THE BEAR IN THE FOOTPRINT: USING ETHNOGRAPHY TO INTERPRET ARCHAEOLOGICAL EVIDENCE OF BEAR HUNTING AND BEAR VENERATION IN THE NORTHERN ROCKIES

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THE BEAR IN THE FOOTPRINT: USING ETHNOGRAPHY TO INTERPRET
ARCHAEOLOGICAL EVIDENCE OF BEAR HUNTING AND BEAR VENERATION IN
THE NORTHERN ROCKIES

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The Bear in the Footprint: Using Ethnography to Interpret Archaeological Evidence of Bear Hunting and Bear Veneration in the Northern Rockies

Chairperson: Dr. Douglas H. MacDonald

Abstract

Archaeological evidence of prehistoric bear hunting and bear veneration in the northern Rocky Mountains and northwestern Plains is presented. Ethnographic documents and the writings of trappers, traders, and explorers are assessed in order to establish an interpretative framework to help decipher archaeological contexts in the region that include bear remains and rock art depicting bears. Examining prehistoric archaeological contexts in Montana and Wyoming within this framework suggests evidence of bear hunting and veneration similar to the regional ethnographic record. Data trends imply there may be a relationship between such sites and variables like site location, seasonality, function, and age. Contexts with bear remains were regularly located along stream corridors, and several sites showed winter occupation and hints of the ritual treatment of bear skulls and paws. An apparent increase in hunting during the Late Prehistoric Period was likely affiliated with warfare and healing. Compatible theoretical approaches are articulated in an effort to more clearly understand bear hunting and veneration in ecologic, symbolic, and utilitarian terms. Possible motivations include economic, social signaling, bear power attainment, and revenge incentives. Multiple archaeological signatures are forwarded at the conclusion that may indicate bear veneration, help identify and locate such sites, and enlighten our knowledge of specific hunting practices and potential motives.
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Chapter 1: Introduction and Background
This paper examines ethnographic literature and historical accounts regarding bear hunting and veneration among indigenous groups of the northwestern Plains and Rocky Mountains to improve understanding of archaeological contexts with bear faunal remains, trapping structures, and rock art in Montana and Wyoming. Native attitudes towards bears, hunting techniques, and descriptions of various bear ceremonies and symbolism are scrutinized to build an interpretive framework for recognizing signatures of bear hunting and veneration in the past. Aside from a middle-range approach, other theoretical lines are considered to help understand the motivations for bear hunting and veneration which include ecologic, symbolic, economic, and social facets. Once this interpretive framework is established, archaeological contexts from the northern Rockies and northwestern Plains are examined. The results suggest prehistoric precedents of ritual treatment of bear bones, bears affiliation with war, and hunting tactics similar to ethnographic cases. Some patterns are evident regarding site location, seasonality, function, and age. Several postulates are offered that characterize different site types with bear remains as well as human attitudes that can be deduced from those remains. The success of these postulates will depend on whether they can be applied to the archaeological record (Binford 1997).

There has been a particular fascination with the ursidae family for much of human history. Archaeological evidence suggests this captivation may have extended back tens of thousands of years. Certainly the bear’s physical strength and sometime ferocity have much to do with these feelings. Animals capable of attacking and killing humans are frequently regarded as spiritually powerful by indigenous peoples (Comeau 1996). A Blackfoot chief recalled that the two animals that the Blackfoot feared most were a grizzly bear and a bull moose in rut (Lancaster 1966:253). Among the Californian tribes, women went out together on gathering forays in part to protect
against grizzly attacks (Jorgensen 1980). Yet fear alone does not explain our longstanding fascination with bears.

There are other attributes that have fueled peoples intrigue with these animals. Their likeness to humans certainly has contributed to our fascination with them. A skinned bear strikes a disturbing resemblance to a person. Bears will stand on two feet and many of their movements and behaviors are humanlike. A mother bear’s strong protective instincts are surely why they have been consistently linked with maternity (Barbeau 1946). Their ability to overwinter and emerge every spring fascinates us; it likely has held profound symbolic meaning to people since time immemorial. Their diet resembles that of a human hunter-gatherer. Bears affinity for certain plants and knowledge of the location and lifecycle of edible vegetation probably contributed to the belief of many indigenous groups that regarded the bear as a healer well-informed in medicinal herbs. Beyond brute power, these other attributes of the bear have not been overlooked by humans.

Ethnographic accounts of indigenous hunter-gatherers depict a broad range of views towards bears. The bear was imbued with a collection of sentiments and associations including rejuvenation, strength, sustenance, healing and medicine, warfare, fertility, death and rebirth, abundance, transformation, social status, shamanism, sorcery and hunting magic. Myriad other beliefs and customs are found associated with bears. The Lower Thompson Indians believed the killing of a bear could cause a change in the weather (Teit 1900, 1906). Among several northern Rockies tribes there was an established connection with bear and thunder (Schaeffer 1966). For some groups it was taboo to consume bear or touch a bear skin. Navajo men would usually not touch remains of bears and women were not allowed to touch a bear hide or enter a dwelling through a bearskin door (Dobie 1937). Several groups had a taboo against eating bear and they
were only killed for ceremonial paraphernalia or retribution. Hultkrantz (1961) writes that a Shoshone with a bear spirit guide could kill but not eat a bear. There was certainly a wide geographical distribution of bear ceremonialism among the higher latitudes of North America and Eurasia; however this behavior was manifested in a variety of ways.

Prior to examining the ethnographic and archaeological evidence of bear hunting and bear veneration in the northern Rocky Mountains in detail, a brief background is presented, theoretical approaches are discussed, and information on basic ecological and behavioral information regarding bears is reviewed.

**Background: Prehistory**

A brief mention of what is meant by ritual and ceremonial behavior should be clarified. This paper enlists the terms loosely. An adapted internet dictionary defines ritual as "*a stereotyped sequence of activities designed to influence entities or forces on behalf of the actors' goals and interests.*" Ritual can be anything from a handshake to wearing a grizzly claw in one’s hair—both have symbolic meaning. Ceremony in this paper refers to formalized rituals, primarily in an ethnographic context. Ceremonies are basically a collection of rituals or customs. For example the Bear Dance and Medicine Pipe Bundle are (or involve) ceremonies. On the other hand, the offering of tobacco to a dead bear or preferring to kill bears by use of certain weapons and techniques is considered ritualistic.

The antiquity of bear hunting and bear veneration has been a subject of debate. Cave bear and archaic human remains have been found together in cave deposits several hundred thousand years old in Greece and Germany (Kurten 1976:40). The Middle Pleistocene layers in Yarimburgaz Cave in Turkey date to approximately 250,000 years old and are rich in cave bear remains and stone artifacts (Stiner 1999:43). However, these contexts have been interpreted as occupational overlaps as opposed to settings where archaic humans were hunting cave bears.
(Kurten 1976; Stiner 1998, 1999). More reliable evidence for bear hunting may be suggested as early as the Middle Paleolithic period in Europe and certainly by the Upper Paleolithic. Some of the hallmarks of bear ceremony evidenced later in North America show similarities with Gravettian cultures in Europe between 30,000 and 20,000 years ago. These hallmarks include the inclusion of canines in burials, the use of ochre on paw and cranial elements, and the deferential treatment of skulls compared with other bear bones. The oldest unambiguous evidence for bear veneration has been suggested from ochre marked cave bear bones from a Belgian cave dated to approximately 26,000 BP (Germonpré and Hämäläinen 2007). Around the same time bears began being portrayed in pictographs in Chauvet Cave walls in present day France. More than 25,000 years ago there is secure evidence for bear hunting and a reverential attitude towards bears among some peoples.

In North America it would appear the earliest arrivals were hunting bears and subjecting bear bones to ritual treatments. McLaren et al. (2005) concluded that bear hunting along the Northwest Coast of North America during the terminal Pleistocene/Early Holocene transition was undertaken for both ceremonial and economic purposes based on differential treatment of bear remains. Late Pleistocene deposits in Blue Fish Caves in the Yukon Territory contain grizzly bones bearing cut marks (Cinq-Mars and Morlan 1999). Modified short-faced bear bones were found in the Clovis layers at the Lubbock Lake site in Texas may support the presence of bear hunting in North America nearly 12,000 years ago (Johnson 1989). The Mahaffy Cache, a Clovis site in Colorado, had an artifact test positive for bear residue (Yohe and Bamforth 2013). Several Pleistocene brown bear skulls were found in Montana’s Blacktail Cave in proximity to an 11,000 year old Goshen-Plainview point (Martynec et al. 2008; Napton 1988). Grizzly remains have been recovered from a Windust Phase site along the Snake River in Idaho dating to
A burial from the terminal Pleistocene at Marmes Rock Shelter in southeastern Washington was accompanied by an incised grizzly tooth (Gustafson 1972). Bear masks and incised teeth have been recovered from both the Plains and northeast North America (Berres et al. 2004; Ewers 1982). Bear canines are seen among Hopewell cemeteries (Abel et al. 2001; Struever and Houart 1972) and accompany a prehistoric burial from Montana (Hogan 1977). The northeast and Great Lakes region have several sites with archaeological evidence of bear ceremonialism dating back over one thousand years (Berres et al. 2004; Higgins 1990). Bears have also featured in North American rock art for at least a few thousand years. It appears that as long as there have been people in the New World, they have been hunting bears and sometimes treating certain elements with special regard.

**Background: Ethnography**

The seminal work on indigenous bear hunting and bear ritual in the northern hemisphere was written by A. Irving Hallowell in 1926. In it Hallowell looks at the broad occurrence and similarity in features of bear hunting ritual from rather disparate groups. The work casts light on a variety of taboos and practices regarding bears and bear hunting among hunter-gatherer peoples.

One of the most prolific taboos regarding bears among indigenous groups from Europe to North America was the replacement of the bear’s name with another indirect term. Often this was a metaphor (“golden friend of fen and forest”), a term of endearment or kin association (“grandfather”), or some descriptive circumlocution (“the clawed one”) (Hallowell 1926). The use of circumlocutions was likely threefold. One was that it was disrespectful to call the bear by name; calling the bear something else showed respect. The second, related to the first, was that use of the bear’s proper name may insight an attack or other form of punishment; finally, when a
bear was called by name it was believed the bear was aware it was being talked about and would make itself unavailable to be hunted.

Preparations for bear hunts in the ethnographic record were quite elaborate. There were certainly myriad variations on readying for the hunt amongst different groups but the literature reveals several common threads. Dreams sometimes precluded a hunt. Bear grease was rubbed into ones hair or some bear element was hung above where one slept to encourage such dreams (Rockwell 1991). Sweat baths were taken to ensure purity. Sweat-bathing was an important part of a successful bear hunt for the Thompson Indians, as was sexual abstinence (Teit 1900).

Equipment and clothing had to be clean and of high quality. A hunter’s apparel was festooned with markings so as to show the bear respect and increase the success of one’s hunt.

Although bears were trapped, hunted with dogs, tracked, baited, ambushed, or hunted upon encounter, according to the ethnographic literature hunting them in their winter lairs was a common custom. The bear would typically be rousted out by voice, prodding, smoke, or dogs and be clubbed, speared, or axed as it emerged from its refuge. Even after the advent of the bow and arrow and the gun, the method of bludgeoning or lancing the bear at its den entrance was purportedly still used and possibly preferred (Hallowell 1926).

Post mortem rituals followed a successful hunt. An offering and speech often followed the killing of a bear. This was likely communicated to safeguard against retribution, ensure future game, or to acquire some form of power. Tobacco was an offering commonly left or smoked with the bear. Rules often dictated how the bear was to be eviscerated and removed from the kill site. A feast typically followed the killing of the bear. Eating taboos sometimes specified what could be eaten and who could eat what. Certain groups’ feasts were characterized as ‘eat-all’
while others had restrictions on eating bear and very little may be consumed and only by certain people.

Bones were usually treated with some care in disposal. They were rarely allowed to be touched by dogs or discarded haphazardly. Many groups would decorate the skull with fabric, feathers or ochre and dispose of it in a tree, sometimes with a tobacco offering. Thompson Indians would place bear skulls and other animal skulls in tree tops or upon rocks (Teit 1900). Others would dispose of the bones or skull at the den so that the bear may come back. Disposing of the bones in the water was another treatment. Skinner (1911) notes that unlike the Eastern Cree, the Plains Cree did not hang the skull or keep the bones from dogs.

Not all groups treated the bear with such veneration, nor were all species of bear treated as such. In environments where both black and grizzly bears lived, native cultures made clear distinctions among the species and related to each differently. Spiritual power affiliated with grizzlies was typically more powerful, more unwieldy, and more dangerous than the typically benevolent and spiritually inferior black bear (Comeau 1996). Although killing a black bear was not a great feat among the Thompson Indians killing a ‘silver tip’ was an exceptional task. The Kutenai had less regard for the black bear than they did the grizzly (Schaeffer 1966). The Omaha and Ponca hunted black and grizzly bears, presumably without any ceremonial preparation (Dorsey 1884). Although the Blackfeet had taboos on directly naming the bear and used several circumlocutions in lieu of the bear’s name, they typically practiced a strict avoidance of bears and had a repugnance to killing, eating or even processing and using an animal’s hide (Schaeffer 1966:32). There were exceptions to this avoidance when ceremonial regalia or some particular equipment was required.
Why were bears hunted?

A contemporary assessment of bear hunting would regard it as a dangerous and probably irrational pursuit. For indigenous hunters however, certain circumstances may have encouraged bear hunting. In economic terms, a hibernating bear is a sedentary source of fattened meat and warm fur (McLaren et al. 2005:8). Minimizing pursuit time and risk could make bear an inviting prey choice. Hunting bears at pre-scouted den locations in winter mitigated both these variables. Bears are less dangerous emerging from their winter lair than confronted in the open. Den locations were probably discovered on other resource collection outings so time was not spent searching for them. Finally, during winter the abundance of quality food sources were limited and the high fat content and large size of a bear represented a high utility resource. Groups that killed bears with traps also mitigated presumed wasteful and risky behavior. Although there was an investment in building the trap, once built the hunter was free to spend time procuring other resources. The threat of being attacked by a bear was also minimized. This was also true for those groups that utilized dogs to hunt bear. Although hunting bears was dangerous traditional hunters mitigated some of these dangers.

Ethnographically the motivations for bear hunting could be quite varied and most groups that hunted bears did so for various purposes. The Nunamiut for example, would hunt bears in their winter dens to celebrate a recent marriage or to cope with starvation (Binford 1997). Incentives typically ranged from economic (Hämäläinen 2008; Mandelbaum 1940), to retribution for the killing of livestock or people (Hill 1938; Farmer 1982), attainment of healing power (Ewers 1955), attainment of war power (Denig 1930; Ewers 1955; Hallowell 1926), ensure future game availability (Skinner 1911; Speck 1935), to kill a “spirit bear” (Binford 1997), form of social signaling, or to garner ritual equipment (Hill 1938; Farmer 1982).
Some groups practiced a revenge hunt. If a family member was killed by a bear, retribution would sometimes be sought. The Nunamiut practiced a revenge killing if a bear killed a relative; as did the Navajo if livestock or people were killed. One story tells of a group of Navajo’s that tracked down and surrounded a bear and her cubs and killed the cubs as revenge for the mother killing a young Navajo girl (Dobie 1937). Yet Navajo considered bears as humans and would typically not hunt them and had a strict taboo against eating bears—considering the practice cannibalism.

Other times bears were hunted because they represented spirits that needed to be dispatched in order to gain power over one’s enemy. Likewise, if one’s enemy was causing harm through use of the spirit bear that bear would be killed. The Nunamiut would hunt a bear to dispatch a spirit bear (Binford 1997). Similarly, the Kutenai would seek out and kill a grizzly that they dreamed would be the cause of an impending death to a family member (Schaeffer 1966). The Lower Kootenai preferred never to seek out the grizzly except under unusual circumstances. For the Kootenai the grizzly represented a dangerous spirit being that could grant power for working witchcraft. Those who acquired this dark magic could injure or kill their enemies by sending the bear spirit and only those who had obtained supernatural power from the bear could dispatch it (Schaeffer 1966:25).

Hunting grizzlies on the Plains was likely a feat associated with coup attainment above much else. Killing bears may have resulted in achieved symbolic capital. Possession of certain bear items like claws or teeth brought with them specific meanings about their owners standing in the community. The Thompson Indians considered killing a grizzly bear a great feat, thus many young men would pursue these animals and stories of unsuccessful grizzly hunts were common among them (Teit 1900). Rodrick (1938) writing of the Assiniboine in Montana, states that the
grizzly bear was killed only in self-defense, which deed was accorded the same rank as killing an enemy. Likewise Denig (1930:499) says of the Assiniboine that the killing of a grizzly bear by a single man is no trifling matter and deservedly ranks next to killing an enemy. The Lewis and Clark journals note that the Shoshone viewed killing a white bear as a feat equal to killing an enemy or leading a war party. Captain Lewis noted the same perception among the Nez Perce (Schullery 2002). Denig (1930) writes that the Assiniboine would count a coup for a killed grizzly at a ceremony for such accomplishments. Similarly, when a grizzly bear was killed by a young Assiniboine a horse was often given by the parents to the camp crier to make the rounds of the camp shouting the deed and praises of the hunter (Rodnick 1938). Grizzly bear hunting offered a way to achieve status. A successful grizzly hunt, above most war accomplishments, authenticated one’s standing as a brave and powerful person.

Bears were also hunted to attain ceremonial equipment. Various objects could be used for power in healing or warfare. Bear claws, skins, teeth, and other elements were worn or depicted on articles of war to harness the power of the bear in battle. For the warpath, braves donned sacred accoutrements to meet their enemies; miscellaneous articles consisting of shields decorated with signs or ornamented with eagle feathers and war bonnets of ermine, bear and other animals' pelts (Kennedy and Stevens 1972:96). The Navajo Male and Female Mountain Way Chant required a bears right and left front paw, respectively (Hill 1938). The Comanche imbued the bear with the ability to cure and used items such as the gristle of a bear’s snout to aid in healing (Wallace and Adamson 1952). The Omaha used skins, paws, and claws for a ceremony in which a criminal was judged (Fortune 1932). George Catlin painted a healing ceremony he witnessed performed by a Blackfoot medicine man wearing a bear costume (see Figure 1).
Finally, bears provide economic impetuses including meat, grease, fur, leather, organs, bones and sinew that may explain the persistence of hunting in some contexts. The average calories available per grizzly bear are ~342,000, second only to bison (~563,000) among North American land mammals (Roll and Deaver 1978). The Delaware and Ojibwa prized the bear for its grease, meat, innards, hide, and bones (Berres et al. 2004). The oil was stored for a variety of uses and skins were used to make blankets and shoes (Wallace 1949). Bear oil, rendered from bear fat, was an excellent salve, water repellent, food source, and was used to prepare hides and provide a rich flavor to lean foods. For the Kutenai, bear grease was particularly esteemed and was rendered and stored in bladders for winter use (Schaeffer 1966:10). Members of the Lewis and Clark expedition rendered oil from black and grizzly bears (Schullery 2002). A large grizzly produced around eight gallons of oil. They used this for food and to lubricate and protect their metal guns and instruments. The Assiniboine and Plains Cree hunted bear as food (Denig 1930; Mandelbaum 1941). For the Comanche bears were hunted primarily for their oil. Although the meat was eaten by some bands (Gelo 1986), the Comanche considered bear meat less tasty than either buffalo or deer (Wallace 1952). For the Osage, though the flesh of the bear was eaten, the major purpose of hunting bears was to obtain fur (Bailey 1973). However this was likely a product of the fur trade.
For boreal peoples of North America the bear may have been one of the few available big game species available for significant parts of the year. For the Eastern Cree and Nunamiut, bears represented an important food source, especially when faced with starvation (Binford 1997; Skinner 1911). The Kutenai would rarely kill grizzly bears, but when they did it was usually under the stress of hunger (Schaeffer 1966). The ideal target of a starvation hunt would be a mother with cubs from the previous year (Binford 1997). The mother, no longer lactating, will have a good fat supply while the cubs provided an added bonus. An ethnographer living among the Southern Piegan in Montana recorded the recollections of a chief that captures the high value that was put on bears in the winter:

During the summer and fall we got some bears in these deadfalls, and this was always good news because we were very hungry for fat. In the wintertime we would sometimes go out for days just trying to find a place where a bear had denned up for the winter. Venison is very lean, and so is horsemeat, and we could not get enough fat (Lancaster 1966:96).

Although the bear met myriad economic purposes, economic motivations may still have had symbolic undertones and often did for indigenous hunter-gatherers. Many of these motives overlap and it was likely seldom that the killing of a bear included only one of these intentions.
Chapter 2: Theoretical Perspectives

Analyzing anthropological phenomena in any context requires a structured set of assumptions, histories, and logic that guides and helps interpret information in light of a priori ideas. Theoretical paradigms offer a way to make sense of cultural phenomenon through an explanatory framework. Theory assumes certain themes of influence control elements of human action.

This work borrows from multiple theoretical view points to help understand the persistence of bear hunting and veneration. A cultural ecology perspective will examine the phenomenon as a product of environmental influences. Bear hunting is also considered from a social signaling point of view which assumes there is a reproductive benefit gained by successful hunters or their kin. Finally, the middle-range approach is enlisted where ethnographic data concerning bear hunting and ritual are used to construct a frame of reference to understand what types of behavior may have led to the formation of an archaeological context. Along with these three theoretical perspectives, I enlist the use of concepts of traditional ecological knowledge (TEK) and symbolism. A more detailed explanation of what these different theoretical viewpoints entail are discussed below.

Cultural Ecology

Ecological factors certainly impact ritual manifestations among cultures. Anthropologists like Julian Steward (1956) and Roy Rappaport (1971, 1979) have advocated that ecological influences integrate with culture. Structure of religion and ceremony can be reflective of environmental variables such as animals, plants and elements; as these conditions are the ferment of suggestive influence on representation of the supernatural (Hultkrantz 1970:70). Ecological factors likely dictated the structure of various customs regarding the bear. For example, many bear ceremonies throughout North America functioned in part to placate the bear so they would
not harm people. Certainly this was the result of generations of encounters with bears. Also, the emergence of bears from their dens in spring is likely why they have been associated with renewal and fertility and why spring is the time for ceremonies of which the bear is a theme.

Effective temperature and biomass (Kelly 1983) may have influenced impetuses for bear hunting and veneration. Riku Hämäläinen (2008) explains the different functions of bear ceremonialism among ethnographic Great Plains peoples and subarctic groups as a difference of ecological circumstances. Hämäläinen posits that environment and available food caused the discrepancy in bear ritual manifestations. For hunter-gatherers in the higher northern latitudes, bears represented an important food source, particularly during the winter months when quality protein and fat was in short supply. Starvation can be a real problem in late winter and spring and for those groups that depend on a handful of protein resources. This would be in line with Kelly’s (1983) postulate that boreal forest groups use relatively few resources compared with more equatorial groups. For boreal peoples the outstanding goal of bear hunting was for calories. Ceremony still pervaded the hunt but food dependency likely formed the backbone of any ritual behavior. The primary purpose of maintaining certain customs would have been to ensure game replenishment. Bear ceremony on the Plains of North America took on a different appearance. As bison were available on the Plains, bears did not provide an important food source. Rather the purpose of bear hunting and veneration was oriented towards attaining power in healing or warfare, or for the attainment of paraphernalia for ceremony.

Navajo bear ceremonialism may represent how environment can affect ritual practices. Similar to their southwest neighbors, the ethnographic Navajo had a taboo against killing bears. However they would hunt them for the purpose of attaining ritual equipment, revenge for killing livestock or people, or starvation. When they were hunted, specific customs, similar to those
described by Hallowell (1926), were followed. Despite living in the southwest the Navajo retained bear hunting customs that are much more similar to northern groups. The hallmarks of bear ceremonialism, present among the Navajo and largely absent from their Hopi neighbors, betray their more recent northern origin. Perhaps the influence of their new environment resulted in a regression in bear hunting and veneration.

Other examples of ecological influences on manifested ritual behavior can be seen among the purpose of several bear ceremonies. The main impetus of the annual Grizzly Bear Ceremonial for the Kutenai was to placate the bear. They knew bears to be powerful, vicious animals that had killed women and children when they were collecting wild fruits and berries (Ewers 1955:2). Thus the purpose of the ceremony for women was to ensure that they not be molested during their root and berry gathering season. For men it was to ask forgiveness if a bear had to be killed to be used for food (Schaeffer 1966). Certainly the real dangers of being attacked by a bear incited the use of ceremony. The Ute believed that if the Bear Dance was delayed, people will be killed by bears in the hills (Schaeffer 1966:30). Denig (1930:499) mentions that among the Assiniboine every year persons are torn to pieces by grizzlies when wounded or surprised and thus all ceremonies to the bear are done so for aid and protection from the supernatural powers whose business it is to interfere. The practice of structured ceremony ensured a safe coexistence between people and bears. A rapport, rather than an adversarial relationship was established to ensure a safe coexistence with the bear.

The timing and structure of bear ceremonies is related to ecological influences. For several Plains groups the bear was affiliated with thunder. It was believed they emerged from hibernation after the first thunder of the year. This first thunder marks the preparation for ceremonies like the bear dance and opening of sacred bundles among the Blackfeet and
Kootenai. The Ute (Reed 1896) performed a ten day long Bear Dance to honor their bear ancestors. A large brush and log enclosure was constructed to represent the bear den. The entrance to the lodge was positioned facing east because the Ute believed that bears chose their dens with openings facing as such. The dance was held in late February or March to coincide with the bears coming emergence from winter hibernation.

Ecological influences, such as the animals people live among, can weigh heavily on the worldview of hunter-gatherers. This is particularly true of predators. Generally there seems to be some consistency regarding traditional hunters’ attitudes towards predatory animals: being not of fear and avoidance alone, but fascination and veneration. Rather than being avoided at all costs by indigenous groups they are often sought out and hunted. Could this logic explain the persistence of bear hunting and veneration? Perhaps hunting and veneration of alpha predators offered some benefits to the practitioner.

**Social Signaling**

A contemporary anthropologist may view bear hunting by indigenous hunter-gatherers as a high risk endeavor that likely cost a disproportional high amount of time, effort, and risk compared to the actual benefit. This type of conduct has been called wasteful subsistence (Bliege Bird and Smith 2005). How can this behavior be justified? Social signaling theory explores some of the more ritualized and communal aspects of social behavior that are driven by cultural meaning and collective interest rather than individual gain (Bliege Bird and Smith 2005). Social signaling theory would posit that a good bear hunter or possessor of bear power (or close relatives of theirs) will have a higher reproductive fitness than others not attaining such status. Social, symbolic, and prestige capital are gained from successful hunting of bear and the possession of bear power (Bird and Smith 2005; Codding and Jones 2007; McGuire and
Hildebrandt 2005). This increased social capital may have ultimately functioned as a means of higher status and increased mate selection.

A possessor of bear power could imbue a mythic-like sense in the eyes of others. Individuals believed to have supernatural power from the grizzly bear would wear a token, such as the claws or teeth, as an overt indication of their power (Schaeffer 1966:14). Those who held grizzly bear spiritual power were guaranteed to evoke awe, respect and fear from other members of their communities because of its unpredictable, strong, and unwieldy attributes (Comeau 1996:18). Charlevoix (1744) recounts that a the alliance of a successful grizzly hunter was as much courted as that of the most valiant captain.

Do successful bear hunters or those having bear power have a selective advantage over those who do not? It certainly seems plausible. Grizzly bear hunting may have offered hunters a fitness advantage similar to that gained by Meriam turtle hunting men (Bleige Bird and Smith 2005). For the Meriam, although hunting turtles was not economically optimal during certain seasons, turtle hunting men were the recipients of higher esteem than non-turtle hunting men. Over their lifetimes they were more likely to be married, more likely to have children, and had more children than non-hunters. Similarly, a hunter’s bear harvesting success could have sent reliable signals about their quality as a mate, parent, and member of the community. Like the Meriam, a bear hunter may have been the beneficiary of better mate selection and social wealth.

Codding and Jones (2007:351) suggest some requisite criteria to determine if costly signaling behavior can be extrapolated from the archaeological record: ethnographic data that show high relative costs for big game; clear links between hunter-gatherer success and higher reproductive success; archaeological evidence of big game as well as dietary alternatives that provide better provisioning opportunities; and finally, data indicating that alternative food sources were passed
up in favor of more costly resources. I have not tested the hypothesis that bear hunting may have functioned as a form of costly signaling within the above framework but this could be an avenue of future study. McGuire and Hildebrandt (2005) suggest that when the archaeofaunal evidence does not comply with predictions based on an optimal foraging model that gender and social signaling influences may be affecting resource procurement.

**Middle-range**

Middle-range theory builds a frame of reference grounded on thorough ethnographic research to interpret archaeological contexts. The theory assumes that certain cross-cultural similarities exist among different groups facing analogous constraints such as reliance on similar flora, fauna, technology, or like climatic regimes (Jordan 2008). The method moves interpretation beyond creative story-telling to grounded explanations regarding the behavioral implications of archaeological residues. For this application, the middle-range was established from written ethnography of bear hunting and veneration among northwestern Plains groups. Specific and/or repetitive themes were extrapolated from this pool of data. This framework allowed recognition of apparent patterns among archaeological contexts.

Similar middle-range methodology has been used to explore prehistoric bear ceremonialism in North America (Higgins 1990; Hämäläinen 2008; Howey and O’Shea 2006; McLaren et al. 2005) and Europe and Asia (Germonpré and Hämäläinen 2007; Bar-Oz et al. 2009; Helskog 2012). McLaren et al. (2005) built their frame of reference prior to attempting to interpret the bear bone assemblage at the Kilgii Gwaay Site in British Columbia by examining ecology and behavior of bear species on the Northwest Coast, traditional strategies used to hunt bears, the economic and ritual significance of bears, and the regional archaeological evidence of bear hunting. Higgins (1990) also incorporates the middle-range to infer ceremonial treatment of bear remains from the Late Prehistoric Schwerdt site in Michigan. The method has also been applied
to bear rock art. For example, Larry Loendorf (2008) utilizes Caddoan ethnographic data to interpret a bear motif at Colorado’s Bear Dance Site.

The middle-range method provides the basis for this work. The approach is articulated in the ethnography section of this paper.

**Symbolism**

Social and symbolic facets likely had a significant effect on prehistoric hunter-gatherer behavior and the archaeological record, yet these are often overlooked by archaeologists in favor of economic and ecological perspectives (Jordan 2008). Bear rock art and the deposition and decoration of bones surely carries symbolic meaning. Bear symbolism on the Plains could be represented in headdresses and hairstyles, amulets and necklaces, specialized weapons, tipi designs, shields and clothing (Keyser 2004:35). Deciphering the meaning of symbols, space, and the sacred may be challenging but it should not deter anthropologists from exploring potential archaeological manifestations. The fact that there are broad consistencies among disparate accumulations of art, decorated, and placed bones shows promise that some of this symbolism can be understood through rigorous examination. Rock art may be one of the most obvious examples of symbolism that offers promise in understanding the more idealistic aspects of the past.

**Traditional Ecological Knowledge**

For any practitioner hoping to learn about an anthropological phenomenon, having a base understanding of the traditional views that may have been held by the culture one is examining can open fresh interpretive pathways. A past individual’s worldview was certain to pervade many aspects of that person’s behavior and thus affect the archaeological record. An accurate depiction of any cultural context is incomplete without an appreciation of traditional ecological knowledge (TEK). TEK provides an essential complement to scientific data in our attempts to
understand prehistoric human-animal interactions (McLaren et al. 2005:4). Attempting to understand the purpose of grizzly bear ritual hunting from a strictly Western theoretical mindset may confound some of the underlying mechanisms at work. Anthropologists cannot simply regard animals as raw material for the lives of humans (Nadasdy 2007), but also need to consider the religious aspects of human-nature interactions. This pursuit goes counter to the pervading notion that faunal assemblages reflect subsistence practices, but we need to acknowledge the possible spiritual importance of the remains of hunted animals (Germonpré and Hämäläinen 2007). By acknowledging alternative belief systems, it only enhances our archaeological understanding.

These theoretical approaches are not mutually exclusive. All are valuable in understanding such a dynamic phenomenon as ritual bear hunting. Jordan (2008) states that explanations pertaining to symbolism should not ignore ecological perspectives on adaptation, and forwards that symbolic systems are grounded in daily subsistence activities. Similarly, worldview and ritual are strongly tied to ecological conditions. Ethnoarchaeological studies have been criticized for ignoring symbolic and social impacts on the behavior of people. Also, the paradigm has been critiqued as excessively subjective for relying too heavily on ethnographic analogy. However, can we interpret archaeological facts without a modern reference database (Roux 2007:154)? Few, if any, alternative theoretical approaches have been able to be effective without using some form of analogy. In conjunction, these different perspectives equip the analyst to best understand prehistoric manifestations of bear veneration and hunting.
Chapter 3: Bear Ecology and Ethnographic Context

In terms of understanding bear hunting and special attitudes reserved for the animal, some basic information regarding their habits, physical traits, behavior, environment and diet need to be understood. The three species of bear in North America are the polar bear (Ursus maritimus), black bear (Ursus americanus), and brown bear (Ursus arctos). Among the brown bear there are at least two recognized subspecies, the Kodiak (U. arctos middendorf) and the grizzly (U. arctos horribilis). Prior to the terminal Pleistocene around 11,000BP, short-faced bear species also inhabited the continent and may have been targeted by early hunter-gatherers. Short-faced bears were on average larger than brown bears, sometimes weighing up to one ton, although their dentition suggests they likely relied more heavily on plant materials than modern brown bears (Kurten 1976). During the Pleistocene there were some brown bear species in North America that exceeded the short-faced bear in size. One specimen from the Rancho La Brea tar pits in Los Angeles weighed well over one ton and stood twelve feet tall (McCracken 2003). Since this work focuses primarily on the northern Rocky Mountains, source materials are from this region and regard primarily black and grizzly bears.

Bear Behavior and Physical traits

Grizzly bears are distinguished from black bears by their size, demeanor, and physical characteristics. The average weight of a black bear is 200-350 pounds while a grizzly ranges from 300 to 800 pounds for exceptionally large individuals (Jorgensen 1980; Chris Servheen personal communication). One of the largest grizzlies killed by the Lewis and Clark expedition was nine feet from tail to nose (Schullery 2002). The black bears smaller size and shorter claws make them good climbers. Adult grizzlies on the other hand are not good tree climbers. Their longer claws are keen at digging tubers and roots up and tearing apart stumps, turning over rocks and demolishing ant hills, but are not well suited for climbing. The curving finger-like claws are
often white and can exceed six inches. Grizzly canines are larger than black bears as well. Grizzly bears have a distinct shoulder hump whereas the highest point on a black bears back is the rump. The snout on a grizzly has a dish-shaped facial profile versus the black bears straight profile. A grizzly’s ears are rounded and smaller compared to the proportionally larger ears of the black bear. Colorations of both black and grizzly bears is highly variable ranging from shades of brown, black, blonde, red, cinnamon, silver and yellow. Grizzly bears in the northern Rockies mate around June to July and rarely later in the summer (Schullery 2002; Chris Servheen personal communication). Cubs are typically born in their dens in January. Kutenai informants say that cubs are born in February and remain in the den until the first thunder and cries of the crane are heard (Schaeffer 1966:7).

The temperament and purported toughness of the grizzly is a hallmark of the species. Grizzlies are renowned for their strength and can be highly dangerous, particularly when surprised, encountered at a food source like an animal carcass, wounded or when a mother bear is met with cubs. Indians encountered by members of the Lewis and Clark expedition had a healthy respect and fear of grizzlies, knowing that upon encounter they were more prone to attack than to flee (Schullery 2002). Lowie (1909) retells an Assiniboine account of a grizzly bear that drowned three bull bison. Among the Blackfeet it was noted that shooting at real-bears (grizzlies) with a powder-and-ball-and-cap gun was very dangerous (Schultz 1962). Journals from the Corps of Discovery note the ferocity of the wounded bear and how extremely difficult they were to kill. One wounded bear ran a full half mile with a bullet in its heart. The journals also recount the killing of an old 500-600 pound male grizzly that received over ten shots, including five in the lungs before finally being subdued (Schullery 2002). An account by renowned hunter ‘Yellowstone’ Vic Smith describes examining the heart of a grizzly bear torn to
pieces by a 40-82 Winchester bullet. After receiving the fatal shot the bear ran a full 200 yards (Smith 1997). Other trapper stories describe shooting grizzlies with muzzleloaders, only to have the bullets fall to ground around the bear spun up in a mass of hair so tight the bullet had to be cut out (Allen 1917).

**Bear Denning habits**

One of the traits of bears that are important in regards to this work is their denning habits. Dens were often where bears were hunted by Native Americans. The individual species have different denning customs and this can vary greatly by region, sex, and individual bear. For grizzlies in Yellowstone dens are typically located on north facing aspects above 9,000 feet (Kerry Gunther personal communication; Peacock 1990). In Glacier National Park and the Bob-Marshall Wilderness area, grizzly dens are usually about 6,000 and can be found on all aspects (Chris Servheen personal communication). Before the grizzly was extirpated from the Montana prairies in the 1880s, some bears denned on the prairie, likely on north-facing hillsides. Such sites may have been vulnerable to human hunting, whereas mountain dens at higher elevations were probably more difficult to access in winter (Chris Servheen personal communication).

Although there is significant diversity among brown bear denning habits, brown bears denning in the mountains will typically locate a site on a steep talus slope and excavate a den under a tree root or into an embankment. Local stability of snow conditions may be the most important factor for determining den locations. Slope, aspect, wind, and sun exposure are variables that can be important as these determine the stability of the snow conditions. Osborne Russell mentions shooting a grizzly bear outside its den in November 15th 1839 near the headwaters of the Jefferson River in southwest Montana. He notes that the bear was on a high talus slope on the south side of a mountain (Russell 1965:123-124). A study in Alaska showed a preference for mid-elevation sites to be chosen, not on the valley floor or high peaks (Linnel et
Some brown bears do not actually den, such as the case with some male Kodiak bears that rely on spawning salmon. Black bears are not as prone to excavating their dens and often choose locations under a root wad or in a tree hollow. A study in western Oregon found that 80% of black bear dens were in hollow trees created by fungal activity (Immel et al. 2012).

Among all bears the timing of denning may vary from region to region, bear species, and by individual bear (Haroldson et al. 2002; Servheen and Klaver 1980). Typically denning mothers will enter the den earlier and leave later than barren females and males (Immel et al. 2012; Linnel et al. 2000). In Yellowstone bears will often enter their den during the first major snow storm in October (Peacock 1990). Servheen and Klaver (1980) similarly noted that grizzly bears in Montana’s Mission and Rattlesnake Mountains entered their dens during the onset of severe snowfall from early to late November. A study by Haroldson et al. (2002) illustrated the high variability of den location and entry among Yellowstone bears. Females denned earlier, emerged later, and denned higher than male and barren females. Den entry spanned from late September to mid-December. Interestingly, the journal of ‘Yellowstone’ Vic Smith reports seeing three grizzly tracks around Christmas near the confluence of the Yellowstone and Bighorn Rivers in central Montana (Smith 1997). Black bears in Oregon’s Cascade Mountains went into their dens at the end of November and emerged around mid-April (Immel et al. 2012).

How quickly could a bear roust from hibernation and in what state would it be in? Were bears sluggish as they emerged making it relatively easy to kill them? Would they be aggressive or complacent? When a bear is hibernating body temperature and metabolism slow and an energy sparing sleep is entered reducing energy use from 60-80% (Linnel et al. 2000). Contrary to what some may assume, bears can awake from hibernation quickly and in a very alert state.
Nelson and Beck (1984) forward that unlike small mammal hibernators bears can wake and achieve relatively full mobility in a matter of minutes.

Bears gradually use their stored body fat during hibernation, and still use stored fat upon emergence. They continue to lose body fat in the weeks following emergence from their winter lairs (Chris Servheen personal communication). There was a widespread belief among tribes in North America that the bear sustained itself through the winter by sucking on its paws. In 1835 trapper Osborne Russell noted “It loses no flesh while confined to its den in the winter but is equally as fat in the spring when it leaves the den as when it enters it at the beginning of the winter” (1965:132). One scientific study has a slightly different opinion. While hibernating, non-reproducing bears will lose from 8-20% of their body weight while lactating mothers can lose from 25-40% of their weight (Linnel et al. 2000).

**Bear Diet**

Bears are omnivores. They are opportunistic feeders that will consume a large variety of available foods. Their diet consists of plants and grasses, insects like cut moths, grubs, ants, certain roots and tubers, various berries, white bark pine seeds, fish, carrion, and fresh meat. They are expert at timing their movements to coincide with resource availability throughout the year. The emergence of bears from their dens coincides with elk calving season which can provide a critical spring food. Spawning fish are a valued resource where available. The Lewis and Clark journals note finding a catfish in the stomach of a large grizzly they killed along the Missouri (Schullery 2002). In Yellowstone National Park, spawning cutthroat trout are vital food during late spring for some grizzly bears. Bear DNA studies of prehistoric paleontological remains suggest Yellowstone Lake spawning cutthroat trout provided a food item for bears for thousands of years (Haroldson et al. 2005). Winter killed carrion of ungulates like deer, elk, sheep, antelope and bison offer an important food upon emergence from their dens. The Lewis
and Clark journals regularly mention sighting grizzlies along the Missouri River feeding on drowned bison carcasses in the early summer. Certainly owing to the existence of multiple cataracts, the stretch of river at present day Great Falls created a catchment of dead bison that congregated grizzlies. The journals also describe a recently used bison jump along the river where the rotting carcasses of over 100 bison were being fed upon by wolves and grizzly bears. Such evidence suggests that bears would have frequented communal kill sites prehistorically. Later in the summer Captain Clark noted that the bears lay in wait at the crossing places of elk and bison, looking to attack weak animals (Schullery 2002). Bears will bully other predators off of carrion, for example reaping the benefits of a wolf pack’s elk kill. With summer comes the growing availability of plant and insect foods. Fur trade era trapper Warren Ferris notes seeing grizzlies in the prairies of southern Montana busy digging roots, which constituted their chief subsistence until fruit ripened in the fall (1983:124). In the fall in anticipation of denning, bears enter a binging period called hyperphagia and hone in on calorie rich berries such as choke cherries and huckleberries. In 1835 in the vicinity of the Rosebud and Yellowstone Rivers, Russell noted that grizzlies are abundant, being more numerous than any other part of the mountains owing to the vast quantities of cherries plums (choke cherries) and other wild fruits. Russell mentions seeing up to 8 bears feeding on choke cherries at once, hardly noticing him as he passed (1965:47).

**Bear Habitat**

The range of grizzly bears in North America once stretched from Alaska and Canada south into Mexico and from California east to the Upper Ohio Valley. Grizzlies even made it to the Atlantic coast of Labrador (Schullery 2002). Mohican and Delaware Indian oral tradition recount that the last grizzly bear sighting was on the east side of the Hudson River not long before European-American arrival to Manhattan (McCracken 2003). In the northwestern Plains stream
courses were the primary habitat of grizzly bears prior to the 20th Century. Certainly the mountains were also occupied by grizzly bears, though the river and creek bottoms likely were more attractive locales due to the abundance of food, cover, and water. The Lewis and Clark journals record several bear encounters around the Great Falls and the three forks of the Missouri (Schullery 2002). The accounts of ‘Yellowstone’ Vic Smith attest that he killed grizzlies throughout the northern Rockies; however his primary hunting ground was the Big Hole Valley of southwest Montana (Smith 1997). Grizzly bears would have been frequently encountered along the brush lined streams of what is today Carbon County (Loendorf 1985). The broad, broken Plain of the Bighorn Basin is incised by several waterways which would have provided ample browse and game for grizzlies to subsist on. Along the bottoms, chokecherries and other plants provided attractive habitat during the late summer and fall, and calving of deer, elk, bison, and pronghorn along with winter kills furnished abundant food sources for grizzlies. Furthermore den locations were likely readily available within the Bighorn River basin and in the surrounding Absaroka, Beartooth, Bighorn and Pryor Mountain ranges. Considering the areas attractive qualities for bears, it is interesting to note that more than half of the rock art depicting bears in Montana and Wyoming come from or directly adjacent to the Bighorn Basin.

Bears typically have a vast home range. They are not territorial, and several bear’s occupy overlapping grounds. The range of a male grizzly in Yellowstone National Park varies between bears and can be over 500 or more square miles (Chris Servheen personal communication). Female bear’s ranges are slightly smaller. Range certainly co-varies with food and mate availability. It is reasonable to assume that home ranges of bears were likely much smaller prehistorically when higher volumes of food and habitat were available. Bears can become somewhat territorial under certain circumstances. For example, a particularly productive berry
patch may be occupied by a dominant male bear for a couple weeks. Any intruders are run off. Similarly, the largest bears will often occupy and protect the best pool or waterfall on a trout or salmon spawning stream during peak run. A female bear with cubs will almost surely respond to threats from bears or other predators, even if it means endangering herself.

**Building an Ethnographic Context of Bear-Human Interaction**

The ethnographic literature pertaining to bear hunting and veneration among indigenous groups of the northwestern Plains is presented. With an understanding of the documented manifestations of these activities and beliefs a frame of reference can be established to aid in understanding an archaeological situation in which evidence of such behaviors are present. Ethnographic examples provide a “human anchor” (Binford 1997:2) to base archaeological evidence of bear-human interactions within an explanatory framework. The ethnographic information regarding bear hunting and veneration are quite broad. As the focus of this work is the northwestern Plains and Rocky Mountain region, most sources concern the Blackfoot, Kootenai, Crow, Assiniboine, Stoney, Shoshone, Mandan, Eastern and Plains Cree, Ojibwa/Chippewa, Navajo, Paiute, Ute, Comanche, and other Siouan, Algonquian, Salishan, and Sahaptin speaking groups from North America. Aside from European-American anthropologists accounts, the journals and writings of traders, trappers, and explorers were also scrutinized. See Table 1 for a list and brief description of the ethnographic sources utilized in the work.

**Table 1. Major ethnographic sources used.**

<table>
<thead>
<tr>
<th>Source</th>
<th>Tribe</th>
</tr>
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<tbody>
<tr>
<td>Andersen (1968)</td>
<td>Stoney</td>
</tr>
<tr>
<td>Bailey (1973)</td>
<td>Osage</td>
</tr>
<tr>
<td>Blair (1911,1912)</td>
<td>Upper Mississippi/Great Lakes</td>
</tr>
<tr>
<td>Charlevoix (1744)</td>
<td>?</td>
</tr>
<tr>
<td>Cooper (1957)</td>
<td>Gros Ventre</td>
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<tr>
<td>Delaguna (1990a,b)</td>
<td>Tlingit, Eyak</td>
</tr>
<tr>
<td>Denig (1930)</td>
<td>Sioux, Assiniboine, Arikara, Cree, Crow</td>
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<tr>
<td>Densmore (1929)</td>
<td>Chippewa</td>
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</tbody>
</table>
Attempting to mesh ethnography with archaeological contexts begins by understanding the cultural landscape of the area under inquiry. The history of the northern Rockies is highly complex. The language diversity of Plains tribes speaks to some of this. The Algonquian speakers include the Blackfeet, Gros Ventre and Chippewa/Ojibwa peoples. Regional tribes

<table>
<thead>
<tr>
<th>Source</th>
<th>Tribe</th>
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<tbody>
<tr>
<td>Dorsey (1884)</td>
<td>Omaha</td>
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<tr>
<td>Ewers (1955, 1958)</td>
<td>Assiniboine, Blackfeet</td>
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<tr>
<td>Farmer (1982)</td>
<td>Navajo</td>
</tr>
<tr>
<td>Fletcher (1884)</td>
<td>Sioux</td>
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<tr>
<td>Fortune (1932)</td>
<td>Omaha</td>
</tr>
<tr>
<td>Hallowell (1926)</td>
<td>Multiple</td>
</tr>
<tr>
<td>Hearne (1796)</td>
<td>Probably Cree</td>
</tr>
<tr>
<td>Henry and Thompson (1897)</td>
<td>Blackfoot, others?</td>
</tr>
<tr>
<td>Hill (1938)</td>
<td>Navajo</td>
</tr>
<tr>
<td>Gelo (1986)</td>
<td>Comanche</td>
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<tr>
<td>Jenness (1938)</td>
<td>Sarcee</td>
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<tr>
<td>Kennedy and Stevens (1972)</td>
<td>Assiniboine</td>
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<tr>
<td>Krober (1908)</td>
<td>Gros Ventre</td>
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<tr>
<td>Lancaster (1966)</td>
<td>Piegan</td>
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<tr>
<td>Lesser (1933)</td>
<td>Pawnee</td>
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<tr>
<td>Long (1961)</td>
<td>Assiniboine</td>
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<tr>
<td>Lowie (1909)</td>
<td>Assiniboine</td>
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<tr>
<td>Mandlebaum (1940)</td>
<td>Plains Cree</td>
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<tr>
<td>Maximilian (1906)</td>
<td>Multiple</td>
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<tr>
<td>McClintock (1923, 1968)</td>
<td>Blackfoot</td>
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<tr>
<td>Murie (1914)</td>
<td>Pawnee</td>
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<tr>
<td>Ray (1942)</td>
<td>Various Plateau tribes</td>
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<tr>
<td>Reed (1896)</td>
<td>Ute</td>
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<td>Ritchie (1947)</td>
<td>Owasco</td>
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<tr>
<td>Rodnick (1938)</td>
<td>Assiniboine</td>
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<tr>
<td>Schaeffer (1966)</td>
<td>Kootenai</td>
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<tr>
<td>Schultz (1962)</td>
<td>Blackfeet</td>
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<tr>
<td>Skinner (1911)</td>
<td>Eastern Cree, Northern Saulteaux</td>
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<td>Speck (1935)</td>
<td>Naskapi</td>
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<td>Steward (1931)</td>
<td>Ute</td>
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<tr>
<td>Stewart (1942)</td>
<td>Various Piute/Ute</td>
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<tr>
<td>Teit (1900)</td>
<td>Thompson</td>
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<tr>
<td>Wallace (1949)</td>
<td>Delaware</td>
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<tr>
<td>Wilcox (1900)</td>
<td>Stoney</td>
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<tr>
<td>Wissler (1912)</td>
<td>Blackfoot</td>
</tr>
<tr>
<td>Wissler and Duval (1908)</td>
<td>Blackfoot</td>
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</table>
belonging to the Siouan language family are the Assiniboine, Mandan, Hidatsa, Crow, Sioux, Dakota, and Osage. Athapaskan speaking ancestors of the Navajo and Apache likely moved through Montana on their migration from northwestern Canada and Alaska to the southwestern United States. The Uto-Aztecan speaking Shoshone may have had a long history in the region evidenced by sites like Mummy Cave. Salish speaking groups like the Flathead, Kalispell, and Pend d'Orielle have likely resided in Montana for some time. The Sahaptin speaking Nez Perce are believed to have occupied the Rocky Mountains in the last 800-1000 years (Jorgensen 1980). The Kootenai language is considered an isolate by most and the antiquity of their presence in the region is not certain. Because of the complexity of the historical ethnographic makeup of the northwestern Plains it can be difficult to conclude whether an archaeological context was produced by a specific group. Prehistoric and historic tribal dynamics and the cumulative effects of European contact resulted in myriad population movements. Multiple groups that were present in Montana at contact may have resided on the northwestern Plains for less than a few hundred years. Still, ethnography can provide alternative realms of interpretation not obvious from other perspectives, even if the subjects of those ethnographies are not related to the creators of a specific archaeological site.

Accounts of bear encounters by European-American trappers, traders, and explorers are well documented in the northern Rockies. Some of these narratives illustrate that many Native peoples viewed the bear with special esteem. The earliest mention of grizzlies by a European comes from the 17th Century. Later, between 1720 and 1722 a French Jesuit named Charlevoix was the first to document how native hunters sought the grizzly bear. Several of the features he describes are similar to those mentioned by Hallowell (1926) 200 years later. Charlevoix recounts that ritual customs included fasting, bathing, dreaming, flesh sacrifice, body painting,
tobacco offering, an ‘eat-all’ feast, and the use of dogs to hunt bear (Charlevoix 1744). The earliest European description of a failed grizzly hunt in the Rocky Mountains comes from David Thompson in 1787. Two young Piegan men attempted to shoot a bear for its skin and claws with metal-tipped arrows but the wounded animal attacked and killed them. Hearing their screams, a third boy came and was wounded but was able to get help. The bear was finally killed with a gun as it consumed one of the victims. Despite the surviving boy’s desire to keep the claws for a necklace this was not allowed and the remains were burned as the bear’s spirit was considered to be malevolent (Glover 1962). Salish medicine trees were shrines where offerings were left in exchange for good fortune. One such tree on Lolo Creek near the present day Montana Idaho border recorded by the Lewis and Clark expedition had a grizzly skin hung in it (Schullery 2002). George Catlin painted a Blackfoot bear doctor he had witnessed attempt to cure a dying man (see Figure 1).

Trader and explore accounts indicate that grizzly bears were fairly common in large parts of Montana historically. Lewis and Clark recorded frequent encounters with ‘white bears’ along the Missouri and Yellowstone Rivers and their tributaries. Bears were particularly numerous along these waterways during the spring where they would congregate to feed on drowned bison (Schullery 2002). In the first half of the Nineteenth Century Denig (1930) noted that grizzly bears are tolerably numerous on the Missouri and Yellowstone and are not hunted often. Hunter Vic Smith writes that coyotes, wolves, and bears are as plentiful as dogs around a Crow camp (Smith 1997). This same Smith killed over 200 grizzlies in Montana, Wyoming, and North Dakota during the latter half of the 19th Century. In the first half of the 19th Century, trapper Warren Ferris notes several grizzly sightings in northwest Wyoming and southwest Montana (1983). However, by as early as 1873, Joel Asaph Allen on a railroad expedition in eastern
Montana noted a paucity of grizzlies along the Missouri and Yellowstone River country, reporting less than half a dozen sightings during the whole trip (Allen 1874). The European fur trade resulted in increased hunting and trapping pressure on bears and other furbearers. Ray (1974) notes the fur trade resulted in the once neutral grounds of the Cypress Hills being the subject of heavy hunting pressure. Not all that surprisingly, it has been suggested that the practice of bear ceremonialism had begun to lapse after the advent of the fur trade, horse, and trade gun (Mandelbaum 1940; Skinner 1914).

Aside from the writings of explores, traders, and trappers, professional and amateur anthropologists provide some of the richest ethnographical information about bear hunting and veneration in the northern Rockies. These narratives also have the benefit of tending to be from more of an emic perspective. Multiple themes stand out among this literature. Bear ceremonies, bear bundles, bear societies, hunting methods, ritual equipment, and bear power are some of the more prominent subjects that will be discussed here. The following section is not exhaustive. This treatment provides a brief overview along with a more focused discussion of the subjects relevant to this work.

**The Function of Bear Veneration in the northern Rocky Mountains**

In the northern Rockies bear customs were quite variable and performed for varying reasons. Different clans within the same tribe could have different beliefs regarding the bear. The Pawnee seem to have no rituals for bear hunting (Murie 1914) however Lesser (1933) notes that they did have a Bear Dance and Bear Society associated with healing and Weltfish (1965) notes Pawnee bear doctor cults. Although the Wind River Shoshoni considered the bear sacred, there is no sign that any reverential rites towards the bear took place among them. Yet the Agaiduku Shoshone were purported to perform a bear dance (Jorgensen 1980). The purpose of the Kutenai Grizzly Bear Ceremony was to obtain foreknowledge of unfavorable developments for the tribe.
Jorgensen (1980:270-271) states that the Ute bear dance was performed for various purposes including to change the winter weather to spring, to increase health, to ensure fertility for women, have hunting and gathering success, and be protected from bears. Some of Stewart’s (1942) work among the Ute and Southern Paiute may contradict this. His cultural element distribution list shows that there was no such feeling of respect or veneration for the bear, rather the bear was feared. These groups had bear shamans and still hunted the bear according to some taboo and custom, but the Ute and Southern Paiute lacked many of the practices that groups like the Cree upheld (Stewart 1942:327).

Although there was a high amount of variability, bear veneration in the northwestern Plains was typically affiliated with healing, war, and conciliatory purposes. Ceremony and ritual hunting were a form of tapping into the bear’s power while also placating the bear so that it would not be malevolent. Bear ceremonies focused on curing and renewal were typically conducted in spring, coinciding with the first thunder and the emergence of bears from their dens. The grizzly bear was believed to instruct a Kutenai every year to take charge of the tobacco planting activities (Schaeffer 1966). The Midewiwin was an annual healing based ceremony among some Plains groups in which the bear was an important part, involving the use of a bear skin. The Plains Cree seem to have associated their Bear Dance with healing and success on the warpath (Mandelbaum 1941:278). Curing ceremonies that derive inspiration from the bear are not limited to western North American indigenous groups. Northeastern peoples like the Iroquois had a midwinter Bear Dance that centered on healing rights (Kurath 1964).

Aside from war and healing purposes, a primary reason that bear ceremonies were conducted in the northwestern plains was to placate the bear and ensure a safe coexistence with them. One function of the Ute Bear dance was a conciliatory gesture to protect people from bears (Reed
1896; Schaeffer 1966). Similarly Denig (1930) notes that it can probably be assumed that the
ceremony associated with bear hunting serves primarily a conciliatory purpose, ensuring the bear
will not be angered and seek revenge on the hunters family. When a bear is killed among the
Assiniboine, a long ceremony of invocation takes place. They say if this is not done the bear will
certainly sooner or later devour some of them or their children (Denig 1930:538).

**Bear Societies**

Similar to bear ceremonies, numerous northern Rockies tribes had bear societies or bear clans
affiliated with healing, renewal or war purposes. Societies were made up of initiates either
recruited by other members or that had a dream of joining a society. McClintock (1923, 1968)
writes of grizzly bear healers among the Blackfoot. Fortune (1932) and Dorsey (1884) refer to
Omaha healer societies that derived their medicine from bears. One Omaha Clan was known as
the Bear Clan, or *wasábehithaži*, literally ‘they don't touch black bear hides’ (Liberty et al.
2001). Lowie (1916) recorded a women’s Bear Society among the Kiowa. The Assiniboine bear
cult described by Ewers (1955) is probably representative of prehistoric bear cults on the
northern Plains affiliated with war power and healing (Schaeffer 1966). Such clans may have
existed regionally for 1500 years or more. Small groups consisted of initiates who had received
bear power through dreams. Clan member’s duties included organizing the bear feast, directing
the ceremonial bear hunt, conducting healing ceremonies and aggressive participation in warfare
(Schaeffer 1966:34). Affiliates would dress in a perforated shirt, wear their hair in buns
resembling bear ears, and paint their faces black with red stripes. It is interesting to note that
after killing a bear, Thompson Indians would also paint their faces in alternating black and red
stripes (Teit 1900). Similarly, for the Blackfeet, the owner of the bear knife painted their faces in
a like manner. Meriwether Lewis notes that before hunting grizzly bears, the Mandan would
paint themselves and perform rights similar for when they are about to make war (Schullery
These strikingly similar elements of bear ritual are present among distinct tribal groups on the northwestern Plains.

**Bear Oral Traditions and Bundles**

The bear featured in several ceremonial bundles and oral traditions among northwestern Plains tribes. Bundles and oral traditions were generally passed along together and transferring a bundle involved recounting the tale of its origin. The theme of people being raised by bears is found in several tales from the tribes of the northern Rockies. Multiple stories tell of people becoming lost and taken into bear dens for the winter only to return to their people in the spring having learned the bears healing and war powers (Ewers 1958; McClintock 1923; Wissler 1912). The belief was common that both men and women could take bear lovers and even have half bear children. Some tribes would take bear cubs to raise at such a young age they still required breast milk. Kutenai informants recall a woman who had suckled a bear cub (Schaeffer 1966:16). Such practice was also recorded among subarctic hunters (probably Cree) by Samuel Hearne (1796) between 1769 and 1772.

Multiple tribes had bundles in which the bear played an important part. Bundles are ceremonial objects passed down from bearer to bearer with instructions, songs, and other customs that ensure the sacred power of the bundle is maintained. Typically they serve some healing, war, or renewal purpose and are opened on occasion according to ceremony during a specified time or when their use is required. They consist of a collection of objects, from cloth, to animal parts, typically added to over time, wrapped together into a bundle. Pawnee ceremonial paraphernalia associated with the Bear Dance and Bear Dance society consisted of several sacred bundles and equipment including bear claws and skins (Lesser 1933). A very old bundle belonging to the Blackfeet, the Beaver bundle, included a bear bone whittled into the figure of a bear. It is said the carving came from Alaska and was made by the Indians there (Wissler
The Medicine Pipe bundle is thought to be the Blackfoot’s oldest and one of their most sacred bundles (Wissler 1912). It was believed to have been handed down by the thunder and given to the Blackfeet by bear. Oral tradition recounts that the bundle was given to a young girl by her bear lover, who then gave it to her father and taught him the accompanying ceremonies. The original Medicine Pipe was said to have been wrapped in a grizzly skin but subsequent bundles utilized black bear. This represented the physical power of the bear and gave the bundle strength and protection (Hungry Wolf 1977). In the early 20th Century there were around 17 Medicine Pipe bundles among the Blackfeet.

Bundle traditions on the Plains provide clues to tribal histories. For example the Blackfoot Medicine Pipe is opened when the first thunder of the year is heard. Interestingly, this is also when the Kootenai preform one of their two annual Grizzly Bear Ceremonials (Schaeffer 1966), which also involved medicine bundles. Like the Medicine Pipe bundle of the Blackfeet, the Feather Pipe bundle of the Gros Ventre was wrapped in a bearskin and said to have been handed down by thunder (Cooper 1957). This common link of thunder and bear may suggest a single origin for the story. Oral history indicates that the Feathered Pipe Bundle is old among the Gros Ventre, but that it came to them after they had the horse and moved to the land once occupied by the Snake people (Shoshone Indians). Although the Gros Ventre had the horse before 1750, they would not expand into Shoshone territory until after 1780. Thus their acquisition of the Feathered Pipe bundle and move into Montana came relatively recently during the Protohistoric Period.

The Blackfoot had another bundle that was also among the Sarsi, Gros Ventre, Assiniboine, and Piegan; that was the Bear Knife. A Bear Knife or Bear Spear was a war related object of significance among Plains tribes like the Assiniboine, Gros Ventre, Crow, Mandan and Blackfeet.
(Ewers 1958, 1982). The Blackfoot bear knife was thought to have originated with the Sarsi (Wissler 1912). It consisted of a wide, dagger-like blade with a grizzly jaw bone for a handle (see Figures 2 and 3). Similarly, the Assiniboine Bear Knife consisted of a broad, flat, double-edged metal blade to the handle of which was attached a bear jaw (Ewers 1955:3). The knife’s handle was often adorned with feathers or other symbolic accoutrements. Wissler (1912) notes that there must have been many of these at one time but this was no longer the case, likely because the transfer ceremony of the bundle to the new owner was so brutal. This involved being repeatedly cast down and held onto thorns, slapped numerous times with the broad side of the blade, and finally having to catch the bear knife between one’s hands as it was thrown violently at the initiate (Dempsey 1978).

The bear knife owner was required to dress and paint their face to resemble a bear. A perforated shirt was worn and one’s hair was worn in buns resembling bears’ ears. Their faces were painted black with red vertical stripes or blackened around the eyes. In warfare the knife was thought to endow its possessor with the strength of a bear. It was the sole weapon its owner could use and they were to never turn from the enemy. When not in use the owner was required to hang the knife behind their lodge, offering prayer to it on occasion.

In the early twentieth century Dempsey (1978) recorded the Blood origin story of the Bear Knife. The knife had originated through the experiences of a warrior named Berry Child, who
when a youth, sought a vision.
Discovering the cave of a grizzly bear, he remained there for four days until the vision of a bear came to him in a dream. It ordered him to go to the land of the Underwater People where he must take from them the blade of a knife. From there he was told to travel to the middle of a swamp to find the skeleton of a huge bear. After fastening the jawbone to the blade, he had to climb a high mountain until he reached a meadow where a lodge had been pitched. There an old woman would decorate the knife and give him the power of the bear.

The Piegan had a bear lance that is said to share similar analogies to the bear knife. McClintock recorded the origin story of the Bear Spear among the Blackfoot at the turn of the Twentieth Century. Informants said it was adopted at a time when the Blackfeet used dogs (pre 1730-1750AD). It is similar to the origin of the bear knife, except the bear instructs a boy to make a spear by securing a long stick and attaching a sharp point. A bear’s teeth and nose were tied to the staff. Eagle feathers were tied to the handle and the staff was covered with bear skin painted with sacred red paint. Grizzly claws were tied to the handle so to rattle. In battle, the carrier of the bear spear was to always wear a grizzly claw in their hair.

The Plains Cree had a bundle which consisted of a bear paw with claws worn as a necklace (Mandelbaum 1941). Similar to the Bear Knife and Bear Spear, these bundles were hung on a tripod behind the owner’s lodge and prayed to. The Plains Cree bundle called “Chief’s Son’s Hand” (chief’s son’s is a circumlocution for bear), has a similar origin story to the Bear Spear and Bear Knife, in which the visionary is instructed on how to make a weapon or amulet out of bear paw and/or skull parts to aid in protection in warfare.
There are a few stories that hint at the power of the owner of the bear knife or bear lance. A previous Blackfoot owner of the knife, White Calf, had reportedly turned into a grizzly while fending off Crow warriors. McClintock writes about a Gros Ventre chief with great grizzly bear power who killed many Blackfeet. After the Blackfeet had finally killed him, they discovered a grizzly claw in his hair (1968:53). Kroeber writes of a renowned Gros Ventre warrior who received his personal medicine from the bears, and was forbidden to scalp, count coup on the enemy, or take away a gun. He could only kill. This warrior was said to have killed two Sioux with one shot, at a place which received its name from the event (1908:196). Those who had bear power, like the one who owned the Bear Knife or Bear Spear, often wore a single grizzly claw in their hair (McClintock 1968). It is interesting to consider this fact in light of some the archaeological evidence of single perforated bear claws in Montana, addressed later.

**Bear Paws and Skulls**

The feet and skull of a bear often received special treatment. A Stoney Indian story relays the importance of consuming bear feet to obtain hunting prowess and courage (Wilcox 1900). The Kutenai are known to give special attention to the skull and paws (Schaeffer 1966:20). They would use a grizzly skull and two skeletonized paws as part of their Grizzly Bear Ceremonial. Skinner (1915) writes of a Menominee bear ritual in which the brain of the bears are consumed after removing them from a hole made in the right temple of the skull. For the Navajo, paws of an unwounded bear were used for Mountaintopway pouches. Additionally, the bundle may have been decorated with shells, beads or claws (Frisbie 1982:103).

The practice of wearing bear claw necklaces was present among several tribes at the time of European contact. Great Plains and western Great Lakes tribes like the Arikara, Assiniboine, Ioway, Menominee, Mesquakie, Oto, Osage, Pawnee, Ponca, Potawatomi, Santee Dakota, Sauk, and Winnebago were known to wear grizzly claw necklaces that held symbolic value of courage.
or accomplishment (Feder and Chandler 1961). Perrin du Lac (1802) notes that the bravest Kiowa warriors could be distinguished by bear claw necklaces. Only those who had killed a grizzly were allowed to wear these status symbols. A member of the Lewis and Clark expedition noted several bear claw necklaces worn by Yankton Sioux men (Schullery 2002). Clark briefly mentions their existence among the Cheyenne and Lewis also noted their great value to warriors among the Shoshone and the Nez Perce. Alanson Skinner recalling the words of a Sauk informant said that there were two ways of obtaining coveted grizzly claws: journey to where grizzlies were abundant and slay one, or kill a Dakota warrior that possessed a claw necklace. Both exploits were considered highly dangerous.

Bear art depicted on shields, clubs, tepees, and other objects denoted clan affiliations, conjured protection or imbued power. One accoutrement of bear clan members were shields festooned with various bear imagery (Ewers 1982; Hämäläinen 2011; Keyser 2004). Renowned Assiniboine war chief, medicine man, and prophet, Tchatka, got his sacred spirit or wak-kon from a large wooden drum which was inscribed with red figures of a grizzly bear, a buffalo and a turtle (Kennedy and Stevens 1972). Among the Kootenai, their Grizzly Bear Ceremonial involved the use of an earth or clay bear effigy (Schaeffer 1966). As mentioned earlier, the Blackfoot Beaver bundle contained a carved bear figure. Tipis often featured bear designs. Alexander Henry notes bear painted tipis among the Blackfoot in 1809 (Henry and Thompson 1897). James Mooney also documented bear decorated tipis and shields among the Kiowa and Cheyenne. An Assiniboine chief’s tipi was distinguished from other tribespeople by the presence of two large black painted bears on either side of the lodge (Maximilian 1906:19). Bear painted tipis of the Blackfoot, Blood, and Piegan were strikingly similar to those of the Sarsi and Assiniboine (Ewers 1955).
Bear hunting methods, weapons, and seasons

Judging by the ethnographic and archaeological data bear hunting was not a common occurrence in prehistory. When undertaken, the hunt was likely preplanned rather than improvisational. The species of bear and local conditions further dictated hunting tactics, weapon choice, and timing of the hunt. Some of the ethnographic observations reveal a knowledge hunters had of bears that could only come with a lifetime of experiences and the lessons from one’s predecessors. The Nunamiut knew that once a bear is wounded it will drop to all four and charge, and in these cases arrows were supremely inadequate (Binford 1997). These hunters continuously updated their knowledge of the denning areas favored by local bears and could recognize the spoor of certain cubs as adults (Binford 1997). Eastern Cree informants believed the bear to not be able to turn well on its right side and could thus be exploited (Skinner 1911). The Kutenai believe that a grizzly bear must raise up on two legs to fight with its left hand covers its heart (Schaeffer 1966). It is interesting that the Nunamiut believe that bears are left handed and when they strike out with their arms they always lead with their left (Binford 1997:8). Lowie (1909) recounts an Assiniboine story about a woman who took a bear lover. The story alludes to the vulnerability of the right paw of the bear. There was a common belief that bears could not run fast downhill as well (Russell 1965). Pawnees who were attacked by them shot arrows into their paws when they reared up. It was said this prevented them from running on all fours and charging the hunters (Blaine 1990). Though these snippets seem somewhat scattergun, these beliefs likely reflect generations of encounters and retellings of past experiences by others. Methods and tactics were developed generational from trial and error.

Several techniques were used to hunt bears. The procedures of the hunt may depend on the purpose as well as the species of bear being hunted. How hunters monitor their environments can determine the differential success of various tactics and weapons they use (Binford 1997). Den
hunts and the use of dogs are a couple common strategies, but the ethnographic literature reveals myriad methods. Anderson (1968) notes that during the fur trade era some Stoney Indians even hunted bear with .22 rifles! Lower Kootenai Indians would pursue bears along streams from a canoe during the fall berry season (Schaeffer 1966). Meriwether Lewis reports on the Nez Perce method of hunting grizzly bears, “…these people sometimes kill the variegated (grizzly) bear when they can get them in the open plain where they can pursue them on horseback and shoot them with their arrows (Schullery 2002:154-155). Kootenai and Lower Carrier peoples were purported to use fish oil and beaver castor on their moccasins to help attract bears (Schaeffer 1966). One method recorded by Teit (1900) among the Thompson Indians is truly unique. Tribal members recounted a man that was very successful at hunting bears. Upon inciting a bear to stand and open its mouth, he would wedge a bone between the bear’s jaws. This bone was sharpened on each end and impaled itself in the animal’s mouth. As the bear struggled to free the bone the man hit it in the head with a stone club.

The most common hunt in the ethnographic record is the winter den hunt. Denned bears likely offered a safer hunt compared to open encounter hunting, particularly for grizzly bears. Reliability and predictability of bears and their locations was also an asset. For the Nunamiut, dens were typically located in the summer during other forays and active dens would be monitored through fall (Binford 1997:8). In the middle of winter these locations would be returned to, typically after ritual preparation. Sometimes dens may have been happened upon. The bear was then rousted out by calling to it, using smoke, or prodding the bear with a pole. Upon emergence the bear was typically clubbed, speared, or shot with arrows. Denig (1930) describes the Assiniboine grizzly hunt:

These were conducted in winter by a party of six to eight men, although sometimes a single hunter would pursue a bear. The bear would be driven out of its den and shot at or inside the entrance.
Frequently two or three bears are killed in the same hole at the same time, and at others some of
the hunters get dreadfully mangled. Bears are also run on horseback, when found on the plains,
and shot with arrows. This is the least dangerous manner of killing them. No pits or traps are used,
though forked sticks are placed before their dens so that when they came out they were caught by
the hind part and detained a short time.

Archaeological evidence suggests the den technique has been in use for several thousand years in
North America. On-Your-Knees Cave in Alaska and Gaadu Din and K1 Cave on Haida Gwaii in
British Columbia likely represent bear den hunts (McLaren et al. 2005). Each has broken
projectile points associated with bear remains, implying bears have been hunted at den locations
for over 10,000 years in North America.

Group hunts similar to those described above by Denig (1930) were a common technique.
The Kutenai would occasionally hunt grizzlies as a group in the late fall and early winter before
hibernation utilizing rocky or otherwise advantageous terrain to increase success (Schaeffer
1966). Skinner (1910) notes that grizzlies were typically hunted by a party of Cree hunters.
Similarly, Meriwether Lewis writes that the Mandan only hunted grizzlies in parties of 6 to 10
people, with bows and arrows and guns. This would often cost them at least one member of their
party. He also notes that these hunts were preceded by ceremonies similar to ones conducted for
warfare (Schullery 2002). In 1805, Canadian trapper/trader/explorer Francois-Antoine Larocque
gives a brief description of how the Crow hunted bears at that time. They were usually
surrounded in a thicket by ‘a whole nation’ of hunters where they harass the bear for a long while
and finally kill it, seldom taking the skin. He also notes they were not hunted for food except
under dire circumstances (Wood and Thiessen 1985).

A self-impalement killing strategy has been documented among modern Nunamiut hunters in
Alaska and may have been employed prehistorically. The technique involved arousing a brown
bear from its den. Typically three hunters would await its emergence. Just before contacting the
instigator, the bear is incited to rear up on its hind legs. At this point, the front of a spear, which
has been lying flat on the ground facing the den, is raised while the butt end is planted into the
ground (see Figure 4). The spear is positioned so the bear impales itself in the heart or throat as it
comes back down on all fours. These spears consisted of a spruce shaft tipped with a point made
from the radius of a previously killed bear (Binford 1997). Where the point was hafted to the
shaft was encircled with a bighorn sheep horn forming a very robust weapon. There is
ethnographic support
showing use of a rendition
of this technique among
both Indian and white
hunters with guns-inducing
a bear to rear at very close
range by waving arms or a
garment (Patton 1998). It is
at this time they were shot
as their chest offered a
mortal target at short
distance. Although the technique may have not been a commonly practiced one, it would have
been safer and more effective than tactics likely to superficially wound the animal and incite
attack.

The use of dogs to hunt bears is found in several ethnographic accounts. The Kootenai
sometimes would use dogs to hunt grizzly and black bears. Dogs would bay the bear while the
hunter dispatched it with bow and arrows. Sometimes special compound arrows were reserved for bears. The tip could separate from the shaft within the cavity once fired to inflict more damage (Schaeffer 1966). Some central and eastern Eskimo groups would chase polar bears down on dog sleds. Eventually the dogs would bay the bear and the hunter would kill it with a hand held lance while the bear was busied with the dogs (Binford 1997). The Nunamiut used dogs to aid in hunting grizzly and Kodiak bears - both in open encounter hunting and den hunting. Eyak and northern Tlingit hunters would pursue large brown bears under certain circumstances. This was done at den entrances with dogs. The bear was stabbed between the shoulders from above as it emerged from the den (DeLaguna 1990a, 1990b). The Eastern Cree sometimes used dogs to occupy a bear while the hunter lanced it (Skinner 1911). The Thompson Indians occasionally used dogs to hunt bears as well (Teit 1900).

Bears may have been killed throughout the year. Purpose and bear species may have dictated the timing of the hunt more than anything. For sustenance and fur, bears were taken when their fat and fur was in prime condition. This would likely be from late fall to early spring. Osage hunters would pursue bear in February or March during the fur trade (Bailey 1973). The Kutenai would kill black bears throughout the year but most intensively during the fall months. They were also sought immediately after their emergence in spring when their hide and fat was prime (Schaeffer 1966). Ethnography suggests the majority of the grizzly hunts took place in the winter season while they were denning. However, grizzlies could be killed anytime of the year, particularly if one was hunting a spirit bear or attaining war or healing power. Crow warriors were said to hunt the grizzly after they emerged from their dens in the spring. Revenge hunts for the death of livestock or a relative may have been conducted during any season. Similar to
hunting methods, the timing of the hunt was a product of the purpose of the hunt and the species
of bear being hunted.

Preferred weapons for bear hunting were the spear or club. In an examination of nearly 350
ethnographic examples, Lewis Binford (1997) found the majority of bear hunts were carried out
with either a thrusting spear, impaling spear or club. The latter being reserved more for black
bears. For the Eastern Cree bears were hunted with war club and knife at their winter lairs. They
were struck a blow from the club and finished with a knife. The Thompson Indians would hunt
bears with bow and arrows (Teit 1900). The Kutenai would rarely hunt grizzlies, but when they
did their method involved rousing the bear from its den with a human scented stick or smoke
and attempting to pincushion the animal with arrows before it could attack (Schaeffer 1966). As
mentioned previously, they would sometimes enlist the help of dogs. The Kutenai would hunt
black bear with bow and arrow as well as deadfall traps. The latter were not used for grizzlies as
these bears were too powerful (Schaeffer 1966).

**Bear Trapping**

Killing bears with traps provided some benefits over open encounter or den tactics. Although
there was a time investment in building the trap, once built the hunter was free to spend time
procuring other resources. The risk of being attacked by a bear was also eliminated. Prehistoric
bear traps consisted primarily of deadfalls and snares. Archaeological or ethnographic support
for use of pitfall traps is lacking, although the method cannot be ruled out. Historic traps were
either number 5 or 6 leg traps or wooden enclosures with a trap door. Set guns were another
method used by European-American trappers and likely some indigenous peoples. A gun was
mounted at the rear of an enclosure, fastened tightly to trees or stakes with a string attached to
the trigger. This string pulled the trigger when the crossbar containing the bait was jostled
positioned just in front of the gun barrel. A shortened shotgun was sometimes used (Russell
1967). The primary traps of concern for this work are the prehistoric methods of deadfalls and snares.

Deadfalls were a common trap used ethnographically. The Thompson Indians were said to use deadfalls to hunt bear (Teit 1900). These consisted of stacked log constructions. A crib like structure would be built to direct the bears approach to a baited trigger. Above the enclosures entry would be a heavy log, propped up with additional logs stacked on it perpendicularly to add more weight (see Figure 5). This log was supported by a vertical stick acting as a trigger that was then attached to a baited crossbar. Any jostling would send the whole works down on the bears neck and back. Kroeber (1908) describes a Gros Ventre deadfall:

…traps for foxes and other animals, even bears, were constructed by making an enclosure, over the opening of which a heavy log, sliding between four sticks to keep it in place, was supported on a single slender upright stick resting on another stick attached to the bait. Other logs might be leaned against the first one to give it additional weight.

Other trap renditions were conical brush and pole structures resembling a sweat-lodge. These could be used in conjunction with a deadfall, snare, or historically, a number 5 or 6 leg trap would be placed within the cubby set. Snare-poles consist of a long log resting on a fulcrum, heavily weighted on one end with perpendicular stacked logs. On the other end a hoop of cord was ran through and suspended below the log and would be positioned in a trail or in front of some bait so that a bear was forced to walk through the wide hoop. Once the bear’s head had entered this hoop, a set bar holding the log down against all the opposing weight on the other end was jostled. The snare end of the log would be levered into the air along with the bear as its neck is tightened against the log with the cord.

Archaeological evidence of snare and deadfall traps may be limited as they are made primarily of organic components unlikely to be preserved, but the remains of butchery activities
may occur in the vicinity of such trapping localities (McLaren et al. 2005). Despite their ephemeral nature, Historic and Late Prehistoric bear traps can survive and have been identified. These wooden structures are often conical in shape and have thus been mistaken for timber lodges, wiki-ups, or temporary shelters. Newton et al. (1997) note the identification of several trapping structures on the Lewis and Clark National Forest in north-central Montana; the size of some indicates they were used to trap bear. The authors note ethnographic support for such structures in Montana for trapping bear and other furbearers. Binford (1983:73-73) states that many archaeological sites in North America interpreted as children’s burials, ritual cairns, or storage pits are really deadfall traps. Prior to interpreting a wood structure as a cubby set, deadfall, shelter or wiki-up, other lines of evidence should be considered. This can include evidence of a hearth, scratch marks on surrounding trees, size and form of structure and other archaeological remains. Without knowledge that such structures were utilized ethnographically, there is little hope that a cubby set or deadfall would be interpreted as such by most practitioners. Rather it may incorrectly be associated with another use. Knowing the indicators of specific hunting techniques, such as trapping, can lead to a richer understanding of subsistence strategies, landscape use and other aspects of hunter behavior.

Figure 5. Bear caught in deadfall (Hutchinson 1914).
Accurate identification of wooden and stone structures needs to consider the possibility of them being associated with trapping versus shelters, sweat lodges, cairns, burials or caches.
Chapter 4: Archaeological Sites with bear remains or bear rock art

This chapter provides an overview of archaeological data in Montana and Wyoming pertaining to bear faunal sites and rock art sites with bear motifs. The data used to compile the following analysis were based on archaeological site forms available from the Montana and Wyoming State Historic Preservation Offices (SHPO), and site reports from the Wyoming and Montana SHPO’s, Bureau of Land Management (BLM) and other sources. Douglas Melton of the BLM provided a table of archaeological sites with bear remains in Montana. This table was supplemented with additional research along with a site table I compiled for Wyoming. This information comprises Appendix A. Regional rock art specialist Mavis Greer provided lists of known Montana and Wyoming rock art sites with bear motifs. The list was extrapolated utilizing site forms and journal articles. A few additional sites were also added that I found documentation for during the course of this research. The complete tables for rock art sites with bear imagery in Wyoming and Montana can be seen in Appendix B and C. Along with a table of archaeological sites in Montana and Wyoming with bear remains, I compiled a table of sites from other states and provinces in North America that have either bear remains or bear immunological residues. This makes up Appendix D.

Prior to examining archaeological sites with bear remains and bear rock art in Montana and northern Wyoming, something about chronology should be noted. For the sake of this work the Historic Period includes all events after 1805. The Protohistoric period lasted from about 1730 through 1805. The Late Prehistoric period lasted from around 1500 to 250 years before present (BP). The Archaic Period is divided into the Late (1500-3000BP), Middle (3000-5000BP), and Early (5000-8000BP). Prior to 8,000 years is considered PaleoIndian and is further divided into Agate Basin, Hell Gap, Cody, Mountain-Foothill, Goshen, Folsom, Clovis and pre-Clovis (MacDonald 2011).
Archaeological sites in the northwestern Plains with bear remains are rare. Relative to other game species like bison and deer, evidence of bear hunting is rather infrequent. Plew’s (2009) prehistoric subsistence analysis on Idaho’s Snake River plain has shown similar results noting almost a complete absence of ursidae remains from archaeological contexts. Potential contributing factors to this were that bear hunting was a rare event. Also, unlike herding ungulates, bears are typically solitary and would usually be killed singly. Further contributing to the archaeological invisibility of bear hunting is that if bear hunting were practiced similarly to the ethnographic record, little material remains would be left at the kill or consumption site. Although not a common occurrence, there is evidence that bears were hunted in the region.

In Montana there are at least 25 archaeological sites with bear remains (Dr. Douglas Melton personal communication). Multiple sites to the west on the Columbia Plateau have archaeological evidence of bear hunting (Butler 1962; Chance and Chance 1985; Gustafson 1972; Sappington and Schuknecht-McDaniel 2001). At least fifteen contexts with evidence of bear hunting occur in northern Wyoming. Within the boundaries of modern day Yellowstone National Park (YNP) nine archaeological sites have either bear remains or artifacts that tested positive for bear protein. Bear is the third most commonly identified protein and the third most identified faunal remain for sites in YNP (Cannon 2012, 1998; MacDonald and Hale 2012; MacDonald et al. 2012). Other archaeological contexts with bear elements within the greater Yellowstone region include Mummy Cave, Bugas-Holding, Goetz, Game Creek, Pagoda Creek, and Dead Indian Creek (Hughes 2003; Love 1975; Rapson 1990). Further east in north central Wyoming is the Medicine Lodge Creek Site. See the appendix for a detailed list of the 40 sites in Wyoming and Montana with bear remains. Figure 6 is a map of sites in Montana and Wyoming with bear remains or immunological residues.
For the following analysis contexts in Montana and Wyoming are considered. Archaeological data suggests some commonalities among the forty sites. Certain variables may help predict where sites with bear remains could be expected and if bear veneration was taking place. The sites included do not represent an exhaustive list of archaeological settings with bear remains in these two states. Rather, they were all the sites known by the author at the time of this work's completion.

**Species of bear hunted**
Did prehistoric hunters in the northern Rockies target one species of bear more than the other?

Generally speaking, the ethnographic literature among this region suggests black bears were more commonly hunted for food and grizzly bears were hunted for reasons related to war and healing power attainment, revenge, or to kill a spirit bear. Of the 40 sites included in this
analysis, there were 32 cases where bear remains were identifiable to a specific species. In archaeological contexts with identifiable elements, grizzly bears were slightly more frequent than black bear remains (see Figure 7). Some sites had multiple bear identified to the species. Eighteen instances were recognized as grizzlies while 14 were black bear. However, when the sites types and species are looked at together, grizzly remains were more likely to show up than black bear elements in ceremonial contexts (see Figure 8). Black bear elements were more common in occupational sites. Examples of black bear claw and canine pendants are much less frequent than grizzly bear tooth and claw ornaments.

**Site chronology**

How did the frequency of bear hunting change over time in the northwestern Plains and northern Rockies? There seems to be a trend of increasing site counts with bear remains in the region over time with a significant increase during the Late Prehistoric period (see Figure 9). Nearly half of Montana’s sites (11) are from the last 1,500 years. An equal amount remains undated. Only one site can be confidently assigned to the PaleoIndian period and the human
association in this case is questionable. However, sites in northern Wyoming do have evidence for bear hunting prior to 8,000 years ago. Medicine Lodge Creek and four sites within modern Yellowstone National Park have either faunal remains or protein residues from PaleoIndian components. There is a notable absence of bear sites in Montana throughout the Archaic, but it is likely that some of the undated contexts are from this antiquity. Also multiple northern Wyoming sites have evidence of bear hunting during the Early through Late Archaic so it is likely the practice was also occurring in Montana during this time. The increase in sites with bear remains during the Late Prehistoric period may be a product of increasing populations and thus more sites. Growing populations would be expected to lead to more conflict. In addition to the bear being hunted for food and other purposes, warriors and warrior societies on the northern Plains could have increased hunting the bear for power attainment.

**Site Locations and Distributions**

A couple patterns are evident when reviewing the geographic distribution and the environmental setting of archaeological sites with evidence of bear hunting in Montana and Wyoming. Archaeological contexts with bear remains consist largely of stream corridors and to a lesser extent caves and rock shelters (see Figure 10). In Montana most sites with bear remains are concentrated in the northwestern portion of the state, particularly along the Kootenai River. The majority of the Wyoming sites with bear evidence are similarly clustered in the northwestern portion of the state, also along major stream ways.

![Site counts over time with bear remains.](image)
**Stream corridors and cold season hunting**

Sites with bear remains are frequently located next to water courses (see Graph 4). Although some of this reflects a higher frequency of occupations next to water sources, it could also indicate a preferred habitat for bear hunting. Stream ways provided attractive food sources for bears, but also they were the preferred wintering grounds for hunter-gatherers.

Bear remains along rivers and streams may indicate a winter encampment where hunters were exploiting bears in their dens. In the northern Rockies, hunting was the critical margin of survival during the winter and early spring (Wright 1984). More than a quarter of the sites with bear remains in Montana are located along the Kootenai River. These remains consist primarily of black bears. Ethnographically, the Lower Kootenai Indians would hunt black bears from canoes along the streams in the fall berry season (Schaeffer 1966). They would also conduct communal deer hunts along the river in the winter (Davis et al. 2013). Located on the Kootenai River, the Late Prehistoric Fisher River Site (Parmalee 1962) has the remains of 15 deer along with a black bear. The faunal remains, time period, and location imply a Lower Kootenai winter occupation similar to those described ethnographically. Several sites occurring along stream courses in northwestern Wyoming also suggest winter occupations.

Gary Wright’s work in northwest Wyoming has established a likely seasonal settlement pattern for regional hunter-gatherers going back perhaps 6,000 years. During the winter, semi-
permanent camps were established in sheltered creeks or river bottoms with convenient access to fuel, fresh water, and game (Janetski 2002). Camps would be placed in the winter ranges of bighorn sheep, bison and other ungulates. Bear bones occur frequently in northwest Wyoming in conjunction with larger proportions of bighorn sheep and/or deer elements. This is the case at Malin Creek, Pagoda Creek, Mummy Cave, Bugas-Holding and Dead Indian Creek (Darlington 1987; Eakin 1989; Husted and Edgar 2002; Hughes 2003; Kornfield et al. 2010; Vivian et al. 2008). All these locales are located along stream courses between about 6,000 and 6,800 feet elevation. Pagoda Creek (48PA853), Mummy Cave (48PA201), Bugas-Holding (48PA563) and Dead Indian Creek (48PA551) have been interpreted as having at least some cold season occupation episodes. The presence of bear and sheep remains at the Malin Creek Site (48YE353), it’s location within the winter range of bighorn sheep (Yellowstone Heritage and Research Center), proximity and similarity to the other four sites, and setting along a major stream corridor suggests that Malin Creek was also a winter occupied site. It is certainly reasonable to speculate that Native Americans would have been attracted to the region to hunt bear (MacDonald et al. 2012). Supporting this is the fact that bear remains and bear protein are among the most common recovered faunal remains/residues from archaeological contexts in present day Yellowstone National Park. Finally, the above-mentioned sites support the ethnographic evidence concerning the popularity of the winter den hunt.

**Types of sites**

It can be difficult to define a site by a specific function. An occupational context can still have ceremonial uses or be part of a communal kill site. That said there are some loose categorical site types that contexts with bear remains could fit into. These are offering or burial sites, communal kill sites, and occupations. Occupations are discussed as bear mandible sites,
bear paw sites, and early bear veneration sites. These types are nothing more than organizational tools to discuss the information and by no means indicate the true function of a site.

Offering and Burial sites

Multiple sites in Montana with bear remains suggest a ritual function as indicated by bear claw or tooth pendants. Most are located in the western part of the state, although Benson’s Butte and Lookout Cave in eastern Montana have produced bear pendants. At the Benson’s Butte Site (24BH1726) in Bighorn County, one bear canine was found within the deposits a shallow excavated winter dwelling dated to around 1700BP. An incised ring is visible at the base of the canine (Fredlund 1979:140) perhaps facilitating tying around the neck or in hair. A few bone and shell beads were also associated with the dwelling along with a hearth, concentration of flake and bone tools, and projectile points.

Lookout Cave (24PH402) in north-central Montana offers a clear and far vantage of the surrounding plain. The partially looted cave includes numerous artifacts and pictographs that reveal several different painting episodes over an extended period of time. Some of these images depict bison and antelope. Archaeological remains, which could be offerings, included arrow shafts, projectile points, perforated bear claw(s), a turtle shell pendant, a buffalo stone, bone beads, a flute, and incised fossils. The cave may have functioned as a game lookout, where hunters may await an approaching herd, inciting them with rock art and offerings. Conversely, the site may have represented a vision questing location. The art could represent vision or dream experiences and the artifacts may have acted as tribute to a spirit helper.

Western Montana has multiple sites in which bear remains are suggestive of symbolic importance. Site 24FH5 is a Late Prehistoric-Protohistoric burial of an older male found near present Kalispell, Montana. The burial contained a drilled grizzly claw pendant (supposedly
attached to his neck or hair), a lynx claw, olivella and dentalium shell beads, small bone beads, a broken pipe, a turquoise pendant, steatite celt, red ochre along with other artifacts (Hogan 1977). Kujawa (24LN1012) is a partially looted Late Prehistoric-Historic ceremonial site and cache on the Kootenai River (Lahren et al. 1983). The impressive panorama surrounding Kujawa certainly incites a feeling of power and likely a place where spirit council was sought (see Figure 11). Below a rock promontory containing pictographs a collection of dentalium and olivella shells and beads, tubular bone beads, stone and shell pendants, eagle talons, grizzly claw, grooved grizzly canine, grizzly molars, projectile points, grooved hammers (possible clubs for bear hunting), abraders, elk teeth and other artifacts were cached. Many of these artifacts elements were covered in red ochre. The bear molars were described as perforated and ochre stained. The Bearmouth Pictographs (24GN1001) on the Clark Fork River is another ceremonial site with bear remains. Similar to Kujawa and Lookout Cave, there is an emphasis on the visual experience at Bearmouth with large, towering vertical cliffs rising from the floodplain. Below a pictograph panel significant quantities of elk teeth, bone and shell beads, pendants, and a grizzly claw necklace were reportedly collected by the University of Montana (Melton personal communication 2013; Taylor 1976). Based on the rock art and non-utility items found below the panel, the place likely served some spiritual purpose. It has been suggested the site may have
been used by Flathead or Pend d’Oreille. Unfortunately, like many archaeological sites in Montana the site had been looted significantly.

In light of the artifacts at the above sites it is interesting to note some ethnographic accounts. Teit (1900) describes a Lower Thompson Indian burial with stone adzes, dentalia, grizzly bear claws, and a copper axe. A record by Walter McClintock, who lived among the Blackfeet in the late 1800’s notes that Blackfoot’s finest regalia, included necklaces made of beads, small bones, elk-teeth, shells and grizzly bear claws (1968:271). Although these snippets may not be groundbreaking, they suggest these items had ceremonial value. The above locations were likely sacred. In some cases custom may have required a visitor to leave an offering or record their vision experience on a rock panel. The fact that bear claws and canines show up these contexts intimates that similar to the ethnographic record, these items held certain symbolic value in prehistory.

**Communal kill sites with bear remains**

Bear remains are occasionally present at communal bison kill sites. This is interesting to consider in light of the previously noted accounts of grizzlies frequenting bison jumps and encampments. The Bootlegger Trail Site is a large bison kill in north central Montana utilized only a few times from approximately 1200-1300AD. Development of bison fetuses puts the seasonality of the kill sometime in March (Roll and Deaver 1978). Along with copious amounts of bison bones, other artifacts recovered included projectile points, bone and stone tools, bone and shell beads, copper, ochre, and an elk tooth pendant. The only bear element recovered was a grizzly mandible without teeth-perhaps removed for ornaments (Roll and Deaver 1978:72). Alternatively the jaw could have represented the remains of a bear knife handle—although this is merely conjecture. The Bootlegger Trail Site could represent an Athapaskan presence around
700-800BP, possibly ancestral Navajo en route to the southwest. The recovery of a stone ulu-like knife and projectile point styles supports this assumption.

The Steel’s Pass Camp Site (24MA565) in southwest Montana shows intermittent occupancy and use as a bison pound from over 11,000 years ago until the Historic Period. Some of the deepest levels of one test unit contained bear elements and artifacts—a grizzly metapodial distal and phalanx around 130cm below the ground surface (Davis 1993). Some pottery sherds were also recovered from the site. Unfortunately the site has been heavily looted for several decades and the test unit with the bear remains showed evidence of such, making secure dating and any reasonable interpretation questionable.

The Goetz 1 Site (48TE455) in northwestern Wyoming is a game trap and quarry/camp located in a steep-walled canyon. The site was used/occupied several times throughout prehistory until being abandoned around 1460AD (Wright 1984:85). Besides significant amounts of bison bones, a black bear mandible was recovered.

Of the 40 sites with bear remains in Montana and Wyoming, only three are communal bison kill contexts. This is not strong evidence to suggest that there is a correlation between communal hunting sites and bear remains. However, it should be noted that bears would have been attracted to mass bison kills. As discussed earlier with the Lewis and Clark journals, bears were known to congregate at bison jumps and river crossings where there was an excess of dead bison. Other narratives describe bears frequenting Crow camps. It is reasonable to assume that there were times when prehistoric people attacked a scavenging bear. Conversely, bear remains like skulls or paws at communal kill sites could have been of ceremonial use involved with the bison hunt.
Bear paws and skulls

Notably there is a paucity of non-cranial and non-paw elements in archaeological contexts in the region (see Figure 12). Several of the remains are teeth, claws, mandibles, and other skull and paw elements. This fact is interesting to consider in light of the ethnographic record which emphasizes the ritual treatment of skull and paw parts. Of the identified bear remains from Montana and Wyoming archaeological sites only 20% are elements besides those from skulls or paws. Skull elements make up almost half of all bear remains in archaeological contexts while paw elements represent one third of all remains. It could be argued that skulls, mandibles, teeth, phalanges and claws resist some of the natural processes affecting other osseous materials in the archaeological record. Phalanges are known to be quite durable and are common elements found at archaeological sites because they resist cutting and chewing damage from carnivores (Doug MacDonald pers. comm.). Hughes (2003) states that tarsals, carpals, and phalanges of ungulates are often overrepresented in site faunal assemblages because they offer little marrow or meat value for humans and are often ignored by scavengers for the same reasons. Conversely, these data could be used to support the ethnographic literature that emphasizes the importance of both skulls and paws.

The Medicine Lodge Creek Site has both bear remains and bear rock art. Hunting and gathering would have been productive at the Medicine Lodge Creek Site (48BH499) in Wyoming’s Bighorn Basin. Chokecherry, deer, elk, bear and bobcat were readily available...

![Element proportions](image_url)

Figure 12. Proportion of bear skull and paw elements compared to all other bear elements from Montana and Wyoming archaeological sites.
(Junge 1973). The location of the site at the foot of the Bighorn Mountains provided an ideal winter habitation and such seasonal use has been established for the site (Junge 1973). A fire pit dated to around 8300 BP contains grizzly remains (Frison and Walker 2007). The charred elements all come from the paw. Another paw element is found in a Late Prehistoric cultural layer of the site. Medicine Lodge Creek also has an array of rock art. Shield Bearing Warriors are depicted; some of them with bear power motifs. It has been suggested that the site’s location in the mouth of a canyon could have made Medicine Lodge Creek amenable to seeking bear power (Frison and Walker 2007). Like other sacred features of the landscape that have been associated with bears in the northwestern Plains (e.g. Bear Butte and Bear’s Lodge Butte/Devil’s Tower), Medicine Lodge Creek could have held a similar attraction (Frison and Walker 2007:226).

The Malin Creek site along the Yellowstone River also has bear paw remains. Identifiable bear bones included a bear carpal bone, a fragmented mandibular angle, and an astragalus from Component Two dated to around 8800BP. Component one contained a single distal phalange from approximately 9500BP. Also a Scottsbluff point tested positive for bear protein (Vivian et al. 2008).

Mandibles show up in enough frequency by themselves at sites in Montana that it is tempting to suggest they may have once been bear knives. The previously discussed Goetz Site and Red Lodge Site have black bear mandibles as their only bear remains. Similarly, the Bootlegger Trail
site has a grizzly mandible also as the sole bear remains. The Horse Mint Site (24CH185) is a single occupation dating from around 145-320 BP along the Missouri River consisting of a hearth and bison and grizzly bear remains. Associated with the hearth were a set of grizzly mandibles (Davis and Aaberg 1978). These paired mandibles are split but match up seamlessly (see Figures 13 and 14). A bear knife would have required splitting of the mandibles and then lashing them securely together again to form the handle and fasten the jaw to the blade of the knife (see Figure 14).

**Cave sites with bear remains**

One site in Montana hints at the potential antiquity of ritual bear hunting in the New World. Unfortunately, substandard excavation and recording practices forfeited any legitimate scientific knowledge to be gleaned from the site. The recovered materials leave not much more than a fanciful idea that Pleistocene hunters were ritualizing bear hunting in North America.

The Blacktail Cave Site (24LC151) is located in what would have been an unglaciated area west of Glacial Lake Great Falls, within the southern outlet of the hypothesized ice-free corridor (Davis et al. 1996). At the peak of the last Ice Age, about 20,000 years ago, Blacktail Cave

![Figure 14. Above: split grizzly mandibles paired together from the Horsemint Site (Davis and Aaberg 1978). Left: Blackfoot bear knife (Mails 1991).](image-url)
remained ice free. In a deep chamber within the cave, seven big brown bear skulls were discovered near a musk ox skull and bison occidentalis skull. The species of bear is most similar to Kodiak bears and significantly larger than modern grizzlies. Near one of these bear skulls was a Goshen-Plainview point about 3 inches long and an inch wide (Rittel 1981). This style has been typologically dated to c. 11,300 to 10,900 BP. Also in proximity to the faunal remains were eight brown chert artifacts. Charcoal was present in the deposit beginning around three feet deep (Melton 1985). In addition to the Goshen-Plainview point, two Metzal points (c. 8800BP) were recovered from the cave along with another Metzal point from outside the cave (Davis and Hill 1996). Excavated short-faced bear bones were analyzed and dated to 10,900 years old (Davis et al. 1996).

Early work at Blacktail reported the discovery of chipped stone bear effigies (Rittel 1981). A passage in the cave that enters a great room was blocked by a pile of rocks about four feet in diameter. Upon this pile set a small bison skull. Near the bottom of the pile there was an incised granite stone with a bear on one side and a bison on the other. Also found in the cave was a fossil that had been ground or carved to look like a bear (Rittel 1981). Several pictographs are present but they have not been thoroughly recorded. They do however include a bear image (Wendel 1976). Adding to the intrigue of the site was the discovery of a large Clovis cache of chert artifacts on the property in 1976 (Martynec et al. 2010), among which were three Clovis points. A sun wheel that includes the outline of a bear has also been recorded on the ranch (Martynec et al. 2011). Another peculiar find outside the cave was an enormous obsidian object interpreted as a ‘Folsom blade’ (Martynec et al. 2011).

Unfortunately Blacktail Cave provides more questions than answers. There has been a lack of documentation of several of the previous excavations, specifically in regards to the provenience
of the artifacts in relation to the bones. Napton's 1960 excavations of the Alcove locality in the
cave revealed several artifacts and bones but no bear remains. Excavations in 1996 produced a
prepared utilized flake artifact in the vicinity of the bear skulls, but not knowing the precise
location of the bones made its association with them tenuous. Excavations in 2008 found bone
and artifacts in the same levels but stratigraphic integrity was questionable (Martynece et al.
2008). Thus the actual relationship between extinct animals and prehistoric people is uncertain at
Blacktail Cave (Davis and Hill 1996). Wolverton (2006) has demonstrated that caves can be
natural traps for bears, particularly young bears attracted to the carrion of previously trapped
animals. The now closed chamber could have been such a trap 10,000 years ago. The collection
of skulls is reminiscent of a cache of cave bear skulls in Drachenloch Cave, Switzerland (Kurtén
1976). Like Blacktail Cave, the accumulations could not be certainly attributed to human
intervention.

What is certain is that Pleistocene animal remains and artifacts have been recovered from the
same areas. If the radiocarbon date of the short-faced bear (10900 BP) is correct and the
typological age of the Clovis and Plainview-Goshen points are taken at face value, this would
indicate at least occupational overlap. The pictographs and small carved bear effigies along with
the accumulation of brown bear skulls in the same vicinity as a Plainview-Goshen point strongly
implies the possibility of bear ceremonialism and/or bear hunting by prehistoric peoples. Still the
question of provenience has prevented Blacktail Cave from becoming a more widely relied upon
site for adding to our knowledge of regional occupational chronology, prehistoric subsistence,
and hunter-gatherer behavior.

Located above the Jefferson River in southwest Montana is another cave with bear remains.
Similar to Blacktail Cave, Point of Rocks Cave had a long history of occupation by prehistoric
people. The cave was also the repository of several Pleistocene faunal remains. The skull and other bones of a saber tooth cat were recovered. Among the vast quantities of bones, the distal ulna of a black bear and other unspecified bear remains were identified (Davis and Johnson 1988). The extensive collection of artifacts representing more than 10,000 years of human occupation includes an Agate Basin and Scottsbluff point. Unfortunately the site has been looted extensively and the artifacts and bear bones have no provenience.

False Cougar Cave is another site that offers potential evidence of early bear hunting in the region. Archaeological evidence indicates humans may have utilized the cave since the terminal Pleistocene. The cave sits at about 8500 feet elevation in the Pryor Mountains of south central Montana and is in proximity to Crooked Creek Canyon where rock art depicting large hunted bears are evidenced. Cave deposits contained grizzly and black bear hair, along with some unspecified bone. Unfortunately, similar to Blacktail Cave and Point of Rocks Cave, False Cougar Cave provides no definitive proof indicating bear veneration.

**Bear Rock Art**

Other prehistoric archaeological contexts can provide evidence of bear veneration in the northern Rockies. Rock art sites offer a promising venue to understanding some the more ideological elements of the past. In Montana there are over 650 identified rock art sites. Seventy of these, or about 10%, portray either bears or markings indicative of bears-i.e. claw scratch marks (Mavis Greer personal communication; Greer and Greer 1997; Lewis 1985; Loendorf 1985). Similarly, bear motifs make up about 10% of the 380 plus rock art sites in Wyoming. Over a quarter of Montana’s sites with bear images are located in Carbon County and nearly all are heavily concentrated in south-central Montana. However these data may be more reflective of rock art recording projects than actual distribution of figures (Greer and Greer 1997:85). Interestingly there are no recognizable bear images west of the Continental Divide in Montana-
although this is barely the case as the Lower Whitehall #3 site is only a stone’s throw from the Pacific drainage. This volume of rock art has extenuated certain patterns providing an opportunity to recognize repetitive motifs in which meaning can be discerned along with offering reliable dating.

Similar to both the ethnographic information and archaeological faunal data, there is often a focus on pear paws in rock art. In Montana and Wyoming bears are typically depicted with exaggerated claws (Greer and Greer 2008). Paws, claws and scratch marks are depicted singly sometimes. Bears feet are often depicted with a distinctive line running laterally across the foot, such as at Montana’s Audrey’s Overhang (24ME58) and Elkhorn Upper Boulder sites (24LC248). Similar to reality, black and grizzly bears are differentiated by the presence or absence of a shoulder hump and dish face. Teeth and claws are usually more exaggerated on grizzly bear renditions as well. These details were typically not overlooked by native artists.

**Age of rock art sites with bear motifs**

In the northern Rocky Mountains there is a long tradition of bears represented in rock art (Greer 1995). Figure 15 shows the approximate age distribution of rock art sites with bear motifs in Montana and Wyoming. Bear imagery appears to have made its first appearance in central Montana rock art during the Late Archaic as portrayals of outlined paws which are relatively dated to around 2000 years ago (Greer and Greer 1997). A pictograph in southwest Montana (24JF253) depicting an outlined bear and cub is relatively dated to at least 3000BP (Mavis Greer personal communication). Paw and large bear motifs proliferated in Wyoming and Montana during the later Late Prehistoric, declining in rock art by the early 1700’s.

The most impressive bear art in terms of size and detail came during the terminal Archaic and Late Prehistoric transition in central Montana likely by Besant and Avonlea peoples (Greer and Greer 1997). These large bears are concentrated in Carbon County in the south central part
of Montana; the only other place they appear in Montana is along the Smith River drainage.

Bears are one of the hallmarks of the Foothills Abstract Tradition, which lasted from around 1500 to 500BP, and attest to a tradition of shamanistic ceremonialisim in the region (Keyser and Klassen 151:2001). They are also represented in the En Toto pecked tradition dated to c. 1000BP and sometimes accompany shield bearing warrior motifs of the Ceremonial Tradition (Keyser and Klassen 2001), believed to span from the Late Archaic to Late Prehistoric. An absolute date obtained from a petroglyph at Bear Shield site (24CB1090) in Montana was under 1000 years (Greer and Greer 2008).

Protohistoric rock art in Montana and Wyoming depicts less ritual, ceremony and shamanism scenes and more weapons and acts of violence (Greer and Greer 2008). This could reflect the increase in violence on the Plains likely brought on by population growth.

Interestingly, in Wyoming bears were not important in rock art during the later Biographic tradition.

“Bear Coming Out” is a protective warfare theme represented in both prehistoric northwestern Plains rock art and historic painted shields and has been interpreted as imagery derived from dreams (Ewers 1984; Hämäläinen 2011; Keyser 2004). Comparison of historic shields bearing this effigy to prehistoric rock art with similar depictions supports the antiquity of the motif. Since this motif is included among pedestrian shield bearing
warriors, it suggests “bear coming out” may have appeared in rock art on the northwestern Plains around 1500BP and remained in use until the Historic Period.

**Location of rock art sites with bear motifs**

Not surprisingly, bear rock art occurs most frequently along cliff faces and within rock shelters (see Figure 16). These areas provided a protective canvas and were sometimes located in a prominent or sacred location. Regional geography likely influenced the volume and preservation of local rock art. The vast amount of exposed sandstone cliffs in central and eastern Montana certainly encouraged more graffiti than the more limited mediums available in the western half of the state.

**Functions of Bear Art**

Depictions of bears in art allow us to contemplate the spiritual aspects of the maker’s mind. Whether the medium is rock art, historic shields, pipes, war clubs, or other cultural manifestations, it is plausible to suggest the ideological underpinnings of material items adorned with symbols. Rock art offers an avenue to help understand prehistoric hunter’s attitudes towards bears as well as hunting methods. However, correctly interpreting rock art can be subjective, particularly without the use of supplemental ethnographic information. According to the analyst the same motif may be interpreted completely differently. For example, along the Yellowstone River in Carbon County there are six large grizzly depictions over a meter in length and several other smaller bears.
Loendorf notes that all six bears are drawn facing northeast and exposed to the east and sees their orientation as symbolizing a relationship to the morning sun. Furthermore, he views the bears as being associated with some ceremony drawn by a shaman for magical purpose rather than a biographical depiction of a particular hunt. He suggests that a biographical hunt depiction would likely show the individual characteristics of the hunt, such as the number or projectiles used. On the other hand, Thomas Lewis (1985) sees bear rock art along the Yellowstone as representing potential hunting methods and suggests bear hunting was related to personal prowess. Lewis concluded that the scenes depicted an initiation ceremony into a men’s society. This ceremony involved several men armed with long spears and shields attacking grizzly bears. Such scenes may depict ceremonial bear hunts partaken by bear clans, similar to the observations of Denig (1930) among the Assiniboine discussed previously.

Certainly there were myriad reasons rock art was created prehistorically. Rock art depicting game may have been created by shamans or others to control the outcome of hunting endeavors. Alternatively, panels could have been utilized as prayer stations or teaching tools (Loendorf 2008:136). Greer and Greer (2008) suggest that bear paws may have represented clan symbols. Bear depictions could be related to group ritual or individual power quests (Lewis 1985). Similarly, they may have served shamanistic purposes. Imagery at Pictograph Cave in Montana has been interpreted as portraying the Bear Dance (Francis and Loendorf 2004). Other depictions could have been the result of vision questing experiences. And some bear imagery may have acted as a ritualistic offering rather than a recording of a vision (Greer and Greer 2008).

Bear art may have been affiliated with shamans seeking power or recording a dream. Sometimes this is depicted with lines between bears and humans or human figures with bear like features. Greer and Greer’s (1997, 2008) research has led them to conclude that bear images in
central Montana rock art served supernatural functions because of their supposed shamanistic content and lack of violent paraphernalia. According to Greer and Greer (1997) the connection between bear and shaman in central Montana is represented by shamans drawn next to bears, and sometimes attached with a wavy line—such as at Rainbow Cave. Rock art depictions of a combination bear-shaman usually have a human body with attached bear attributes such as feet or claws (Greer and Greer 2008). This motif is seen at several sites in the region including Recognition Rock, Ryegate Petroglyphs and the Yellowtail Site in Montana and the Dangling Legs and Daly petroglyphs in Wyoming. Such images may record a dream, vision, or the attainment of war or healing power. At the Yellowtail Site an anthropomorph with bear paw feet and wielding a spear with bear paws attached could represent the owner of the Bear Spear Bundle. Crow informants believe the image depicts spiritual acquisition of bear power by a warrior (McCleary 2008). Contrary to Greer and Greer’s (2008) belief that most Wyoming and Montana bear rock art represents non-hunting or killing functions, some sites in south central Montana may suggest otherwise.

The function of bear imagery may take on different meaning in southern Montana where content of imagery depict bears being pierced by weapons. Representations at Nordstrom-Bowen, Castle Butte, Canyon Creek, and the Joilet sites seemingly depict bear hunting scenes. Spears, bow and arrow, guns, and possible a club appear to be portrayed as weapons. Other images could represent shields, talismans, or the use of smoke. A motif seen at all but one these sites consists of a pointed projectile which is sometimes fletched and always partially circumscribed by an ovoid shape. Similar motifs are seen in southern Plains rock art in Colorado and New Mexico. They may represent atlatls, spears, or arrows.
Suggestive evidence for bear rock art being affiliated with war and war clans can be extrapolated from multiple sites on the northwestern Plains. Crow informants have clarified interpretations of the meaning of various rock art motifs in Montana. The bear hunting images at Joliet are said to depict status oriented activities (McCleary 2008). For example, according to Lloyd “Mickey” Old Coyote, some of the bear images represent young warrior’s quests in the spring to incite confrontations with 2-3 year old grizzlies (as these were the most temperamental). After killing the bear the warrior would eat a piece of the heart and share it with fellow warriors so that they could attain the grizzly’s ferocity in war (McCleary 2008). Motifs at Pictograph Cave and the Decker Site also depict bear clan members according to Crow informants (see figure 17). It is believed these locations were utilized by warriors to foresee the

Figure 17. Bear clan members? Left: Decker site (24BH404). Right: Pictograph Cave (24YL1) (McCleary 2008).

Figure 18. Left-Assiniboine bear cult member (Ewers 1955). Right-Medicine Lodge Creek Site shield bearing warrior ().
outcome of an impending battle.

Several prehistoric rock art depictions in the northwestern Plains resemble bear clan members like those mentioned historically. Ewers (1955) describes Assiniboine Bear Cult members as wearing a distinctive shirt, hair dress, face paint, possessing the bear knife, the bear shield, and dwelling in a bear painted tipi. Members would wear their hair in two buns on top of their head resembling bears ears, paint circles around their eyes, streak their faces to resemble a bear claw marks, and wear a bear claw necklace over a shirt with many cut holes in it (see Figure 18 left and Figure 20). Interestingly, compare these illustrations with images at the Decker Site, Medicine Lodge Creek, and the Timber Creek Site (see Figure 17). A historic shield depicting a warrior with horned headdress, “tear-streaks” and bear paws shares several design elements in common with regional prehistoric rock art (see Figure 19). Similarly, a shield bearing warrior at Medicine Lodge Creek has large hollowed out eyes and two large ear buns on top of their head (Figure 18 right). The association of bears and shield bearing warriors at Medicine Lodge Creek hint at the presence of a war society that took the bear as its mascot and came to the site to attain power (Frison and Walker 2007) or ascertain the outcome of a pending battle. Similar functions for Pictograph Cave, Decker and Weatherman Draw have been acknowledged by Crow informants (McCleary 2008). These sites suggest that the bear clan concept extended into at least Late Prehistoric period.

Multiple sites with bear images in Montana display either incised or painted scratch marks over the original depiction. Bear rock art may have functioned as a recordation of a kill event or a ritual to acquire hunting

Figure 19. Shield figure with horned headdress, streaked eyes, and claw motif (Hämäläinen 2011).
luck; the image may have been struck to signify a successful hunt or similarly bring about an effective pursuit. Rock art images depicting game were sometimes struck with projectiles like spears, arrows or lances to ceremonially kill an animal and help ensure a successful hunt (Loendorf 2008). A depiction of a spirit bear may similarly be ‘killed’. Evidence of strike marks over bear imagery is evidenced at sites like Half Bear in Montana and may represent re-enactment of a hunt (Lewis 1985). Other sites have bear motifs that have been overlaid by multiple vertical scratch marks or black lines. The Half-bear, Bear Tooth Mountain, Three Kills, 24CB1181, 24CB1187, Killed Bear, Judith Bluff, and the North and South Alkali Creek Sites all have bear motifs that have been scratched over. These lines could also represent the acquisition of bear power or may also signify the killing of an enemy’s spirit bear.

Besides functioning to depict kill events, record a power quest, gain hunting, war, or healing prowess, or document a shamanistic ceremony or experience, bear rock art may have been affiliated with women’s clans. At least three sites in Montana support this proposition. The Lower Whitehall #3 Site (24JF253) is a rock art panel in southwest Montana that depicts a large painted bear and cub. This was later overlaid by several red handprints from at least seven individuals. These handprints are believed to be female based on the index finger being longer than the ring finger (Mavis and Greer 1996). For some indigenous groups the bear has been assimilated to fertility, rebirth, and maternal guardianship (Barbeau 1946). It is reasonable to consider that this image may have embodied such attributes and women may have been drawn to it, if not created it initially. Relatedly, the Tillet Petroglyphs consist of pecked bear paws and
hundreds of vulva forms. Crow informants suggest Tillet was a menstruation grotto (McCleary 2008). In the same way, the 7 Toes Site depicts two incised bear paws and female genitalia. These sites support the case that bears were not solely affiliated with warfare and healing in the region, but also fertility and maternity. As noted earlier, Lowie (1916) recorded a women’s Bear Society among the Kiowa. It must be considered that there may have been gender specific reasons for bear veneration and thus gender specific signatures of that behavior in the archaeological record.

There may be functions of rock art that we are misinterpreting. Around five large pine logs occur in proximity to the bear image at the Half Bear Site. They are of adequate size to be used as a deadfall. There are no trees in the immediate proximity of the site and the pines were presumed to have been brought there with considerable difficulty. There are also some large stones associated with the feature. Although these timbers along with large boulders have been interpreted as representing shelter remains (Leppert 1983; Lewis 1990), the materials could have been transported to the site and functioned as a bear trapping site endowed with bear rock art to ensure success. Alternatively, brush and log enclosures were also used for bear ceremonies such as the Bear Dance (Reed 1896). Similarly the site setting bears some resemblance to the origin story for the Blackfoot bear knife in which the recipient climbed a high mountain until he reached a meadow where a lodge had been pitched. There an old woman decorated the knife with eagle feathers, made a scabbard of otter skin, and gave him the power of the bear (Dempsey 1976). Whether the structure at the Half Bear Site represents a trap, dwelling, or ceremonial structure may never be known for certain.

Some of the above sites show continuing use by contemporary Native Americans. The vertical scratches discussed were added after the original image. The Nordstrom-Bower site
represents a location where ritual behavior directed towards bears was carried out over a long period of time. The style and execution of bear imagery at the site suggest that more than three artists, widely separated in time, used the panels for some statement about bear hunts, bear power, bear medicine, or bear symbolism (Lewis 1985:232). Further adding to this interpretation of sustained use are the counting marks depicted with the bear and shield imagery as if they were representing coup tallies. Offerings of tobacco and cloth are left at rock art sites and initial motifs are sometimes emphasized through painting or incising (Lewis 1990). These contemporary behaviors serve some purpose and are likely reflective of one of the prehistoric functions of rock art.
Chapter 5: Linking ethnography and archaeology

Can ethnographic data about bear hunting and veneration help to enlighten the archaeological record? Although some archaeological problems will remain unanswerable, proper application of ethnography can enrich alternative explanations. Using ethnography to help understand archaeological contexts is not without problems. A difficulty with attributing certain archaeological sites to specific tribes in Montana is the dynamic history of population movements in the region. Even though assigning a specific group to an archaeological site can be tenuous, that does not negate the usefulness of ethnography in trying to understand the past. The middle-range becomes a more robust method when one draws on multiple local monographs and compares them to a large sample of regional archaeological contexts.

Plains war shields with bear motifs offer the opportunity to speculate on how accurately the ethnographic record reflects the prehistoric one as well as the time depth of bear’s affiliation with war. Historic war shields of the Arikara, Hidatsa, Crow, Kiowa, and Sioux were often decorated with painted and incised bears, or bear parts like ears, claws and noses. These symbols were believed to carry over into battle and protect the owner. Hämäläinen’s research on Plains shield bear motifs offers a frame of reference for decoding similar rock art imagery. Bear imagery on 19th century war shields show a similarity to Protohistoric and prehistoric rock art sites such as Razor Creek (24YL578), Bear Gulch (24FR2), and Valley of the Shields (24CB1094) in Montana and at Castle Gardens (48FR108) in Wyoming (see Figure 21).

Judging by the presence of the design in regional rock art, the concept of bears being associated with war may be at least 1000 years old. Bear veneration and specifically their association with war on the Plains may have increased during the Late Prehistoric due to rising hunter-gatherer populations and increasing conflict. Conflict and warfare, and hence a greater need for spiritual protection, were important aspects of Late Prehistoric life (Frison and Walker
Evidence for increasing violence in regional archaeological contexts coincides with the appearance of shield and bear motifs in area rock art. These symbols embodied protection and strength and so it is no surprise they were adopted by peoples likely accustomed to conflict.

Ethnography provides a guide to search for and identify archaeological patterns. A Western educated mind is not always the best equipped to study evidence of indigenous cultural phenomenon without some reference point. Ethnography is that reference point. Regarding bear veneration and hunting, ethnohistory allows us to construct several postulates that should be expected from the archaeological record, and indeed, the following points have ethnographic precedents and archaeological support.

The type of bear faunal remains recovered from an archaeological site may be indicate the ceremonial disposal of bones may have occurred. As previously mentioned, multiple sources attest that while some bones were disposed of after consumption, the skull (and other elements) were often placed somewhere separately than the rest of the assemblage. Therefore the proportion of bear skull and paw elements compared to other remains may indicate that reverential behavior was taking place. Berres et al. (2004) note the paucity or absence of post-cranial remains at northeastern settlements suggest the ceremonial disposal of slain bears. Drawing on ethnographic precedents, they discuss other evidence of bear veneration including split skulls for brain consumption, the presence of bear elements in burials, canine removal, and skull accumulations. Higgins (1990:165) posits that the archaeological record should reveal a general paucity of bear remains, but those recovered should consist of a high percentage of cranial elements. He implied ceremonial treatment of bear skulls from a Late Prehistoric site in Michigan based on their recovery from a feasting pit and the skulls being the sole bear remains. An 8000 year old site on Siberia’s Zhokhov Island has an overwhelming abundance of polar bear
cranial and fore-limb elements and a paucity of other remains (Pitul’ko 2003). In light of these examples it is interesting to consider archaeological sites in Montana. Based on the faunal evidence, bear veneration is suggested prehistorically from several contexts. The proportion of skull and paw elements is significantly higher than all other remains combined.

There are other archaeological signatures of bear veneration. The presence of bear elements in graves certainly had symbolic meaning and represented something about the person. The ethnographic literature suggests these individuals were endowed with certain healing or war power. Perhaps they represented owners of the bear knife or members of a bear clan affiliated with war and/or healing. Decorated or worked bear bone or carvings of bear motifs suggests veneration. Carved bear effigies are more common in the higher northern latitudes, but at least one example of a bear effigy is noted of in a Blackfoot bundle. Interestingly, this was said to have come from northern peoples. Another indicator of ritual veneration of bears is the use of ochre and other pigments to decorate bones. Germonpré and Hämäläinen (2007) show the antiquity of applying pigments to bear bones some 26,000 years ago—a practice the ethnographic Cree and others were known to do. Although ochre only occurs on bear elements from one context in Montana, it is found on other bear remains in the northwest. The use of ochre at the Anzick Clovis burial cache in Montana shows the antiquity of the pigments ceremonial use in North America. Bears depicted in rock art and on tipis and other mediums likely points towards ritual veneration. Finally, the positioning or isolation of certain bear remains can indicate ritualistic behavior. Collecting and positioning of skulls has been documented archaeologically in Europe, the Great Lakes region, and at Montana’s Blacktail Cave. Grizzly skins were hung on medicine trees in western Montana and precedents of elk, deer, and bison skull alters on the northwestern Plains are noted in Denig (1930), Frison (2004) and elsewhere. At the Dead Indian
Creek Site there is evidence of ceremonialism involving deer skulls and antlers in Middle Archaic deposits (Cannon et al. 1996).

Information regarding hunting practices and seasonality of kill can be suggested by certain contexts with bear remains. Knowing this can help clarify the impetus of the hunt. In conjunction with other evidence, bear remains can help establish site seasonality. Bears were typically hunted at den locations. Winter occupation may be implied by the presence of bear remains at an archaeological site. Of course there are exceptions to this generality. The timing of the hunt depended on the purpose, of which there are several, as well as the species of bear. However, winter bear hunts were likely conducted for the primary purpose of getting fat rich protein. Ceremony may have been involved, but the purpose would have likely been geared towards replenishment rather than attainment of war or healing power.

It may take creativity and out-of-the-box thinking to draw links between ethnography and archaeology. For example, Loendorf (2008) suggests the presence of cattail pollen in an archaeological site out of context may imply ceremonial activity. This pollen does not disperse far from its origin and there is ethnographic support for its ritual use. Apache curing ceremonies involving bear medicine would often enlist use of cattail pollen (Loendorf 2008). The Navajo would similarly sprinkle pollen on a killed bear where an incision was to be made (Hill 1938). A large Hopewell-like obsidian biface from Yellowstone National Park resembles a status or
ceremonial object (see Figure 22). It tested positive for bear protein: could it be a Prehistoric bear knife? Another example of out of the box thinking comes from a Blackfoot oral tradition. The story is not about bear hunting per se, but it offers some hints to how the Blackfoot may have hunted bears:

…I'ktu'mni stopped up all the openings. Then he placed large logs around the lodge to prevent Bear's escape. When the heat had become intense, the Bear tried to get out, but I'ktu'mni laid him low with a club. He skinned the Bear, which was fat and furnished a good deal of grease. After he had cooked the meat, he summoned all the animals, wishing to distribute the food among them (Lowie 1909:108-109).

Although this is just a small snippet of a much larger story it holds some interesting clues to how the Blackfeet may have hunted bears. The story supports the use of smoke or fire to get them out of their dens, and clubbing them as they emerge. It also alludes to the value of the bears grease. Finally it suggests a connection with the bear and a feast or a link between bear and the rest of the animals.

There are other examples where creative use of ethnography can provide insight into the archaeological record. Schaeffer (1966:14) describes quite accurately the dimensions and composition of a Kutenai roasting pit utilized to cook bear. Such descriptions could help identify uses of unknown archaeological features. A suspected bear spear point from Zhokov Island shares similarities with an.

![Figure 23. Top: Prehistoric bone (spear?) point from Zhokov Island (Zhokov Island (Pitul'ko and Kasparov 1996 ). Bottom: Contemporary Nunamiut bear spear (Binford 1997).]
ethnographic Nunamiut bear spear (Figure 23).

Ethnography can help guide archaeological research strategies. Blood residue analysis is a good example of this. Since the practice of ritual bear hunting sometimes involved disposal of all or most of the bones according to the ethnographic examples, archaeologically we may enhance interpretations by conducting immunological studies of lithics in some cases. Due to the acidic soils, faunal remains found in archaeological contexts on the shores of Yellowstone Lake are identifiable mainly through analysis of blood residues remaining on stone tools (Hale and Livers 2013).

This approach has yielded results that show bear being a commonly identified species, and overall the blood residue numbers match up well with the faunal data (see Figure 24).

![Faunal Remains and Positive Residue Samples](image)

**Figure 24.** Above right: Percent of positive residue samples from Yellowstone National Park archaeological sites. Above Left: Percent of faunal remains from YNP archaeological sites (from Cannon 1998; Sanders 2013; and Douglas MacDonald personal communication).

Creatively using ethnography does not suggest that it cannot be rigorous and empirical; these interpretations still need to be tested to be verified. However, I feel they represent the type of out-of-the-box thinking necessary to attempt to understand the more ideological aspects of a
dynamic past from a static context. With supportive ethnographic analogy meaning may be implied that would otherwise be merely conjecture.
Chapter 6: Summary and Conclusion

Broadly, this work has sought to contribute to understanding the dynamic human behavior processes of the past from a static archaeological context (Binford 1983). More specifically, the goal of this research has been to provide a tool to tease out evidence of bear veneration and hunting customs from archaeological situations. This paper outlines the construction of a framework based on ethnographic data to interpret the past. It is easy enough to make suggestions about what behaviors may have led to the formation of a prehistoric site, but the real challenge is to evaluate these ideas scientifically within an appropriate framework (Binford 1983). This composition can be viewed as a preliminary construct of that framework.

The archaeologically relevant takeaways of this research will be summarized before concluding. These are grounded in ethnographic precedent and supportive archaeological evidence.

- Bear hunting and veneration in the Rocky Mountain region is indicated archaeologically as early as around 12,000 years, evidenced at sites like Lubbock Lake, MaHaffy Cache, Marmes Rockshelter, and Blacktail Cave.

- Archaeological contexts with bear remains in the northern Rocky Mountains and northwestern Plains are relatively rare compared to other game animals. This may be due to the lack of bear hunting as well as disposal practices of bear bones by prehistoric hunters.

- The type of site may be suggestive of seasonality. Bear remains not found at burial or offering sites can suggest cold season occupations. Northwestern Montana and northwestern Wyoming have concentrations of sites with bear remains located along stream corridors with ethnographic and archaeological data implying they were cold season occupations.
• Bear bones often occur at vision quest or offering sites in prominent and dramatic landscapes. Sometimes these are affiliated with rock art.

• Bear remains at offering, questing, and other sites sometimes occur with other artifacts like pigment, sea shells, whistles, other animal tooth and claw pendants, projectile points, dentalium, ceramics and copper.

• The species of bear hunted prehistorically in Wyoming and Montana is roughly even, however grizzly remains are more common in ceremonial contexts such as burials and offering or vision sites.

• The type of bear bones at an archaeological site may indicate ceremony. The presence of skull and paw bones and paucity of others can suggest ritual behaviors. Covering bear remains with ochre was ritualistic and certainly had symbolic meaning. Similarly, bear bones in human burial contexts comprise a form of bear veneration.

• Bear remains are occasionally found at communal kill sites. Bears likely frequented such sites prehistorically to feed on carrion, and these remains may represent opportunistic hunts by humans.

• A bear claw or tooth pendant can be affiliated with a bear clan society. Such items occurring with burials likely suggest such membership.

• While the presence of bear paw elements as the only bear remains could be due to biased preservation, such cases may indicate ceremonial treatment. The paw was used for various customs among regional indigenous hunter-gatherers.

• Weapons to dispatch bears consisted primarily of spears, clubs, and occasionally arrows. It should be considered that abraded and grooved stones from archaeological sites often identified as hammers or net sinkers may have been bear clubs.
• Since ethnographic literature suggests bear bones were often discarded away from occupation areas, protein analysis may bolster interpretations of subsistence that are based on faunal remains alone.

• Bears were sometimes trapped. Remnants of deadfalls and other trapping structures can look like other features like wiki-ups, cairns, and temporary shelters. Trapping functions should not be overlooked.

• Environment and available prey species influenced the purpose of bear hunting and veneration. Bears may have been hunted for food in regions where winter prey species were limited. Alternatively, they were likely hunted for other purposes among bison hunting groups and others with alternative resources.

• Bear rock art sites may have been affiliated with bear clans. Such clans ethnographically were primarily associated with war and healing endeavors. There is evidence that some bear rock art was created by women’s clans.

• Bear rock art occurs largely along sandstone cliff faces in central Montana and Wyoming, concentrated heavily in and around the Bighorn Basin in Wyoming and Montana and the Smith River in Montana.

• Comparing Prehistoric and Protohistoric rock art motifs to historic shields suggests the theme of bear being affiliated with war extended back 1000 years or more.

• The number of sites with bear remains in the region shows a significant increase during the Late Prehistoric period. This may have been the result of population increases which likely led to more conflict. As warfare became more widespread, the bear was hunted to increase one’s symbolic and physical power.
An underlying theme of this paper has been: *can ritual bear hunting and veneration be identified archaeologically?* I believe it can. The details of that ritual may be elusive and the motives can vary by situation, but I hope this work provides a platform to base such conjectures about archaeological contexts. Although it is certain that this paper has only briefly touched upon the ethnographic and archaeological evidence of bear hunting and custom, it is hoped that it has provided a baseline for understanding the milieu in which bear hunting and affiliated ritual might be practiced and the motivations and meanings behind it. Elements of subsistence, seasonal settlement, belief systems, and other cultural attributes can be better understood by having a thorough sense of what animals people were hunting and why, how and when they were hunting them.
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Wright, James V.


Yohe, R. M., and D. B. Bamforth

## Appendix A: Table of archaeological sites in Montana and Wyoming with bear remains.

<table>
<thead>
<tr>
<th>Site Number/Name</th>
<th>Age/Cultural Affiliation</th>
<th>Comments</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Montana</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>24BH1117/ Janney Rockshelter</td>
<td>Late Archaic-Late Prehistoric; 1700BP or 1000BP</td>
<td>Grizzly canine from maxillary; 3560 ft. elev.</td>
<td>Munson and Fergusson 1993</td>
</tr>
<tr>
<td>24BH1726/ Benson’s Butte</td>
<td>Late Prehistoric or earlier/possibly Crow</td>
<td>Black bear canine pendant-found w/in dwelling feature; 4060 ft. elev.</td>
<td>Fredlund 1979</td>
</tr>
<tr>
<td>24BH2023/ Owl Creek</td>
<td>Late Prehistoric or Protohistoric (145-320BP) Late Old Woman’s Phase</td>
<td>2 grizzly mandibles with modification (bear knife handle?); 2500 ft. elev. Along Missouri River</td>
<td>Davis and Aaberg 1978</td>
</tr>
<tr>
<td>24CH185/ Horse Mint</td>
<td>Late Prehistoric/Protohistoric (145-320BP) Late Old Woman’s Phase</td>
<td>Incised grizzly claw pendant; burial; olivella shells and dentallium, other exotic/status goods; location?</td>
<td>Hogan 1977</td>
</tr>
<tr>
<td>24FH1010/ Swan River Mouth</td>
<td>Possibly Late Prehistoric, possibly earlier</td>
<td>1 grizzly canine; river/lake mouth</td>
<td>Norgaard n.d.</td>
</tr>
<tr>
<td>24GA660/ Antonsen</td>
<td>Need more</td>
<td>Grizzly</td>
<td>Zeier 1975, Davis and Zeier 1978</td>
</tr>
<tr>
<td>24GN1001/ Bearmouth Pictographs</td>
<td>Likely Late Prehistoric, possibly earlier</td>
<td>Grizzly claw necklace; Ceremonial offering site; Clark Fork River; pottery; ~4000 ft. elev.</td>
<td>Taylor 1976</td>
</tr>
<tr>
<td>24LC151/ Blacktail Cave</td>
<td>Pleistocene? Bear 10,900BP PaleoIndian-Historic; bear effigies, rock art; Association of humans and bear skulls remains uncertain.</td>
<td>Multiple brown bear skulls, foot elements, mandible, claws, and teeth; 5-7 bears present; shortfaced bear phalanx dated to c.10900BP (Hill 2006); musk ox skull, other animals; 4560 ft. elev.</td>
<td>Melton 1985, Davis et al. 1994, Davis and Hill 1996, Rittel 1981, Napton 1988, Hill 2001;2006</td>
</tr>
<tr>
<td>24LC294/ Bowman Spring</td>
<td>7700-500BP</td>
<td>3 fragmentary phalanges; stream bottom; 6240 ft. elev.</td>
<td>Davis et al. 2010</td>
</tr>
<tr>
<td>Site Number/Name</td>
<td>Age/Cultural Affiliation</td>
<td>Comments</td>
<td>Source</td>
</tr>
<tr>
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</tr>
<tr>
<td>24LN10/ Fisher River Site</td>
<td>Pelican Lake and Avonlea; Late Archaic/Late Prehistoric</td>
<td>black bear skull Fragments (maxilla with 3 teeth), Teeth (1 canine); Kootenai River; 2120 ft. elev.</td>
<td>Taylor 1973</td>
</tr>
<tr>
<td>24LN41</td>
<td></td>
<td>black bear ulna; Kootenai River; ~2100 ft. elev.</td>
<td>Hudson et al. 1980</td>
</tr>
<tr>
<td>24LN513/ Hammon’s Gardens</td>
<td>Late Prehistoric (?)</td>
<td>nearly complete articulated black bear skeleton-skull separated by 18”; no forelimbs*; stone maul broken into two pieces; Kootenai River; ~2100 ft. elev.</td>
<td>Taylor 1973</td>
</tr>
<tr>
<td>24LN528</td>
<td></td>
<td>black bear; Kootenai River; ~2100 ft. elev.</td>
<td>Henry 1981</td>
</tr>
<tr>
<td>24LN672</td>
<td></td>
<td>black bear; Kootenai River; ~2400 ft. elev.</td>
<td>Olson 1984</td>
</tr>
<tr>
<td>24LN1012/ Kujawa</td>
<td>Late Prehistoric; partially looted</td>
<td>grizzly claw, canine, molars; pictographs; Ceremonial cache or offering site, vision quest site? Artifacts covered in red ochre; dentalium and olivella shells; abraded hammers (bear clubs?); Kootenai River; 1920 ft. elev.</td>
<td>Hudson et al. 1980</td>
</tr>
<tr>
<td>24MA305/ Point of Rocks Cave</td>
<td>Looted; association of bear remains and humans will never be known; almost all stratigraphic integrity has been destroyed;</td>
<td>black bear ulna; cave w/ pictographs; saber tooth cat skull(s); 4840 ft. elev.</td>
<td>Davis and Johnson 1988; Napton 1966</td>
</tr>
<tr>
<td>24MA565/ Steel's Pass Camp</td>
<td>Levels 12 and 13; Looted heavily</td>
<td>grizzly metapodial distal and right 1st phalanx; bison pound site; pottery sherds; stream bottom; 6160 ft. elev.</td>
<td>Davis 1993</td>
</tr>
<tr>
<td>24PA504/ Myers-Hindman</td>
<td>Archaic-Late Prehistoric</td>
<td>Phalange; site near spring</td>
<td>Lahren 1976</td>
</tr>
<tr>
<td>24PH402/ Lookout Cave</td>
<td>Middle Archaic-Late Prehistoric; 1700AD</td>
<td>perforated claw(s); turtle shell pendant; buffalo stone; pictographs; bone beads, flute; whistle; arrows; 4400 ft. elev.</td>
<td>Brumley 2012; Walker-Kuntz et al. 2007</td>
</tr>
<tr>
<td>Phillips IF-9/ Isolated Find</td>
<td></td>
<td>canine</td>
<td>Tratebas and Lahren 1982</td>
</tr>
<tr>
<td>24RL1225/ Nollmeyer</td>
<td></td>
<td>canine</td>
<td>Johnson et al. 2012</td>
</tr>
<tr>
<td>24TL1237/ Bootlegger Trail</td>
<td>Late Prehistoric; c.700-800BP earliest? May show Athapaskan movement (ulu, etc.)</td>
<td>grizzly mandible without teeth; communal bison kill site; bone and shell beads, copper, elk tooth pendant;</td>
<td>Roll and Deaver 1978</td>
</tr>
<tr>
<td>Site Number/Name</td>
<td>Age/Cultural Affiliation</td>
<td>Comments</td>
<td>Source</td>
</tr>
<tr>
<td>--------------------------</td>
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<td>---------------------------------------------------------------------------</td>
<td>---------------------------------------------</td>
</tr>
<tr>
<td><strong>Wyoming</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>48BH499/ Medicine Lodge Creek Site</td>
<td>8300BP; Late Prehistoric</td>
<td>Grizzly paw elements-in hearth; bear paw elements; lots of bear rock art</td>
<td>Frison and Walker 2007</td>
</tr>
<tr>
<td>48PA551/ Dead Indian Creek</td>
<td>Archaic/Late Prehistoric</td>
<td>2 MNI; black bear; maxilla, carpal, immature pelvis, pisiform; 6100 ft. elev.</td>
<td>Frison and Walker 1984</td>
</tr>
<tr>
<td>48PA201/ Mummy Cave</td>
<td>8300BP; 4420; 1230</td>
<td>Summer/Fall and winter occupation; grizzly maxilla frag. &amp; 1 maxillary (strat. 3); 1 black bear tooth (strat. 20); 1 black bear ilium frag (strat. 3); 1 black bear 1st phalanx (strat. 6/7); 6300 ft. elev.</td>
<td>Hughes 2003</td>
</tr>
<tr>
<td>48PA853/ Pagoda Creek Site</td>
<td>2850BP</td>
<td>2 grizzly bones; one w/ spiral fracture; winter; North Fork Shoshone River; 5980 ft. elev.</td>
<td>Paul Sanders personal communication 2013; Frison 2004; site report</td>
</tr>
<tr>
<td>48PA563/ Bugas-Holding Site</td>
<td>1400-1600AD</td>
<td>1 MNI grizzly; Sunlight Creek; ischium fragment with cuts on interior surface; 6790 ft. elev.</td>
<td>Rapson 1990; Todd et al. 1983</td>
</tr>
<tr>
<td>48TE455/ Goetz Site</td>
<td>Long term use, one r/c date of 1460AD</td>
<td>Black bear mandible; game trap</td>
<td>Love 1975; Wright 1984</td>
</tr>
<tr>
<td>48TE1573/ Game Creek Site</td>
<td>Early Archaic</td>
<td>1 bear long bone; more?; along Snake River; 6180 ft. elev.</td>
<td>Paul Sanders personal communication 2013</td>
</tr>
<tr>
<td>48YE353/ Malin Creek</td>
<td>PaleoIndian</td>
<td>Faunal and residue</td>
<td>Vivian et al. 2008</td>
</tr>
<tr>
<td>48YE114/ Nymph Lake</td>
<td>Late Prehistoric</td>
<td>Residue on biface; 7520 ft. elev.</td>
<td>Paul Sanders personal communication 2013</td>
</tr>
<tr>
<td>48YE1558</td>
<td>PaleoIndian</td>
<td>Residue; near Yellowstone Lake; 7759 ft. elev.</td>
<td>MacDonald and Livers 2011</td>
</tr>
<tr>
<td>48YE1556</td>
<td>Hopewell (c. 2200-1500BP)</td>
<td>Residue; large obs. biface w/ impact fracture; near Yellowstone Lake; 7790 ft. elev.</td>
<td>MacDonald and Livers 2011</td>
</tr>
<tr>
<td>48YE411/ Solution Creek</td>
<td>PaleoIndian</td>
<td>Residue; near Yellowstone Lake; 7750 ft. elev.</td>
<td>Cannon et al. 1996</td>
</tr>
<tr>
<td>48YE409/ Osprey Beach</td>
<td>PaleoIndian</td>
<td>Residue; near Yellowstone Lake; 7740 ft. elev.</td>
<td>Johnson et al. 2004</td>
</tr>
<tr>
<td>48YE381</td>
<td>Early Archaic</td>
<td>Residue; near Yellowstone Lake; 7785 ft. elev.</td>
<td>MacDonald and Livers 2011</td>
</tr>
<tr>
<td>48YE1/ Fishing Bridge Site</td>
<td>Late Archaic</td>
<td>Residue; near Yellowstone Lake; 7750 ft. elev.</td>
<td>Cannon et al. 1994</td>
</tr>
</tbody>
</table>
## Appendix B: Table of Montana Rock Art Sites with Bear Motifs

<table>
<thead>
<tr>
<th>Site Name</th>
<th>Site Number</th>
<th>Age</th>
<th>Description</th>
<th>Setting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Decker Site or Carboni Petroglyphs</td>
<td>24BH0404</td>
<td>Horse present?</td>
<td>Petroglyphs-Ghost produced rock art-Crow; shield bearing warriors w/ bears on shield and hair put in ‘ear buns’</td>
<td>Sandstone bluff</td>
</tr>
<tr>
<td>Elk Bone Cave</td>
<td>24BH416</td>
<td></td>
<td>Ghost produced rock art-Crow; bear paw; once large pile of elk antlers outside (same as mentioned in Denig?)</td>
<td>Cave</td>
</tr>
<tr>
<td>Dead Tree Cave &amp; Petroglyph Site</td>
<td>24BH1082</td>
<td>Late Prehistoric-Historic</td>
<td>Bear paw motif (sim. to shield); cave entrance</td>
<td>Cave</td>
</tr>
<tr>
<td>Yellowtail Site</td>
<td>24BH3342</td>
<td></td>
<td>Anthro w/ bear paw; second bear paw; staff w/ paws attached; depicts spiritual acquisition of bear power by warrior (Crow informants)</td>
<td>Sandstone cliff</td>
</tr>
<tr>
<td>Crystal Cave</td>
<td>24CA0102</td>
<td>Outlined liquid paw thought to relative date to c 2000BP</td>
<td>Look at Keyser 1977; 1 black outlined liquid bear paw;</td>
<td>Cave</td>
</tr>
<tr>
<td>Indian Cave</td>
<td>24CA0347</td>
<td>Protohistoric</td>
<td>Red solid liquid paw; shamanistic?</td>
<td>Cave</td>
</tr>
<tr>
<td>Fraunhofer Cave</td>
<td>24CA0354</td>
<td>Protohistoric</td>
<td>Smith River; limestone cave; limestone slab floor; solid liquid body grizzly</td>
<td>Cave</td>
</tr>
<tr>
<td>Deep Creek Cave</td>
<td>24CA0404</td>
<td>Outlined liquid paw thought to relative date to c 2000BP</td>
<td>2 orange outlined liquid bear paws; hunting or shamanistic?; pictographs</td>
<td>Cave</td>
</tr>
<tr>
<td>Heaven Shelter</td>
<td>24CA0433</td>
<td>Protohistoric</td>
<td>Large orange solid liquid bear paw; possible handprints</td>
<td>Shelter</td>
</tr>
<tr>
<td>Ulm Pishkun Site Monument</td>
<td>24CA1012</td>
<td>Protohistoric</td>
<td>Red solid liquid bear paw; shelter; pictographs; communal bison hunting location</td>
<td>Sandstone/Limestone/shale cliff face</td>
</tr>
<tr>
<td>Half Bear</td>
<td>24CB198</td>
<td></td>
<td>Dual perspective grizzly petroglyph; may have evidence of later ritual killing; 5 large rough pine timbers and several small ones</td>
<td>Sandstone outcrop</td>
</tr>
<tr>
<td>Tillett Petroglyphs</td>
<td>24CB204</td>
<td></td>
<td>En Toto pecked bear paws; hundreds of vulva forms-menstruation grotto; Crow</td>
<td>Sandstone cliff</td>
</tr>
<tr>
<td>Site Name</td>
<td>Site Number</td>
<td>Age</td>
<td>Description</td>
<td>Setting</td>
</tr>
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<td>---------------------------------</td>
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<td>------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
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</tr>
<tr>
<td>Crooked Creek site</td>
<td>24CB205</td>
<td></td>
<td>?</td>
<td></td>
</tr>
<tr>
<td>Joliet Petroglyphs</td>
<td>24CB402</td>
<td>1820 AD</td>
<td>Crow; petroglyphs; 5 bears-2 large; paw; shield bearer w/ shield w/bear; dual perspective grizzly hunting scene; bear wearing a shield; bear w/ penis; bears bigger than shield bearers</td>
<td>Sandstone outcrop</td>
</tr>
<tr>
<td>Beartooth Mountain</td>
<td>24CB412</td>
<td></td>
<td>Black pigment over prepared surface; grizzly and 2 shield bearing warriors with tear lines in eyes; one has weapon; scratch marks over image (to destroy?)</td>
<td>Sandstone cliff alcove/overhang</td>
</tr>
<tr>
<td>Langstaff Pictographs</td>
<td>24CB413</td>
<td></td>
<td>Need images-shield fringe Incised; bear and shield bearing warrior; scratched out (intentional?)</td>
<td>Sandstone cliff</td>
</tr>
<tr>
<td>Krause Site--“Five Mile Creek”</td>
<td>24CB417</td>
<td>Post en Toto pecked</td>
<td>Petroglyphs; large bear w/heart line and multiple paw tracks; two spears/ arrows/ lines running through bear; shield bearing warrior</td>
<td>Sandstone cliff</td>
</tr>
<tr>
<td>Petroglyph Canyon or Indian Carving Recreation Area Beehive Rock</td>
<td>24CB601 24CB618</td>
<td>1100BP</td>
<td>Petroglyphs-En Toto</td>
<td>Sandstone cliff</td>
</tr>
<tr>
<td>Elbow Creek Bear Two Shield Site</td>
<td>24CB629 24CB630</td>
<td></td>
<td>Need more Bear in red and black pigments between two shield bearing warriors, one black, one red, yellow, and orange; another v-necked figure</td>
<td>Sandstone cliff</td>
</tr>
<tr>
<td>Three Kills</td>
<td>24CB633</td>
<td></td>
<td>3 bear like animals slashed with vertical marks</td>
<td></td>
</tr>
<tr>
<td>Orange Shield Bearer</td>
<td>24CB1017</td>
<td></td>
<td>Shield bearing warriors/bear</td>
<td>Sandstone cliff</td>
</tr>
<tr>
<td>Paul Duke</td>
<td>24CB1022</td>
<td></td>
<td>Bear paw on shield</td>
<td>Sandstone boulder</td>
</tr>
<tr>
<td>Prepared Shield</td>
<td>24CB1026</td>
<td></td>
<td>Prepared shield; petroglyph; bullet holes in center-historic(?)</td>
<td>Sandstone cliff</td>
</tr>
<tr>
<td>Bear Shield</td>
<td>24CB1090</td>
<td></td>
<td>Incised bear on shield over En Toto;</td>
<td>Sandstone cliff</td>
</tr>
<tr>
<td>Red Line Hoodoo</td>
<td>24CB1091</td>
<td></td>
<td>Incised and red painted bear paw and scratches</td>
<td>Sandstone cliff</td>
</tr>
<tr>
<td>Site Name</td>
<td>Site Number</td>
<td>Age</td>
<td>Description</td>
<td>Setting</td>
</tr>
<tr>
<td>-------------------------</td>
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<td>-----------------------------------------------------------------------------</td>
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</tr>
<tr>
<td>Valley of the Shields</td>
<td>24CB1094</td>
<td></td>
<td>Bear paws; shield bearing warriors w/ bear motifs; bear coming out</td>
<td>Sandstone cliff</td>
</tr>
<tr>
<td>Mini Scratches</td>
<td>24CB1112</td>
<td></td>
<td>Bear paws and scratch marks; petroglyphs</td>
<td>Sandstone cliff</td>
</tr>
<tr>
<td></td>
<td>24CB1178</td>
<td></td>
<td>Bear pictograph, similar to Bear Two Shield site; shield bearing warriors</td>
<td>Sandstone outcrop</td>
</tr>
<tr>
<td></td>
<td>24CB1181</td>
<td>En-Toto pecked earliest (850AD)</td>
<td>Two bear paws; scratched out later*</td>
<td>Sandstone outcrop</td>
</tr>
<tr>
<td></td>
<td>24CB1187</td>
<td>Crow?</td>
<td>Incised bear scratches; incised bear with fletched projectile in back</td>
<td>Sandstone cliff</td>
</tr>
<tr>
<td>Bear Gulch</td>
<td>24FR2</td>
<td>Protohistoric; Crow?</td>
<td>750 Shield bearing warriors; largest concentration on Plains; bear coming out motif</td>
<td>Sandstone cliff</td>
</tr>
<tr>
<td>Robinson Rockshelter</td>
<td>24GA401</td>
<td></td>
<td>Bear...couldn’t confirm from site report; black and red pictographs; handprints</td>
<td>Limestone Rockshelter</td>
</tr>
<tr>
<td>Rygate</td>
<td>24GV406</td>
<td></td>
<td>Petroglyphs; human w/ bear paws extended; bear paws; shield bearing warriors and v-necked figures</td>
<td>Sandstone cliff</td>
</tr>
<tr>
<td>Northside</td>
<td>24GV557</td>
<td></td>
<td>Shield bearing warrior; need more</td>
<td>Sandstone rim</td>
</tr>
<tr>
<td>Killed Bear</td>
<td>24GV561</td>
<td></td>
<td>Shield bearing warrior w/ long spear, large bear w/ multiple incised scratches (kill marks); other anthro’s and bear w/ shield bearing anthro’s</td>
<td>Sandstone cliffs</td>
</tr>
<tr>
<td>Lower Whitetail #3</td>
<td>24JF605</td>
<td>+3000BP per Mavis Greer personal communication (Bears)</td>
<td>Interior line painted bear and cub overlain by handprints</td>
<td>Large granite slab</td>
</tr>
<tr>
<td>Sage Creek Cave</td>
<td>24JT123</td>
<td>Protohistoric</td>
<td>Dark red solid liquid paw</td>
<td>Cave</td>
</tr>
<tr>
<td>Judith Bluff Pictographs</td>
<td>24JT223</td>
<td>Protohistoric</td>
<td>Solid liquid bear w/ vertical scratches; paws?; painted by standing in water</td>
<td>Limestone wall</td>
</tr>
<tr>
<td>Hillside Pictographs</td>
<td>24JT404</td>
<td>Protohistoric</td>
<td>6 red solid liquid bear paws; 3 intentionally scratched; handprint</td>
<td>Rockshelter</td>
</tr>
<tr>
<td>Rock Creek Pictographs</td>
<td>24LC33 AKA: 24LC252</td>
<td>Protohistoric</td>
<td>Large red solid liquid bear paw associated with large shield;</td>
<td>Granite overhang/shelter</td>
</tr>
<tr>
<td>Blacktail Cave</td>
<td>24LC151</td>
<td></td>
<td>Bear pictograph; affiliated</td>
<td>Cave</td>
</tr>
<tr>
<td>Site Name</td>
<td>Site Number</td>
<td>Age</td>
<td>Description</td>
<td>Setting</td>
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<tr>
<td>Elkhorn Upper Boulder Site</td>
<td>24LC248</td>
<td>Protohistoric</td>
<td>1 red stylized solid liquid bear paw (line through paw)</td>
<td>Rock outcrop; south facing</td>
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<tr>
<td>Audrey's Overhang</td>
<td>24ME58</td>
<td>c.1900-900BP Besant and Avonlea</td>
<td>2 bears; one red interior line grizzly (line through paw); turkey tracks; other bear obscured</td>
<td>Rockshelter</td>
</tr>
<tr>
<td>Rainbow Bear Cave</td>
<td>24ME340</td>
<td>c.1900-900BP Besant and Avonlea</td>
<td>Dual perspective spotted bear head w/ red spots (like above) w/ possible affiliated shaman; red pictograph</td>
<td>Cave</td>
</tr>
<tr>
<td>Canyon Mouth Site</td>
<td>24ME341</td>
<td>c.1900-900BP Besant and Avonlea</td>
<td>Dual perspective grizzly bear head w/ red spots (like above) w/ possible affiliated shaman; red pictograph</td>
<td>Exposed bluff overlook</td>
</tr>
<tr>
<td>Black Hole Rockshelters</td>
<td>24ME365</td>
<td>Protohistoric</td>
<td>Painted solid liquid bear; cave; Rock Creek tributary of Smith; Limestone slab floor</td>
<td>Rockshelter</td>
</tr>
<tr>
<td>Pink Shelter</td>
<td>24ME370</td>
<td>Protohistoric?</td>
<td>On tributary of Smith; 2 orange solid liquid bear paws and bear; shield bearing warriors</td>
<td>Rockshelter</td>
</tr>
<tr>
<td>Bear Mask Cave</td>
<td>24ME1010</td>
<td>c.1900-900BP Besant and Avonlea</td>
<td>Pictograph; bear face as den opening; related anthropomorph (shaman?)</td>
<td>Cave</td>
</tr>
<tr>
<td>Big Bear Pictograph</td>
<td>24ML395</td>
<td>?</td>
<td>Stylized bear pictograph; interior heart line and other features;</td>
<td>Sandstone cliff</td>
</tr>
<tr>
<td>Horse Camp Petroglyphs or Jorgenson-Melcher Site</td>
<td>24ML401</td>
<td>?</td>
<td>Incised petroglyphs, bear paw; warrior, shield</td>
<td>Sandstone rim</td>
</tr>
<tr>
<td>Cherry Springs Pictographs</td>
<td>24ML416</td>
<td>Historic?</td>
<td>Bear claw</td>
<td>Sandstone outcrop/rockshelter</td>
</tr>
<tr>
<td>Signal Mountain</td>
<td>24ML563</td>
<td></td>
<td>Bear paw w/ line; petroglyph; shield bearing and v-shouldered figures</td>
<td>Sandstone butte</td>
</tr>
<tr>
<td>Monument Boulder</td>
<td>24PH1005</td>
<td>?</td>
<td>Multiple bear paws;</td>
<td>Isolated glacial boulder</td>
</tr>
<tr>
<td>Buster Aiken’s Petroglyph Boulder</td>
<td>24PH1009</td>
<td>?</td>
<td>Bear paw(s);</td>
<td>Isolated glacial boulder</td>
</tr>
<tr>
<td>Cree Crossing Petroglyph Boulder</td>
<td>24PH1010</td>
<td>?</td>
<td>Bear paw; Shoshone bow?</td>
<td>Isolated glacial boulder</td>
</tr>
<tr>
<td>Recognition Rock</td>
<td>24RB165</td>
<td>Late Archaic/Late Prehistoric/Histori</td>
<td>Bear paws; vulvas; turkey tracks; incised petroglyphs;</td>
<td>Sandstone outcrop/rockshelter</td>
</tr>
<tr>
<td>Site Name</td>
<td>Site Number</td>
<td>Age</td>
<td>Description</td>
<td>Setting</td>
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<tr>
<td>Site Name</td>
<td>Site Number</td>
<td>Age</td>
<td>Description</td>
<td>Setting</td>
</tr>
<tr>
<td>Deer Medicine Rocks</td>
<td>24RB401</td>
<td>?</td>
<td>Sioux and Cheyenne; petroglyphs; v-necked and shield bearing warriors</td>
<td>Sandstone outcrop</td>
</tr>
<tr>
<td>Little Porcupine or Porcupine Lookout</td>
<td>24RB563</td>
<td>?</td>
<td>V-necked figures, shield bearing warrior; bear paws</td>
<td>Sandstone outcrop; fortification?</td>
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<tr>
<td>Bear Paw Cave</td>
<td>24RB0834</td>
<td>?</td>
<td>Shield bearing warrior and bear paws (with lines); petroglyphs</td>
<td>Cave</td>
</tr>
<tr>
<td>Tipi Rock</td>
<td>24RB1029</td>
<td>?</td>
<td>?</td>
<td>?</td>
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<tr>
<td>Timber Creek Site</td>
<td>24RB1510</td>
<td>?</td>
<td>Petroglyphs; Shield bearing warrior w/bear on shield; v-necked figure</td>
<td>Cave</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(shaman); two bears; heart lines, fletched projectile through heart</td>
<td></td>
</tr>
<tr>
<td>Pictograph Cave</td>
<td>24YL1</td>
<td>Late Prehistoric</td>
<td>Shield bearing warriors; ghost produced-Crow; 2 outlined liquid bears;</td>
<td>Cave</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>warrior w/ bear feet, ear buns and dotted shirt</td>
<td></td>
</tr>
<tr>
<td>7 Toes Site</td>
<td>24YL76</td>
<td>?</td>
<td>Two incised bear paws; female genitalia</td>
<td>Sandstone point</td>
</tr>
<tr>
<td>Shield Bear Site</td>
<td>24YL78</td>
<td>?</td>
<td>Bear and shield/den motif</td>
<td>Sandstone cliff face</td>
</tr>
<tr>
<td>Janich-Bruder Petroglyph site</td>
<td>24YL293</td>
<td>950-1870AD</td>
<td>Incised bear paws; grizzly bear</td>
<td>Sandstone butte</td>
</tr>
<tr>
<td>South Alkali Creek Pictographs</td>
<td>24YL402</td>
<td>Protohistoric? (horse)</td>
<td>Grizzly pictograph in black pigment; damaged by deep scratches*</td>
<td>Rockshelter</td>
</tr>
<tr>
<td>North Alkali Creek</td>
<td>24YL403</td>
<td></td>
<td>Painted shield w/ sitting bear motif (Lewis); bear has kill marks-vertical</td>
<td>Rockshelter</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>black lines and associated shield bearing warriors; black pigment</td>
<td></td>
</tr>
<tr>
<td>Pryor Creek Petroglyph No. 2</td>
<td>24YL406</td>
<td></td>
<td>Shield bearing warriors and v-necked figures; pictographs</td>
<td>Sandstone cliffs</td>
</tr>
<tr>
<td>Province</td>
<td>24YL408?</td>
<td></td>
<td>Shield bearer w/ bear design/ site reports says burial</td>
<td>Sandstone butte</td>
</tr>
<tr>
<td>Castle Butte</td>
<td>24YL418</td>
<td>1830-1840's;</td>
<td>Crow; incised bear paw</td>
<td>Sandstone butte</td>
</tr>
<tr>
<td>Site Name</td>
<td>Site Number</td>
<td>Age</td>
<td>Description</td>
<td>Setting</td>
</tr>
<tr>
<td>---------------------------</td>
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<tr>
<td>Nordstrom-Bowen</td>
<td>24YL419</td>
<td>100AD</td>
<td>between two v-necked warriors; paw; shield bearing warriors and grizzly bear etched over*; anthro w/ spear and grizzly bleeding from eyes; depicts use of fire?; another bear w/ projectile in abdomen?</td>
<td>?</td>
</tr>
<tr>
<td>Crooked Creek (?)</td>
<td>24YL437?</td>
<td></td>
<td>Petroglyph; panel w/ 5 bears and 5 shield bearers; grizzlies w/ fletched and unfletched projectiles; 2 paws; square necked anthro’s w/ clubs/spears/atlatl/shields</td>
<td>Sandstone butte</td>
</tr>
<tr>
<td>Razor Creek P.K. Petroglyph?</td>
<td>24YL578?</td>
<td></td>
<td>Shield bearing warrior w/ bear paws on shield; leading horse</td>
<td>Sandstone cliff</td>
</tr>
<tr>
<td>(Crooked Creek?) I don’t think so</td>
<td>24YL762</td>
<td>?</td>
<td>2 cribbed log structures nearby; bear paw; petroglyphs</td>
<td>Sandstone face</td>
</tr>
<tr>
<td></td>
<td>24YL769</td>
<td></td>
<td>Grizzly petroglyphs;</td>
<td>Sandstone cliffs and talus boulders</td>
</tr>
<tr>
<td></td>
<td>24YL771</td>
<td>C900BP</td>
<td>Two grizzly petroglyphs (incised line)-one male w/erection; spear pointing towards circle (den?)</td>
<td>Sandstone outcrop</td>
</tr>
<tr>
<td></td>
<td>24YL772</td>
<td>c900BP</td>
<td>Need more; petroglyphs; shield Petroglyph; grizzly bear and thunderbird; spear entering bear chest</td>
<td>Sandstone hoodoo</td>
</tr>
<tr>
<td></td>
<td>24YL778</td>
<td></td>
<td>Late pedestrian shield bearing warrior</td>
<td>Sandstone cliff</td>
</tr>
<tr>
<td></td>
<td>24YL781</td>
<td></td>
<td>Contemporaneous with shield bearing warrior</td>
<td>Sandstone hoodoo</td>
</tr>
<tr>
<td>Canyon Creek</td>
<td>24YL1189</td>
<td></td>
<td>Petroglyphs; grizzly and several spears- some ornamented; anthro w/ spear</td>
<td>Sandstone boulder</td>
</tr>
<tr>
<td>Pillar Creek</td>
<td>24YL1190</td>
<td></td>
<td>Back half of bear; incomplete outline</td>
<td>Sandstone cliff</td>
</tr>
</tbody>
</table>
## Appendix C: Table of Wyoming Rock Art Sites with Bear Motifs

<table>
<thead>
<tr>
<th>Site Name</th>
<th>Site Number</th>
<th>Age</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Horned Owl Cave</td>
<td>48AB305</td>
<td>Late Prehistoric</td>
<td>9 shield bearing warriors and anthro spearing bear w/ penis on PS S; black pictographs</td>
</tr>
<tr>
<td>Greybull South Petroglyphs</td>
<td>48BH92</td>
<td></td>
<td>Need more; Not sure- blasted and shitty report; shield bearing warriors</td>
</tr>
<tr>
<td>Greybull Rock Petroglyphs</td>
<td>48BH208</td>
<td></td>
<td>Need more-no online site report</td>
</tr>
<tr>
<td>Medicine Lodge Creek</td>
<td>48BH499</td>
<td></td>
<td>Lots of shield bearing warrior; pictographs and petroglyphs; need more on bears</td>
</tr>
<tr>
<td>Daly Petroglyphs</td>
<td>48CA58</td>
<td></td>
<td>Humans w/ bear paw feet; shield bearing warriors-some almost life-size; much war affiliation suggested</td>
</tr>
<tr>
<td>Medicine Creek Cave</td>
<td>48CK48</td>
<td>Late Prehistoric to Historic-Athapascan, then Mandan?</td>
<td>+6 bear paws; birds and female figure and symbols; bison; sheep; elk</td>
</tr>
<tr>
<td>Aladdin Petroglyphs</td>
<td>48CK755</td>
<td>No online report</td>
<td></td>
</tr>
<tr>
<td>Hulett South</td>
<td>48CK1544</td>
<td>Plains Biographic style</td>
<td>Firebird and bear; bird tracks; some weapons; shamanistic?</td>
</tr>
<tr>
<td></td>
<td>48FR12</td>
<td>No online site form</td>
<td></td>
</tr>
<tr>
<td></td>
<td>48FR13</td>
<td>No online site form</td>
<td></td>
</tr>
<tr>
<td>Twin Creek</td>
<td>48FR93</td>
<td>Some +6500BP</td>
<td>Hunting scenes/animal worship?; bears; deer; elk; shield bearing warrior</td>
</tr>
<tr>
<td></td>
<td>48FR99</td>
<td>No online site form</td>
<td></td>
</tr>
<tr>
<td>Castle Gardens</td>
<td>48FR108</td>
<td>+18 bear paws; shield bearing warriors</td>
<td></td>
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<tr>
<td></td>
<td>48FR301</td>
<td>1250AD-Historic Period</td>
<td>Zoomorphs; incised lines; hunting lookout or vision quest; firebird; bear w/ heart line</td>
</tr>
<tr>
<td>Red Canyon</td>
<td>48FR2506</td>
<td>1250AD</td>
<td>Petroglyphs; sim. to Medicine Creek Cave; shield bearing warrior; need more on bears</td>
</tr>
<tr>
<td></td>
<td>48FR2508</td>
<td></td>
<td>Bear w/ projectiles next to shield bearing warriors; anthro warrior w/ bear feet; bear warrior w/ penis showing hands; lots of violence/warfare indicated; shield bearing warriors bear paw</td>
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<tr>
<td></td>
<td>48FR2892</td>
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<td>Bird; bird tracks; bear paws; shield bearing</td>
</tr>
<tr>
<td>Site Name</td>
<td>Site Number</td>
<td>Age</td>
<td>Description</td>
</tr>
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</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>warrior showing hands;</td>
</tr>
<tr>
<td>48FR3644</td>
<td></td>
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<td>Need more</td>
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<tr>
<td>48FR3646</td>
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<td>48JO3</td>
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</tr>
<tr>
<td>48JO4</td>
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<tr>
<td>Sweem/Taylor Shelter</td>
<td>48JO301</td>
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<td>Buffalo Creek Petroglyphs</td>
<td>48JO309</td>
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<tr>
<td>Dangling Legs</td>
<td>48NA3535</td>
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<td>48PA12</td>
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<td>Sommers Site</td>
<td>48PL709</td>
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<td>South Piney Creek</td>
<td>48SU5331</td>
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<tr>
<td>Lucerne Pictographs</td>
<td>48SW83</td>
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<tr>
<td>White Mountain Petroglyphs</td>
<td>48SW302</td>
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<tr>
<td>Firewood Shelter</td>
<td>48SW307</td>
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<tr>
<td>Pine Canyon</td>
<td>48SW309</td>
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<td>48SW512</td>
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<td></td>
<td>48SW3443</td>
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<tr>
<td>Tolar Petroglyphs</td>
<td>48SW13775</td>
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<tr>
<td>Bear Claw Petroglyphs</td>
<td>48SW14712</td>
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<tr>
<td>Little Canyon Creek Cave</td>
<td>48WA323</td>
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<tr>
<td>Nowater Petroglyphs</td>
<td>48WA2066</td>
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<tr>
<td>Alcove Pictographs</td>
<td>48WA2285</td>
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</table>
### Appendix D. Table of sites with bear remains in North America (besides appendices A and B)

*Request sources not listed in the references from the author: mdciani@hotmail.com*

<table>
<thead>
<tr>
<th>Site#/(State/Province)</th>
<th>Age</th>
<th>Description of remains</th>
<th>Source</th>
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</thead>
<tbody>
<tr>
<td>Alaska</td>
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<tr>
<td>Lime Hills Cave 1, AK</td>
<td>9500-8000BP</td>
<td>Faunal-human association?</td>
<td>Ackerman 1996</td>
</tr>
<tr>
<td>Walakpa Sit</td>
<td>1000-400BP</td>
<td>37 polar bear bones</td>
<td>Stanford 1976</td>
</tr>
<tr>
<td>Canada</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>K1 Cave, BC</td>
<td>10900-10600BP</td>
<td>Faunal with lithics; cave</td>
<td>Fedje et al. 2004; Ramsey et al. 2004</td>
</tr>
<tr>
<td>Gaadu Din, BC</td>
<td>10000BP</td>
<td>Faunal with lithics; cave</td>
<td>Fedje 2004</td>
</tr>
<tr>
<td>Cohoe Creek, BC</td>
<td>5700-4400BP</td>
<td>Faunal</td>
<td>Wigen and Christensen 2001</td>
</tr>
<tr>
<td>Blue Jackets Creek, BC</td>
<td>4200-2000BP</td>
<td>Faunal</td>
<td>Severs 1974</td>
</tr>
<tr>
<td>Second Beach, BC</td>
<td>Late Holocene</td>
<td>Faunal</td>
<td>Christensen et al. 1999</td>
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<tr>
<td>1325T/Kilgii Gwaay Site, BC</td>
<td>9450-9400BP</td>
<td>Faunal, 5 MNI Black bear, high % of NISP are cranial elements</td>
<td>McLaren et al. 2005</td>
</tr>
<tr>
<td>Bridge River Site (EeR14), BC</td>
<td>Late Prehistoric/Protohistoric</td>
<td>2 NISP, atlas fragment, grizzly, cut marks for skull removal?; winter pithouse village</td>
<td>Matt Walsh, personal communication</td>
</tr>
<tr>
<td>Bluefish Caves, YKT</td>
<td>Late Pleistocene</td>
<td>Faunal</td>
<td>Cinq-Mars and Morlan 1999</td>
</tr>
<tr>
<td>Ontario</td>
<td>2700BP</td>
<td>2 ground canines</td>
<td>Wright 1972</td>
</tr>
<tr>
<td>AdHk-1/Hind Site, ON</td>
<td>Terminal Archaic</td>
<td>2 black bear skull masks associated w/ cemetery</td>
<td>Donaldson and Wortner 1995</td>
</tr>
<tr>
<td>Colorado</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mahaffy Cache, CO</td>
<td>Clovis</td>
<td>1 positive residue (CIEP)</td>
<td>Yohe and Bamforth</td>
</tr>
<tr>
<td>(Site#)/(State/Province)</td>
<td>Age</td>
<td>Description of remains</td>
<td>Source</td>
</tr>
<tr>
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<tr>
<td>Idaho</td>
<td></td>
<td></td>
<td>2013</td>
</tr>
<tr>
<td>10-NP-336/ Wewukiypuh, ID</td>
<td>10300BP</td>
<td>Faunal, mandible fragments w/ teeth, teeth, possible phalange fragment</td>
<td>Sappington and Schuknecht-McDaniel 2001</td>
</tr>
<tr>
<td></td>
<td>Windust</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spalding Site, ID?</td>
<td>Windust</td>
<td>?</td>
<td>Chance and Chance 1985</td>
</tr>
<tr>
<td>Weis Rockshelter</td>
<td>c. 7500BP</td>
<td>Extinct bear remains</td>
<td>Butler 1962</td>
</tr>
<tr>
<td>Illinois</td>
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<td></td>
</tr>
<tr>
<td>Fisher</td>
<td>1150-1400AD</td>
<td>Drilled and painted canine pendants</td>
<td>Parmalee 1962</td>
</tr>
<tr>
<td>Sawmill Mound</td>
<td>1000-1400AD</td>
<td>1 perforated canine</td>
<td>Baker 1941</td>
</tr>
<tr>
<td>Pete Klunk Site</td>
<td>600-900AD</td>
<td>1 perforated canine w/ burial</td>
<td>Perino 1973</td>
</tr>
<tr>
<td>No. 6, Havana Group</td>
<td>2000-1750BP</td>
<td>Numerous canines</td>
<td>Baker 1941</td>
</tr>
<tr>
<td>Weaver</td>
<td>Havana Hopewell</td>
<td>4 drilled canines</td>
<td>Wray and MacNeish 1961</td>
</tr>
<tr>
<td>Albany Mounds</td>
<td>100-200AD</td>
<td>Canines</td>
<td>Herold 1971</td>
</tr>
<tr>
<td>11LW1/ Robeson Hills</td>
<td>3600-3100BP</td>
<td>2 drilled canines</td>
<td>Winters 1969</td>
</tr>
<tr>
<td>Indiana</td>
<td></td>
<td></td>
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<tr>
<td>12PO1/ Murphy Site</td>
<td>1400-1700AD</td>
<td>Canines</td>
<td>Berres et al. 2004</td>
</tr>
<tr>
<td>Angel</td>
<td>1000-1400AD</td>
<td>26 canines</td>
<td>Black 1967</td>
</tr>
<tr>
<td>Kentucky</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fox Farm</td>
<td>1400-1750AD</td>
<td>Two incised canine pendants and 50 other teeth</td>
<td>Webb 1927</td>
</tr>
<tr>
<td>Michigan</td>
<td></td>
<td></td>
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<tr>
<td>20AE127/Schwert Site</td>
<td>Late Prehistoric c1450AD</td>
<td>2 black bear skulls in</td>
<td>Higgins 1990</td>
</tr>
<tr>
<td>(Site#)/(State/Province)</td>
<td>Age</td>
<td>Description of remains</td>
<td>Source</td>
</tr>
<tr>
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<tr>
<td></td>
<td></td>
<td>roasting pit; large holes in parietal/temporal portion</td>
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<tr>
<td>St. Ignace Mission</td>
<td>Early Historic-17th Century</td>
<td>Bear mandibles (perforated?)</td>
<td>Smith 1985</td>
</tr>
<tr>
<td>Draper Park site</td>
<td>Late Woodland 1500-1000BP</td>
<td>Bear skull</td>
<td>Higgins 1990</td>
</tr>
<tr>
<td>Younge site</td>
<td></td>
<td>Bear skulls in association with burials</td>
<td>Greenman 1937</td>
</tr>
<tr>
<td>20KT1/ Norton Mounds</td>
<td></td>
<td>Various worked bear bone associated with burials; perforated and unmodified canines</td>
<td>Griffin et al. 1970</td>
</tr>
<tr>
<td>20SA2/ Schultz Site</td>
<td></td>
<td>1 canine</td>
<td>Ozker</td>
</tr>
<tr>
<td>Minnesota</td>
<td></td>
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<tr>
<td>Mille Lacs Locality sites:</td>
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<tr>
<td>21SH1/16 Christensen Mound site</td>
<td>c. 1110 AD</td>
<td>105 bear mandibles; 150 teeth; other bones present but many absent; burials; mounds</td>
<td>Wilford 1969; Lukens 1963; Mather 2000</td>
</tr>
<tr>
<td>21ML3/ Crace site</td>
<td>Middle and Late Woodland burial mound and habitation</td>
<td>Pit with at least 32 bears represented; mostly mandibles;</td>
<td>Gibbon 1975</td>
</tr>
<tr>
<td>21ML68/ Elders’ site</td>
<td>Shakopee Phase c. 1300-1680AD</td>
<td>Ritual pit w/ estimated 500 bear skulls</td>
<td></td>
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<tr>
<td>New Jersey</td>
<td></td>
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</tr>
<tr>
<td>Minisink site</td>
<td>Late Woodland/ Contact Period</td>
<td>Remains of 14 black bears</td>
<td>Volmar 1996</td>
</tr>
<tr>
<td>Pahaquarra site</td>
<td>Late Woodland</td>
<td>Black bear humerus, mandible, and maxilla fragment in association with child skull and food remains</td>
<td>Lenik 2002</td>
</tr>
<tr>
<td>(Site#)/(State/Province)</td>
<td>Age</td>
<td>Description of remains</td>
<td>Source</td>
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<tr>
<td><strong>New York</strong></td>
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<tr>
<td>Carpenter Brook site</td>
<td>Late Woodland Owasco people c. 1000-1300AD</td>
<td>Bear skull masks; 7-9 black bears skull and foot bones; midden w/ pipe, effigy, feast remains</td>
<td>Berres et al. 2004</td>
</tr>
<tr>
<td>Palmer site</td>
<td>Iroquois village</td>
<td>2 bears associated with burial of 3 people; feasting indicated; skull damage</td>
<td>Ritchie 1950</td>
</tr>
<tr>
<td>Cayuga village</td>
<td>Iroquois-Historic</td>
<td>1 canine pendent, 16 other canines</td>
<td>Skinner 1921</td>
</tr>
<tr>
<td>Menard Bridge No. 1</td>
<td>300-700AD</td>
<td>1 perforated ground canine</td>
<td>Ritchie 1965</td>
</tr>
<tr>
<td>Rector Mound</td>
<td>Middle Woodland</td>
<td>6 ground canines</td>
<td>Ritchie 1965</td>
</tr>
<tr>
<td>Frontenac Island</td>
<td>4500-4000BP</td>
<td>Canine pendants</td>
<td>Winters 1969</td>
</tr>
<tr>
<td><strong>Ohio</strong></td>
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<tr>
<td>33ST357/Nobles Pond, OH</td>
<td>PaleoIndian-Gainey Phase 11,200BP</td>
<td>5 positive residue (CIEP)</td>
<td>Seeman et al. 2008</td>
</tr>
<tr>
<td>33WO7a/Williams Cemetery</td>
<td>c.2600-3000BP</td>
<td>Bear skull mask associated with burial; 1 canine</td>
<td>Abel et al. 2001; Stothers and Abel 1993</td>
</tr>
<tr>
<td>33HA58/ State Line Site</td>
<td>1200-1400AD</td>
<td>Drilled canines</td>
<td>Vickery et al. 2000</td>
</tr>
<tr>
<td>33RO27/ Hopewell</td>
<td>Scioto Hopewell</td>
<td>Over 100 canines</td>
<td>Greber and Ruhl 1989</td>
</tr>
<tr>
<td>33RO49/ Blain Village Site</td>
<td>1000-1200AD</td>
<td>2 drilled canines</td>
<td>Prufer and Shane 1970</td>
</tr>
<tr>
<td>33WO74/ Orleans Park Site</td>
<td>1400-1650AD</td>
<td>1 worked canine</td>
<td>Redmond 1981</td>
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<tr>
<td><strong>Pennsylvania</strong></td>
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<tr>
<td>36LA12/Eschelman site</td>
<td>Susquehannock village c. 1600-1625AD</td>
<td>Split skulls; 2 perforated canines</td>
<td>Guilday et al. 1962</td>
</tr>
<tr>
<td>Green County</td>
<td>Historic</td>
<td>1 canine pendant</td>
<td>Mayer Oakes 1955</td>
</tr>
<tr>
<td>36PI13A/ Faucett Site</td>
<td>1200-1300AD</td>
<td>1 perforated carved</td>
<td>Moeller 1992</td>
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<tr>
<td>(Site#)/(State/Province)</td>
<td>Age</td>
<td>Description of remains</td>
<td>Source</td>
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<tr>
<td>Texas</td>
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<tr>
<td>Lubbock Lake, TX</td>
<td>Clovis</td>
<td>Faunal, radius and metacarpal of shortfaced bear</td>
<td>Johnson 1989</td>
</tr>
<tr>
<td>Washington</td>
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<td></td>
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<tr>
<td>45BN55</td>
<td>Late Holocene?</td>
<td></td>
<td>Garth 1952</td>
</tr>
<tr>
<td>45DO176</td>
<td>850BP</td>
<td>2 NISP grizzly</td>
<td>Lyman 1985</td>
</tr>
<tr>
<td>45DO408</td>
<td>1450BP</td>
<td>1 NISP black bear</td>
<td>Schalk and Mierendorf 1983</td>
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<tr>
<td>45FE24</td>
<td>Late Holocene?</td>
<td>4 NISP black bear</td>
<td>Collier et al. 1942</td>
</tr>
<tr>
<td>45FE44</td>
<td>9000-4400BP</td>
<td>7 NISP and 4 grizzly NISP</td>
<td>Chance and Chance 1982</td>
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<tr>
<td>45FE45</td>
<td>6000-4400; 4400-3200; 3200-2800BP</td>
<td>(12);(2);(2) black bear</td>
<td>Grayson 1977; Chance and Chance 1982</td>
</tr>
<tr>
<td>45FR5</td>
<td>500BP</td>
<td>1 NISP black bear</td>
<td>Olson 1983</td>
</tr>
<tr>
<td>45FR50/Marmes Rockshelter</td>
<td>Windust</td>
<td>1 NISP grizzly; grizzly ungual phalanx; two canines, one with grove (for wearing?) associated with burial #9</td>
<td>Gustafson 1972</td>
</tr>
<tr>
<td>45GA17</td>
<td>Windust; 2330BP</td>
<td>1 NISP grizzly; third metacarpal-unaltered but, present with a worked wolf foot bone</td>
<td>Schroedl 1973; Gustafson 1972</td>
</tr>
<tr>
<td>35GM9</td>
<td>6700-0BP</td>
<td>4 NISP black bear</td>
<td>Dumond and Minor 1983</td>
</tr>
<tr>
<td>45KLa</td>
<td>Late Holocene?</td>
<td></td>
<td>Garth 1952</td>
</tr>
<tr>
<td>45OK52</td>
<td>500BP</td>
<td>Black bear</td>
<td>Grabert 1968</td>
</tr>
<tr>
<td>45OK258</td>
<td>800-600BP/3500-2200BP</td>
<td>2 NISP</td>
<td>Livingston unpublished</td>
</tr>
<tr>
<td>(Site#)/(State/Province)</td>
<td>Age</td>
<td>Description of remains</td>
<td>Source</td>
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<tr>
<td>35WS4</td>
<td>Mid-Holocene</td>
<td>Black bear</td>
<td>Cressman et al. 1960</td>
</tr>
<tr>
<td>46</td>
<td>Late Holocene?</td>
<td>1 NISP black bear</td>
<td>Collier et al. 1942</td>
</tr>
<tr>
<td>Wisconsin</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>47WN9/Bell site</td>
<td>Protohistoric Fox village; Mesquakie; c. 1680-1730AD</td>
<td>2 black bear skulls in separate roasting pits; both had large holes in parietal/temporal portion; one associated with graves</td>
<td>Higgins 1990; Parmalee 1959</td>
</tr>
<tr>
<td>Rock Island site</td>
<td>Historic?</td>
<td>Perforated mandibles (stropping tools?)</td>
<td>Mason 1986</td>
</tr>
<tr>
<td>47LC61/Pammel Creek</td>
<td>c.1350-1650AD</td>
<td>One canine</td>
<td>Theler 1989</td>
</tr>
</tbody>
</table>