

PROGRAM & ABSTRACTS

2023 ANNUAL MEETING

WYOMING ARCHÆOLOGICAL
SOCIETY &
WYOMING ASSOCIATION OF
PROFESSIONAL ARCHÆOLOGISTS

WORLAND, WYOMING
APRIL 28-30, 2023



HOSTED BY

The Absaroka and Pumpkin Buttes Chapters of the Wyoming Archaeological Society are pleased to co-host the 2023 Spring Meeting of the Wyoming Archaeological Society (WAS) and Wyoming Association of Professional Archaeologists (WAPA) at the Washakie Museum & Cultural Center, Worland, WY.

2023 SPRING MEETING April 28-30, 2023 SCHEDULE OF EVENTS

Friday, April 28, 2023

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| Registration & Booth Set-Up (Main Foyer) | 6:45-7:30 am |
| Silent Auction Set-Up (North Foyer) | 7:15-8:15 am |
| Poster Set-Up (Main Foyer) | 7:15 am |
| Registration (Main Foyer) | 7:30 am-6:00 pm |
| Silent Auction (North Foyer) | 8:15 am-6:00 pm |
| Workshop (Event Center) | 9:00 am-12:00 pm |
| <i>Artifact Identification</i> presented by Dr. Spencer Pelton, Wyoming State Archaeologist; Marcia Peterson, Assistant Wyoming State Archaeologist; and Molly Herron, Collections Manager, University of Wyoming Archaeological Repository. Presentation on artifact identification and recording attributes followed by hands-on activities and collection identification. | |
| Sponsored by Russell Richard, Cheyenne Chapter | |
| Workshop (Event Center) | 10:30 am-12:00 pm |
| <i>Ceramics</i> presented by Michael Page, Archaeological Survey Division, Office of the Wyoming State Archaeologist. Presentation on Prehistoric and Proto-Historic pottery of Wyoming. | |
| Sponsored by Beverly Perkins, Absaroka Chapter | |
| LUNCH (on own) | 12:00-2:00 pm |
| WAPA Meeting/Snacks (Event Center) | 2:00-5:00 pm |
| Sponsored by Ivy Merriot, Sky Traditions, Three Forks, MT | |
| Add'l Poster Set-Up/Poster Presentations (Main Foyer) | 5:00-6:00 pm |
| Welcome Social (North & Main Foyers) | 6:00-9:00 pm |
| Sponsored in part by Middle Park Agency, Tyson Arnold, WAPA, Sheridan/Johnson Chapter, Mike Bies-OW Heritage Research LC, WAS, the Back 40-Ken & Sue Heuermann, Wes & Sylvia Huber, Hillary Jones | |
| 70-Year WAS Anniversary (Event Center) | 6:30-7:00 pm |
| <i>Celebrating 70 Years of Avocational Archaeology in Wyoming, the History of the Wyoming Archaeological Society</i> presented by Dr. Danny Walker, Wyoming State Archaeologists Office-Retired; adjunct faculty member of the University of Wyoming Department of Anthropology | |

SCHEDULE OF EVENTS, CONT'D

Saturday, April 29, 2023

Registration (Main Foyer)	7:30 am-7:00 pm
Silent Auction (North Foyer)	7:30 am-4:45 pm
WAS Business Meeting (Event Center)	8:00-10:00 am
Continental Breakfast Break (Event Center/MainFoyer) Sponsored by Metcalf Arhcaeology, Bismarck, ND	10:00-10:20 am
Paper Presentations (Event Center)	10:20 am-12:00 pm
Lunch (On Own)	12:00-1:40 pm
Scholarship Committee Meeting (Board Room)	12:00-1:30 pm
Paper Presentations (Event Center)	1:40-3:00 pm
Afternoon Snack Break (Event Center/Main Foyer) Sponsored by John Laughlin, WAS Pres; Rachael Shimek, WAS 1 st VP, and Sarah Allaun, WAS 2 nd VP	3:00-3:20 pm
Paper Presentations (Event Center)	3:20-4:40 pm
Poster Presentations (Main Foyer) *and during scheduled breaks	4:40-5:40 pm*
WAF Meeting (Board Room)	4:45-6:00 pm
Close of Silent Auction (North Foyer)	4:45 pm
Silent Auction Item Pick-Up (North Foyer)	5:15 pm
Evening Social (North & Main Foyers)	6:00-7:00 pm
BANQUET (Event Center) <i>Rethinking the Human-Horse Story in the American West: New Directions from Scientific Archaeology</i> Dr. William Taylor, Curator of Archaeology and Assistant Professor of Anthropology, University of Colorado-Boulder	7:00-9:00 pm

Sunday, April 30, 2023

Field Trip (carpool arrangements and lunch on own) Two rock art sites on private land south of Worland Sponsored by BLM Worland	9:00 am-TBD
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MEETING SPONSORS

- The Absaroka and Pumpkin Buttes Chapters of the Wyoming Archaeological Society-Conference Co-Hosts
- Russell Richard, Cheyenne Chapter-Artifact ID Workshop
- Beverly Perkins, Absaroka Chapter-Ceramic Workshop
- Mike Bies OW Heritage Research L.C.-Beverage Service Friday and Saturday
- Ivy Merriot, Sky Traditions-Friday Afternoon Break
- Middle Park Agency, Tyson Arnold, WAPA, Sheridan/Johnson Counties Chapter, Mike Bies OW Heritage Research L.C., WAS, The Back 40-Ken & Sue Heuermann, Sylvia & Wes Huber, and Hillary Jones-Friday Social
- Metcalf Archaeological Consultants, Inc.-Saturday Morning Break
- John Laughlin, Rachael Shimek, and Sarah Allaun-Saturday Afternoon Break
- Worland BLM-Field Trip
- Office of the Wyoming State Archaeologist-Meeting Programs



Middle Park Agency
"Professionals Make Things Happen"



GENERAL INFORMATION

Meeting Headquarters

All meeting events will be held at the Washakie Museum and Cultural Center located at 2200 Big Horn Avenue, Worland, Wyoming 82401.

Registration

Meeting registration and packet pickup is open from 7:30 am-6:00 pm on Friday, April 28, and Saturday, April 29, starting at 7:30 am in the Main Foyer.

Workshops

Artifact Identification--Friday, April 28, 9:00 am-12:00 pm in the Event Center. Dr. Spencer Pelton, Marcia Peterson, and Molly Herron will present a tutorial on artifact identification and offer related hands-on activities. We welcome you to bring in items from your collections for identification.

Prehistoric and Proto-Historic Pottery of Wyoming--Friday, April 28, 10:30 am-12:00 pm in the Event Center. Michael Page presents a 10-year study of Wyoming ceramics and will display several archaeological ceramic specimens.

Welcome Social

The Welcome Social is Friday, April 28, from 6:00-9:00 pm in the North & Main Foyers. There will be complimentary appetizers and a cash bar. This is a great time to review poster presentations, catch up with fellow WAS/WAPA members, and look through the silent auction offerings.

WAS, WAPA, and WAF Meetings

The WAPA and WAS business meetings will be held in the Event Center, the Scholarship Committee and Wyoming Archaeological Foundation (WAF) meetings will be held in the Board Room. Please refer to the Schedule of Events for dates and times.

Paper and Poster Presentations

Paper presentations are Saturday, April 29, from 10:20 am-4:40 pm in the Event Center. Posters will be in the Main Foyer and will be available for viewing during meeting breaks and from 4:40-5:40 pm on April 29.

Silent Auction

The annual silent auction is in the North Foyer. Bidding takes place Friday 8:15 am-6:00 pm and Saturday 7:30 am-4:45 pm. Items must be picked up and paid for (cash or check) by 5:15 pm Saturday. If you would like to donate items to the auction, please bring them to the registration table when you arrive. Or, contact Robin Carlson rcarlson@vcn.com or Sylvia Huber sylviaapro.dconsult@gmail.com.

BANQUET

The banquet is on Saturday, April 29, in the Event Center. Cocktails start in the North and Main Foyers at 6:00 pm, and the banquet starts at 7:00 pm. The keynote speaker for the banquet is Dr. William Taylor, Curator of Archaeology and Assistant Professor of Anthropology, University of Colorado-Boulder and the author of the upcoming book *Hoof Beats: How Horses Shaped Human History*. Dr. Taylor received his M.Sc. from the University of New Mexico in 2013, and his Ph.D. from the University of New Mexico in 2017. His research explores the relationship between humans and animals in the ancient world using scientific archaeology, with a special focus on horses and animal domestication.

Rethinking the Human-Horse Story in the American West: New Directions from Scientific Archaeology

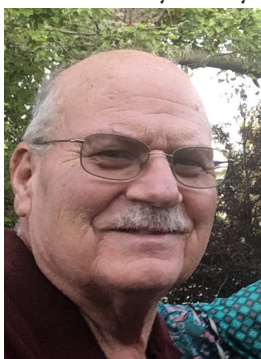
Dr. William Taylor

While horses transformed lifeways across much of the American West, our understanding of the human-horse story has typically been understood through the lens of history, as written down by early European observers. New discoveries from collaborative archaeological science shed new light on the introduction of horses into the Great Plains and Northern Rockies, suggesting that the first domestic horses spread deep into the continental interior much faster than previously imagined - in many areas, before the arrival of European visitors - and were quickly integrated into Indigenous social, economic, and cultural systems across much of the continent.



SPECIAL PRESENTATION

Join us Friday evening from 6:30-7:00 pm in the Event Center for a special presentation celebrating the Wyoming Archaeological Society! Dr. Danny Walker will present *Celebrating 70 Years of Avocational Archaeology in Wyoming, the History of the Wyoming Archaeological Society*. Dr. Danny Walker worked for the Wyoming State Archaeologist Office from 1973 to 2015, retiring as the Wyoming Assistant State Archaeologist. His B.A. degree is in Geology from Fort Hays Kansas State College (now University) in 1970. He received a M.A. in Anthropology from the University of Wyoming in 1975. In 1986, the University of Wyoming also awarded him a Ph.D. in Zoology and Physiology. He has been an adjunct faculty member of the University of Wyoming, Department of Anthropology since 1976.



Dr. Walker's primary research interests and work is on the archaeology of Wyoming. In recent years, his work has centered on the early Historic archaeology of Wyoming, from South Pass City State Historic Site to Fort Laramie National Historic Site. He has been involved with editing and production of *The Wyoming Archaeologist* since April 1983.

FIELD TRIPS

Friday-Sunday, April 28-30: Self-Guided Local Tours

There are many areas of interest convenient to Worland, including the Medicine Lodge Archaeological Site, Red Gulch Dinosaur Track Site, Hot Springs State Park, Dinosaur Center in Thermopolis, and Legend Rock State Petroglyph site.

Sunday, April 30, 9:00-TBD: Local Rock Art Sites

Mike Bies, OW Heritage Research L.C. and Hillary Jones, Worland BLM, will guide us to two rock art sites south of Worland. These sites are on private land, so we will need to carpool and parking is limited. Meet at the Museum at 9:00 am. You will need to provide your own beverage and lunch. Further information is available at the Registration Desk.

ORAL PRESENTATIONS

Saturday, April 29, 2023

10:20 am-12:00 pm

MORNING SCHEDULE

10:20 am Haley Purifoy (student presenter)

Determining Hearth Location Through Analysis of Spatial Distribution of Flotation Samples and Piece-Plotted Carbon from the La Prele Mammoth Site (48CO1401)

10:40 am Dakota Buhmann (student presenter)

Bonding in Hell

11:00 am Denise Hoth (student presenter)

WY to AK: the Red Dirt Road

11:20 am Casey Black (student presenter)

Assessing the Effects of Human Predation on Mammoth $\delta^{15}N$ Values: A Preliminary Study

11:40 am Charles A. Bello

Unified Federal Review Process: Section 106, National Historic Preservation Act – Case Studies from Indian Country

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

**12:00-1:30 pm Scholarship Committee Meeting
Board Room**

ORAL PRESENTATIONS

Saturday, April 29, 2023

1:40 pm-3:00 pm

AFTERNOON SCHEDULE

1:40 pm **Clifford White (student presenter)**

Hell Gap Bone Needles: Small Artifacts, Big Questions

2:00 pm **Ann Stephens et al.**

Preliminary Results of Prey Choice at the Harold Bergman Site: A Study Using Zooarchaeology via Mass Spectrometry

2:20 pm **Sarah A. Allaun et al.**

The Warren Mammoth Archaeological Project

2:40 pm **Hillary Jones et al.**

Joint Cultural and Law Enforcement Survey of Vandalized and Vulnerable Sites in the Medicine Lodge Creek Canyon System

3:00-3:20 pm

BREAK

ORAL PRESENTATIONS

Saturday, April 29, 2023

3:20 pm-4:40 pm

AFTERNOON SCHEDULE, CONT'D

3:20 pm **Charles W. Koenig**

The Hearth Tyranny: Morphological Variation of Early Holocene Thermal Features in Wyoming

3:40 pm **Todd A. Surovell**

The Archaeology of UW's Red Buttes Property, Albany County, Wyoming

4:00 pm **J. Gregory Smith**

Egalitarianism in Urban Civilizations? A Consideration of the Indus Valley

4:20 pm **Linea Sundstrom and Cher Burgess (Cher Burgess presenting)**

Exploratory Investigations at Soap Suds Row, Old Fort Meade: 2022 Season Results

ORAL PRESENTATION ABSTRACTS

Allaun, Sarah A.¹, Spencer R. Pelton², and Todd A. Surovell¹
(¹Dept. of Anthropology, University of Wyoming, ²Office of the Wyoming State Archaeologist)

The Warren Mammoth Archaeological Project

The Warren Mammoth site (48LA3800) is located on Warren Livestock north of Cheyenne, in Laramie County, Wyoming. It was discovered when landowner Doug Samuelson excavated a trench for a water line bringing to the surface the partial remains of a large Columbian Mammoth including a femur head, part of the pelvis, and rib fragments. The landowner also found a chert biface in the dirt removed during the excavation of the trench. We obtained two radiocarbon ages of $11,184 \pm 36$ BP and $11,220 \pm 42$ BP from the mammoth bone, making this potentially one of the earliest examples of human-mammoth interaction in North America. The cause of the extinction of these large, ancient elephants is debated, but may have been in part due to human predation. Mammoths went extinct shortly after the arrival of people across the continent. The Warren Mammoth site is one of only a handful of sites with the potential for human-mammoth interaction to be professionally excavated in the state of Wyoming. If this site does in fact represent another example of human hunting of mammoths, it is of great importance. Of the 27 or so known locations of mammoth remains in the state of Wyoming, only two are certainly archaeological, the La Prele Mammoth in Converse County and the Colby Mammoth site in Washakie County. We performed initial excavations in August 2022 to determine if there is a clear cultural association with the mammoth. Here we present the results of those preliminary investigations and our future research plans.

Buhmann, Dakota (Dept. of Anthropology, University of Wyoming)

Bonding in Hell

'[Hell Gap] colored my perspective on life for the rest of my life,' this is a quote from an interview I conducted with Mary (McGuire) Hedgcock, an excavator of the 1962 Hell Gap expedition. I became intrigued by how impactful Hell Gap had been on Mary's life. At the time, I put it down to the magic of the location. I marvel at the influence Hell Gap has on volunteers, even 60 years after their time on site. These interviews led me to decide to attend the Hell Gap field school in the summer of 2022. When I attended the field school I had almost identical experiences in relation to the location, and more importantly the people I lived and worked with.

Bonding is an intense experience that affects individuals in extensive ways, which affected me more than I recognized at the time. In my examination I am developing my own autoethnography of bonding experiences alongside oral histories to better understand why bonding takes place in these scenarios. I also analyze why bonding experiences have stayed consistent over a 60-year time frame. In my experiences, bonding takes place due to the physical environment, liminal space, the ritual of suffering, and the experiences we share together.

Bonding experiences for young adults are essential for their development. The research of bonding is important because every person goes through a process of becoming a new member to an accepted member of a social community. Here the process of transition is represented as the acceptance of students into the career field of archaeology. Shared experiences of Hell Gap have created a long history of bonding between individuals. The people you bond with over your life, and at Hell Gap in my case, maintain sanity during times of stress.

ORAL PRESENTATION ABSTRACTS

Bello, Charles A., M.A., RPA (FEMA Region 8, Denver)

Unified Federal Review Process: Section 106, National Historic Preservation Act – Case Studies from Indian Country

The Federal Emergency Management Agency (FEMA) is committed to conducting historic preservation compliance in partnership with a wide spectrum of stakeholders – it just makes sense, is fair, and contributes greatly to the final product. I will discuss the role of the Unified Federal Review (UFR) process in Indian Country (using that term with respect). I present some techniques that foster effective Federal/Tribal consultations related to our disaster recovery projects. The 2013 Hurricane Sandy Recovery Improvement Act amended the Stafford Act – enhancing FEMA's environmental & historic preservation regulatory reviews, allowing predictable outcomes in implementing disaster recovery projects. This amendment promoted early coordination among federal agencies and helped expedite both immediate and long-term Disaster Recovery work – consistent with all applicable laws, regulations, etc. Importantly, the Act also mandated increased engagement and collaboration with Tribal Nations.

Unified Federal Review also leverages Federal contacts with jurisdiction or involvement on Tribal lands, which improves efficiency and speed of reviews. The UFR process builds relationships with Federal/Tribal/Territorial/State regulatory entities, and the process is particularly effective in leveraging Federal contacts with involvement on Tribal lands – again, to improve efficiency and speed of compliance reviews. There are 29 Federally-recognized Tribes located within FEMA Region VIII. Our Region is (and has been for quite some time) focused on identifying the needs and interests of Tribes related to Disaster Response, Recovery, and Mitigation. The concept of Sovereign Nation-to-Nation consultation is, of course, key. Self-government is the inherent right of Tribes to function as Nations, and with a unique and direct relationship with the Federal government. The UFR process establishes effective inter-agency Federal/Tribal/State relationships when considering projects. And, we never forget that Tribes possess special expertise and knowledge about the environment and properties of religious and cultural significance – they are indeed key players. Effective communication is of the utmost importance. FEMA/Tribal collaboration illustrates the importance each government places on balancing disaster response and recovery with our environmental and historic and cultural preservation responsibilities.

ORAL PRESENTATION ABSTRACTS

Black, Casey (Dept. of Anthropology, University of Wyoming)

Assessing the Effects of Human Predation on Mammoth $\delta^{15}\text{N}$ Values: A Preliminary Study

The use of stable isotope analysis allows for archaeologists to better understand diet in prehistory and the relationship between humans and animals, including the human predation of mammoths. Despite being herbivores, mammoths possess uniquely high $\delta^{15}\text{N}$ values that lack a definitive cause amongst geologists and paleontologists. The analysis of variance between $\delta^{15}\text{N}$ values in five different mammoth sites located in Wyoming as well as one modern elephant were utilized to determine if there is a relationship between cultural modification and $\delta^{15}\text{N}$ values, which were then applied to three major explanations for ^{15}N enrichment in proboscideans, that of the environment, nursing/weaning, and starvation. The results indicate similar values between mammoths of known archaeological origin (La Prele, 6.6‰; Colby, 6.3‰), with unique $\delta^{15}\text{N}$ values indicating some difference in one of the specimen samples (Warren, 4.3‰). This limited dataset does not strongly confirm any of the ^{15}N enrichment explanations, but further analysis would expand on these results greatly.

Hoth, Denise (Dept. of Anthropology, University of Wyoming)

WY to AK: the Red Dirt Road

Ocher has been a common archaeological artifact found in sites all over the Rocky Mountains flowing up to coastal Alaska. Compiling a succinct review of archaeological sites containing ocher is an immense undertaking that requires review of academic journals, government grey literature, private entity reports, and more. What this project aims to do is begin this compilation process, with a focus on Wyoming and Alaska. These two states are regionally quite far from one another but archaeologically, oddly similar. Time depth of occupation, utilization of the landscape and more is indicative of a connection. Analysis of regional variation in ocher composition, archaeological artifact construction, and landscape provenance sourcing will provide the basis for further studies into this multi-use, expansive natural pigment as well as expand our understanding of these two regions' connection.

Koenig, Charles W. (Dept. of Anthropology, University of Wyoming)

The Hearth Tyranny: Morphological Variation of Early Holocene Thermal Features in Wyoming

The term "hearth" is used by archaeologists worldwide to describe a variety of thermal features with differing morphological characteristics indicative of various cooking or behavioral processes. In Wyoming, archaeologists use "hearth" to describe a range of features—from short-term surface fires to massive earth ovens used to cook hundreds of kilograms of food—and the term has homogenized our understanding and differentiation of past behaviors. This paper describes the morphology of dated thermal features in Wyoming older than 4000 RCYBP to provide insight into changing thermal technology. Viewing the archaeological record in this way demonstrates "hearths" are not a uniform technology. Carefully documenting and describing Indigenous thermal features provides important comparative data for evaluating broader trends in forager subsistence strategies.

ORAL PRESENTATION ABSTRACTS

Jones, Hillary, Ken Lloyd, Brad Jones, Mike Bies, Stacey Whitman-Moore, Thomas Hill, and Bridget Wade (Bureau of Land Management, Worland Field Office)

Joint Cultural and Law Enforcement Survey of Vandalized and Vulnerable Sites in the Medicine Lodge Creek Canyon System

In August 2022, BLM law enforcement officers and archeologists engaged in a 3-day pilot program survey of the Medicine Lodge Canyon system searching for vulnerable, vandalized and research-significant archeological sites. This project was spurred by the discovery of highly significant perishable artifacts adjacent to evidence of exceedingly destructive looting in a rockshelter context. The Worland BLM assembled a team consisting of three law enforcement officers (LEOs), three archeologists, and one geologist and surveyed over 800 acres of canyon country. We identified dozens of previously unidentified rockshelter sites, several with evidence of looting. Our multidisciplinary approach allowed archeologists to train LEOs in the identification of subtle cultural indicators while LEOs trained archeologists in safe site approach and evidence preservation. The most sensitive sites are slated for ongoing camera and low visibility pedestrian monitoring. Furthermore, sites with potentially deep subsurface deposits have been identified for test excavation and field school research. The BLM Law Enforcement and Cultural programs are working to make these joint surveys an annual undertaking. Our ultimate aim is to provide a model for cooperative resource protection in multiple districts and agencies.

Purifoy, Haley (Dept. of Anthropology, University of Wyoming)

Determining Hearth Location Through Analysis of Spatial Distribution of Flotation Samples and Piece-Plotted Carbon from the La Prele Mammoth Site (48CO1401)

The spatial distribution of charcoal recovered in situ and from flotation samples provides evidence of hearth location in Block D at the Clovis La Prele Mammoth kill/scavenge site (48CO1401) in Eastern Wyoming. Hearth features at La Prele are virtually invisible during excavation and are identified based on the distribution of charcoal, calcined bone, and burned lithic artifacts. Here, I test the spatial distribution of the floated charcoal to determine if it is randomly distributed, and if the distribution significantly differs from the in situ charcoal. I find a non-random distribution that suggests a hearth location. I also find a significant difference in the floated and in situ charcoal, but this could be the result of excavator bias and in situ charcoal collection procedures.

ORAL PRESENTATION ABSTRACTS

Smith, J. Gregory, Ph.D. (Associate Professor of Anthropology, Northwest College)

Egalitarianism in Urban Civilizations? A Consideration of the Indus Valley

For archaeologists trying to understand the Indus Civilization at its height during the Urban Period (2600-1900 BC), nothing remotely resembling the headline-making royal tombs at other primary civilizations have been found. Discoveries such as the Royal Tombs at the Sumerian city of Ur, King Tutankhamun's tomb in Egypt, the Moche tombs at Sipán, or the Maya tomb of King Pakal at Palenque are simply unknown for the Indus area. Over many decades, scholars have generated numerous ideas that try to explain the absence of such tombs. After an analysis of the published burial data and a controlled comparison with other civilizations using the Gini Coefficient, I conclude that the Indus Civilization was much more egalitarian than other hearts of primary civilizations in the ancient world.

Stephens, Ann, Sarah A. Allaun, and McKenna Litynski (Dept. of Anthropology, University of Wyoming)

Preliminary Results of Prey Choice at the Harold Bergman Site: A Study Using Zooarchaeology via Mass Spectrometry

The Harold Bergman site (48AB3122) is an archaeological site located in the Laramie Basin in Albany County, WY. The site consists of both historic and precontact components. This study focuses on the prehistoric faunal assemblage and the site's potential to represent prehistoric hunting grounds. Consistent with hunting practices during the periods of site occupation, there is a relative positive correlation between animal body size and abundance in the faunal record, meaning larger mammals were likely pursued more often. Faunal remains were sampled and identified using ZooMS (Zooarchaeology by Mass Spectrometry) which uses collagen peptide mass fingerprinting to differentiate between animal taxa. Samples are processed using a Matrix Assisted Laser Desorption/Ionization Time of Flight Mass Spectrometer (MALDI-TOF). This produces a peptide mass fingerprint (pmf) that is subsequently compared with known pmfs from animal specimens obtained from a developing database to discern the taxonomic identification of each sample. Samples were identified down to the highest level of taxonomic specificity allowable, given the current state of analysis, and show the faunal assemblage is dominated by bison. This abundance of bison suggests that this is the dominant prey choice at the Harold Bergman site. Though a larger analysis of bone samples is underway to gain a broader understanding of prey choice at this site and determine if there is a significant trend in regard to the high abundance of bison, here we present the preliminary analysis of the faunal assemblage using Zooarchaeology by Mass Spectrometry.

ORAL PRESENTATION ABSTRACTS

Sundstrom, Linea, and Cher Burgess

Exploratory Investigations at Soap Suds Row, Old Fort Meade: 2022 Season Results

Site 39MD45 lies on a grassy Holocene terrace near Bear Butte Creek, just inside the sandstone ridge marking the outer edge of the Black Hills. Volunteers concluded investigations over Labor Day 2002 which included searches for background information, limited excavation, surface survey and remote sensing. The volunteers, directed by Linea Sundstrom, excavated six units in an area where a historic map indicated the presence of laundress quarters. With the exception of the southeast corner of Unit 6, all features and artifacts recovered during the project were of the correct age to represent the Soapsuds Row era of old Fort Meade, from 1878 to 1913. The artifacts provided hints about the lifeways of these women including their economic status, hints at dietary habits and the demands of their occupation. The investigation was sponsored by the Bear Butte Creek Historic Preservation Council (BBHPC) who submitted a proposal for an "Outside Deadwood" grant from the Deadwood Historic Preservation Commission. Other partners in the project include the South Dakota Archaeological Research Center, the Department of Anthropology, University of South Dakota, the South Dakota Archaeological Society and the Old Fort Meade Museum. Because the limited excavations did not permit a full understanding of the features, the project partners have agreed to a week of excavations over Labor Day 2023. Linea Sundstrom will again direct the project and Cher Burgess will lead artifact analysis. Volunteers are currently sought for both excavation and lab work to support the September 2-10, 2023 project.

Surovell, Todd A. (Dept. of Anthropology, University of Wyoming) *The Archaeology of UW's Red Buttes Property, Albany County, Wyoming*

Approximately 15 km south of Laramie, the University of Wyoming owns 400 acres that house a Zoology Department Lab, an observatory managed by the Department of Astronomy, and grazing lands used by the College of Agriculture. Within the property boundary are also a series of artesian springs, known locally as Hundred Springs. The springs were developed in the late 19th century by the Union Pacific Railroad to serve as a water source for steam engines traversing the highest point along the Transcontinental Railway. They later provided waters to a fish hatchery. The area has long served as a transportation corridor marked today by the UP Railroad and US 287, and formerly by the Lincoln Highway and Overland Trail. During the 2019 and 2021 field seasons, the UW Archaeological Field School completed survey and excavations in this area. We identified a rich record of historic and prehistoric archaeology. In this presentation, I will summarize our findings about prehistoric use of the Red Buttes area. That record includes finds from the Paleoindian, Archaic, Late Prehistoric, and Historic periods.

ORAL PRESENTATION ABSTRACTS

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

Hell Gap Bone Needles: Small Artifacts, Big Questions

During the 2022 summer field season, one bone needle fragment was recovered in situ from Locality I of Hell Gap. Of the 23 needles recovered at Hell Gap this is only the second one recovered in situ; the other is the nearly complete needle recovered in the 1960s. The stratigraphic context of the mapped needle fragment appears to be the same as the other needles, the Folsom component. Bone needles are difficult to recover in situ largely because of their size; and their preservation is likewise problematic because of their fragility and ease of deterioration over time. This makes Hell Gap bone needle assemblage significant as it contributes a considerable proportion of the total number of Paleoindian needles. Of the few Paleoindian sites where needles have been recovered, only one site, Lindenmeier in Larimer County Colorado, has yielded equal number or more Early Paleoindian needles than Hell Gap. This research evaluates the cultural context of the Hell Gap bone needles and looks at the relationship between the manufacturing, timing, and the distribution of bone needles.

POSTER PRESENTATIONS

Saturday, April 29, 2023

During Meeting Breaks & 4:40-5:40 pm

Cervantes, Mark (Dept. of Anthropology, University of Wyoming)
Finding High Traffic Areas in the Snowy Range Using Least Cost Paths and Prehistoric Archaeology

There has been a long history of looking at archaeological site distribution and how it relates to least cost paths that are created from computational algorithms. In many cases the creation of least cost paths requires that there are known starting and ending points that will tell us something about traversing the landscape to those sources and destinations. Unfortunately, having those starting and ending points on the landscape are not always present with the given data. This project examines the use of the “From Everywhere To Everywhere” model that does not require starting and ending points in advance. This will allow us to look at the least cost paths from many different angles of the Snowy Range in the Medicine Bow National Forest. This poster will also show a kernel density interpolation of paths and known sites to find the highest traffic areas of the Snowy Range. With the creation of the least cost paths and looking at the known archaeological site distribution we see that least cost paths are a significant variable when looking at an area such as the Snowy Range.

Collins, Kalley, Tom Minkley, and Todd Surovell (Depts. of Anthropology and Earth Sciences, University of Wyoming)

La Prele Mammoth Site Pilot Pollen Study

The La Prele Mammoth site is a Clovis archeological site near Douglas, Wyoming that dates back to approximately 13,000 years ago. At this site a sediment core was taken in order to try to understand the local environment at the time of human occupation at the site. A small sample of the sediment core was used dating through the time periods of 15,150 - 10,700 years BP. Seven samples of the core analyzed for pollen in order to gauge a general trend of the environment through time and to indicate if it would be worth the effort and time to deep dive into pollen analysis. The general trend of the flora is that the climate is generally wetter around the beginning of the study around 15,150 years BP, represented by the flora that represents an open environment such as the shrubs. Around the Younger Dryas Chronozone (12,900–11,700 cal BP) there is a climatic shift that can be seen in the pollen record at La Prele. The climate is becoming drier with the representation of an increase in tree pollen percentage compared to the other flora. Near the end of the study the climate shifts back to a wetter climate similar to the beginning of the study showing the transition of the flora and climate throughout the time of human occupation at the La Prele Mammoth site.

POSTER PRESENTATIONS

Saturday, April 29, 2023

During Meeting Breaks & 4:40-5:40 pm

Gold, Caroline (Yellowstone National Park)

Archaeological Investigations at Lower Mammoth Housing, Yellowstone National Park

This poster presents the results of archaeological investigations undertaken for construction of a temporary wastewater treatment system near the Lower Mammoth Housing Area, in Mammoth Hot Springs, Yellowstone National Park (YNP). The former wastewater line, which ran between Mammoth Hot Springs, Wyoming and Gardiner, Montana, was destroyed during the historic Yellowstone flood event on June 13, 2022. NPS archaeologists redocumented four previously recorded sites (48YE309, 48YE310, 48YE1296, and 48YE1297) and identified two new archaeology sites (48YE2584 and 48YE2585). Archaeology sites associated with wetland meadows within YNP and the Greater Yellowstone Ecosystem (GYE) more broadly are understudied.

Guenther, Gannon T., Robert A. Barlow, Dakota R. Buhmann, Colby Carmin, William J. Carroll, Cypress Childersmith, Jacob Cropper, Colter B. Marcum, Lori M. Raynor, Tamara Van Scoyk, Scott D. Wheeler, Clifford L. White, Sam Urban Wittrock, Justin D. Wood, Rachael L. Shimek, and Marcel Kornfeld (Dept. of Anthropology, University of Wyoming)

Introduction and General Overview of the 2022 Hell Gap Field Season

Investigation of the lowest cultural component in the east block of Locality I at the Hell Gap site was the focus of fieldwork during the 2022 field season. Excavations exposed and recovered artifacts from a component underlying Folsom, presumably a Goshen occupation. The recovered artifacts included an in situ bone needle, a large (largest yet discovered) ochre nodule, an antler tine that refits to one recovered 20 years ago, early stage Goshen preforms and other Goshen age tools, as well as some food bone. At least some of these artifacts or their find conditions are unique. The bone needle is only the second of over 20 needle fragments now known from Hell Gap to be found in situ and the Goshen preforms may be the only preforms of this cultural complex in existence. In the presentation we provide a preliminary analysis and interpretations of these major finds.

POSTER PRESENTATIONS

Saturday, April 29, 2023

During Meeting Breaks & 4:40-5:40 pm

Horton, Elizabeth A. (Yellowstone National Park)

Treasure Hunter Digs Themselves a Federal Sentence: ARPA Investigations at the Fort Yellowstone Cemetery NHL Mammoth Hot Springs, Yellowstone National Park

On May 23, 2020, National Park Service (NPS) Law Enforcement Officers (LEOs) observed evidence of unauthorized excavation within the Fort Yellowstone Cemetery National Historic Landmark. At least 54 people were interred in the cemetery between 1888 and 1916, most of them civilian employees of the army and relatives of the military and civilian personnel. This presentation will discuss, for the first time since the 2021 legal proceedings, archaeological fieldwork conducted as part of the NPS Investigative Services Branch and Yellowstone Law Enforcement investigations, in accordance with the Uniform Regulations of the Archaeological Resources Protection Act of 1979, as amended (16 USC 470aa-mm). Findings of the archaeological damage assessment are also presented, including impacts to several of the historical interments.

Horton, Elizabeth A.¹, and Dean Nicolai² (¹Yellowstone National Park and ²Salish Kootenai College)

Connecting Past with Present: Tribal Partnerships with the Yellowstone Archeology Program

This presentation highlights the unique partnerships between the Archeology Program, Yellowstone National Park and the Native American Natural Resource Program, University of Montana, Missoula, and the Native American Studies Department, Salish Kootenai College. Consisting of internships and an Indigenous Archeology field school, these partnerships are designed to provide educational, personal development, and professional growth opportunities to Native American students while living and working in the park. Student participants gain hands-on experience in natural and cultural resources management and resource education, as well as planning, research design, analysis and interpretation phases of fieldwork. We discuss the challenges and successful strategies implemented to increase student engagement, but also highlight student experiences. These partnerships are deepening our understanding of the past archaeological record and its importance for nurturing connections for those in the present.

Linde, Pierson (Dept. of Anthropology, University of Wyoming)

Lithic 3D Models from the Hell Gap Site

This poster's contents consist of a step-by-step description of the procedures used to create 3D models of lithic remains such as flakes, unfished tools and projectile points recovered from the Hell Gap archaeological dig site. This includes information about the program used to render models, the means of description and storage of models, the many forms of materials saved, and an update about the progress that has been made as far as we continue to develop more material.

POSTER PRESENTATIONS

Saturday, April 29, 2023

During Meeting Breaks & 4:40-5:40 pm

Mackie, Madeline¹, Briana Doering², Fox Nelson², Molly Herron², Carlton Shield Chief Gover³ (¹Weber State University, ²University of Wyoming, ³Indiana University Bloomington)

New Context from an Old Site: Collections research on the Colby Mammoth Clovis site

Since the first discovery of projectile points associated with mammoth remains, the iconic recreation of Clovis life has been a group of hunters stalking this multi-ton animal. However, despite nearly 100 years of research, questions remain about traditions associated with Pleistocene megafauna hunting including its frequency and importance. In the 1970s excavations at the Colby Mammoth site (48WA322) recovered the remains of at least seven mammoths along with diagnostic Clovis materials in two piles interpreted to be meat caches. Since this time the site has consistently been featured as a widely accepted mammoth butchery site but has been the focus of little additional research apart from radiocarbon dates. More than thirty-five years later we return to the original collection to address lingering questions about the site's use and chronology. Using enamel stable isotope analysis (O, C, and Sr) and radiocarbon ages we evaluate the relationship between the Colby mammoths to reconstruct herd dynamics and mobility and test if the mammoth remains are the result of a single hunt or the persistent use of the site over multiple seasons. This legacy collection research provides insights into both mammoth ecology and Pleistocene hunting traditions.

White, Monte K. (Yellowstone National Park)

The Grand Canyon Hotel-Archaeological Complex, Yellowstone National Park

This poster focuses on archaeological investigations conducted at the former location of the Grand Canyon Hotel, located near Canyon Junction in Yellowstone National Park. Archaeological work included the documentation of the hotel site, as well as several surrounding trash middens. Artifacts at these sites include architectural and domestic material culture primarily representing hotel kitchen and tableware. These materials are consistent with those identified at hotel refuse dumps recorded elsewhere in the park. Temporally diagnostic artifacts recovered from the sites date between the late 1800s and early 1900s, providing additional knowledge on the development of tourism in Yellowstone National Park, and more specifically the historic use and development of the Canyon area. Fieldwork was conducted by the University of Montana (UM) and the National Park Service (NPS) in 2020.

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THE ENCLOSURE

Located at 13,280 feet above sea level and just below Grand Teton, the highest peak in the Teton Range, The Enclosure offers a commanding view of the sunrise and the Jackson Hole valley below. Its existence was reported by explorers on Ferdinand Hayden's Yellowstone expedition in 1872 who recognized it was made by Indians. No one could explain why, until the 1960s when members of the Apsáalooke tribe (Crow tribe) showed archaeologists their fasting beds on mountain peaks elsewhere in Montana and Wyoming. According to Apsáalooke elder, Grant Bull Tail (now deceased) the enclosure was likely built by a young Crow man named 'Bishishi' who fasted on the Teton peaks known to the Apsáalooke as awaxammatte or Sharp Mountains. Bishishi had a vision of horses and traveled south to bring the first horses to the Apsáalooke.

WYOMING ARCHAEOLOGY AWARENESS MONTH  SEPTEMBER 2022

Revised: Wyoming State Historic Preservation Office/Office of the Wyoming State Archaeologist, University of Wyoming Department of Anthropology, U.S. Bureau of Land Management, U.S. Forest Service, Wyoming Army National Guard, Wyoming Department of Transportation, TWC Environmental Services, Cultural Resources Section, Wyoming Historical Digital Service, FWS, U.S. Forest Service, Wyoming Department of Agriculture, Wyoming Department of Cultural Heritage, Wyoming Department of Environmental Protection, Wyoming Historical Digital Service, Photograph of the Enclosure by Deborah L. Drake. The image is used with the permission of the Crow Tribal Historic Preservation Office. *Copyright: Alaska by Marka Design LLC/istock.com-180618403.

Poster image courtesy of Amanda Castaneda, Wyoming SHPO. For information on the poster or how to obtain one, go to <http://wyosho.state.wy.us/AAmonth/Index.aspx>.

The 2022 Wyoming Archaeology Awareness Month poster of The Enclosure won 1st place in this year's SAA poster competition. This was the last poster that Judy Wolf completed before she retired from the Wyoming SHPO after 37 years of service. Between 1997 and 2022, she created 26 posters, 24 of which won an award at the SAA poster contest and 12 of those awards were 1st place.

COVER PHOTO: The cover photo is courtesy of Sarah Allaun, Dept. of Anthropology, University of Wyoming. It is a drone overview of the excavations at the Warren Mammoth site in August 2022.