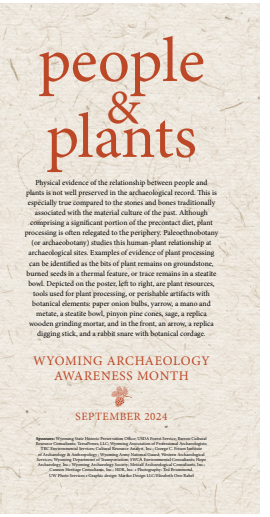
PROGRAM & ABSTRACTS

2025 ANNUAL MEETING

WYOMING ARCHAEOLOGICAL SOCIETY & WYOMING ASSOCIATION OF PROFESSIONAL ARCHAEOLOGISTS

CHEYENNE, WY
MAY 2-4, 2025



Poster image courtesy of Gwendolyn Kristy, Wyoming SHPO.
For information on the poster or how to obtain one, go to:
http://wyoshpo.state.wy.us/AAmonth/Index.aspx.
The 2024 WAAM poster featuring “People & Plants” won 3rd place in this year’s SAA poster competition.

HOSTED BY

The Cheyenne Chapter of the Wyoming Archaeological Society is pleased to host the 2025 Spring Meeting of the Wyoming Archaeological Society (WAS) and Wyoming Association of Professional Archaeologists (WAPA) at the WYDOT Auditorium, Governor's Residence, and Laramie County Community College, Cheyenne, Wyoming.

2025 SPRING MEETING
May 2-4, 2025
SCHEDULE OF EVENTS

Friday, May 2, 2025

Registration & Check In (WYDOT/Governor's Residence) 12:30-9:00 pm

Workshop (WYDOT Auditorium) 12:30 am-2:00 pm
National Register of Historic Places Workshop - Casey Woster, Wyoming SHPO
Casey Woster is the National Register Program Coordinator and a Historic Preservation Specialist with the Wyoming State Historic Preservation Office. She has a Master of Arts from Cornell University in Historic Preservation Planning and a Bachelor of Arts degree from Montana State University focused on architectural history. Casey worked for more than ten years in historic preservation and cultural resource management in Alaska before moving to Wyoming. Casey meets the Secretary of the Interior's Standards for Architectural History and Historic Preservation.

Workshop (WYDOT Auditorium) 2:00 pm-3:00 pm
Metal Detecting Workshop: "Grab the metal detector": A primer on archaeological metal detection - Office of the Wyoming State Archaeologist
Metal detectors are not in most dig kits, but they can be a valuable tool for archaeological investigation under certain circumstances. This workshop will provide an introduction to the technology, some basic guidelines on their functionality and use, and suggestions on when using a metal detector is most appropriate during archaeological investigations.

WAPA Meeting (WYDOT Auditorium) 3:00-5:00 pm

Welcome Social (Governor's Residence) 5:00-9:00 pm
Beer provided by Nathan Fleming/TRC

SCHEDULE OF EVENTS, CONT'D

Saturday, May 3, 2025

Registration (LCCC) 7:30 am-5:00 pm

Silent Auction (LCCC Health Sciences Building, 309/311) 7:30 am-4:00 pm

WAS Business Meeting 8:00-10:00 am
(LCCC Health Sciences Building, 111/113)

Morning Break 10:00-10:40 am
Sponsored by Kathy Puseman-Paloescapes Archaeobotanical Services Team (PAST)

Paper Presentations 10:40-12:00 pm

Lunch (On Own) 12:00-1:40 pm

Scholarship Committee Meeting 12:00-1:30 pm
(LCCC Health Sciences Building, 109)

Paper Presentations 1:40-3:00 pm
(LCCC Health Sciences Building, 111/113)

Afternoon Break 3:00-3:20 pm
Sponsored by Metcalf Archaeological Consultants

Paper Presentations 3:20-4:00 pm
(LCCC Health Sciences Building, 111/113)

Poster Presentations 4:00-5:00 pm*
*and during scheduled breaks (LCCC Health Sciences Building, 309/311)

WAF Meeting (LCCC Health Sciences Building, 109) 4:00-5:00 pm

Close of Silent Auction 4:00 pm
(LCCC Health Sciences Building, 309/311)

Silent Auction Item Pick-Up by 5:00 pm
(LCCC Health Sciences Building, 309/311)

Evening Social 5:00-6:00 pm
(LCCC Center for Conferences and Institutes/Union Pacific Centennial Room 129/130)
Sponsored by Cheyenne Chapter, WAS

BANQUET 6:00-9:00 pm
(LCCC Center for Conferences and Institutes/Union Pacific Centennial Room 129/130)

Sunday, May 4, 2025

Field Trip 9:00 am-TBD
Quebec 01 Missile Alert Facility State Historic Site-private tour

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SWCA

WYOMING ARCHAEOLOGICAL SOCIETY
A W S

WAPA

Western Archaeological Services, Inc.

GENERAL INFORMATION

Meeting Headquarters
All meeting events will be held at the WYDOT Auditorium (5300 Bishop Blvd., Cheyenne, WY 82009), Governor's Residence (5001 Central Ave., Cheyenne, WY 82009), and LCCC Health Sciences Building (1400 E College Dr., Cheyenne, WY 82007).

Registration
Meeting registration and packet pickup is open from 12:30 pm-9:00 pm on Friday, May 2 at the WYDOT Auditorium and Governor's Residence, and Saturday, May 3, starting around 7:30 am outside of the LCCC Health Sciences Building, Rooms 311/313 (enter the Health Sciences Building via the NE entrance).

Workshops
1. National Register of Historic Places Workshop - Casey Woster, Wyoming SHPO-Friday, May 2, 12:30 pm-2:00 pm in the WYDOT Auditorium.
2. Metal Detecting Workshop: "Grab the metal detector": A primer on archaeological metal detection - Office of the Wyoming State Archaeologist-Friday, May 2, 2:00 pm-3:00 pm in the WYDOT Auditorium.

Welcome Social
The Welcome Social is Friday, May 2, from 5:00-9:00 pm in the Governor's Residence. There will be complimentary appetizers and a cash bar. This is a great time to catch up with fellow WAS/WAPA members.

WAS, WAPA, and WAF Meetings
The WAPA meeting is Friday, May 2, from 3:00 pm-5:00 pm in the WYDOT Auditorium. The WAS business, Scholarship Committee, and WAF meeting are Saturday, May 3. The WAS business meeting is in the LCCC Health Sciences Building, Rooms 111/113 from 8:00 am-10:00 am. The Scholarship Committee meeting is in the LCCC Health Sciences Building, Room 109 from 12:00 pm-1:30 pm, and the Wyoming Archaeological Foundation (WAF) meeting is in the LCCC Health Sciences Building, Room 109 from 4:00 pm-5:00 pm.

Paper and Poster Presentations
Paper presentations are Saturday, May 3, from 10:40 am-4:00 pm in the LCCC Health Sciences Building, Rooms 111/113. Posters will be in the LCCC Health Sciences Building, Rooms 309/311 and will be available for viewing during meeting breaks and from 4:00-5:00 pm on May 3.

Silent Auction
The annual silent auction is in the LCCC Health Sciences Building, Rooms 309/311. Bidding takes place Saturday from 7:30 am-4:00 pm. Items must be picked up and paid for (cash, check, or Square) prior to the banquet on Saturday (~5:00 pm). If you would like to donate items to the auction, please bring them to the registration table when you arrive. Or, contact John Laughlin, john.laughlinwy@gmail.com or Dan Bach, macrofloral@gmail.com.

BANQUET

The banquet is on Saturday, May 3, in the LCCC Center for Conferences and Institutes/Union Pacific Centennial Room 129/130. Cocktails start at 5:00 pm, and the banquet starts at 6:00 pm. The keynote speaker for the banquet is Jason LaBelle. Jason is a Professor of Anthropology within the Department of Anthropology and Geography at Colorado State University and Director of CSU's Archaeological Repository. His lab, the Center for Mountain and Plains Archaeology, is grant-sponsored by federal agencies and supported by the James and Audrey Benedict Endowment for Mountain Archaeology. His research specializes in the subsistence, mobility, seasonal aggregation, and camp layout of hunter-gatherers and farmers inhabiting the American West over the past 13,000 years, with primary emphasis in Colorado. He has research projects underway in the foothills and mountains of the Colorado Front Range and the deep canyons of northwestern Colorado.

Soaring Above Colorado's Majestic Mountains: Alpine Archaeology in the Centennial State

Jason will present a broad overview of the alpine archaeology of Colorado, focusing on several recent projects conducted by the Center for Mountain and Plains Archaeology. We'll explore high altitude game drives, ice patch archaeology, and trail systems through mountain passes. Colorado's mountain archaeology is spectacular, clearly demonstrating that ancient peoples considered these high mountains as their home since the Late Pleistocene.

FIELD TRIP

Sunday, May 4, 9:00-TBD: Quebec 01 Military Alert Facility State Historic Site
This site is significant as the only accessible Peacekeeper Missile Alert Facility left in the world and will strive to preserve and interpret the Cold War history of the late twentieth and early twenty-first centuries, fostering an understanding of the mission and duties of the personnel and crews assigned to work there. Quebec 01 Missile Alert Facility State Historic Site, offers visitors the opportunity to see a military installation that was "hidden in plain sight" and controlled one of the most destructive nuclear weapons ever built by the United States. Delve into the daily lives of missileers, topside personnel, missile technology, the Cold War and the deactivation of this missile system.
https://wyoparks.wyo.gov/index.php/places-to-go/quebec-01

Meet at the WYDOT Auditorium parking lot by 9:00 am on Sunday morning. The Cheyenne Trolley will take people to and from the site. People can also drive individually, if they choose.

Peacekeeper missile at the Quebec 01 Missile Alert Facility, https://wyoparks.wyo.gov/index.php/gallery-quebec.

ORAL PRESENTATIONS
Saturday, May 3, 2025
10:40 am-12:00 pm

MORNING SCHEDULE

10:40 am Marcia Peterson (OWSA)
Bull Creek Stone Circle Landscape, Johnson County, Wyoming

11:00 am Erin Kelley (OWSA)
Curating the Patten Creek Site

11:20 am Spencer Pelton (OWSA)
Before the Railroad: An Assessment of 1860s Archaeology in the Laramie Valley

11:40 am Briana Houghton (Student Presenter)-*Unveiling Ancient Structures: Spatial Analysis of Agate Basin Post Molds at Hell Gap*

12:00-1:40 pm LUNCH (on own)

12:00-1:30 pm Scholarship Committee Meeting

ORAL PRESENTATIONS
Saturday, May 3, 2025
1:40 pm-3:00 pm

AFTERNOON SCHEDULE

1:40 pm Clifford White (Student Presenter)-*Spatial and Functional Analysis of Bone Needles: Investigating Thermoregulatory Technology at the Folsom Component of Hell Gap Locality I*

2:00 pm McKenna Litynski (Student Presenter), Sean Field, and Randy Haas
Thermoregulation predicts needle and awl use in North America: an ethnographic meta-analysis

2:20 pm Reuben Haas (Student Presenter)-*Analysis of the Statistical and Spatial Relationships Between Willow Springs Site (48AB302) Artifact Distribution and Distance From the Site's Central Spring*

2:40 pm Claudia Celia (Student Presenter) and Randy Haas-*Projectile Points at Willow Springs Bison Pound Suggest Multi-Group Cooperation*

3:00-3:20 pm **BREAK**

ORAL PRESENTATIONS
Saturday, May 3, 2025
3:20 pm-4:00 pm

AFTERNOON SCHEDULE, CONT'D

3:20 pm Mackenzie DePlata Peterson (Student Presenter)-*Identifying the Directionality of the Vore Buffalo Jump Point: Spatial Analysis of Innominate Elements in the Bonebed*

3:40 pm Karlee Feinen (Student Presenter), John Branney, and Randy Haas-*Optical Profilometry and Microwear Analysis of Anomalous Paleoindian and Scrapers Reveals Spur Utilization*

ORAL PRESENTATION ABSTRACTS

Celia, Claudia, and Randy Haas (Dept. of Anthropology, University of Wyoming)

Projectile Points at Willow Springs Bison Pound Suggest Multi-Group Cooperation

Large-mammal communal hunting strategies were prevalent in the High Plains from the Middle Archaic (5.7–3.2 ka) through the Late Prehistoric (1.5-0.2 ka) periods. The prevalence of bison trapping sites in the highlands indicates the cooperation of large labor forces for the construction and operation of communal hunts. Despite the potential of these sites for evaluating hypotheses of cooperative behavior, the cultural dynamics remain unclear. The Willow Springs Bison Pound is a multi-component communal hunting site in the Laramie Basin, Wyoming. High-density projectile-point and bone assemblages indicate sporadic use spanning a millennium from 3.2–0.2 ka. This study evaluates whether variation in the projectile point assemblage represents one or more cultural groups. In identifying the number of cultural groups, we furthermore seek to identify their territorial origins and the extent to which cooperation networks extended into the lowlands. We identify the presence of both atlatl and archery technology. However, the analysis reveals two culturally distinct point forms that cross-cut the two projectile technologies. These results are consistent with a multi-group hunting hypothesis. Preliminary raw material analysis suggests a strong presence of materials east and north of the Laramie Basin. These results inform our understanding of cooperative dynamics among Late Prehistoric bison hunters in the High Plains.

DePlata Peterson, Mackenzie (Dept. of Anthropology, University of Wyoming)

Identifying the Directionality of the Vore Buffalo Jump Point: Spatial Analysis of Innominate Elements in the Bonebed

The Vore Buffalo Jump has stood as an iconic landmark of Late Prehistoric Wyoming. Excavations between 1971 and 2016 revealed thousands of buffalo remains at the bottom of a sinkhole near Sundance, Wyoming. Previous studies on the site have revealed deeper understanding of colonial influence, communal hunting, meat procurement, and fauna in the Great Plains. However, a yet unknown factor of this site is the direction of which buffalo herds were driven into the sinkhole. Traditionally, directionality has been determined through the presence of drivelines; however the Vore buffalo Jump is lacking this surface feature. In this research I have developed a novel method of determining jump directionality through innominate skeletal elements in the bonebed. This study examines Excavation Levels 1-11 and identifies the densest concentrations of innominate elements. Excavation Levels 2, 4, 5, 6, and 7 all produced a significant correlation between these concentrations of innominate elements and the inferred directionality. The results of these correlations revealed probable terrain influence as well as a changing jump point through time.

ORAL PRESENTATION ABSTRACTS

Feinen, Karlee, John Branney, and Randy Haas (Dept. of Anthropology, University of Wyoming)

Optical Profilometry and Microwear Analysis of Anomalous Paleoindian End Scrapers Reveals Spur Utilization

How hunter-gather populations adapted mountain environments is a perennial question in archaeology. A central technological adaptation to these environments is leather clothing, which is signaled by the archaeological occurrence of lithic hide-scraping tools. End scrapers are one of the most common tool types in early North American lithic assemblages. Paleoindian end scrapers sometimes exhibit anomalous spur features characterized by one or two lateral protrusions located on the working edge. This analysis examines usewear on a large sample of Paleoindian end scrapers from the northern Rocky Mountains. Low-power light microscopy and optical profilometry are used to examine the ostensible working surfaces of the spur features. Additionally, experimental scraper analysis will be used as a control to better understand usewear and examine the effectiveness of the optical profilometer in measuring both the Sa and Ra roughness coefficient. Preliminary results indicate that both the dorsal and proximal surface were used in scraping tasks, consistent with the hypothesis that the spurs were functional and not merely incidental to hafting or maintenance. This finding points to an unknown technological tradition likely associated with clothing manufacture among the Rocky Mountain's first peoples. We conclude with a series of hypothetical applications to spur future research.

Haas, Reuben (Dept. of Anthropology, University of Wyoming)

Analysis of the Statistical and Spatial Relationships Between Willow Springs Site (48AB302) Artifact Distribution and Distance From the Site's Central Spring

In semi-arid environments such as SE Wyoming's Laramie Valley, water is understood to be a primary driver of patterns of habitation and landscape use, in both the past and present. This research adds to the relatively small body of existing work that investigates the distribution of artifacts in relation to environmental features within specific sites. Using surface lithic artifact data from Willow Springs site (48AB302) south of Laramie, Wyoming, this analysis examines the statistical and spatial relationship between artifact distribution and distance from the site's central spring. We use a logistic regression model to plot the relationship between presence/absence of artifacts within a given unit and that unit's distance from the spring. This study seeks to establish and embellish a model to describe the 'gravitational' effect reliable water sources can have on landscape use and habitation patterns, and by extension on site formation and understandings of regional landscapes. Ideally, this model can find applicability across a wide range of sites in varying environments beyond the semi-arid High Plains.

ORAL PRESENTATION ABSTRACTS

Houghton, Briana (Dept. of Anthropology, University of Wyoming)

Unveiling Ancient Structures: Spatial Analysis of Agate Basin Post Molds at Hell Gap

In the early 1960s, excavations commenced at multiple localities at Hell Gap (48GO305) north of Guernsey, Wyoming. Locality II yielded evidence of Agate Basin-aged post molds alongside lithic materials and faunal remains hypothesized to be a structure and discrete activity areas. Archaeologically, evidence of structures this old is often difficult to identify due to the organic nature of construction materials. Because of this, analysis of potential structures is important to further our understanding of Paleoindian lifeways. In this paper, I present a spatial analysis of the Agate Basin component of Hell Gap II. The goals of this analysis are to determine if the post molds excavated in 1964 are in fact evidence of a structure or structures and to identify the presence of specific activity areas associated with the post molds.

Kelley, Erin, Spencer Pelton, and Mariah Newtson (Office of the Wyoming State Archaeologist)

Curating the Patten Creek Site

In 2023 UWAR and Marcel Kornfeld repatriated from the Harvard Peabody Museum artifacts from their 1960s excavations at the Patten Creek Site (48PL68) in southeast Wyoming. In 2024, we curated those materials into the University of Wyoming Archaeological Repository (UWAR) with financial assistance from the Wyoming Military Department and National Guard. Although these artifacts were initially reported by Keller (1971), many questions regarding the nature of this stratified assemblage of "Middle Period" artifacts remained. We present a summary of the results of UWAR's curation and analysis, which includes approximately 4,650 chipped stone and faunal artifacts and roughly 436.5 kilograms of chipped stone debitage. Patten Creek provides a greater understanding of southeast Wyoming during the middle Holocene, with newly obtained dates for the site ranging from ca. 6400 to 2300 cal BP. Patten Creek has some evidence for occupation as a campsite, but is primarily a lithic workshop. The site is dominated by local materials from a nearby quarry, but small amounts of non-local chipped stone materials suggest ties to the Rocky Mountain interior during the latest occupations.

ORAL PRESENTATION ABSTRACTS

Litynski, McKenna L., Sean Field, and Randy Haas (Dept. of Anthropology, University of Wyoming)

Thermoregulation predicts needle and awl use in North America: an ethnographic meta-analysis

Needles and awls are relatively common artifacts in the perishable archaeological record. To gain insight into behavioral correlates of such artifacts, this study examines ethnographic activities associated with perforator tools in North America. We hypothesize that thermoregulation activities and cold temperatures would have been the strongest drivers of perforator tool use. Ethnographies from eHRAF World Cultures database are systematically examined to evaluate activities associated with needles and awls and to quantify the effect of environmental temperature on the prevalence of perforator tool use. Inconsistent with the expectation, we observe that the sum of non-thermoregulation activities (69%) account for the majority of ethnographic needle and awl occurrences. Nonetheless, the most prevalent activity identified is clothing production and maintenance, accounting for 13.77% of ethnographic observations of perforator use. We furthermore observe that for each unit of temperature increase, the log perforator count decreases by 0.129+/-0.004. These results support the hypothesis that thermoregulation, particularly clothing manufacture, is a major function of perforator tools while simultaneously revealing that such tools were deployed in a wide diversity of activities, most notably ceremonies/rituals, basketry, tattooing, and piercing. Such findings provide insight into the economic, environmental, and socio-cultural factors that influenced the use of perforator tools that are increasingly observed in the archaeological record.

Pelton, Spencer R. (Office of the Wyoming State Archaeologist)

Before the Railroad: An Assessment of 1860s Archaeology in the Laramie Valley

The earliest permanent Euro-American occupations in the Laramie Valley were associated with Ben Holladay's Overland Stage route, but little archaeological evidence associated with this era has been systematically documented in Albany County. A recent pilot project sponsored by the Albany County Historic Preservation Board focused on evaluating structures in Laramie's Hart Ranch provided the opportunity to investigate archaeological resources associated with these earliest historic occupations in the Valley. Here, I present a summary of these preliminary efforts, focusing especially on the excavation of a late 1860s or early 1870s privy deposit associated with Charles Hutton's Home Ranch, one of the oldest ranches in Wyoming. I conclude that Albany County should have ample opportunities to find these earliest historic archaeological sites, but that they may be hard to find.

ORAL PRESENTATION ABSTRACTS

Peterson, Marcia (Office of the Wyoming State Archaeologist)

Bull Creek Stone Circle Landscape, Johnson County, Wyoming

The Bull Creek area southwest of Buffalo, Wyoming consists of a large stone feature landscape, including 322 stone circles, 10 rock-ringed depressions, and seven cairns in 600 acres of four sections of contiguous state land (T50N, R82W, Section 30 and T50N, R83W, Sections 24, 25, and 26). This area around Buffalo has more than 23,900 acres of accessible state land, and we documented stone circles on just 2.5% (600 acres) of that land. If we extrapolate our findings to the total state acreage in the area, it is possible that there are around 13,504 stone features in the region. Assuming that we hit an area of more extensive stone feature sites and our documented number does not represent the remaining state sections, even half of the extrapolated amount is 6,752 stone features in the area and one quarter is 3,376. This is possibly one of the greatest concentrations of stone features on state land in Wyoming and represents a significant cultural landscape that needs to be systematically and completely documented and preserved to the greatest extent possible.

White, Clifford (Dept. of Anthropology, University of Wyoming)

Spatial and Functional Analysis of Bone Needles: Investigating Thermoregulatory Technology at the Folsom Component of Hell Gap Locality I

This research explores the role of thermoregulatory technology at a Late Paleoindian campsite, with a specific focus on bone needles from the Folsom component at Hell Gap Locality I (HGI). By integrating morphometric, ZooMS, usewear, and spatial analyses, this research examines the function and distribution of bone tools associated with hide working. Morphometric analysis of needle fragments provides insight into their size and shape, while usewear assessment evaluates whether the patterns observed align with those expected for processing animal hides. ZooMS analysis addresses key questions regarding whether the fauna used to produce these multi-stage tools were selected opportunistically or as part of a highly planned decision-making process. The spatial component of this analysis explores whether bone needles and related artifacts form discrete activity areas, indicating designated spaces for hide processing and clothing production. Identifying these spatial patterns provides insight into how daily tasks were structured during the Folsom occupation, offering a clearer understanding of how thermoregulatory technologies were integrated into broader site use and mobility strategies. Through this multi-method approach, this research provides new insights into the manufacture and use of thermoregulatory objects at HGI. Identifying spatial patterning associated with hide-working tools enhances our understanding of task organization and site use among Folsom groups, offering a clearer picture of how hunter-gatherers adapted to their environments through material culture while also creating opportunities to further investigate social organization in future research.

POSTER PRESENTATIONS
Saturday, May 3, 2025
During Meeting Breaks & 4:00-5:00 pm

Black, Casey (Dept. of Anthropology, University of Wyoming)
Of Dogs and Deer: Using Patterns of Animal Behavior to Distinguish Modification Sources on a Potential Antler Tool from the Bachner Site (XBD-155) in Central Alaska
One of the main goals of zooarchaeological analysis is to determine whether modification on faunal materials is the result of humans or other animals. While this is an important goal, it can be challenging to identify use-wear on bone tools due to issues of equifinality. Although many bones utilized for bone tools are not exposed until after an animal dies, antler tools pose a particular challenge for identification due to their exposure throughout an animal's lifetime. The natural behavior of deer, like rubbing antlers against hard surfaces or using them during competition, can result in modifications that resemble use-wear often attributed to humans, such as polishing or scratching. Using a simple use-wear analysis, this research seeks to determine whether a potential antler tool found at the Bachner site (XBD-155) in Central Alaska can be distinguished from other antlers modified by known animal actors. Based on the discovery of a flake in association with the antler tine, I hypothesize that the antler tine will exhibit surface modifications that differ significantly from antlers modified by known animal actors. Additionally, I hypothesize that antlers modified by known animal actors will reflect the findings of use-wear patterns by previous researchers.

Bossler, Natalie (Dept. of Anthroplogy, University of Wyoming)
Fishing Through Time: Trends among Peruvian north coast marine fauna and their implication on the environment
Fisherfolk along the north coast of Peru often specialized in specific niches. Such niches include the selection of larger fish species like Peruvian grunt and Peruvian croakers or smaller schooling fish like sardines and anchovies. The people also relied on foraging for bivalves and other invertebrates such as Donax obesulus and Prisogaster niger along the coastline. In considering the development of the state in Peru, did these niches and specializations change along with the increasing human population? Plotting the changes in marine fauna size and abundance can demonstrate how the people along the north coast of Peru were pursuing unique adaptations based on their local environment. Additionally, logic associated with human behavioral ecology (HBE) can be used to determine the average amount of meat weight from the marine fauna being exploited. Using previously published data, I use the calculated NISP to determine the trends of selected marine fauna over time. Through the implementation of statistical tests, I evaluate trends of these selected marine species over time to address the extent to which fishing specializations and niches changed over time.

POSTER PRESENTATIONS
Saturday, May 3, 2025
During Meeting Breaks & 4:00-5:00 pm

Kirkwood, Damian R., and Cassidee A. Thornhill (Wyoming State Historic Preservation Cultural Records Office and Office of the Wyoming State Archaeologist)

Batons, Billets, Percussors, and Flakers: Examining the Frequency Distribution of Flintknapping Tools in Wyoming's Archaeological Record

Archaeologists and modern flintknappers generally accept that the toolkits used by past flintknappers included various implements to carry out all stages of lithic reduction. The implements typically include hammerstones, antler tine pressure flakers, long bone pressure flakers, long bone "batons", and arguably the most recognized and common implement in a modern knapper's kit, the antler billet. The antler billet seems to be a ubiquitous tool throughout the archaeological record, with some research suggesting its earliest presence at Lower and Middle Paleolithic sites in Europe and Asia. Using site data from the Wyoming Cultural Records Database (WyoTrack) and initial analyses of antler tools housed in the University of Wyoming Archaeological Repository (UWAR), we compare the frequency distribution of antler billets, antler tine pressure flakers, and hammerstones in Wyoming. Based on the preliminary results, antler billets appear underrepresented in the archaeological record, and this poster explores possible reasons for the paucity of these artifacts being documented in archaeological contexts.

Peterson, Marcia, and Elizabeth A. Horton (Office of the Wyoming State Archaeologist and Yellowstone National Park, National Park Service)

Archaeology of the Thirsty Creek Watershed, Yellowstone National Park

In 2023, Yellowstone National Park and the Office of the Wyoming State Archaeologist entered into a multi-year Cooperative Ecosystem Studies Units agreement to inventory, complete site condition assessments, and evaluate archaeological sites for their eligibility for inclusion in the National Register of Historic Places identified within the Thirsty Creek Watershed, West District, Yellowstone National Park. In 2023 and 2024, the Office of the Wyoming State Archaeologist surveyed approximately 2700 acres of the Thirsty Creek Watershed project area. We focused on the areas around Summit Lake, Little Summit Lake, the Summit Lake Trail, the southern end of the Thirsty Creek drainage, Plateau Lake, an unnamed lake on the Montana-Idaho border, thermal areas, and the Continental Divide. We located and recorded 19 archaeological sites and isolated resources. We conducted some limited testing at these sites and isolated resources to evaluate their potential for significant and intact buried cultural deposits. We collected 19 obsidian artifacts for non-destructive obsidian sourcing analyses. This poster will present the complete results of this fieldwork, including the results of the obsidian analyses, and what these results indicate for past human use of the Thirsty Creek Watershed.

POSTER PRESENTATIONS
Saturday, May 3, 2025
During Meeting Breaks & 4:00-5:00 pm

Griffin, Blake V. (Wyoming National Guard)
Patten Creek
The Patten Creek archeological site was first discovered by the Smithsonian River Basin Surveyors in June of 1947. Eighteen years later (1965) Sarah Keller oversaw the excavation of Trench 1 at Patten Creek. A Harvard PhD candidate under the tutelage of Henry and Cynthia Irwin, Sarah Keller published her findings several years later (Keller 1971). While Henry and Cynthia were investigating Paleoindian through Early Archaic cultures 5 miles to the east at Hell Gap, Sarah Keller discovered thousands of artifacts dating from the Middle Archaic right on through to the Late Prehistoric. And the site was largely left undisturbed for the next sixty years. In October of 2024 OWSA and WYARNG archeologists excavated a 1x1 meter test unit in order to preserve several bison bones protruding from the arroyo approximately 100 meters east of Keller's Trench 1. Michael Page and Erin Kelly analyzed the findings of this excavation and concluded that there are likely two distinct occupations with dates ranging from approximately 835 to 440 years ago.

Norton, Katie G., and Elizabeth A. Horton (Great Basin Institute and Yellowstone National Park, National Park Service)
Encircled: Archaeological Investigations at Avalanche Peak, Yellowstone National Park, WY
Yellowstone National Park (YNP) contains a rich human history occupying this landscape for at least 11,500 years. Cultural resources in the park, protected since 1872, represent the material embodiment of one of the largest and most complete continuation of human occupation in the western United States, yet little is known about the archaeological resources in the highest elevations in the park. In 2020, the YNP Archeology Program initiated a research study to inventory and identify significant archaeological resources on high elevation mountain landforms in non-ice contexts. Data obtained are filling a gap in our knowledge and understanding of pre-park human use of mountain peaks in non-ice contexts in the Greater Yellowstone Ecosystem (GYE). Increasing our knowledge of pre-park use of these landscapes is critical to developing appropriate management strategies to meet visitor recreational needs while protecting the integrity of archaeological resources and related human heritage.
As part of that work, in 2022 and 2024, YNP completed inventory of the popular recreational pedestrian hiking trail, shoulder, and summit of Avalanche Peak, located northeast of Yellowstone Lake in the Absaroka Mountain range in Wyoming. The trail leading to this site is well-trafficked, putting these structures at great risk for looting and vandalism.
Eight stacked rock stone enclosures in circular, semi-circular, and U-shaped formations and one small single-layer complete stone enclosures were documented, all without associated artifacts. Several mountain chains are visible from these features, including the Absaroka Range, Washburn Range, and the Red Mountains in YNP, as well as the Teton Range in Grand Teton National Park. This poster examines several potential interpretations of the function of these rock features, and is intended as a starting point for further conversations on stacked rock enclosures in high altitude settings.

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Peterson, Michael, and Marcel Kornfeld (USDA Forest Service and Dept. of Anthropology, University of Wyoming)
Folsom Fluting: Lessons from the Krmpotich Site in Southwestern Wyoming
The Krmpotich Folsom locality, investigated nearly 30 years ago, is significant for understanding Folsom occupation of the Rocky Mountains as well as Folsom chipped stone economy. The western Killpecker dune field area is rich in Paleoindian and later period occupations of southwestern Wyoming. Sites such as Finley, a Cody age bison procurement locality that also contains Folsom material, as well as Eden-Farson, a Late Prehistoric Shoshonean camp are perhaps the best known. Nearby finds of Deception Creek projectile points, signal a Late Paleoindian occupation of the region. First reports of the Krmpotic site occurred about 25 years ago, but the data has laid dormant since then. A recent reanalysis of Folsom flutes from the Krmpotich site, shows a pattern of flute removal suggesting two functional or stylistic patterns in Folsom point production at the site. We begin with a review the nature of the Krmpotich site and follow with a discussion of variation in the fluting process, arguing that the data, buttressed by production experiments, suggests limited number of Folsom makers at the site.

Purifoy, Haley (Dept. of Anthropology, University of Wyoming)
Preliminary Results of Paleoethnobotanical Analysis of Botanical Remains from Lower Component Hearths from Swan Point, Central Alaska
Human adaptation and resilience to climate change has been a prominent question that archaeology is seeking to answer in response to current challenges caused by climate change. Paleoethnobotanical analyses provide one way of examining past human interactions with plants and their environment. The late glacial period (14,000 cal yr BP) to the early post-glacial period (9000 cal yr BP) brought dramatic ecological changes in central Alaska as glaciers retreated. Vegetation in central Alaska has been primarily reconstructed using pollen data taken from lake sediment cores, but systematic analysis of archaeobotanicals in the region is lacking because preservation is believed to be poor to non-existent. Preservation is always a concern for organic materials, but specific conditions such as charring, can lead to organic materials preserving and being collected for analysis. This project will use paleoethnobotanical methods to analyze macrobotanicals from well-preserved hearth features at Swan Point. Sediment samples were collected from hearth features and manually floated to separate botanical remains. To determine human deposition of plants, control samples were also collected from culturally sterile areas near the site and analyzed for environmental deposition. Recovery rates were also tested by placing 100 charred poppy seeds into the control samples to record loss of material during the flotation process. With the help of students from the Paleoethnobotany class, analysis of four cultural samples and two control samples recovered seeds, charcoal, and processed edible tissue. The results challenge common conceptions of poor botanical preservation at hunter-gather sites by demonstrating that botanicals do survive in this environment. The collected data will contribute to answering questions about past human interactions with their environment by providing flora evidence for these interactions.

POSTER PRESENTATIONS
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Stephens, Ann (Dept. of Anthropology, University of Wyoming)
Evaluating the Role of Subsistence in Rock Art Placement: A Case Study from the Bighorn Basin
This study examines the spatial distribution of rock art in the Bighorn Basin, Wyoming, with a focus on two distinct rock art types: the Dinwoody tradition and Outline Pecked/Painted/Incised type. The research tests two key hypotheses: (1) that rock art sites are correlated with specific ungulate habitats, such as those of mule deer and bighorn sheep, with their location likely being a byproduct of human subsistence activities, and (2) that the animal motifs depicted in these rock art traditions are spatially linked to the habitats of the species they represent. The Dinwoody tradition, attributed to Numic-speaking groups, and Outline type, linked to Great Plains tribes, differ geographically, culturally, and temporally, offering a valuable opportunity to explore how ecological and subsistence factors may have influenced rock art placement. Preliminary results reveal little to no significant correlation between the locations of rock art sites and areas conducive to subsistence activities, as well as no notable differences between the Dinwoody and Outline rock art types. Furthermore, there appears to be no significant connection between the depicted animal motifs and the habitats of the species they represent.These findings suggest that the placement of rock art in the Bighorn Basin was likely not influenced by subsistence needs, pointing to the possibility that other cultural or ecological factors may have influenced where rock art was created.

Williams, Jaxon, Jack Kitchen, Abigail Magee, Chris Moller, and Mackenzie J. Cory (Washington State University)
Initial Analysis of Data from the 2024 Washington State University Archaeological Field School
Hell Gap (48GO305) has long been of import to Northwest Plains archaeology, providing key contributions to our understanding of the regional chronology due to the site's intermittent occupations from the late Pleistocene through to the present. Previous projects by Harvard University and the University of Wyoming yielded considerable data focused on the five localities of 48GO305 with less formal work committed to the surface sites of the surrounding landscape. During the 2024 field season crew members from Washington State University and the University of Kansas started a systematic survey of the broader area. At 48GO556, a stone circle site approximately two hundred meters southwest of Locality II, the crew identified forty-nine stone circles, mapping three of them, and observed dense lithic scatters associated with the features with a total of 412 individual lithics. Additionally, the crew documented and digitized a historic cabin and barn near Locality III and two cairns on the hill overlooking the field house. These results suggest a continued need for continued documentation of the landscape as the dense archaeological deposits extend far beyond the localities.

NOTES