

2015 Major Highlights

Bridger Antelope Trap

BLM Kemmerer Field Office (FO) Archeologist Lynn Harrell retired in May after a 28 year career in cultural resource stewardship, but not without leaving behind an enduring legacy of her scholarship in a study of the Bridger Antelope Trap (48UT1), completed with co-author and BLM Rock Springs FO Archeologist Leanna Flaherty. The Bridger Antelope Trap site consists of remnants of a prehistoric juniper enclosure and corral and stone features encompassing an area of 520 meters by 213 meters (approx. 28 acres) designed for pronghorn antelope procurement and first alluded to by John Charles Fremont when he camped in the vicinity on August 4, 1843. Harrell and Flaherty's investigations follow up on George Frison's original site documentation in 1968-1969 by incorporating a dendrochronological analysis of the juniper elements in 2008-2009 and an intensive, collaborative survey by BLM, Wyoming Association of Professional Archaeologists, Wyoming State Historic Preservation Office (SHPO) and the tribal members of the Uintah and Ouray Tribe in 2010 which yielded the majority of the site's assemblage. Although the dendrochronological study indicates continuous periodic use of the trap from A.D. 1100- A.D. 1750 (900 to 250 YBP), the site's array of Great Basin style projectile points (variants of Elko, Pinto, Rose Spring, and Cottonwood types) indicates an even greater antiquity, spanning a timeframe from the Early Archaic to Late Prehistoric Periods. Harrell's work at the Bridger Antelope Trap not only represents pioneering efforts in public outreach and education but also sets a new standard for tribal and agency cooperation. Devin Oldman, Deputy Director for the Northern Arapaho Tribe's Historic Preservation Office, visited the site with BLM on July 30, 2015, and expressed what a positive experience it was to know the amount of care and effort extended towards the site's preservation. Harrell's work ensures that these vestiges of Wyoming's cultural heritage will endure and continue to resonate in the hearts of future generations of all those who take an interest in preserving the past.



Figure 1: A view of the valley and adjoining ridge where the Bridger Antelope Trap is located, looking south from the inferred approach of a pronghorn herd.



Figure 2: BLM KFO archaeologist Lynn Harrell with Devin Oldman, Deputy Director for the Northern Arapaho Tribe’s Historic Preservation Office, and other tribal members, discussing the site’s configuration in July this year.

Hanson Site

As a result of funding awarded in FY2013 and FY2014, an assistance agreement between Cody FO and the University of Wyoming Department of Anthropology (UW) was created to support further analysis of the Folsom-aged Hanson Site (48BH329) collections. Diagnostic tools from the collection formed the basis for the seminal “Folsom Tools and Technology at the Hanson Site, Wyoming” (Frison & Bradley 1980) which, among other things, diagrammed the complex manufacturing sequence for fluted points at the site. On-going lithic analysis by a graduate student affiliated with UW’s Frison Institute has resulted in data which can identify household level activity areas, distinguish interior versus exterior domestic space, and provided an opportunity to submit calcined bones for more accurate dating techniques. Recently received results from the University of Arizona Accelerator Mass Spectrometry Lab corroborate and augment earlier dating efforts, assigning submitted samples from this nationally significant Folsom camp site to an average date of 10,638 +/- 44 radiocarbon years before present. These new dates can only re-invigorate academic interest and stimulate continued research at the Hanson Site.

			DATA REPORT <i>"radiocarbon age BP"</i>						1118 E. 4th St. PO Box 210081 Tucson, AZ 85721-0081, USA (520) 621-6810 (phone) (520) 621-9619 (fax) AMS@physics.arizona.edu	
AA	lab.#	sample ID:	Contact 1	MASS	d13C value	F(d13C)	± F(d13C)	14C age BP	± 14C age	
AA106384	X29043	V-363	Surovell, T.	2.60mg	-24.5	0.2664	0.0025	10,626	77	
AA106385	X29044	V-372	Surovell, T.	2.39mg	-22.6	0.2673	0.0021	10,600	77	
AA106386	X29045	V-787/773	Surovell, T.	0.45mg	-23.1	0.2644	0.0025	10,688	77	

Figure 3: Report on radiocarbon dates from the Hanson Site

Youth Corps Assistance at Whoopup Canyon Petroglyph Site

Wyoming Conservation Corps (WCC) students from the UW contributed a 10 day work session to repair fire effects damage to the Whoopup Canyon Petroglyph Site ACEC and to clear and prepare a trail used for guided public tours. During those 10 days, the crew removed a rock fall caused by a sandstone cliff collapse destabilized by the fire. The ensuing rock fall buried a petroglyph panel. Sandstone blocks were carefully hand removed from the panel and soil was removed that had filled interstices in the rock fall.

The WCC crew also cleared and prepared a trail used for guided public interpretative tours of the petroglyphs. Using natural looking rock slabs, they created steps on the steep slope to improve public access to the panel.

The WCC students had no previous archaeological experience and the NFO archaeologists taught the crew basic archaeological techniques to allow them to assist in locating and flagging artifacts displaced by the dozer line and screening soil in the dozer berms to recover displaced artifacts associated with prehistoric stone circles. Artifact recovery from the berms contributed data useful for assessing the severity of the site damage created by the fire fighters. Stones in the features that the bulldozer had dislodged from the stone circle perimeters were left in place in the bulldozer berm. Because the stone circles did not have detailed plan maps prior to the fire, restoration of the features was impossible. Two circles had been sliced in half and a third stone feature was completely destroyed. Finally, the team cut and removed fire-killed junipers along the slopes below petroglyph panels to reduce the potential for the next wildfire to damage the petroglyph panels again.



Figure 4: WCC team removing rock fall that buried a petroglyph panel.

Museum collections management

In April, the Wyoming State Office (WYSO) archaeology staff traveled to the University of Wyoming Archaeological Repository (UWAR) in Laramie to conduct a facilities assessment. Later in June WYSO staff transported 160 boxes to UWAR from an archaeological consultant

who went out of business. Funding from the oil and gas program will facilitate the review and accession of these materials.

Lander FO has cataloged and prepared artifacts found during construction monitoring of the new parking area and walking trail at Castle Gardens Rock Art Site. Over 900 artifacts from two sites, 48FR108 and 48FR1398, are due to be curated by the end of the year, and include lithics, bone fragments, projectile points, and ceramic sherds.

In the Paleontology program, BLM WY has annually procured specimen cabinets for storage of Federal fossils in non-Federal curation facilities. Cabinets are provided to institutions that comply with non-federal repository requirements and need additional storage space to house Federal specimens. In FY15, project funds totaling \$20K were allocated to purchase specimens cabinets and drawers for the Tate Museum in Casper and the Department of Geology, University of Wyoming in Laramie, as both institutions have recently agreed to accept major collections or salvaged collections of paleontological material from the State of Wyoming.

National Programmatic Agreement implementation and State Protocol Revisions

In May this year BLM WYSO cultural staff and the WY SHPO and staff conducted an annual meeting to review the 2014 State Protocol and conduct training for new managers and archaeologists. Work continues on several appendices to address questions from grazing, seismic, travel management and fire programs.

National Register of Historic Places

The **Eden Farson site** in the Rock Springs FO was listed on the National Register of Historic Places (NRHP) on September 22, 2014. The property encompasses 5.3 acres located in southwestern Wyoming, located on the western edge of the Killpecker Sand Dunes in Sweetwater County, Wyoming. The Eden-Farson site is a Native American prehistoric campsite, where the main activity was the final processing of pronghorn killed during a communal hunt. The site includes the largest known pronghorn bone bed, with at least 212 animals represented. A single radiocarbon date places occupation of the site at 230+/-100 radiocarbon years before present, which is at the cusp of the Protohistoric Period, a time of profound cultural changes for Native Americans. Based on artifactual evidence and the radiocarbon date of 230 +/-100 years BP, the Eden-Farson site was occupied during the Little Ice Age, which lasted from AD 1400 to 1700. Site excavations in 1969 revealed the presence of a minimum of 12 lodges with workshop areas, hearths, and a wealth of artifacts. Artifacts found at the site, including projectile points, Intermountain Ware pottery, and Shoshone knives, indicate the site was occupied by a Shoshonean group during the latest part of the Late Prehistoric Period or early in the Protohistoric Period. Due to the unusual nature of the site, with its extensive pronghorn assemblage, numerous lodge areas, and the Late Prehistoric/Protohistoric Period date, as well as the likelihood of finding additional features and artifacts, the Eden-Farson site is eligible for listing in the National Register of Historic Places under Criterion D at the statewide level of significance.

Also in Rock Springs FO, the **Tolar Petroglyph site** was listed on the NRHP on September 30, 2014. The property encompasses 0.8 acres located near the town of Point of Rocks, about 15.5 miles east of Rock Springs in southwestern Wyoming. The Tolar Petroglyph site consists of 32

rock art panels extending for more than 150 meters along the south and southeast face of a large sandstone outcrop. The site contains a distinctive collection of Protohistoric and Historic petroglyphs created by Native American groups inhabiting or traveling through southwestern Wyoming. The artistic styles and motifs at Tolar are characteristic of Shoshone and Comanche, but may also be related to Arapaho, Ute and Athapaskan-speakers such as the Navajo. The Tolar Petroglyph Site is eligible for listing under Criteria C and D at the statewide level of significance. The site meets the requirements for Criterion C because of the exceptional illustrations of Ceremonial and Biographic tradition; the extremely fine craftsmanship of subjects; the preservation of panel composition and manufacture technique; and the distinctive representations (turtle, large-headed anthropomorphs and stick narrative) found at the site. The Tolar Site is eligible under Criterion D because it has yielded important information about how different Native groups may have moved through the Tolar area in the Historic Period. The well-preserved distinctive cultural elements and artistic representations also have the potential to add more to our understanding of Rocky Mountain, Great Basin, and Plains culture, symbolism, and historic migration.

National Historic Preservation Act Section 106 Compliance

Minerals workload – Casper FO had a major upswing in their minerals workload; the number of undertakings submitted to SHPO in FY15 showed an increase of 83% over FY14. Although the workload was high and there were a number of personnel changes in the cultural program, the combination of management leadership and staff dedication led to a highly successful year. Once fully staff, it is anticipated that the CFO heritage program will be able to give greater attention to sustainable long-term heritage program development.

Moneta Divide EIS – Reported last year under the tribal consultation section, this proposal for over 4200 new wells in Natrona and Fremont Counties continues to be a workload. The Lander FO is the lead with a support team from Casper FO and in FY15 began work on the Section 106 programmatic agreement (PA). A third tribal consultation field tour occurred in May and representatives of 8 tribes participated. The project proponents and other PA consulting parties joined the first day of the field tour, which included a visit to the project area, the new Neptune Water Treatment Facility, and historic trails. The next two days were limited to the BLM and tribal representatives as sites of traditional religious and cultural importance were visited and project impacts discussed. Several new tribal recommendations concerning the management of the Cedar Ridge Traditional Cultural Property were raised. These recommendations are being incorporated into several alternatives in the EIS. Multiple tribal representatives were extremely open about the meaning and use of specific areas within the TCP. This new information will be incorporated into a future management plan for the area.

Bighorn Basin Training – The Worland and Cody FOs collaborated this winter to organize a workshop/training for oil and gas operators in the Bighorn Basin. The workshop included a presentation on cultural resource compliance and discussed strategies to minimize delays. Over 100 representatives from industry participated.

Chokecherry and Sierra Madre Wind Project (CCSM) - In April the Rawlins FO in conjunction with the WY SHPO, Power Company of Wyoming and signing concurring parties to the CCSM Programmatic Agreement (PA) finalized the Cultural Resources Mitigation Plan (CMP) for the project as stipulated in the PA after three years of negotiations. The mitigation

plan calls for utilizing a modular approach to create an interpretive plan for adversely affected historic properties. As part of the modular approach, interpretive exhibits will be placed at the BLM Teton Reservoir Day use area, the Fred Ft. Steele rest area or historic site, along State Highway 30 and at Bridger Pass. Additionally the CMP stipulates participation in the Project Archaeology “Investigating Migration and Transportation” educational series, providing a four day landscape preservation seminar and a ten day field school session at the Pine Grove Stage Station, among other things. The CCSM project is currently the largest wind farm proposed in North America with 1000 turbines proposed, a rail facility and haul roads and additional infrastructure.

Identification, recordation, and evaluation of heritage resources

Little Sandy Creek National Historic Trail - Final results of the geophysical inventory of an area known as the Little Sandy Crossing were received this year. The site is where the California, Oregon, Mormon Pioneer, and Pony Express Trails all crossed the Little Sandy Creek. A Pony Express station (48SW4156) was also located at the crossing. The geophysical inventory project conducted remote sensing in an attempt to locate trail-related graves that are recorded in trail diaries and identified through local lore to have been at the crossing. The field work was conducted by Utah State University in 2014 with subsequent data analysis and report write up. While the project did not conclusively locate the reported graves, it did reveal anomalies that could be the footprints of previously unknown structures related to the Pony Express station. Additional field work, including testing of some anomalies, will be needed to determine the exact nature of the discovered features.

Passport in Time (PIT) project – Buffalo FO hosted its seventh PIT project this year and five volunteers documented impacts from a range improvement water pipeline constructed through a buried unevaluated prehistoric site. The original range improvement project was a Section 106 foreclosure and the site was discovered after the pipeline was constructed. After consultation with the WY SHPO, BLM utilized PIT volunteers to excavate shovel tests and 1x1 meter units in order to make a determination of eligibility and document any damage the pipeline caused to portions of the site. As a result of the fieldwork, the site was determined not eligible to the NRHP. After one week spent in the field, an additional week was spent in the lab while PIT volunteers prepared recovered artifacts for curation.



Figure 5 – PIT volunteers conduct evaluative testing at a prehistoric site at Welch Ranch Management Area.

Stabilization, rehabilitation, and other preservation activities

JO Ranch Stabilization – This NRHP-listed Rural Historic Landscape was included in the Federal Real Property (FRPP) inventory as a heritage asset in FY14. In FY15, a hazardous materials inventory was completed at the site indicating the existence of hazmat materials. Clean up of these materials must occur prior to beginning any stabilization work. Funding from the 1050 program was obligated to an assistance agreement and stabilization work will commence in FY16.

Castle Gardens Rock Art Site and Montana Conservation Corps – Lander FO (LFO) and the Montana Conservation Corps (MCC) partnered on a project to help protect the Castle Gardens Rock Art Site. The mission of the MCC is to empower young people through hands-on conservation service and education. This fit perfectly with LFO's need to complete a critical part of the management plan for this world-class site. Two 12-person MCC crews, made up of high school students from the Wind River Indian Reservation, worked with BLM staff for 3 days to complete the project. Together they took down a troublesome half-mile stretch of the site protection fence and rebuilt it in a better location. This improved public access in the area along an existing two-track, while better protecting the rock art site from damaging vehicle traffic.

While at the site, BLM archaeologists gave the crews a tour of the rock art, where they learned about the petroglyphs, the history of the site, and how their work would help protect the site from vandalism. Most of the crew members are Native American and were excited to make the personal connection of knowing that their ancestors created, inhabited, and interacted with this sacred place.



Figure 6 – LFO archaeology intern Nico Holt discusses the history of vandalism at the Castle Gardens Rock Art Site with MCC crew members.

Monitoring and site stewardship

Carbon Cemetery – Rawlins FO monitored the NRHP-listed Carbon Cemetery and installed a sign highlighting the history and promoting cemetery etiquette.



Figure 7 – Carbon Cemetery Sign Installation

Fence Replacements – Rock Springs FO monitored and replaced or repaired fencing at the Crookston Ranch (48SW5513) and the Boyer Ranch House (48SW941)(formerly thought to be the LaClede Overland Trail stage station.

Research, field schools, and data recovery projects

BLM/CWC Field School – Casper FO received funding again in FY15 to support the five year cooperative agreement with the Anthropology Department of Central Wyoming College (CWC) and its archaeological field school. Inventory projects were completed in multiple field offices this year. In addition, FY15 end of year funding was provided to facilitate additional work in other field offices next year.

Northwest College Field School – Cody FO partnered with the archaeology class to map a prehistoric stone circle site, 48PA1151, using an Electronic Distance Measurement device (EDM) Total Station and produced a new site sketch map with sub-millimeter accuracy. The students also received information on an Optically Stimulated Luminescence (OSL) dating technique used on two of the stone circles.

Notable planning accomplishments for heritage resources

Bighorn Basin RMP – The proposed RMP and Final EIS, covering Worland and Cody FOs, were published in May and expected to be signed in September. Areas of importance to tribes will not be transferred out of federal ownership, physically modified, or affected by management action in a way that restricts or denies access and/or use. The plan promotes increased research and facilitation of the nomination of the Hanson Site as a National Historic Landmark. Protection of the foreground (visual horizon up to three miles) of important cultural sites such as rock art sites and historic trails is emphasized. And finally, there is increased protection of Legend Rock Petroglyph Site (48HO4), including a “no surface occupancy” label. This state historic site includes State of Wyoming land, BLM land and private land. Recently, the Archaeological Conservancy (AC) announced that local landowners, Richard and Addie Wagner, have agreed to donate their Legend Rock private lands to the AC. This is the first AC preserve in Wyoming.

Heritage education, interpretation, outreach and tourism

Boys & Girls Club of the Big Horns – Buffalo FO hosted an Environmental Education Day at the Welch Ranch Management Area on the Tongue River in June. BLM professionals, interns and approximately 50 children, ages 5 to 13, spent the day learning about archaeology, botany, wildlife, range management, insects and water. The Passport in Time (PIT) volunteers worked with the BLM archaeologists, speaking about archaeology as well as volunteering on the public lands.



Figure 8 – Children with the Boys & Girls Club of the Big Horns help test a prehistoric site at Welch Ranch Management Area, with BLM archaeologists and PIT volunteers.

Buffalo Bill Center of the West International Archaeology Day – Cody FO participated in the inaugural Museum Adventure on International Archaeology Day at the Buffalo Bill Center of the West. Five stations presented archaeological themes with information unique to Wyoming in ceramics, lithics, rock art, comparative bone physiology through zooarchaeology, and a timeline of human occupation in the state. Several partner groups such as the USFS Shoshone National Forest, the Park County Historic Preservation Commission, O.W. Heritage Research L.C. and the Wyoming Archaeological Society Absaroka Chapter, were represented and worked with over 100 students from local elementary schools.



Figure 9 – Children participating in International Archaeology day at the Buffalo Bill Center of the West, with Kierson Crume, BLM Cody FO archaeologist.

Rawlins Outreach – Rawlins FO archaeologists took part in multiple public events including such activities as: Teton Science School students visit to a stone circle site; continued work with Rawlins Coop High School; a natural resources tour of the Carbon Basin for Elk Mountain home-school students; presentation at the annual Wyoming Coroner’s refresher training; and day tours of the JO Ranch for the Little Snake River Museum and the Sweetwater Historical Museum.



Figure 10 – Teton Science School students posing with BLM Wyoming mascot, Rocket the Antelope.

Tribal consultation and coordination

Northern Arapaho Tribal Historic Preservation Training – For the 3rd year, Lander FO archaeologists taught a class on archaeological principles, artifact and bone identification and relevant laws to tribal members working in the archaeological monitoring program. Those technicians, and the Northern Arapaho Tribal Historic Preservation Officer, Yufna Soldier Wolf, then worked with Rawlins FO archaeologists on further fieldwork in the Teton Reservoir and Little Sage Creek areas. The tribal members gained field experience assisting BLM by conducting inventory on 40 acres, recording 8 sites, testing 4 of those and logging 208 volunteer

hours. Through these efforts, BLM continues to establish a better, closer relationship with the tribe.



Figure 11 – Tribal trainees and other volunteers shovel testing in the Rawlins FO.

Please see additional tribal-connected items under Moneta Divide EIS and Montana Conservation Corps.

Paleontology

Natural Trap Cave – An international team of scientists undertook its second field season of cave study and excavation at Natural Trap Cave, located in the flanks of Wyoming’s northern Bighorn Mountains. The Bureau of Land Management manages the cave for scientific research. Researchers from Des Moines University in Iowa and other academic institutions in Australia, Iowa, Tennessee, New York, Georgia, Washington, California, and Wyoming continued excavations from mid-July through early August for an ongoing paleontological, genetic and paleoclimatological research project. Access to the cave was limited to the project principals and members of their crew with specific training. After field work is complete, the cave and work areas will be recontoured and restored as appropriate. Natural Trap Cave is renowned internationally and has the largest known collection of cave fossils in the U.S., the result of the small cave opening which often went unnoticed by animals traveling through the area over the past 100,000 years. The unsuspecting animals fell into the cave and have been well-preserved in the sediments at the bottom of the cave. Researchers were pleased with last year’s discoveries. Samples of the bones and teeth found continue to be analyzed for DNA and stable isotopes and dated using radiocarbon-based methods. Through their research, scientists hope to construct both a picture of how Ice Age animal populations adapted and responded to climate change as well as analyze major extinction events. To learn more about Natural Trap Cave, see www.blm.gov/wy/st/en/field_offices/Cody/paleo/NTCave.html

Training Presentations – The WY Regional Paleontologist was invited to speak on Wyoming’s paleontological resources to BLM staff at the New Employees Orientation, Law Enforcement Training and Inspection & Enforcement Training.

National Fossil Day – As BLM's National Fossil Day Representative, the WY Regional Paleontologist coordinated and facilitated events and programs in the state, region, and around the country associated with this event, to be held October 14, 2015.

Public Presentations – WY Regional Paleontologist provided public presentations in and around Wyoming, talking to over 1000 people, especially at Cheyenne Frontier Days in July.

Paleontological Permits – WY Regional Paleontologist administered 68 Paleontological Resources Use Permits (Consulting, Research, and Excavation) for paleontologists from 25 different states. This represents the second highest number across BLM states.

Program Advisement – WY Regional Paleontologist provided program advisement to Paleontology State Leads in Montana and Idaho, as well as Utah, Oregon, and Nevada. He worked closely with the Moab Field Office in the development and interpretation of the Mill Canyon Dinosaur Tracksite in Utah, because of his experience with Wyoming's very successful development for public visitation at the Red Gulch Dinosaur Tracksite.

Technological Advancements in Paleontology Resources Documentation - WY Regional Paleontologist continues to work with personnel from the National Operations Center in the development of new photogrammetric techniques for state-of-the-art digital data documentation of paleontological resources and the dissemination of this information through presentations and workshops nationally and internationally. Last year, NOC personnel and he were invited to provide photogrammetric workshops at conferences in Berlin, Germany and Casper, Wyoming.

Collections Management – WY Regional Paleontologist facilitated and, in some cases, transported fossil material between repositories for proper curation.

PRPA Implementation – WY Regional Paleontologist continues to assist in the development of various MOUs, IMs, databases, manuals, guidelines, rules, regulations, and other regulatory language within the program to implement the PRPA.

Remainder of reporting information

To complete Section VII's Public and Professional Outreach and Education Item L. from Attachment 1, public enhancement projects were completed for the following locations: Cody FO - John Blue Cabin (48BH749); Lander FO – Castle Gardens Rock Art site; Newcastle FO – Whoopup Canyon Petroglyph Site ACEC; Rawlins FO – signs for the Carbon Cemetery and the Nine Mile Hill Civilian Conservation Corps Wind Break; Rock Springs FO – signs for the Cherokee Trail and Rock Springs to Browns Park Road. In addition, for Item M of the same section, the following educational or interpretive projects were completed: International Archaeology Day and Take It Outside/Living Landscapes (Cody FO). For item Q, we cite the Wyoming Archaeology Awareness Month partnership poster and a poster associated with the CCSM project in Rawlins FO. This poster was designed and presented at the 2015 SAA conference by SWCA Environmental Consultants. Entitled “Exploration of Wind as an Environmental Consideration for Campsite Selection at Holocene Dunes,” the poster explores past human behavior and the capacity of wind in campsite selection.

Additional volunteer support not involved in specific reports above includes 18 volunteers who worked for 283 hours on 5 sites for the Cody FO and 1 volunteer for Worland FO who contributed 40 hours.

If you have any questions about the Wyoming report, please contact Ranel Stephenson Capron, Deputy Preservation Officer at 307-775-6108 / rcapron@blm.gov or Kathy Miller Boden at 307-775-6017 / kboden@blm.gov. For questions related to BLM Wyoming's paleontology program, please contact Brent Breithaupt, Regional Paleontologist, 307-775-6052 or bbreitha@blm.gov.