

**2010 WAS Abstracts
Casper, Wyoming**

Please note, Kele Johnson and Lindsey Thatcher cancelled.

Adams, Richard (University of Wyoming) and Rhoda Schantz (University of Wyoming, Department of Family and Consumer Sciences)

BALANCING THE HUNTER-GATHERER EQUATION: BULBS, ROOTS, NUTS AND THEIR MEAT EQUIVALENT IN THE GREATER YELLOWSTONE ECOSYSTEM

Prehistoric native peoples of the greater Yellowstone ecosystem (GYE) of northwest Wyoming were hunter-gatherers until contact with European culture. In this model, we employ roots and nuts known, or suspected to have been vegetable staples gathered by Shoshone Indians in the GYE: biscuitroot (*Lomatium* sp., *Cymopterus* sp.), sego lily bulbs (*Calochortus* sp.), Yampa roots (*Perideridia gairdneri*), and whitebark pine (*Pinus albicaulis*) nuts. We combine the caloric content of these crops with actualistic and ethnographic data on harvesting rates to calculate return rates. Harvest rates and the length of the harvest are used to calculate the maximum harvest for each crop. By harvesting each crop in turn throughout the harvest window, a steadily working gatherer could supply fifty percent of the annual calories. In contrast, a hunter need only take three pronghorn a month for 12 months to supply the same amount of calories. We find that the low return rate associated with gathered food is not incompatible with subsistence, especially if pine nuts are added to the diet.

Bamforth, Douglas (University of Colorado; **BANQUET SPEAKER**)

THE MAHAFFY CACHE AND CLOVIS ON THE WESTERN PLAINS AND ROCKY MOUNTAINS

In 2008, landscapers working in the front yard of a house in Boulder, Colorado, uncovered a cache of 83 flaked stone artifacts. Protein residues from genera of animals that became extinct in North America at the end of the Pleistocene, along with stratigraphic evidence, indicate the cache dates to the Clovis period. The raw materials represented in the cache are all from sources to the west, across the Continental Divide, and the collection likely represents a single trip across much of the state of Colorado. I will talk about the artifacts in the cache and what they suggest about Clovis lifeways.

Becker, Rory (University of Wyoming and National Resource Conservation Service)

A GEOPHYSICAL SURVEY OF THE PORTUGUESE HOUSES SITE; A FUR TRADE OUTPOST LOCATED ON THE POWDER RIVER, WYOMING

Portuguese Houses (48JO96) was a trading post established in 1834 during the Rocky Mountain fur trade. Antonio Montero established the post as winter quarters after trapping east of the Big Horn Mountains as directed by his employer, Captain Benjamin Bonneville. Montero established the outpost, in part at least, to trade with the Crow in the Powder River country. The location was maintained as a trading post until 1839 when it was besieged by a rival trading company. A geophysical magnetic survey of the Portuguese Houses was conducted during the 2007 field season as a first step in documenting the archaeology and history of the site. This paper details the history of the site and presents preliminary results of the remote sensing conducted at the site.

Bies, Michael T. (Bureau of Land Management), Marit Bovee (Bureau of Land Management), and Danny N. Walker (Wyoming State Archaeologist's Office)

BIGHORN BASIN WYOMING PICTOGRAPH PIGMENTS

This poster presents the results of analysis of the pigments utilized to produce pictographs at Legend rock Petroglyph site (48HO4) and other sites in the bighorn Basin of Wyoming. This includes analysis of pigments from several sources in the region and also pigments recovered from site excavations in the Bighorn Basin.

Bolton, Rita M. (Central Wyoming College)

48FR2610: RONGIS STAGE STATION

Rongis Stage Station was established on the Oregon Trail near the Fifth Crossing of the Sweetwater about 1874. The large complex possessed the usual lodging and animal husbandry facilities and a blacksmith shop. It also boasted an official post office, saloon, and brothel, making it one of the most popular cultural institutions in the Sweetwater Valley. It quickly became a base of operations for many of the cowboys, sheepherders, homesteaders, rustlers, and ne'er-do-wells for miles around. Neighboring cattle baron John Clay, president of the Wyoming Stock Growers Association during the Johnson County War-era, regarded Rongis as an enemy camp and may have had part of the station burned during the 1880s. It was occupied at least until the Lander - Casper stage service was discontinued in 1906. The site has been documented using historical records and photos as part of Central Wyoming College's Sweetwater Archaeology Project. The actual site location is uncertain. It is hoped to resolve this issue and locate and record the site during the 2010 field season.

Brow, Gale (Central Wyoming College)

FROM CHIEF WASHAKIE'S HORSE PASTURE TO A UNIVERSITY RESEARCH STATION

The area at the mouth of Sinks Canyon, where the Middle Popo Agie flows out of the Wind River Mountains, has long been a garden spot. Several Paleoindian points have been discovered, rock art abounds nearby, at least one possible Archaic bison jump is known, and it was a favorite camping place for the Eastern Shoshones. Early settlers christened the area "Washakie's Horse Pasture." The balmy micro-environment created by the local geology led settlers to plant extensive orchards and grow a variety of unlikely fruits and produce. A statewide referendum about 1891 decided to locate a State Agricultural College there but the plan was killed by the UPRR. The University of Wyoming soon established an agricultural research field station at the site. Much of that primitive scientific complex - barns, corrals, cellars, dumps, dwellings, etc., is now an extensive archaeological site immediately downstream from the bison jump. The property is now owned and being developed by Central Wyoming College. The first formal effort to begin historic and archaeological documentation of the site will be initiated during spring 2010.

Burnett, Paul, SWCA Environmental Consultants

BUILDING A PREHISTORIC RESEARCH CONTEXT FOR SOUTHERN WYOMING

From east to west, southern Wyoming transitions from classic high plains grasslands to intermountain sagebrush and desert scrub communities flanked by coniferous forests. This transition affects several aspects of the regional archaeology. This paper uses GIS to interpret major trends in archaeological inventories and site distribution across a large portion of southern Wyoming. Using a database of over 29,000 prehistoric records within over 31,000 square miles, some regional trends in site distribution are identified. Among the notable patterns is an abundance of hearths and fire-altered rock in the west, which contrasts to a high frequency of stone circles in the east.

Copp-LaRocque, Clara (Central Wyoming College)

THREE CROSSINGS (48FR231) HISTORIC SITES: A COMPLEX INSTEAD OF ONE SITE

Three Crossings (48FR231), near present day Jeffery City, was a major point on the Oregon - California Trail. Preliminary research conducted in 2009 indicates that "the" Three Crossings is actually a complex of at least eighteen historic sites along approximately one and one half miles of river bottom. These include Pony Express and stage stations, and a telegraph station which transmitted the news of Lincoln's assassination. A small U.S. Army fort, and several ranch headquarters including one operated by one of the most influential "cattle barons" in Wyoming, are part of this complex. Three Crossings had an important role in the development of Wyoming during the migration and early settlement periods and is a vital piece of the state's history. This paper summarizes known information and discusses plans for 2010 field work.

Graves, Adam C. (Arcadias)

FOLSOM-AGED BISON MOVEMENT ON THE SOUTHERN PLAINS (POSTER PAPER)

This paper examines the trace element content of bison teeth to determine their migratory patterns. Modern and prehistoric bison teeth from the Southern Plains are analyzed to assess the interrelatedness of *Bison antiquus* - an extinct form of the North American buffalo - and human movements between 10,800 and 10,200 years ago. This study uses Laser Ablation Inductively Coupled Plasma/Mass Spectrometry (LA-ICP/MS) to examine the down-tooth distribution of trace elements in enamel of modern *Bison bison* from Colorado, Kansas, New Mexico, Oklahoma, and Texas to define the geographical limits and concentrations of specific minerals. In addition, *Bison antiquus* teeth from Early Paleoindian locales on the Southern Plains are analyzed. The modern bison enamel provides an elemental map upon which the movements of extinct herds were assessed. *Bison antiquus* tooth samples indicate a clear absence of longer, structured herd movements. Human adaptive strategies on the Southern Plains shifted from a moderately specialized approach to highly specialized bison hunting around 11,000 B.P. The presence of both migratory and numerous residential bison herds (and therefore a predictable resource base) across the Southern Plains was likely a catalyst for specialized bison hunting.

Harrell, Lynn (Bureau of Land Management, Kemmerer), Dr. James H. Speer and Dr. Karla Hansen-Speer (Indiana State University)

THE BRIDGER ANTELOPE TRAP: PRELIMINARY RESULTS OF A DENDROCHRONOLOGY STUDY

The BLM Kemmerer Field Office is conducting a dendrochronology study of the Bridger Antelope Trap, an early historic site in southwest Wyoming listed on the National Register of Historic Places. Although early settlers described the communal trapping operation by Native American tribal groups, there is no other information to demonstrate the trap's age of construction, use and maintenance, or time depth. The dendrochronology study is being accomplished by Indiana State University Biogeography and Dendrochronology Laboratory, who collected 200 tree ring samples currently under analysis. The samples include core and cross section samples from the old juniper wood in the fence remnants defining the trap and old axe-cut stumps in the adjacent juniper stands. Core and cross section samples from live juniper trees and sagebrush within and near the trap are also being analyzed. Samples collected in 2008 produced an early date of A.D. 1754 in the master chronology from live juniper. While the analysis of the 2008 samples from the old trap wood was inconclusive due to the weathering and poor preservation, a preliminary estimate of the early 1800's is suggested as an outside date for one sample. The site study is continuing through analysis of additional tree ring samples collected in 2009.

Kennedy, John (SWCA Environmental Consultants)

METAL PROJECTILE POINT SURVEY OF THE INTERIOR WEST (POSTER PAPER)

A survey of 14 states across the interior west was begun in 2008 to amass information on Protohistoric and Historic aged metal projectile points. Preliminary results of analysis of 435 metal points, presented in 2009, suggested certain quantitative and qualitative patterns may be distinct across time and space. An update of this ongoing data collection and analysis effort is provided by presentation of new results from the growing sample of approximately 1,000 points.

Kornfeld, Marcel, Mary Lou Larson, and George C. Frison (University of Wyoming)

IS IT CLOVIS?

A cache discovered in 1976 while excavating the Laddie Creek Site consists of 16 specimens, mostly large blades, a few blade like flakes, a core, and a scraper. The cache was found on the surface under a boulder. The unusually large size of the blades immediately raised suspicions about its cultural affiliation. In this presentation we discuss the nature and characteristics of the cached items, including morphology, platforms, size and weight, and wear patterns. These variables are then compared to other caches of known cultural affiliation and time period to suggest the cultural context of this important prehistoric feature.

Kornfeld, Marcel (University of Wyoming) and Mark E. Miller (State Archaeologist's Office)

WYOMING AVOCATIONAL ARCHEOLOGISTS (POSTER PAPER)

Wyoming and the Rocky Mountain west are natural for outdoor activities where an abundance of artifacts has intrigued the regional population for decades and created and interest in the past. Although some of the earliest archeologists in the area were professionals much archeology over the past century was conducted by avocational archeologists. The formation of the Wyoming Archeological Society in the 1950s organized the avocational community into an organization with local chapters that conducted the first archeological investigations in the state. Avocationalists have played significant roles, including research, lobbying for legislation, fundraising, and in other aspects of Wyoming Archeological endeavor. This presentation highlights several members of the past and present avocational community.

Laughlin, John (Wyoming State Historic Preservation Office)

THE FINLEY SITE: 70 YEARS LATER

Seventy years have passed since Orion M. Finley discovered the Finley Site. In 2010 the Wyoming State Historic Preservation Office initiated a formal nomination of the site for inclusion on the National Register of Historic Places (NRHP). The nomination has been approved by the State Review Board and is now in the hands of the Bureau of Land Management for submission to the NRHP review board in Washington, D.C. Presented here is a history of investigations at the Finley site; discussion of the significance of the Finley site to Early Man studies; and discussion of future work at the site.

McKay, Andrew (Central Wyoming College)

**2009 ARCHAEOLOGICAL AND HISTORICAL STUDIES AT ST. MARY'S STATION
(48FR230)**

St. Mary's Station was established at the foot of Rocky Ridge about 1859 as a stagecoach stop that may have been called "Silver's Ranch." It later served as a Pony Express and telegraph station. After attacks by the Shoshones in 1862, it was garrisoned by the U.S. Army. The Sioux attacked repeatedly during the Civil War and once succeeded in lighting the post on fire. When flames reached the powder magazine at least a portion of the little fort blew up. There is debate between historians, archaeologists, and local ranchers about where the station was rebuilt. At one place or another, it apparently remained in operation until at least the late

1860s when it was abandoned. Homesteaders are believed to have salvaged building materials from the site, which was savagely looted during the 1960s and 1970s. The site of the burned station was re-recorded in 2009 as part of Central Wyoming College's Sweetwater Archaeology Project. The 2010 field plans call for limited subsurface testing there, and continued efforts to locate the possible second station site.

Ostahowski, Brian (University of Wyoming)

BEVERAGES OF CHOICE: RURAL WORKING CLASS AFRICAN AMERICAN DRINK IN THE 19TH AND EARLY 20TH CENTURIES (POSTER PAPER)

An outstanding variety of bottle types, representing myriad methods of construction, were recovered from the Jackson Homestead. A close study of beverage bottles has provided insight into an African American family's power of choice and consumption behavior during the mid 19th through early 20th centuries in Montgomery County, Maryland.

Schroeder, Bryon (University of Wyoming)

THAT'S A LOT OF ROCKS: THE REDISCOVERY AND REANALYSIS OF THE SHIRLEY BASIN LODGE SITE 35 YEARS LATER.

The Shirley Basin Lodge site (48AB301) saw some of the first collaborations and excavations between the Casper, Cherokee Trails, and Cheyenne WAS chapters. The site originally reported by Lou Steege to George Frison in 1967 was excavated on the July 4th weekend of 1969 by the WAS to protect the site from heavy looting. A preliminary report by Lou Steege of the 1968 excavation appeared in the Wyoming Archaeologist. Seven years later George Zeimens completed a master's thesis detailing the findings of the 1968/1969 excavations. Since then the site has not been the subject of any investigations despite its close proximity to the University of Wyoming and unparalleled assemblage of artifacts. Now thirty-five years later, under the direction of the UWAR, the 50,000 plus artifacts originally recorded by the WAS have been rediscovered and reanalyzed. This talk will comment on the frequency and classes of artifacts, and the broader implications the Shirley Basin Lodge site has for Plains Late Prehistoric archaeology.

Wolff, Sarah E. (Pennsylvania State University and University of Wyoming)

IT'S A SMALL WORLD AFTER ALL: A PRELIMINARY INVESTIGATION OF LICHENOMETRY DATING ON HISTORIC STRUCTURES

Lichenometry is the use of lichens to date archaeological or geological events using a regression curve derived from using size of the lichen to predict the age of the lichen, and hence, the age of the exposed substrate to conditions fostering lichen growth. In this preliminary investigation, I explore the possibility of using lichenometry in historic archaeology, focusing on two contrasting applications of lichenometry to historic archaeology to determine age of structures. First, I will focus on the use of lichenometry in the Southeastern plains of Wyoming on historic structures. Second, I will contrast the application of lichenometry in the west to the use of lichenometry on historic stone structures in the Orkney Islands, Scotland. By comparing and contrasting these two areas, I will demonstrate the appropriate application and potential of using lichenometry to date historic structures.

Wolff, Shana M. (Laramie County Community College)

AN ANALYSIS OF PLANTS TRADITIONALLY USED BY PLAINS INDIANS AS TOPICAL ANTISEPTICS FOR ANTIMICROBIAL EFFECTIVENESS

The purpose of this study was to examine the laboratory effectiveness of Plains Indian plant remedies traditionally used as topical antiseptics to prevent or treat infections of the skin. My hypothesis was some of these plants would display significant antimicrobial activity in the laboratory, *in vitro*. I used 30 different medicinal plants known to have been used by Plains

Indians for antiseptics found growing in and near Cheyenne, Wyoming. The sterile plant extracts were then tested against 9 different bacteria and one yeast, using the Kirby-Bauer Antibiotic Disc Assay technique. After incubation, the plates were examined and any zones of bacterial inhibition, indicating antimicrobial activity of plant extracts, were measured. From this series of experiments I concluded 50% of the native plants isolated from southeast Wyoming historically used by Plains Indians as topical antiseptics did indeed exhibit some antimicrobial properties *in vitro*. Most of the plants thus would inhibit or kill bacteria just as effectively *in vivo*, and would be beneficial in preventing and/or treating infections of the skin and mucous membranes.

Woodward, John P. (University of Wyoming)

STAGE COACHES AND SOLDIERS: PROSTITUTION ALONG THE CHEYENNE AND BLACK HILLS STAGE AND EXPRESS ROUTE

Following the American Civil War, thousands of people flooded the West looking for new opportunities and a chance for a fresh start. Natural resources, such as coal and precious metals, built overnight boomtowns and prostitution and vice flocked to these new communities. However, many of these communities lacked a rail head and thus depended on stage and wagon routes to bring in people and supplies. The communities growing in the Black Hills following the discovery of gold in 1874 were no different. Set up by both public and private entities, the Cheyenne and Black Hills Stage and Express route became the major transportation artery into the Black Hills, developing the necessary infrastructure, including relay stations. These stations, particularly those close to Fort Laramie, became centers of "recreation" for travelers and soldiers, but also served the logistical needs of the stage line. Prostitution at these "hog ranches" represented the adaptation an urban occupation to rural life and illustrated the continuing economic ties developing in Wyoming.