

"I'm pretty sure that thing I just tripped over ain't natural."

Hunting Structures in the Absaroka Mountains of Northwestern Wyoming

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Abstract

Hunting strategies in high altitude environments often involved the systematic construction of blinds and drive walls to funnel game animals (mule deer (*Odocoileus hemionus*), elk (*Cervus canadensis*), and bighorn sheep (*Ovis canadensis*)) towards predetermined kill locations. These systems are positioned to take advantage of natural landscape attributes.

To date many of these systems have been recorded in Colorado and Wyoming (see Benedict and Frison). During the 2004 field season new hunting structures were identified in three valleys of the Greybull River watershed. Structures overlooking the Pickett Creek valley situated on open ridges and saddles (~3075-3200 m elevation) consist of stone walls, blinds, and an anomalous platform. A single enclosure was recorded on an ice-core rock glacier (~2500 m elevation) above the Wood River valley and a second isolated structure was documented near Jack Creek (~2900 m elevation). A prehistoric age for these structures is suggested by lichen bridging among the individual, dry-laid, stones. As with other such systems, no artifacts are associated with these structures.

The discovery of these structures extends the use of game procurement systems to this portion of the Absaroka Mountains and ultimately broadens the knowledge base associated with prehistoric use of the greater Yellowstone ecosystem. Additionally, the data gathered from these structures has the potential to expose predictable topographic signatures with value for understanding high elevation prehistoric hunting strategies in mountain

Wall 3 Platform



Wall 3 looking southeast. Anomalous platform.

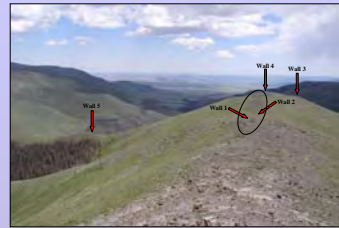
Wall 3 Platform



Wall 3 looking west. This structure is a three-sided platform. A low wall was constructed on the western portion of the platform surface, potentially serving as a blind.



PICKETT CREEK STRUCTURES



PT001. Site overview looking east. The narrow saddle (middle right) in conjunction with the wall structures served as a natural funnel for directing the movements of game animals.



Wall 1 looking north. This was the longest and most complete of the Pickett Creek structures.



Oblique view of Wall 1. Red line indicates wall.



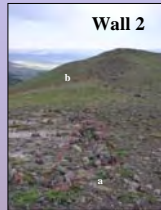
Wall 4 view from the base of the saddle. Red line indicates wall.



Wall 4 looking west. Probable blind, positioned above main saddle.



Wall 5 looking north, viewed from the saddle below wall 4. Red line indicates wall.



Wall 2

- a) Foreground: many of these walls are difficult to recognize. Wall 2 is indicated by a red line.
- b) Background: resistant bedrock forms a natural barrier enhancing directional control of game moving over the saddle.



Wall 2 looking north. Red line indicates wall.



Wall 5 looking south. Yellow line indicates wall.



Wall 5 looking north, viewed from the lower saddle. The way in which this structure was used unclear.

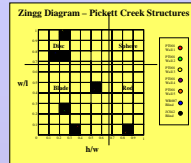
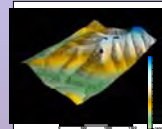


Figure 1. Quantifying structure shapes based on ratios of length, width, and height. (data summarized below).

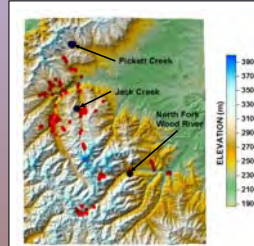
Structure	Length (m)	Width (m)	Height (m)	Length:Width	Length:Height	Width:Height
Wall 1	100	10	2	10:1	50:1	5:1
Wall 2	50	5	1	10:1	50:1	5:1
Wall 3	20	2	0.5	10:1	40:1	4:1
Wall 4	15	1.5	0.3	10:1	33:1	3.3:1
Wall 5	10	1	0.2	10:1	50:1	5:1



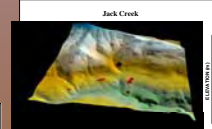
Digital Elevation Model of the Pickett Creek Site (PT001).



Digital Elevation Model of the Wood River Site (WR007).



Overview of the Greybull River watershed. Black dots indicate sites with structures. Red dots indicate concentrations of lithic material recorded during the 2002-2004 field seasons.



Digital Elevation Model of the Jack Creek Site (JC042).



Unrecorded blind above the Warehouse Drainage (WR010).



Wooden elements from this structure exhibit regular angular cut marks.

WOOD RIVER STRUCTURE



The Wood River blind. Pack marks the floor and interior walls. Talus slope in the background.



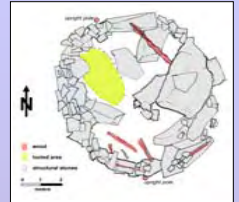
View from below the structure looking south.



Interior of blind showing the integration of wood elements as transverse cross-beams.



View looking north from the Wood River blind.



Plan view of Wood River (WR007) structure.

Learning from the Locals

All of the hunting structures identified and recorded during the 2004 field season were originally located and described by local individuals. Traditional Ecological Knowledge (TEK) of the local landscape is a key element for understanding the archaeological potential of an area. An archaeological tool kit for locating hunting structures is comprised of hierarchical learning components.

- 1) Acquiring a knowledge base of possible prehistoric structures using TEK (i.e. local hunters, ranchers, farmers etc...)
- 2) Ground-truth and record structures, and collect topographic data
- 3) Use the newly acquired data to build a topographic signature specific to the area and construct a predictive model (What is the common denominator?)
- 4) Ground truth the topographic signature, refine the model

Building a Predictable Topographic Signature

Variables include, but are not limited to:

- Landscape Data:**
- Slope: measured at each feature and at intervals in cardinal directions
 - Aspect: directions of major landforms
 - Elevation: points recorded on major landforms
 - Geologic Substrate: prevalent bedrock; typically the predominant building material
 - Depositional Environment: dominant depositional process occurring on site
 - Water Source: nearest sources of water, both intermittent and permanent
 - Wind: prevailing ground-level wind; direction and speed
 - Temperature: annual temperature regime
 - Vegetation Communities: particularly plant species used as forage by game
 - Wet and Dry Precipitation: regional and micro-environmental precipitation patterns, including snow field data
 - Modern Game: movement patterns, game trail locations, bedding areas and pellet count data (Figure 6, below)

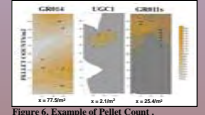


Figure 6. Example of Pellet Count.

Structure Data:

- Dimensions: length, width, height and shape quantification (Figure 1)
- Materials: quantify the number of stone and wooden elements; average sizes of stones and dimensions of wooden elements
- In-Place Elements: the number of unmovable elements incorporated into structures
- Viewshed: quantifies an individual structure, accompanied with polar coordinates
- Direction and Orientation
- Association: relationships among structures and the physical environment (i.e. do structures incorporate tree islands or other vegetation?)

Results and Discussion:

The structures identified in the Greybull River watershed raise more questions than answers with respect to hunting strategies and patterns in this portion of the Absarokas. The Pickett Creek complex appears to be similar, at least in some respects, to drive systems recorded by Frison and Benedict. The specific ways in which drives were used probably changed through time. It is likely that strategies for controlling the direction of game animals were altered as local conditions changed.

Anomalous Structures: The Pickett Creek platform structure (wall 3) platform and the Wood River and Jack Creek circular blinds are difficult to assign specific functions. Frison has labeled similar circular structures in the area as "Shaman Huts" (Frison 1991). However, other interpretations focus on identification of the functional purpose for these structures. For example, local informants call the Jack Creek structure an "Eagle Trap". The interpretations of these structures should remain flexible. Pickett Creek Wall 3 is unlike any other structure in the literature and any suggestions or ideas about its function are welcomed.

Generating Comparable Data Sets: Current information available for game drives and hunting structures are variable with respect to landscape and structural data probes. One goal of this presentation is to suggest a standardization of recording procedures. Behavioral attributes may be inferred from comparisons of: floor investments in construction of walls and blinds. Lateral investments are quantifiable if dimensional attributes and construction materials are recorded in a standardized manner. A prototype Prehistoric Structure Data Collection Form accompanies this presentation.

References:

Benedict, James B.
 1981 The Hunter or July Valley: Spatial Analysis and Archaeology of the Herbivore Blinds. *Colorado Museum of Natural History* 24:1-10. Colorado.
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Acknowledgments:

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