemblages from other trade posts, forts, and Indian camps and villages. These proxies are then used to discuss how Indian groups were provisioning the mountain men and the importance of Native influence.

The types of animals in these assemblages and the skeletal portions represented can be indicative of how and even where these animals were processed and in what types of packages they are being transported from the kill location and into these sites. And how this is reflected in the economic utility of the remains found at these trade posts is another means to understand the provisioning process. The control of game animals into these posts was an important aspect of the FTE success or failure of the mountain men. For example, were Natives bringing lower utility animal portions or did the traders at the fort have direct access to the game with which to provision themselves. In addition, this analysis will look for evidence of syncretism of butchering practices, particularly as these mountain men often had Native wives, who almost certainly took care of food preparation.

Both the FDCL and Fort Vasquez collections contained extensive archaeofaunas, excavated from permanent trade-based establishments. The LSRD sites, although much less

extensively excavated, were sampled at activity loci containing hearths and evidence of animal processing, which revealed animal remains representative of the species being consumed at these sites. These faunas demonstrate a varied diet through the numerous taxa represented. The analyzed faunal assemblage consists of 8,394 specimens from nine sites. The Fort Vasquez fauna accounts for 24.4 % (n = 2,044) of the collection, the FDCL fauna accounts for 37.4 % (n = 3,139) of the collection, the Lykins Valley site fauna accounts for 18.3 % (n = 1,533) of the collection, and the fauna from the six LSRD sites accounts for 20.0 % (n = 1,678). The LSRD sites are somewhat deceiving because the vast majority of these faunal specimens are small unidentifiable mule deer/pronghorn-sized or larger ungulate bone, which, though informative, do not lend themselves to species-specific discussions.

There are varied taxa represented in the FDCL and Fort Vasquez archaeofaunas (Table 10 and Table 11). These assemblages include mammals, birds, fish, and reptiles and these local taxa and domesticated species as well. The LSRD sites and Lykins Valley site are somewhat smaller and contain less identifiable taxa, primarily bison, deer, pronghorn, and elk for the former; and deer, pronghorn, bison, and horse for the latter. When the two post locations are compared in terms of overlapping taxa several interesting comparisons can be made based on the percentage the number of identifiable species (%NISP) account for in the overall assemblage (Figure 34).

Larger relative amounts of ungulates are found in the Fort Davy Crockett collection, which includes species (i.e., mule deer and elk) associated with the mountainous geography of the area. The larger amount of bison at the Brown's Park location versus the more classic bison habitat of the western Central Plains (Fort Vasquez) is particularly notable since bison appear to have been a successfully hunted animal in the nearby Little Snake River drainage according to historic accounts (see below). Less identifiable specimens such as ribs portions and/or other clearly portioned skeletal units that occur in the Fort Vasquez collection could be evidence that large mammals were being traded into the posts in pre-butchered units in a predetermined trading or provisioning strategy. This was a strategy wherein Native hunters largely controlled the menu and what was available to trade in terms of meat.

Skeletal elements from muskrat, bighorn sheep, black bear, and Colorado pikeminnow are found at Fort Davy Crockett and not Fort Vasquez; whereas eastern cottontail, prairie dog, coyote, skunk, pig, duck, sandhill crane, and mussel are found at the latter but not the

former. Fetal bison remains (n=56) at Fort Davy Crockett attest to an overwintering occupation.

Table 10. Fort Vasquez Archaeofauna

Class	Order	Family	Species	Common Name	NOS	NISP	%NISP _{Total}	MNI
Mammalia	Lagomorpha	Leporidae	Unspecified	Rabbit	1	1	0.1	na
			<i>Sylvilagus florandus</i>	Eastern Cottontail	1	1	0.1	1
	Rodentia	Castoridae	<i>Castor canadensis</i>	Beaver	2	2	0.3	1
			Unspecified	Rodent	17	11	1.6	na
		Sciuridae	<i>Cynomys</i> sp.	Prairie Dog	4	4	0.6	1
	Carnivora	Canidae	<i>Canis</i> sp.	Wolf or Dog	6	6	0.9	na
			<i>Canis familiaris</i>	Dog	6	6	0.9	1
			<i>Canis latrans</i>	Coyote	1	1	0.1	1
			<i>Mephitis</i> sp. or <i>Spilogale</i> sp.	Skunk	12	9	1.3	1
			<i>Antilocapra americana</i>	Pronghorn	11	11	1.6	1
			<i>Odocoileus hemionus</i>	Mule Deer	4	4	0.6	1
	Artiodactyla	Cervidae	<i>Cervus canadensis</i>	Elk	11	10	1.5	1
			<i>Bos</i> or <i>Bison</i>	Cow or Bison	9	9	1.3	na
			<i>Bison bison</i>	Bison	36	35	5.2	2
			<i>Sus scrofa</i>	Pig	1	1	0.1	1
			<i>Equus caballus</i>	Horse	3	3	0.4	2
			Size Class 1 ^a	Size Class 1 ^a	53	48	7.2	na
			Size Class 2 ^a	Size Class 2 ^a	182	67	10.0	na
			Size Class 4 ^a	Size Class 4 ^a	352	169	25.3	na
			Size Class 1-2	Size Class 1-2	24	4	0.6	na
Size Class 2-3 ^a			Size Class 2-3 ^a	82	26	3.9	na	
Unspecified	Unspecified	Size Class 2-4	Size Class 2-4	510	25	3.7	na	
		Size Class 3-4	Size Class 3-4	335	73	10.9	na	
		<i>Corvus</i> sp.	Crow or Raven	1	1	0.1	1	
		<i>Tympanuchus</i> sp.	Grouse	23	22	3.3	2	
Aves	Passeriformes	Corvidae	<i>Corvus</i> sp.	Crow or Raven	1	1	0.1	1
			<i>Tympanuchus</i> sp.	Grouse	23	22	3.3	2
	Galliformes	Phasianidae	Unspecified	Shorebird	6	6	0.9	1
			<i>Anas</i> sp.	Duck	1	1	0.1	1
	Charadriiformes	Charadriidae or Recurvirostridae	<i>Branta canadensis</i>	Canada Goose	12	3	0.4	1
			<i>Grus canadensis</i>	Sandhill Crane	5	5	0.7	1
	Anseriformes	Anatidae	Unspecified	Shorebird	6	6	0.9	1
			<i>Anas</i> sp.	Duck	1	1	0.1	1
	Gruiformes	Gruidae	<i>Branta canadensis</i>	Canada Goose	12	3	0.4	1
			<i>Grus canadensis</i>	Sandhill Crane	5	5	0.7	1

Class	Order	Family	Species	Common Name	NOS	NISP	%NISP _{Total}	MNI
Reptilia	Testudines	Emydidae	<i>Chrysemys</i> sp. or <i>Trachemys</i> sp.	Turtle	74	73	10.9	3
Actinopterygii	Cypriniformes	Cyprinidae	Unspecified	Carp or Minnow	4	4	0.6	1
Bivalvia	Unionidae	Unspecified	Unspecified	Mussel	3	3	0.4	1
Unspecified	Unspecified				222	na	na	na
Total					2,044	667		26

^aSize Class 1 (live body mass <22 kg), Size Class 2 (live body mass 22-113 kg), Size Class 3 (live body mass 113-340 kg), Size Class 4 (live body mass >340 kg) using a modified version of Brain (1981) body size class categories found in Hill (2007:423).

Table 11. Fort Davy Crockett Location Archaeofauna

Class	Order	Family	Species	Common Name	NOS	NISP	%NISP _{Total}	MNI
Mammalia	Lagomorpha	Leporidae	Unspecified	Rabbit	2	1	0.1	na
	Rodentia	Castoridae	<i>Castor canadensis</i>	Beaver	16	16	1.2	2
		Cricetidae	<i>Ondatra zibethicus</i>	Muskrat	5	5	0.4	2
			<i>Peromyscus</i> sp.	Deer Mouse	5	5	0.4	2
	Carnivora	Canidae	<i>Canis</i> sp.	Wolf or Dog	3	2	0.1	na
			<i>Canis familiaris</i>	Dog	21	21	1.6	2
		Procyonidae	<i>Procyon lotor</i>	Raccoon	1	1	0.1	1
		Ursidae	<i>Ursus americanus</i>	Black Bear	1	1	0.1	1
	Artiodactyla	Antilocapridae	<i>Antilocapra americana</i>	Pronghorn	7	7	0.5	1
		Cervidae	<i>Odocoileus hemionus</i>	Mule Deer	80	74	5.5	3
			<i>Cervus canadensis</i>	Elk	72	67	5.0	4
		Bovidae	<i>Bos</i> or <i>Bison</i>	Cow or Bison	45	31	2.3	na
			<i>Bison bison</i>	Bison	210	165	12.4	6
			<i>Ovis canadensis</i>	Bighorn Sheep	27	27	2.0	2
	Perissodactyla	Equidae	<i>Equus caballus</i>	Horse	2	2	0.1	1
	Unspecified			Size Class 1 ^a	57	43	3.2	na
				Size Class 2 ^a	319	208	15.6	
				Size Class 4 ^a	288	139	10.4	
				Size Class 1-2	113	79	5.9	
				Size Class 2-3 ^a	107	72	5.4	
				Size Class 2-4	743	69	5.2	
				Size Class 3-4	513	240	18.0	
Aves	Unspecified			Bird	10	7	0.5	na

Class	Order	Family	Species	Common Name	NOS	NISP	%NISP _{Total}	MNI
	Anseriformes	Anatidae	<i>Branta canadensis</i>	Canada Goose	5	5	0.4	1
Reptilia	Testudines	Emydidae	<i>Chrysemys</i> sp. or <i>Trachemys</i> sp.	Turtle	1	1	0.1	1
Actinopterygii	Cypriniformes	Cyprinidae	Unspecified	Carp or Minnow	42	40	3.0	na
			<i>Ptychochelilus lucius</i>	Colorado Pikeminnow	4	4	0.3	1
Unspecified	Unspecified				438	na	na	na
Total					3,139	1,334		31

^aSize Class 1 (live body mass <22 kg), Size Class 2 (live body mass 22-113 kg), Size Class 3 (live body mass 113-340 kg), Size Class 4 (live body mass >340 kg) using a modified version of Brain (1981) body size class categories found in Hill (2007:423).

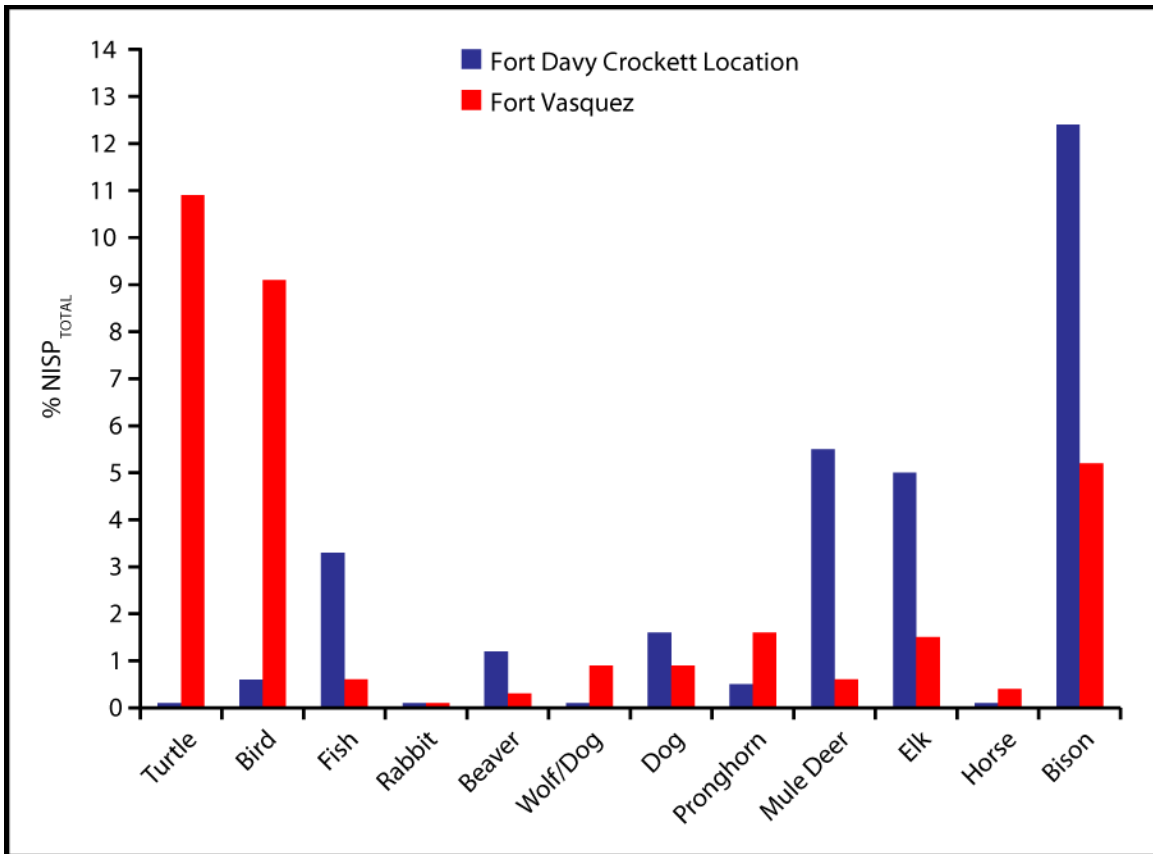


Figure 34. Species abundance comparison of FDCL and Fort Vasquez archaeofaunas.

The faunal assemblages from these sites are compared to (and included with) a sample of 35 excavated post-contact sites from North America with published faunal species tabulations (Table 12, Figure 35). The faunal analysis varies considerably among the sites—from very detailed species accounts to general and/or species-biased analysis using only common names—but there is internal consistency within the sample that supports the overall contention of provisioning differences between a self-supplied Native camp and a trading post dependent on trade to acquire meat.

The 42 site faunas (including FDCL, Fort Vasquez, and LSRD) are comprised of 291 identified genera and 226 identified species of fish, amphibians, birds, bivalves, gastropods, mammals, and reptiles. Many of these species appear only nominally in the sample and there are other instances of likely intrusive and/or non-consumed species found. As well, the upland sites are generally going to lack the aquatic or aquatic based species found at the sites along permanent waterways. However, location at or near permanent water is a site condition of increasing importance if occupational permanence is desired and as well introduces a greater variety of game animals.

Table 12. Comparative Sample and Study Sites General Characteristics

Site	Site Type	Location	Time	Reference
Lykins Valley	Native Camp	Foothills	ca. 1815-1840	Newton 2008
Rock Ranch	Native Camp	Along River	ca. 1800-1870	Zeimens 1987
Poison Basin #1	Native Camp	Upland	ca. 1820-1850	This Study (Newton 2012)
48SW13252	Native Camp	Upland	ca. 1820-1850	This Study (Newton 2012)
Anthill Knob	Native Camp	Upland	ca. 1820-1850	This Study (Newton 2012)
Jolley's Camp	Native Camp	Upland	ca. 1820-1850	This Study (Newton 2012)
Dugway	Native Camp	Upland	ca. 1820-1850	This Study (Newton 2013)
5RB18	Native Camp	Upland	ca. 1844-1915	Miller 2009
CA-Mno-2122	Native Camp	Desert Basin	ca. 1770-1860	Yohe 1995
Sand Wash	Native Camp	Upland	ca. 1800-1900	Murcay et al. 1993
5SM2425 Block I	Native Camp	Upland	ca. 1750-1850	Saysette 2001
Lubbock Lake	Native Camp	Upland	ca. 1650-1900	Johnson 1987
Fort Vasquez	Trade Post	Along River	1835-1842	This Study (Judge 1971)
FDCL	Trade Post	Along River	1837-1844	This Study (Walker 1982)
Fort Pierre II	Trade Post	Along River	1855-1866	Smith 1960
Fort Manuel	Trade Post	Along River	1812-1813	Mundell 1981
Kipp's Post	Trade Post	Along River	1826-1830	Woolworth and Wood 1960
Fort Clark II	Trade Post	Along River	1831-1860	Wood et al. 2011
Fort Bonneville	Trade Post	Along River	1832-1834	Current 1991
Yellow River Posts	Trade Post	Along River	1802-1804	Ewen 1986
Fort Churchill	Trade Post	Along River	ca. 1800-1860	Bobbie 2012
Fort Berthoud I	Military Post	Along River	1845-1862	Smith 1972
Fort Atkinson	Military Post	Along River	1820-1827	Carlson 1979
Bell Site	Native Village	Lakeside	ca. 1680-1730	Parmalee 1963
Scattered Village	Native Village	Along River	ca. 1650-1700	Cruz-Urbe 2002
Like-A-Fishhook Village	Native Village	Along River	1838-1887	Smith 1972
Knife River Villages	Native Village	Along River	ca. 1700-1862	Ahler et al. 1993
Lashley Vore	Native Village	Along River	ca. 1719-1750	Odell 2002
Arikara Cabin	Native Village	Along River	ca. 1850-1860	Falk and Semken 2014
Bryson-Paddock	Native Village	Along River	ca. 1660-1760	Hartley and Miller 1977
River Bend	Native Village	Along River	ca. 1650-1750	McKee 1988
Biesterfeldt	Native Village	Along River	ca. 1725-1775	Wood 1971

Site	Site Type	Location	Time	Reference
Stabaco	Native Village	Along River	ca. 1740-1750	Goedert 1995
Gilbert	Native Village	Along Creek	ca. 1750	Lorrain 1966
On-A-Slant Village	Native Village	Along River	ca. 1625-1785	Schubert and Cruz-Uribe 1997
Windrose Site	Native Village	Along River	ca. 1815-1825	Martin 2001
Zimmerman Site	Native Village	Along River	ca. 1673-1691	Cardinal 1975, Rogers 1975; Parmelee 1961
Cluny Site	Native Village	Along River	ca. 1740	Forbis 1977
Medicine Crow Site	Native Village	Along River	ca. 1700-1780	Toom et al. 1995
Big Village Site	Native Village	Along River	ca. 1775-1845	Jackson and Scott 1992
McLelland Site	Native Village	Along River	ca. 1650-1710	Kelley et al. 1996
Townley-Read Site	Native Village	Along Creek	ca. 1715-1754	Watson and Thomas 2013

This variety, as modeled, includes species (e.g., fish and waterfowl) more likely due to their territorial and behavioral nature to occupy suitable habitat repeatedly even in proximity to an established post, fort, or village. Acquisition of these species is not always the targeted hunt in the sense of a bison or deer hunt, but given the right circumstances, these species are obtained relatively easily and could definitely become important during times of ungulate provisioning stress. Commensal taxa, both alien and allochthonous, along with non-culturally introduced intrusive species certainly account for some of the animals within these assemblages (e.g., the rats at Fort Clark [Abel 1997]), and these animals are not included in the forthcoming analysis.

When comparing the sample three distinctions were made: Native camps, Native Villages, and Forts or Posts. Camps were occupied by smaller groups for shorter periods often away from large permanent water sources, less and/or more ephemeral habitation structures, no evidence of storage, no historic record of location. Villages had larger populations than posts (minus adjacent trading camps) and longer occupation lengths than forts or posts. Species counts were used to show the diet breadth and number of large fauna utilized at each of these sites. The following argument draws on these data to further show inconsistencies between the expected species and/or food utility and the recovered

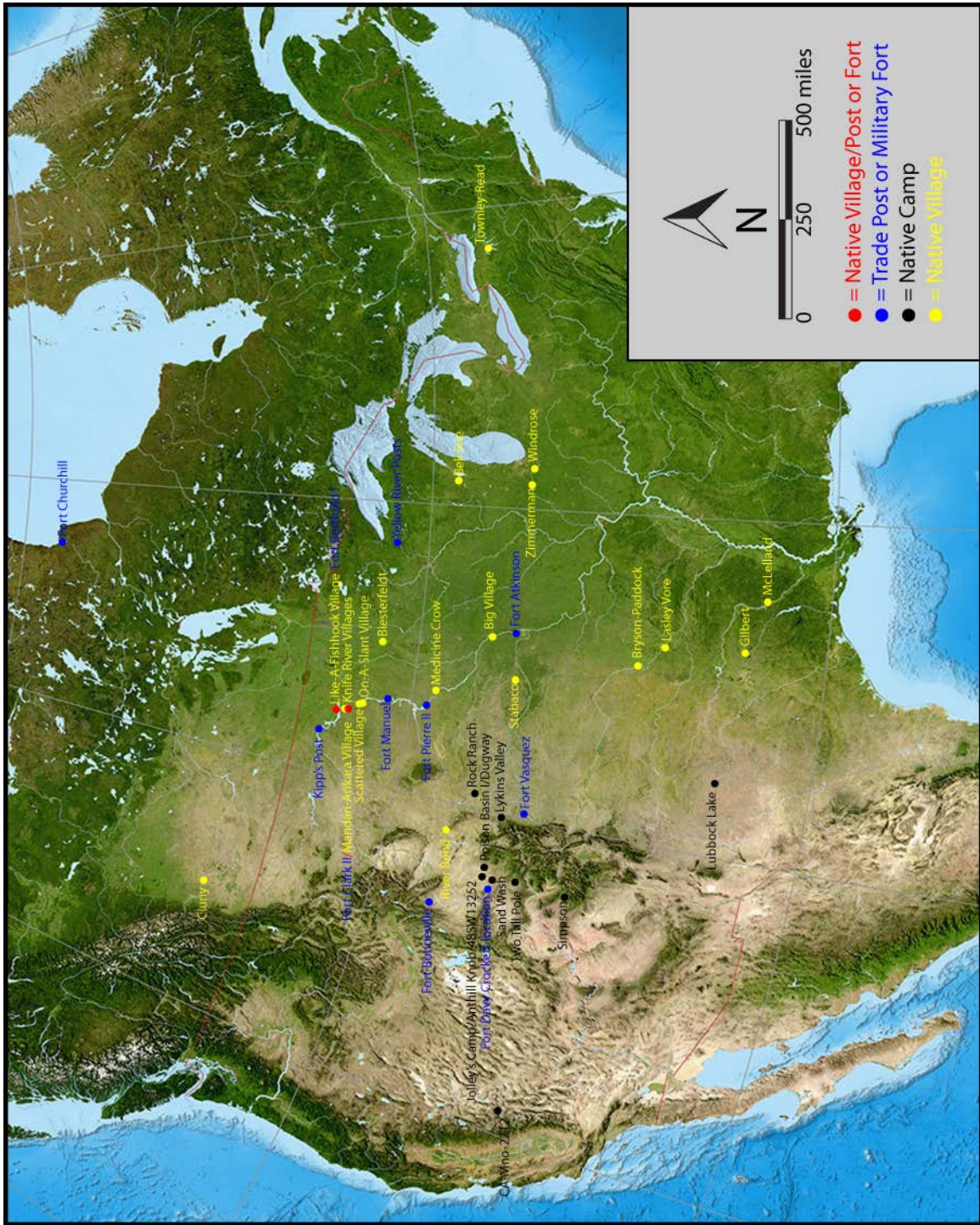


Figure 35. Map of sites in comparative sample.

Table 13. Average Number of Species by General Animal Class

Site	Mean Number in Class						Average
	Fish	Amphibian	Bird	Mussel	Mammal	Reptile	
Native Camp (n = 12)	0.1	0.1	1.4	0.1	4.8	0.7	12.0
Native Village (n = 19)	6.6	0.6	6.3	2.3	15.4	2.9	42.6
Trade/Military Post (n = 11)	1.5	0.1	4.5	0.1	9.3	0.4	24.1

archaeofaunas, which in turn show patterns consistent with the Indian provisioning of these posts.

The sample shows a clear pattern of more species at the forts, posts, and villages than the Indian camps (Table 13). Given the population of the former site types and lengthier occupation this pattern is intuitive. More people living in one place longer are going to eventually end up bringing more animal species back to their camp or post. Also, when one considers the overall impact of hunting out of a permanent or semi-permanent base there is going to be game animal depletion and increasing or continuing use of lower utility game easier to procure and/or less apt to be run off by hunting pressure (Martin and Szuter 1999). These would be animals such as waterfowl, fish, and smaller terrestrial game like rabbits and ground birds.

This relationship between the number of species and site type has an inverse relationship to the number of non-domesticated large mammal species (LMS) found at these sites (Figure 36).⁶ Assuming Indian villages were generally larger and occupied longer than Euromerican posts or forts, there is a clear correlation between the species counts and site size. The species counts show lower LMS counts and increasing diet breadth at more economically central locations. Conversely, there is less diet breadth and increasing utilization of LMS at the hinterland camps. This sets up a situation where high utility game animals (which roughly correlates with animal size) may eventually be overexploited or driven away from the trading posts and villages leading to a need at these locations for these game animal resources.

The species counts in no way give equal importance to every taxon since large mammals such as bison are the most numerous in most Plains Village assemblages and a major constituent of their diet (Ahler and Kay 2007; Mitchell 2011:122–123). The species counts simply show that more animal species were exploited as a location was occupied longer and that trade and military posts fall in the middle of the range indicating these types of sites differed from self-supplied

⁶ Large mammal species is used here to indicate an animal that can weigh 100 pounds or more.

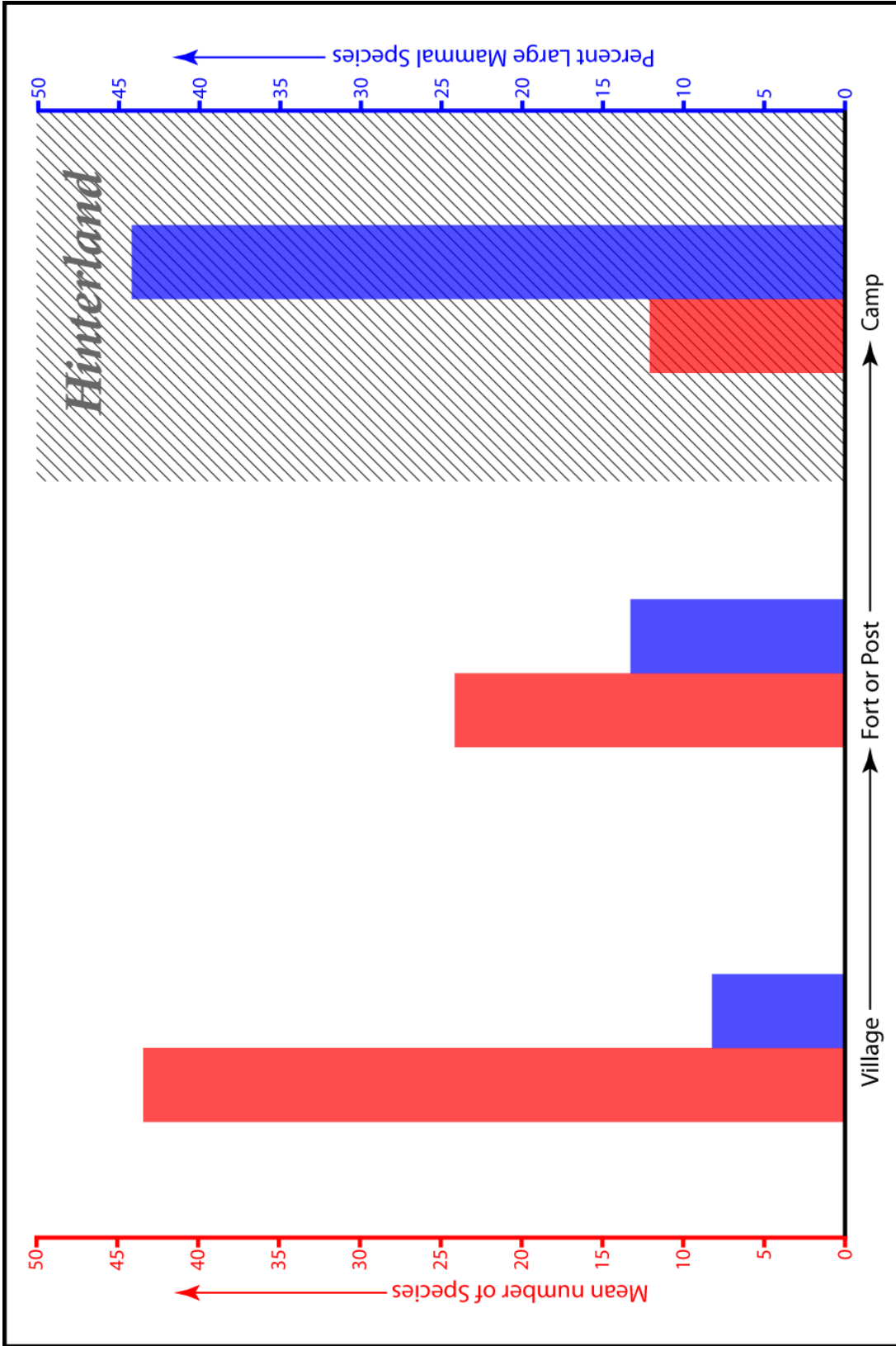


Figure 36. Species diversity and LMS percentage comparison.

Native sites. These numbers also demonstrate a preference for mammals as a food resource particularly in the trading posts.

The Indian villagers could also find themselves in a situation where animal resources such as bison are protected and only allowed to be procured in structured hunts (see Binnema 2001; Couess 1898; Isenberg 2000). The surrounding hinterlands provided more large game and these areas were controlled by the Indian groups who provided the animal food resources the mountain men depended on. The faunal assemblages also demonstrate how these resources were being transported back to the posts.

Shannon's Evenness Index is a measure used to show the transport strategy used to move the animals to these sites. This measure provides a numerical value between zero and one derived from measures of the minimum number of elements (MNE) and skeletal portion utility in terms of caloric return indicative of a type of transport strategy (Faith and Gordon 2007). Transport strategies derived by Binford (1978) based on skeletal portions, abundancies, and utility include a bulk strategy where all but the lowest utility elements are maximized, a gourmet strategy where the quality of elements is maximized, an unbiased strategy where elements are transported in direct proportion to their economic utility, and an unconstrained strategy (Faith and Gordon 2007:872–873). The values derived for different species show a lack of gourmet transport strategies (Table 14). These transport models fit well in the post-horse era where gourmet choices are not as important given the transportative capabilities provided by the equine. As well, these values also demonstrate lower utility elements are being brought at these sites.

Another way to look at transport patterns or animal body part selection for consumption is to show the amounts of different skeletal portions based on the economic utility of each portion. As alluded to with the Shannon Evenness Index analysis of transport strategies, the patterning of these assemblages has important implications as to how large mammal game was brought into these sites. The following analysis uses these measures of utility compared to the frequencies of skeletal elements to, again, show how self-supplied Native sites differed from the trade posts.

Based on a thorough analysis of the nutritional values of a bison broken down skeletally, Alice Emerson (1990:624) provides values and ranks the different skeletal portions based on the modified average total products (AVGTP)—the total nutritional values of the meat and bone from each skeletal region—based on four modern bison. A scatterplot of bison representation based on AVGTP values shows differing patterns of animal utility among the compared sites

Table 14. Transport Strategy Indicated by Shannon Evenness Index (E)

Site	Species	MNE	E	Transport Model
FDCL	Bison	62	0.860	Unbiased
	Elk	43	0.882	Unbiased
Vasquez	Bison	48	0.952	Bulk/Unconstrained
	Elk	8	0.885	Unbiased
River Bend	Bison	712	0.839	Unbiased
Lykins	Bison	36	0.915	Unbiased/Bulk
LSRD	All	9	0.912	Unbiased/Bulk

Source: Transport model based on comparison to Faith and Gordon (2007:Table 4)

(Figure 37). Although no one assemblage shows an extremely strong pattern, the trend lines indicate the two post locations tend towards an unbiased strategy of skeletal element frequency increasing in direct proportion with utility, while the camp (Lykins Valley site) and village (River Bend site) trend more towards an unconstrained strategy where all the animal is brought back to camp. These patterns suggest the trade posts were being selectively provisioned as opposed to the self-supplied Indian camp and village that were provisioned with largely complete animals.

This oppositional patterning is also present when the large ungulate (bison and elk) components from FDCL and Fort Vasquez are compared to the postcontact assemblage from On-A-Slant Village (Figure 38). Using another measure of skeletal utility, the food utility index (FUI, Metcalfe and Jones [1988]), the negative trend of the village is thought to indicate lack of transport constraints or utility choices (Cruz-Uribe 1997:121–122), whereas the trade post assemblages show a trend towards an unbiased strategy and a selective provisioning of these locations.

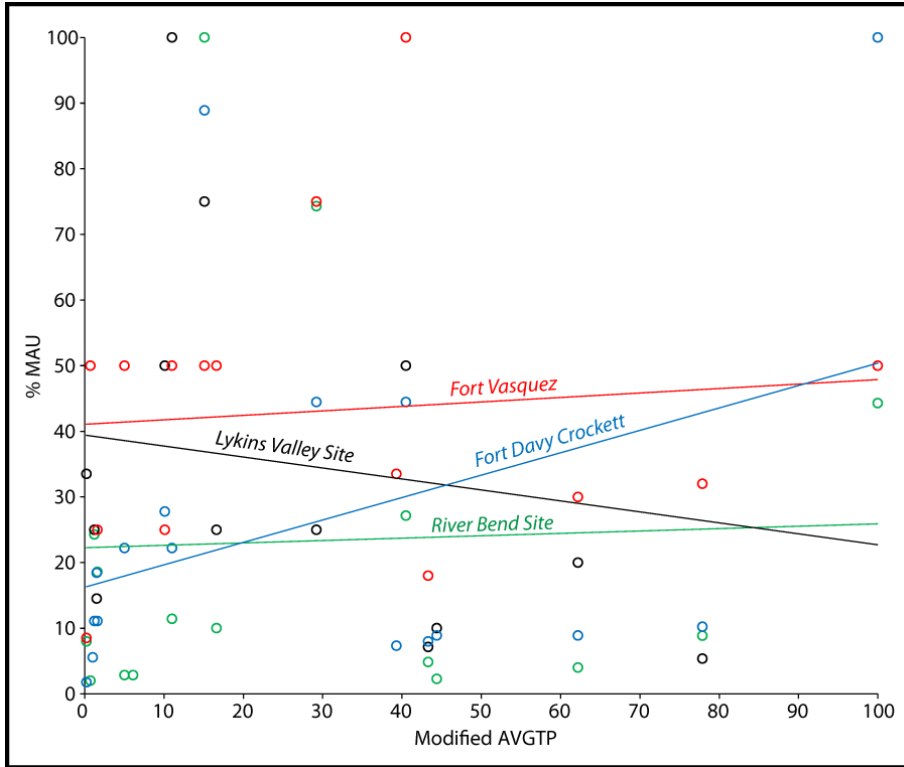


Figure 37. Comparison of bison transport strategies.

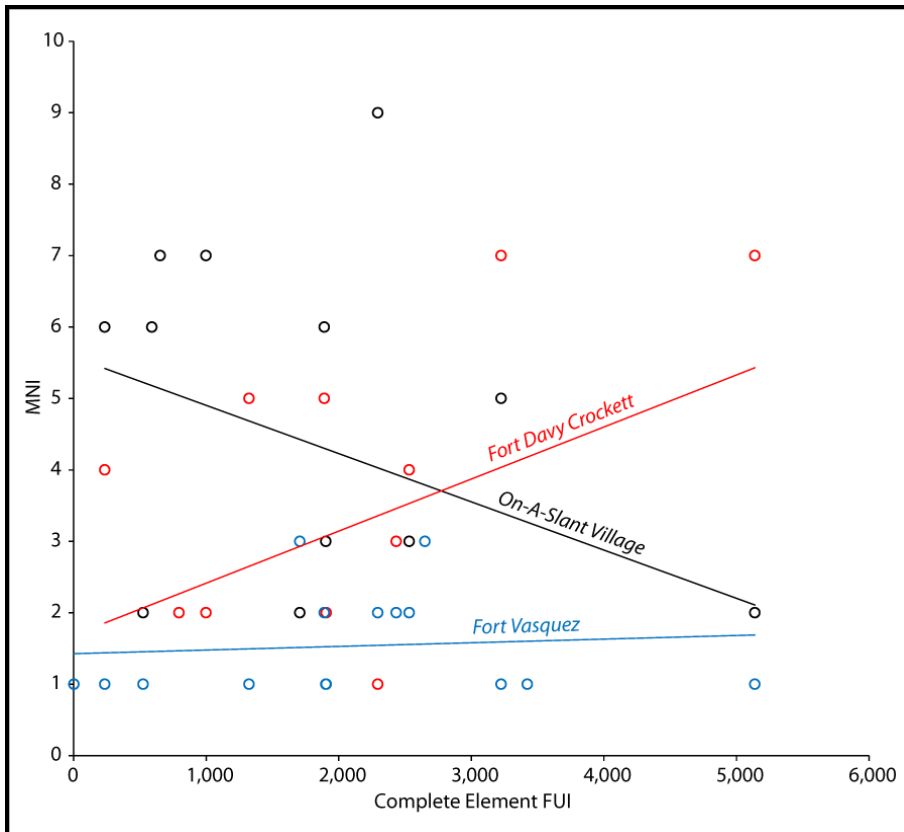


Figure 38. Comparison of transport strategies for bison and elk.

Ribs

Similarly-sized butchered bison and/or elk rib portions are found in both the FDCL and Fort Vasquez faunal assemblages. Ribs and rib portions are quite common in most assemblages since they are numerous in the ungulate skeleton ($n = 28$) and fragment and/or split frequently. However, the ribs portions in these two assemblages were oftentimes chopped at one or both ends with an edged metal tool, likely an axe (Figures 39). These rib segments were remarkably similar in length (Figure 40). The lengths of measured ribs with chopped or green fractured ends from Fort Vasquez ($n = 32$) and FDCL ($n = 76$) cannot be statistically differentiated ($t = -.012$, $df = 106$, $p = .990$) with average lengths of 130.40 mm ($\sigma = 41.77$ mm) and 130.52 mm ($\sigma = 50.14$ mm), respectively. This length equals approximately 5.1 inches which as a diameter could mean these ribs were being chopped up to fit in a relatively small kettle, perhaps a ½ gallon size.

The standardized chopping of ribs was noted in a previous study of the FDCL fauna by Danny Walker (1983) who interpreted this as sizing to fit into cooking pots for marrow and grease extraction. This interpretation also has a basis in the historic accounts of food shortage at the post. However, the numbers of ribs found at Fort Vasquez and the FDCL are higher than expected when compared to the rest of the assemblage based on the calculated minimum number of elements (MNE). The MNE is calculated as the total of the complete ribs and non-overlapping proximal and distal rib portions.

The ribs found at the FDCL and Fort Vasquez are higher in relation to the ribs found at a comparable Late Prehistoric bison kill sites, particularly in the processing area, and Native villages/campsites (Figure 41) (Frison 1970, 1973; Miller and Burgett 2000; Speth 1983). Compared with high utility femur MNE percentages (using z-scores) shows these elements have less variance among the sites and in more cases are overrepresented versus the ribs (Figure 42). These values show divergent patterning indicative of choice rather than non-differentiated animal use.

The rib percentages are higher than expected at the posts particularly when compared to kill site locations where ribs are often left and not extensively processed elsewhere. The ribs amounts left at the kill site are the closest to the amounts found at the posts and indicate ribs were generally not transported to the degree other elements were in purely Native and pre-horse



Figure 39. Magnified view of typical V-shaped edged metal cut on Fort Vasquez bone.



Figure 40. Typical chopped rib from Fort Vasquez.

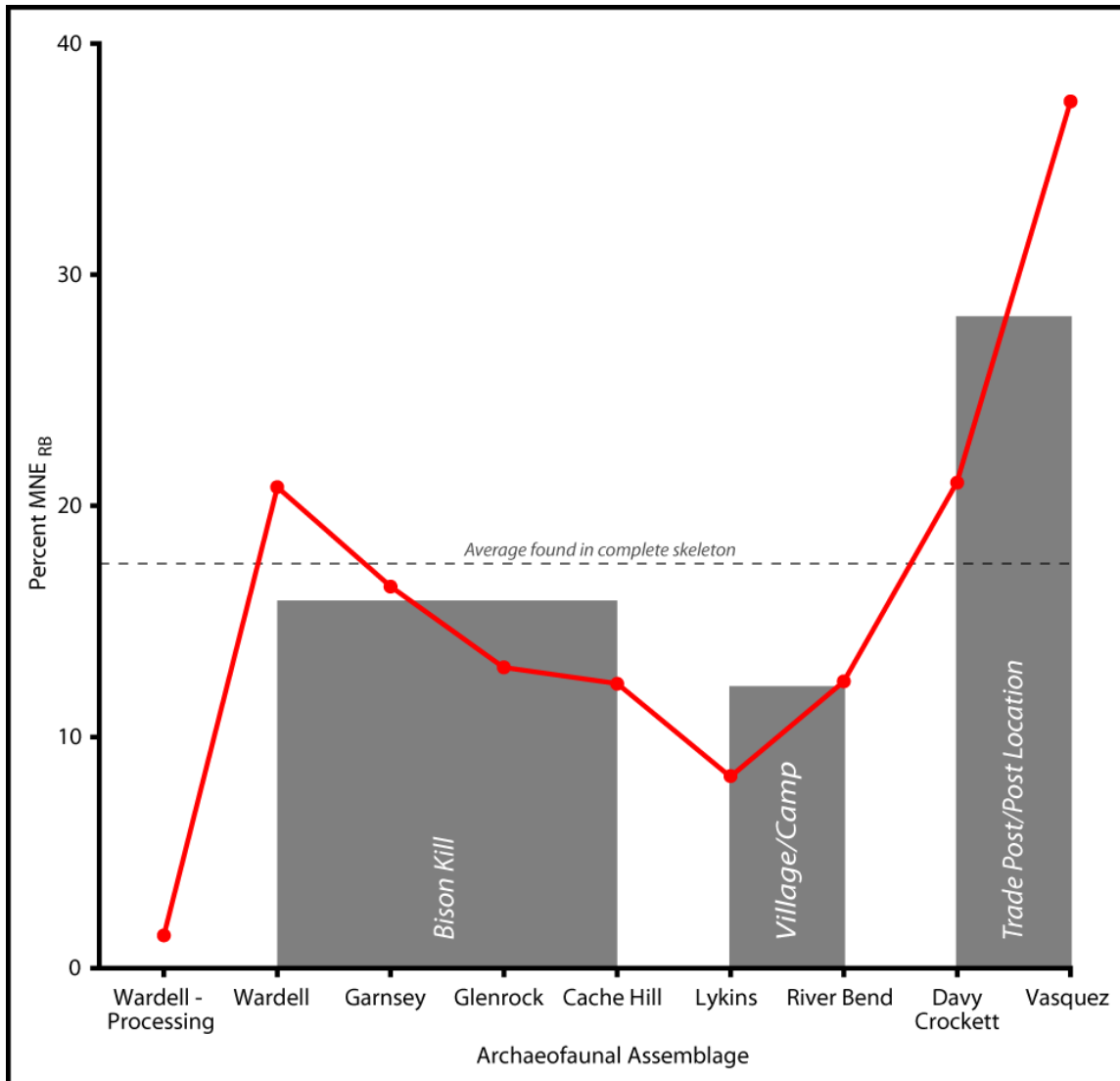


Figure 41. Comparison of percentage of ribs found in different site types. Height of gray columns is average for each site type, and complete skeleton average is based on bison skeletal frequencies.

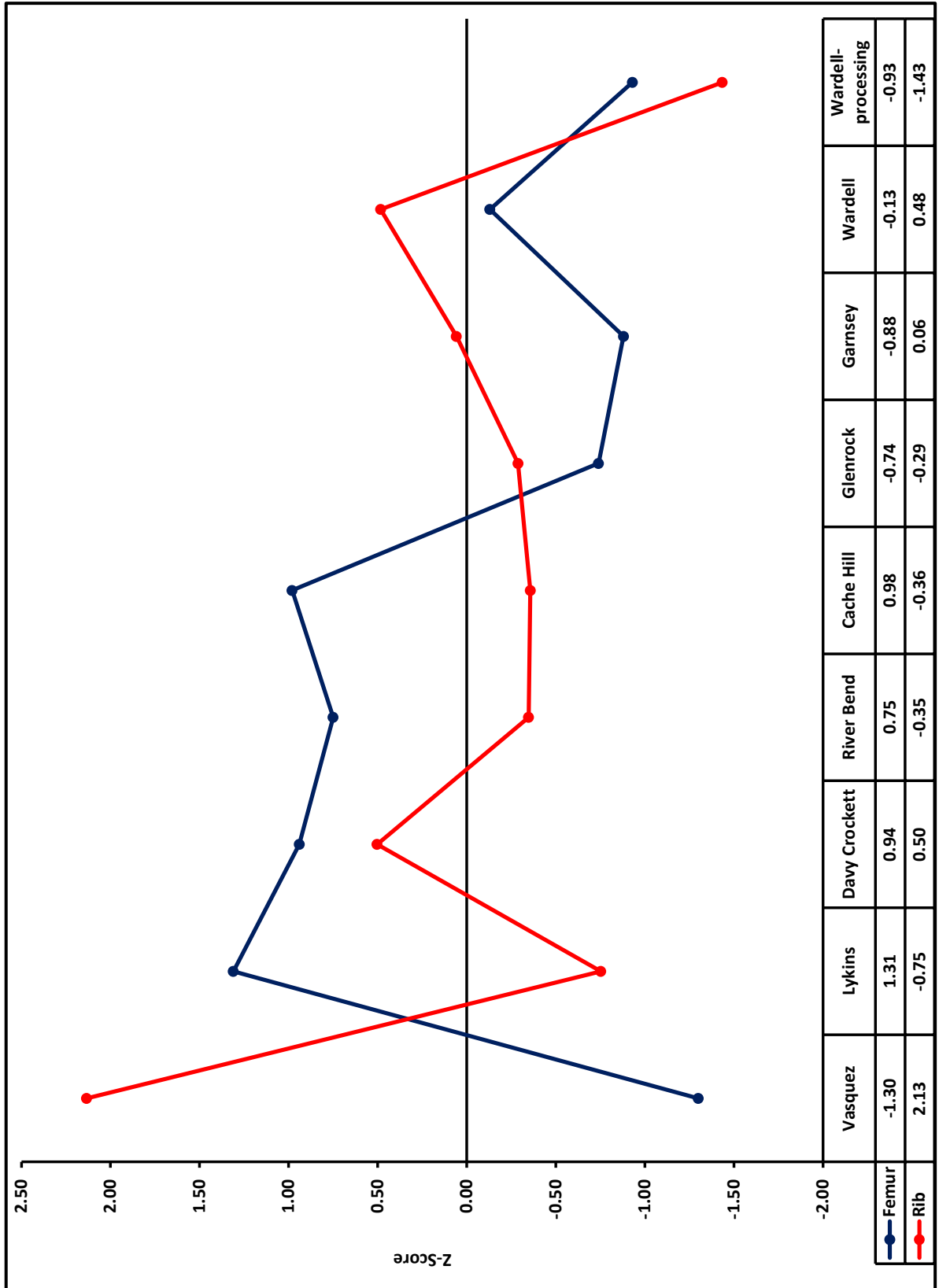


Figure 42. Z-score comparison of femur and rib MNE percentages.

contexts. The comparative lack found at the Lykins Valley and River Bend sites demonstrates the typical lack of ribs transported back to equestrian hunter-gatherer sites.

On the surface, the ungulate rib cage may seem to be a lower utility skeletal portion commonly left in place of portions containing more meat and larger marrow cavities, and this seems to be a consistent pattern in prehistoric sites. However, Emerson (1990) demonstrated the rib portion of a bison skeleton has in fact the highest utility or total product value when considering all the grease, marrow, and muscle available from a complete rib cage. This is important when considering the higher than expected rib amounts at the trading posts.

Ribs are a high utility item seemingly less preferable to equestrian hunter-gatherers than other meaty parts of the skeleton. They lacked thickness or mass so were easily removed from the carcass, particularly with a metal axe, and could have been quickly dried as a complete sided unit. Ribs could be efficiently stacked creating a commodity that was relatively easily transported in significant amounts on horseback from the butchering location to the trade post. This created an interesting opportunity for Native groups in that they could provide a high utility portion of the carcass—one they did not prefer—to the mountain men while keeping other, more preferable, portions for themselves.

The comparatively higher rib MNIs of the posts reflect this scenario and support the argument that these posts were being provisioned by Indian hunters. This was an additional but extremely important part of the animal skin trade that took place alongside the more prominent bison robe and animal fur trade. The provisioning trade demonstrates the economic savvy of the Indian groups and their ability to control multiple important aspects of the mountain man existence in the study region.

CHAPTER 7: CONCLUSIONS

We live in time and through it, we build our huts in its ruins, or used to, and we cannot afford all these abandoning.

—Wallace Stegner (1971:18)

These collections provide the means to examine Native influence in the FTE at several different scales of proximity to Euroamerican trade centers. The Fort Vasquez collection is from the interior of a post and contains samples of the types of trade goods offered to the Native groups bringing in the bison robes and the faunal remains of the animals the Euroamerican traders were consuming. The Fort Davy Crockett trading location collection represents a near-post assemblage, likely outside refuse middens, containing trade goods exchanged to the Native groups and the remains of the animals consumed at the post. The Little Snake River drainage sites represent isolated Native camps distant from trading centers.

In the early nineteenth century, the advent of the fur trade in the western Great Plains and adjacent Rocky Mountains provided European-derived trade goods in larger and more consistent quantities than previously known. As the economic dynamics changed, so too did the social interrelationships between Plains and Rocky Mountain Indian groups. Archaeological study of early to mid-nineteenth century equestrian hunter-gatherer camps along with Euroamerican trade posts demonstrate the adaptive and resilient nature of extant Native American societies who, in turn, influenced and/or dictated the success or failure of Euroamerican economic endeavors during this time. The use of archaeology to help understand this frenetic time and help to center the Native American actors who profoundly influenced this narrative is essential.

It has proven extremely difficult, if not impossible, to get a direct 1:1 correspondence of archaeological site and/or signature to ethnic group, particularly after European contact. The social and territorial upheaval, constituent ethnogenesis, and polyethnic societies that developed out of the postcontact milieu bring into question the utility of looking for ethnic correspondence in the archaeological record. However, by understanding the different responses or adaptations of Native groups and bringing in environmental differences and effects, these Native histories can still be written. Questions of ethnicity, while important, have proven relatively inaccessible in the hunter-gatherer archaeological record, particularly when the archaeological signature is largely homogeneous partially because trade goods are being acquired from the same sources.

Yet, by asking different questions and continuing to gather archaeological information, a greater understanding of the FTE interactions between Indians and traders is achievable.

Robust theories of materiality and daily practice incorporating an understanding of historiography have advanced contact studies. And through continued documentation of sites and artifacts, knowledge, understanding, and comparative data accumulates. These persistent studies will provide a more nuanced reading of the postcontact record. Whereas early archaeologists had more consistent access to pristine or robust sites, modern archaeologists have larger datasets, greater accessibility to extant data, and more intensive investigative techniques and analytical tools.

There have been some key interpretations about colonial and so-called tribal relations, when incorporated into current models, that provide a much more balanced and even nuanced view of the post-contact and historic relationships between Native groups and the colonists. Hunter-gatherer mobility and flexible social structure are seen by some to have given these groups the cultural and subsistence characteristics to remain autonomous despite many decades or centuries of extended contact with colonial processes and imperial nations. This happened with many groups, particularly those that became equestrian, such as the Comanche of the Southern Plains and the Araucanian groups of the Southern Cone (Hämäläinen 2008; Mitchell 2015; Weber 2005).

Although these groups felt the continued presence of colonial states socially economically and politically, they were still able to exist in the tribal zone as distinct peoples (Palka 2005:31). It is the neighboring indigenous groups that play a more significant role in the cross-cultural interaction and culture change; indigenous to indigenous contact is often more long-term, more influential, and generally more important than the historic emphasis placed on colonial contact and culture change (Ferguson and Whitehead 1992; Palka 2005:31–32). However, during the period studied here the relations with the traders was equally important and long-lived. Trading relations often reflected in the strength of the various groups in the region and how they fared in relations with other tribes.

In his important historical and archaeological study of the Lacandon Maya, Joel Palka (2005:164–165) used historic accounts to aid in the archaeological interpretation of useful artifact abandonment at nineteenth century Lacandon and Yucatec sites. Increasing Ladino settlements and trading opportunities meant useful traded goods such as machetes, axes, knives,

traded ceramics, and glass bottles could be re-acquired easily (Palka 2005:165). Purposefully leaving all of the items found in these camps seems extreme, as most certainly some of these items were simply lost. However, the larger point of increased access to trade items is important and applicable to western North America. Conversely, this increased trade good access also provides import to those situations where Indian groups were actively avoiding Euroamerican materials.

Palka (2005:192–193) indicates cultural continuity or resistance as a possible reason Lacandon Maya sites considerably lack the quantity and variety of Western goods found at a neighboring and contemporaneous historic village likely primarily populated by Yucatec Maya. Although other reasons are certainly possible this example demonstrates how important it is to understand why trade items are lacking from sites which conceivably had ready access to these items (Palka 2005:193).

Developing postcontact Native histories incorporating the archaeological record as an archival source not only requires competent data gathered from post-horse sites, it also calls for an understanding of what can reasonably be interpreted from the record. The involvement of multiple lines of evidence from different disciplines is necessary for sophisticated interpretations and to create a robust narrative. Using analytical tools developed in other disciplines has long been a staple in archaeological research and the study of post-horse hunter-gatherer groups in the study region can certainly benefit from these applications.

Judicious use of historic sources is essential, and analyses of extant collections are a crucial component of this research. European-derived trade good collections have been amassed throughout the study region in both professional and private capacities. Analyses of these collections, even if provenience data is lacking or coarse, can generate comparable data to that produced through firsthand fieldwork. These approaches to understanding the indigenous post-horse period will certainly benefit from the scientific methodology. However, it is imperative the narrative remains true to the people who lived out their lives at these sites and in this region, without forgetting their descendants are still here, with worldviews and life experiences shaped by this past.

Because of its first-order narratives of diminishing hegemony and eventual colonialist subjugation, the postcontact era is synonymous with all that is negative about cultural and technological contact. The ultimate outcome for the Native groups in the western Central Plains

and adjacent Rocky Mountain regions was the loss of their hunter-gatherer lifeways, cultural suppression and even removal. However, there was a time, albeit brief, before the scales tipped in favor of the colonizers, when Native groups enjoyed the newfound materials and technologies introduced from Europe and certainly benefitted from their appearance. For this brief period, the horse in particular helped create a quality of life whose skeletal nutritional expression led to the tallest stature in the world at the time (Prince and Steckel 2003). This is not to say there was not tremendous upheaval, loss of people and cultural capital, particularly through epidemic disease transmission; however, the one-sided postcontact narrative of the steady diminishment of Native quality of life is simply not true.

This study analyzed both trade goods and bone to look at how equestrian hunter-gatherers interacted and/or influenced the trappers and traders of the early nineteenth century. Data from these artifacts placed in their contemporaneous environmental and social context indicates the trading posts of the FTE in the study region were providing a similar suite of goods to trade while taking in a consistent traded item. Aside from the furs and bison robes that are well documented, this study argues the provisioning of game for Euroamerican consumption at the posts explains part of the faunal patterning seen at the FDCL and Fort Vasquez and there is a remarkable consistency in butchering practices at these locations. These are butchering practices and skeletal representation that are different from hinterland Indian camp or village assemblages.

It is true Native peoples on the ground during this time witnessed and were caught up in some abhorrent events; but they also witnessed, were presented with, and took advantage of some amazing things. Selectively and actively indigenous groups chose to adopt European-derived goods and technologies, horses and metal goods chief among these. The indigenous groups of the post-horse period maintained autonomy over those with European ancestry in many parts of the region well up into the nineteenth century, ostensibly controlling both trade and territory. The archaeological record is an inclusive archive that affords us the opportunity to understand historically peripheral post-horse hunter-gatherers in contexts that provide insight into their daily lives and choices. This ethnohistory demonstrates how reasoned and adroit trading and social interactions with the mountain men provided both opportunity and affluence for the entrenched equestrian hunter-gatherer cultures of the western Great Plains and neighboring Rocky Mountain regions.

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