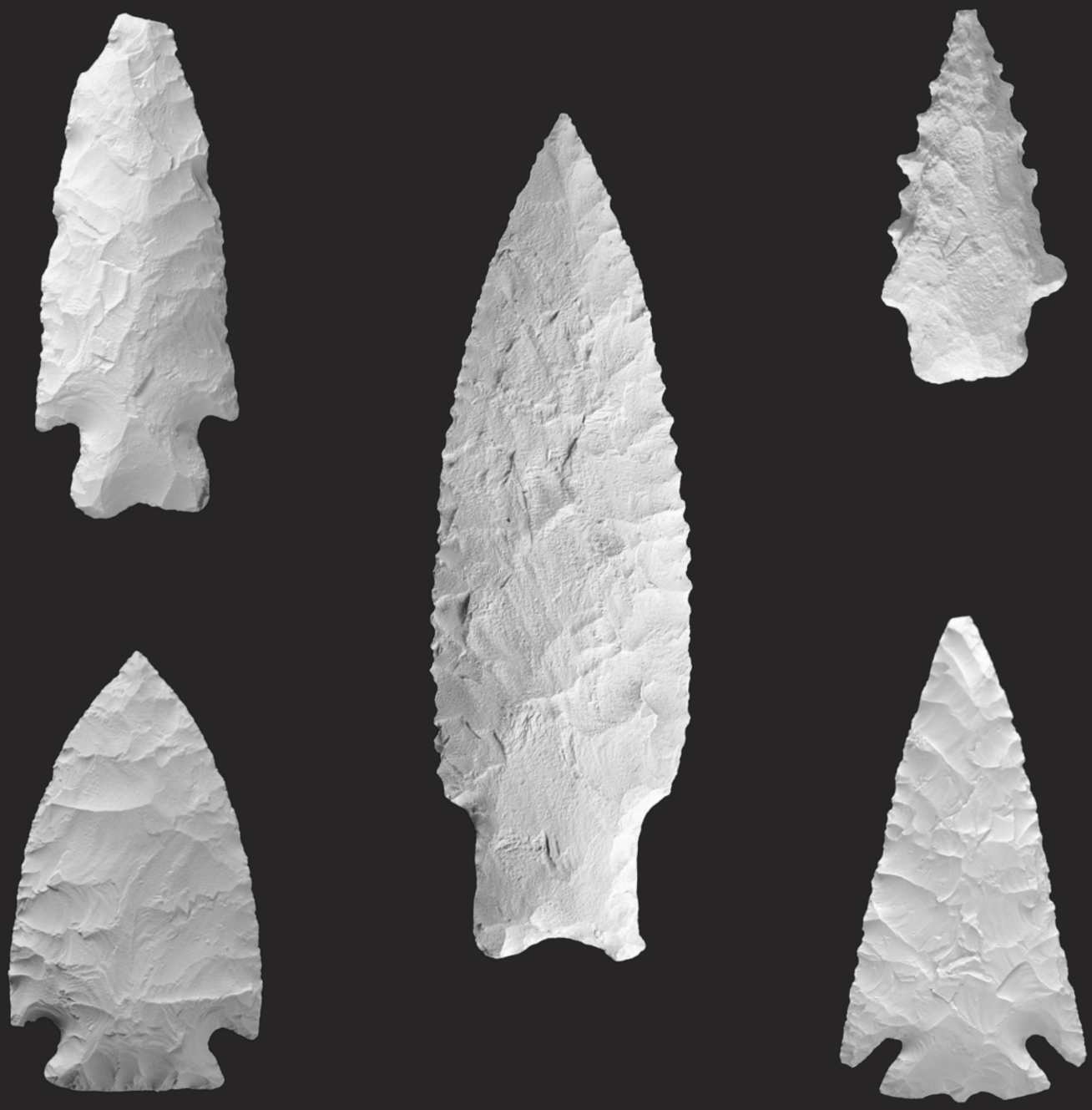


PCRG

PaleoCultural Research Group

2020 Annual Report

Notes from the Lab

No organization has been spared the effects of the coronavirus pandemic. As is true of small retail businesses, museums and nonprofits that depend on public engagement have been especially hard-hit. A couple of factors have helped PCRG weather the worst of the pandemic. We are fortunate to enjoy the strong support of our federal and state agency partners, which allowed us to postpone projects originally scheduled for 2020. In addition, PCRG has always regarded laboratory analyses and collections research as core elements of our research effort. Although we were unable to conduct fieldwork during 2020, our staff kept busy in the lab.

A relatively new component of this lab work emphasis is cultural resources planning. Whether carried out in conjunction with traditional field and lab research, or as stand-alone projects, these GIS-based analyses have become an increasingly important aspect of PCRG research. Recent landscape-level planning projects include analyses of sites in the San Luis Valley that were transferred out of federal ownership; of previously uninventoried state lands in southeastern Colorado; of proposed sections of the Old Spanish National Historic Trail; and of ponderosa pine inner bark utilization in the southern San Juan Mountains.

Articles in this annual report describe the results of recent collections research and planning efforts, in addition to past field projects. Analyses of the large artifact collection recovered from Molander Indian Village State Historic Site during 2018 have been major components of recent PCRG lab work. Analysis of the Scott Miller site collection began during the pandemic, as did work on the Chancellor Ranch cultural resources management plan.

PCRG is also fortunate to enjoy the ongoing support of an amazing group of students and citizen-science volunteers. Thanks to their

Continued on page 7

Awaxawi Hidatsa Archaeology at Molander State Historic Site

Archaeologists partition the Missouri River valley in North Dakota into four regions. From Square Buttes, a prominent cluster of bluffs and pinnacles on the river's right bank, downstream to just below the state line are the Heart and Cannonball regions. Together they constitute the traditional homeland of the Mandan people, bison-hunting farmers whose ancestors first built villages there about 1200 or 1250.

From Square Buttes upstream to the mouth of the Yellowstone River are the Knife and Garrison regions, the traditional homeland of the Hidatsa people. Like the Mandans, the Hidatsas spoke a Siouan language and practiced a multi-focal hunting and harvesting economy.

The nature of the relationships between the Mandans and Hidatsas has long been a central subject of regional archaeological and anthropological research. Anthropologists and ethnohistorians have contributed steadily to popular and scholarly knowledge on that topic, largely owing to the region's abundant documentary and oral historical record. By contrast, archaeologists' contributions have been more restricted, due in part to the limited extent of high-resolution data from post-1500 Mandan

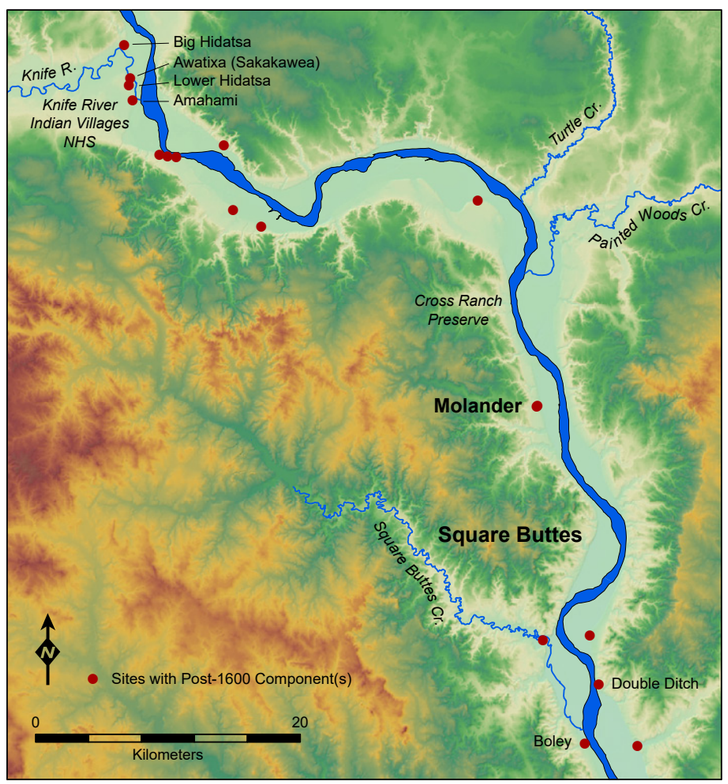
sites in the Heart region. However, a series of projects carried out by the State Historical Society of North Dakota (SHSND) and their partners over the past two decades now permit more fruitful evaluations of the differences and similarities between the archaeological records of the two groups.

Research at Molander Indian Village State Historic Site was carried out with that goal in mind. Molander, a fortified Awaxawi Hidatsa community that was occupied during the middle decades of the eighteenth century, is located in a conspicuous gap between contemporaneous Mandan communities in the Heart region and the core area of Hidatsa settlement in the Knife region. The site's archaeology is therefore an ideal context to begin tracing regional cultural, social, and economic connections between the Mandans and Hidatsas using the recently acquired Heart region datasets.

Over the course of two field seasons, PCRG, the SHSND, Oklahoma State University, the Archeo-Imaging Lab at the University of Arkansas, and other partners conducted multi-instrument geophysical and photogrammetric surveys as well as targeted test excavations at the site. The excavations investigated the site's encircling fortification ditch, sampled storage pits and other features inside two earthlodges, and exposed two sets of superimposed hearths and pits located between earthlodges.

Awaxawi Hidatsa Oral Tradition and Ethnohistory

The Hidatsas are divided into three subgroups or divisions: the Awatixas, the Hidatsas proper, and the Awaxawis. Ethnographer and archaeologist Alfred Bowers was the first to recognize that the three Hidatsa divisions each had distinct origin traditions and separate histories. Bowers also recognized that the dialects of the three divisions differed, as did their cultural and economic practices.



***Previous page**: Air photo mosaic and digital terrain model of the Molander site. An unnamed coulee marks the site's northern edge. The Burlington Northern Santa Fe Railway line runs along the edge of the terrace east of the site. The site's prominent fortification ditch incorporates eight bastions. **Left**: Map of the Knife River archaeological region showing the locations of post-1600 communities.*

The Awaxawis' origin tradition brings them to the earth's surface on a vine. Accompanied by the Hidatsas proper and the Crows, the Awaxawis moved first to Devil's Lake in present eastern North Dakota. From there the Hidatsas proper and the Crows moved north, while the Awaxawis moved to the Missouri where they found the Awatixas and the Mandans already in residence. Eventually the Hidatsas proper and the Crows also emigrated to the Missouri.

Among the three Hidatsa divisions, the cultural practices of the Awatixas were the most similar to those of the Mandans, while those of the Hidatsas proper were the least similar. The differences between the Awatixas and the Hidatsas proper reflect their relative lengths of residence on the Missouri, and the extent of their interactions with the Mandans. However, the dialects of the Awatixas and Hidatsas proper were closer to one another than they were to the dialect of the Awaxawis.

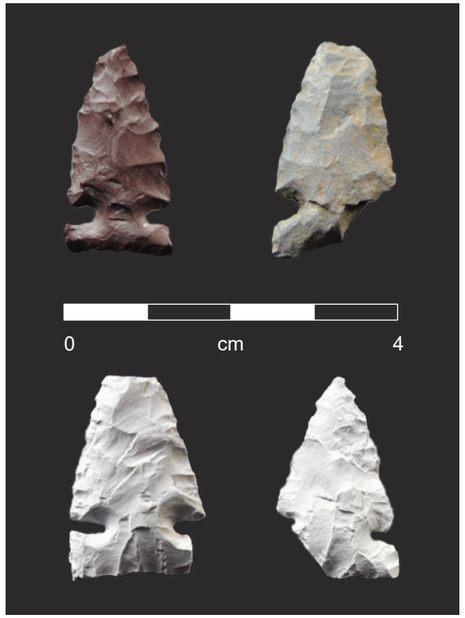
Perhaps due in part to this unusual conjunction of linguistic affinity and cultural difference, William Clark—co-leader with Meriwether Lewis of the Corps of Discovery—regarded the Awaxawis as a distinct tribal group separate from the "Minitaries" or "Big bellies" (the combined Hidatsas proper and Awatixas) on the one hand and the Mandans on the other. Clark was not alone in recognizing three tribal groups in the region rather than two. Canadian fur traders knew the Awaxawis as "Gens de Soulier," which Clark recorded in English as "Shoe Indians." They were also known as the "Wattasoons," an English interpretation of a Sahnish (Arikara) term.

Clark's field notes and journals offer the most explicit—as well as the earliest—evidence for Molander's age and cultural affiliation. In his notes, Clark reported that on October 23, 1804, the expedition "passed an old [village] of a Band of Me ne tarres Called Mah har ha (*another term that Clark used for the Awaxawis*) where they lived 40 year ago." The site is also shown on Prince Maximilian's copy of Clark's route map, immediately below the expedition's October 23 camp. Apart from Molander, no settlement dated to the late seventeenth or eighteenth centuries has been documented in the section of the valley that the expedition traversed that day. Archaeological and historical data together indicate that the Awaxawis established the Molander site about 1735 and lived there until about 1765.

Awaxawi Archaeology

Comparisons of Molander's material culture to that of contemporaneous communities in the Knife and Heart regions puts the archaeology of the Awaxawis into regional context. Those comparisons show that the Awaxawis cultivated different kinds of relationships with their neighbors to the north and south: connections with downriver Mandan communities appear to have been largely economic in nature, while connections with upriver Hidatsa communities appear to have been cultural and political.

Flintknappers at Molander obtained most of their stone tool raw materials from an area similar to that used by contemporaneous



Arrow points from the Molander site.

Expedient stone tools from the Molander site.

Mandan flintknappers. That resource zone had been exploited by Mandan communities for centuries.

By contrast, a different pattern is evident in the inventory of imported or exotic raw materials at Molander. The most common imported materials are those from sources to the west. That same pattern is true of assemblages from Hidatsa settlements in the Knife region. By contrast, stone from western sources is relatively uncommon in the Mandan's Heart region communities.

This contrastive pattern suggests that although Molander's flintknappers primarily exploited a direct procurement zone nearly identical to that of their Heart region counterparts, Molander's long-distance trade connections were aligned with those of the Hidatsa settlements in the Knife region. This suggests that both geography and cultural identity shaped Molander's lithic raw material procurement. Overall, these data point to cooperative economic relationships with downriver Mandan communities but also political ties to Hidatsa communities upriver.

The Molander analysis reveals widespread and persistent inter-regional differences in stone tool technology, with Heart region flintknappers producing more patterned tools and Knife region flintknappers producing more expedient tools.

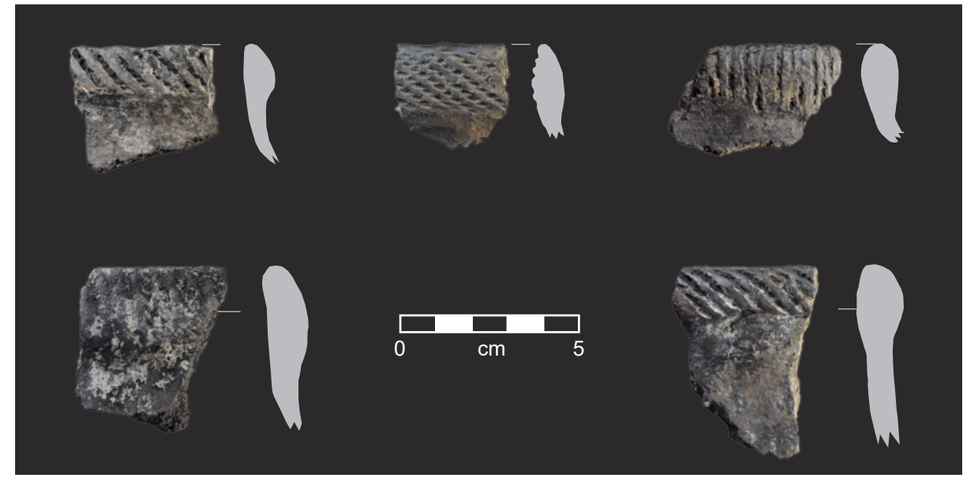
The technological characteristics of the Molander tool assemblage reflect aspects of both Knife and Heart region assemblages. Overall, Molander's stone technology primarily represents expedient production of unpatterned tools. However, small patterned bifaces (mostly projectile points) are comparatively abundant at Molander, a pattern that also characterizes Heart region assemblages.

The Molander analysis also revealed significant inter-regional differences in pottery style and technology. Unmistakable differences exist in the distributions of body sherd surface treatment types; of rim form classes; of dominant decorative types; of appendage types and orifice modifications; of brace and vessel sizes; and of cordage attributes. Clear differences also exist in the distributions of pottery wares and varieties.

As measured by those variables, the Molander assemblage has far more in common with Hidatsa pottery from the Knife region than Mandan pottery from the Heart region. This strong similarity likely points to cultural connections between Molander and other Hidatsa communities in the Knife region. However, the presence of certain distinctive Heart region pottery wares at Molander suggests that the residents may have participated in the local Heart region market system, through which crafts and other products were distributed among neighboring communities.

Contributions of the Molander Project

Archaeological data from Molander add to what is known from historical and traditional accounts of the eighteenth-century cultural landscape of the northern Middle Missouri. The results of the Molander project also contribute to a variety of other topics, including the design and construction of community fortifications, the economic and cultural impacts of the fur trade, earthlodge architectural design, and the impacts of burrowing animals on Plains Village sites in the northern Middle Missouri. You can learn more about Molander Indian Village State Historic Site by visiting PCRG's Molander Village webpage at https://paleocultural.org/Research/molander-village/.



Pottery vessels from the Molander site.

Lab Notes ***(Continued from page 2)***

dedication, we were able to hit the ground running when fieldwork resumed. We look forward to sharing news from our busy 2021 field season in next year's annual report.

Notes from the Boardroom

The last couple years have been a real challenge for everyone, PCRG included. We weathered the consequences of the pandemic thanks to a dedicated staff, wonderful volunteers, and a PPP loan that helped offset lost revenue from postponed projects. As the projects highlighted in this report show, staff were busy and productive during 2020, despite the missed field season. The resumption of fieldwork during 2021 was made easier by the fact that all of our volunteers were vaccinated. So, heartfelt thanks from the board for the hard work by the staff and volunteers for keeping PCRG successful!

One lesson from the last couple years is that PCRG is overly reliant on project funding to sustain our organization. Every non-profit needs some level of unrestricted income to cover its daily costs, and although PCRG is a very lean organization, we struggle to cover administrative and other non-project costs. Your membership dues help, of course, and others, including board members make regular donations, but more is needed. This year, as noted on page 2, PCRG is signed up for Colorado Gives Day which is technically on December 7, but the donation portal is open now. Please consider PCRG in your annual giving plans—any amount helps! And watch our Facebook page and website for ways to leverage your gift.

Oshara Tradition at the Scott Miller Site

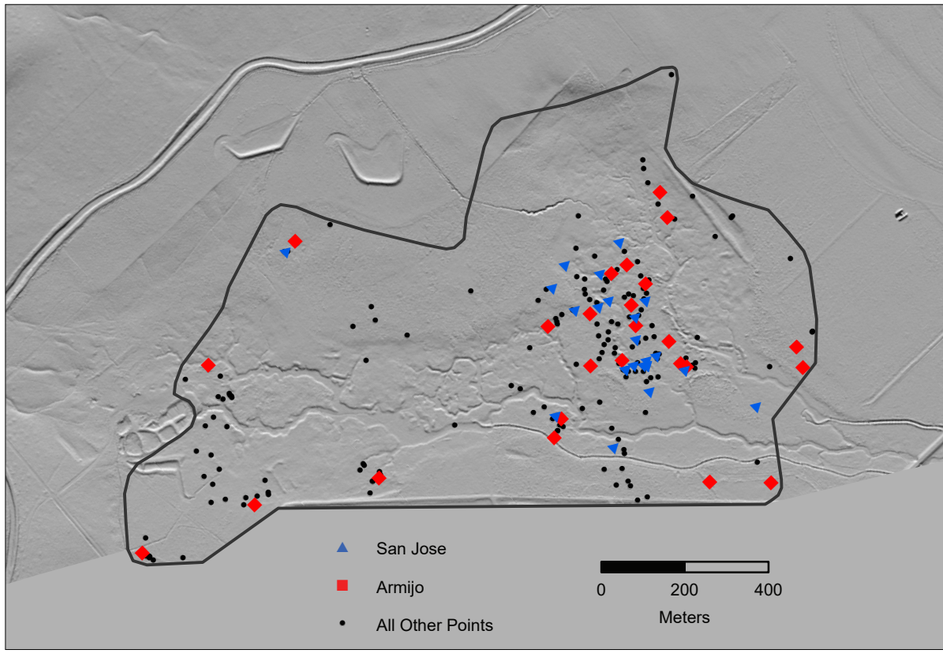
The Scott Miller site is an ancient wetland located south of Monte Vista in Colorado's San Luis Valley where archaeologists have been conducting research since 2009. Researchers have recovered the remains of Pleistocene megafauna—although none with any association with cultural artifacts or evidence of human modification—and other faunal remains from the Holocene, along with an extensive modified stone assemblage. Included in this assemblage are 219 projectile points that range in age from the Folsom Paleoindian period some 12,500 years ago through the Late Prehistoric period with side-notched arrow points that could be just a few hundred years old. In 2020, PCRG, in partnership with the U.S. Fish and Wildlife Service, began a projectile point analysis and typology of the Scott Miller assemblage.

While the assemblage includes a few Paleoindian points and some corner- and side-notched arrow points, the most extensive component at the site is represented by points from the Oshara tradition. The Oshara tradition roughly correlates to the Archaic period and spans from about 7200 years ago until about 1800 years ago. Cynthia Irwin-Williams described the Oshara tradition and the associated projectile point typology in 1973, the first attempt to establish a complete projectile point sequence for Archaic-aged projectile points in north-central New Mexico. In 2005, and later in 2017, Nicholas Chapin used the pioneering work by Irwin-Williams with the aid of additional assemblages to better define a typological sequence of projectile points for the Oshara. Chapin's updated sequence includes seven different main series within the Oshara tradition, with each series having up to six different types within it; selected examples of Oshara points are shown on the cover of this report.

PCRG researchers found that Oshara tradition points comprise nearly 80 percent of the assemblage (170 of the 219 points). However, the Oshara tradition also represents the longest span between the Paleoindian period and the Late Prehistoric. When length of the period is accounted for, it is still evident that occupation of the Scott Miller site was much more common—with 3.1 points per 100 years— than during the Paleoindian or Late Prehistoric, with 0.2 and 1.4 points per 100 years, respectively. When analyzed at the series level within the Oshara tradition, three different and temporally overlapping point series—San Jose, Armijo, and En Medio, dating roughly between 5,500 and 2,200 years ago—make up over 70 percent of the Oshara assemblage.

Use of the Scott Miller site was clearly most extensive during the Oshara tradition, particularly during the San Jose, Armijo, and En Medio periods. But what were people doing at this peat bog wetland area? The analysis of the assemblage indicates one main activity: hunting. Wetlands would have attracted a variety of animals, from birds to bison, and along with numerous other useful resources would have been an ideal area for hunter-gatherers. Almost 80 percent of the projectile points—the most dominant artifact type in the entire assemblage—show evidence of being discarded or left at the site due to use. They have fractures indicating

On the report cover: *Selected Oshara tradition projectile points from the Scott Miller site.* Top left*: San Jose Stemmed.* Top right*: Armijo Stemmed.* Center*: San Jose Stemmed.* Bottom left*: En Medio Corner-Notched.* Bottom right*: En Medio Eared.* ***Previous page:*** *Photo of the Scott Miller site (courtesy of Margaret Van Ness).* ***Right:*** *Map showing the distribution of San Jose, Armijo, and all other projectile points.*



impact rather than breakage during maintenance or manufacturing. Others are complete and perfectly usable, suggesting they were likely lost during a hunt as missed shots or unrecovered from the remains of the kill. There are also few burned point fragments, something that might be found at more extensive camp sites.

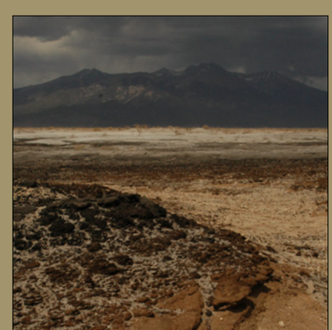
The Scott Miller site, which currently covers nearly 290 acres, also shows patterned distribution of projectile points. Two of the most common Oshara tradition series, San Jose and Armijo, are nearly all concentrated in one area of the site. San Jose, one of the earliest series in the Oshara tradition, are especially concentrated with only one example from outside of the main cluster of points. While still mainly concentrated in this area, later point styles do also occur elsewhere, indicating a changing and dynamic landscape over thousands of years.

The Oshara tradition typological sequence has its roots in north-Central New Mexico, and raw material data from the Scott Miller site confirms it was heavily used by people traveling from south of the site. Oshara tradition points are predominately from sources in New Mexico and the southern end of the San Luis Valley, including obsidian from the Jemez Mountains and other volcanic rocks from the Taos Plateau Volcanic Field. Very few points made from northern sources are present.

Collectively, the analysis of the Scott Miller projectile point assemblage paints a picture of mobile hunter-gatherers exploiting one resource patch for more than 10 millennia, with extensive use during the Oshara tradition. People—mostly coming from the south—likely did not occupy the site for extended periods but rather for brief forays to hunt game and collect other wetland resources before moving on. A full report on the Scott Miller point assemblage will be available on the PCRG Research page, https://paleocultural.org/research/ later this fall.

Mr. Peat: More Relic Wetland Research in the San Luis Valley

The Mr. Peat relic wetland east of Alamosa shares many similarities with the Scott Miller site. During 2021, PCRG, the Colorado State Land Board, and History Colorado State Historical Fund initiated an assessment project at Mr. Peat. Prior to our work, the area had only been minimally documented by archaeologists but was known to artifact collectors for some time and likely has been heavily looted.



Field crews documented over 500 items, including projectile points, and chipped and ground stone tools and flaking debris. Many of the items are animal bone and likely are paleontological, but they will allow for multiple radiocarbon dates to help understand the cultural and natural history of the area.

Although results are still preliminary, the survey recovered far fewer projectile points and substantially more ground stone than anticipated based on the Scott Miller assemblage. PCRG researchers will continue to analyze the data from Mr. Peat and you will see more about the results in the 2021 annual report!

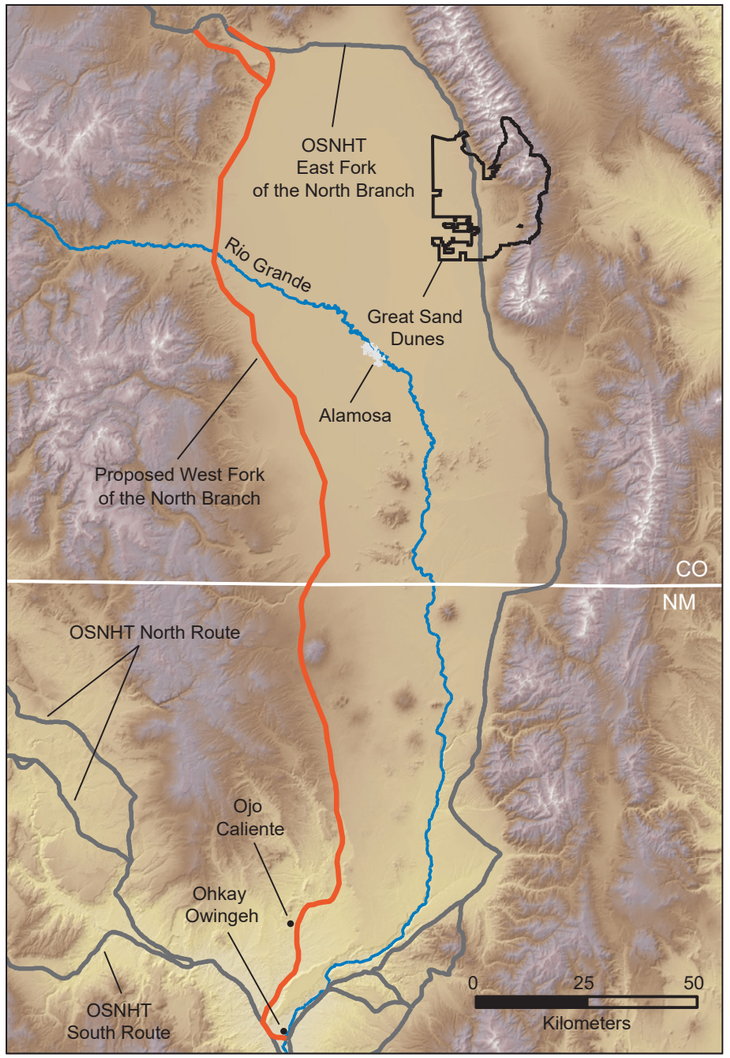
In Search of the West Fork

Old Spanish Trail Research in the San Luis Valley

A common saying is that the Old Spanish Trail (OST) was neither old nor Spanish. It was also not a single trail. Instead, the OST shuttled caravans of pack animals and merchants—and not wagons loaded with goods—across a braided network of paths connecting Sante Fe and Los Angeles. During the OST's heyday in the 1830s and 1840s, traders used its braided routes to carry New Mexican blankets and other woolens to California, where they were exchanged for horses and mules. Merchants in Santa Fe sent annual trading caravans over the trail to Los Angeles beginning in 1829. Caravan traffic ended in 1848 with the Mexican Cession following Mexico's defeat in the Mexican-American War.

The routes that the caravans would eventually travel were blazed in the closing decades of the eighteenth century and the opening decades of the nineteenth century by explorers, fur trappers, and likely even earlier by Americans Indians. Although they shared mercantile objectives their efforts were mostly uncoordinated, resulting in a tangled network of trails. One such route is the lesser-known West Fork of the North Branch, which extended from Ohkay Owingeh (San Juan) Pueblo to Ojo Caliente in New Mexico, then north along the west side of the San Luis Valley in Colorado where it ultimately joined the East Fork of the North Branch near Saguache.

Little is known about the actual route of the West Fork. When congress added the Old Spanish National Historic Trail to the National



Map showing the various routes of the Old Spanish National Historic Trail (OSNHT) and the BLM proposed route of the West Fork.

Trail System in 2002, the West Fork was not included. The West Fork was included in a feasibility study completed in 2001, leaving open the possibility for inclusion once more was known about it. A major finding of the feasibility study—and thus a major cause for its exclusion—was that evidence of trade or commerce along the West Fork during the period of significance for the tail (1829-1848) could not be found.

Finding the West Branch

In the summer of 2017, PCRG, in partnership with the Bureau of Land Management San Luis Valley Field Office, used a variety of methods to find evidence of the West Fork. First, field teams used standard archaeological survey methods, utilizing a map created by BLM GIS Specialist Dan Simon that identified the most likely route of the West Fork to identify survey parcels. The field crew spent six days surveying about 500 acres in Rio Grande and Saguache counties and documented two potential segments of the West Fork. Four additional sites were recorded, including three stone enclosures, along with 19 isolated finds.

The other method used to identify potential trail segments was examining lidar (light detection and ranging) data for evidence of linear trail segments, many of which are not visible on the surface. Data from lidar imagery—a remote sensing technique that measures the time elapsed between a laser pulse to the surface and it's return, resulting in high-resolution surface elevation maps—are available for much of the San Luis Valley and played a crucial role in identifying potential historical trail segments.

During the course of fieldwork, PCRG research teams identified 6 sites, 19 isolated finds, and noted an additional 11 sites for future documentation. Two of the sites were linear resources that contained elements of trails or subtle swales that could possibly be historical trails.

One of the linear segment recorded during fieldwork has three distinct lines and is about 150 m west of the proposed West Fork route. One of the lines is part of a BLM road that is currently closed to vehicles, and another is an ephemeral two-track that veers to the northwest from the BLM road. These roughly align with an old road depicted on a Government Land Office (GLO) map, indicating it dates to at least 1875.

The third segment is a very subtle grass-covered swale that parallels the BLM road about 80 m to the east. The field team only identified a very short segment of this ephemeral segment; however, lidar data clearly shows it extends to the north and south. This segment is perhaps the most plausible of the three to be a section of the West Fork but all three are related to historical trails in the San Luis Valley.

Another site recorded during this project is an extension of a previously recorded site, the Limekiln Wagon Tracks (5RN539.1). Earlier documentation of this site—which is about 1 km east of the BLM proposed route—indicates it may be associated with the West Fork but there is no archaeological evidence to confirm this. As the name implies, wagon wheel ruts are incised into bedrock from extensive use. This segment could have no relation to the West Fork since we know the OST was not a wagon route. Archaeologists and historians, however, have clearly demonstrated that many segments of the OST were later used by wagons. In some cases, modern highway systems have been built right on top of the trail segments so it is entirely plausible this is related to the West Fork.

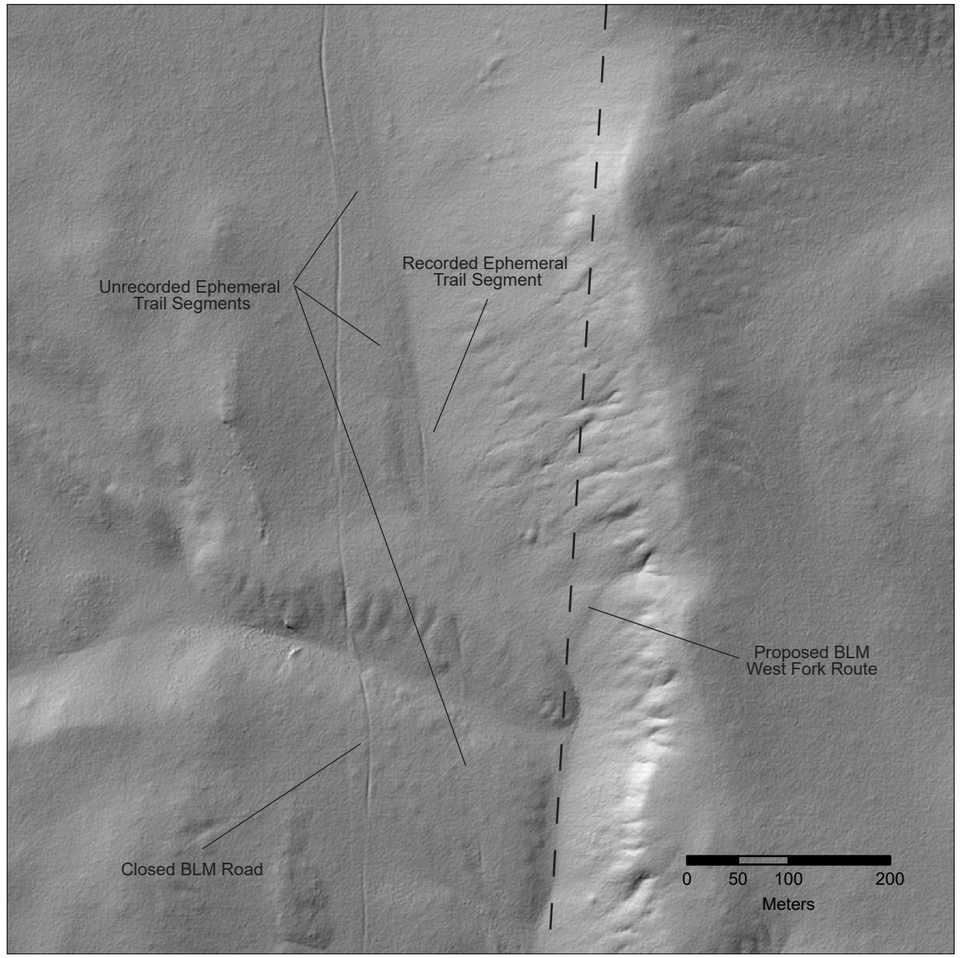
The field team identified a segment about 100 m long and about 3 km north of the previously recorded segment. The segment visible on the ground only accounts for a portion of this linear feature. Lidar imagery clearly shows the feature extending well beyond the segment documented in the field and can be traced all the way south to the previously documented segment. It also extends at least another kilometer to the north, following a mostly north-south trend that would be expected for the West Fork.

Lidar and Historical Trails Research

Using the proposed West Fork route as a rough guide, PCRG researchers also analyzed lidar data stretching from the Colorado-New Mexico border to Saguache, searching for evidence of historical trail segments to guide future research on the West Fork. Modern roads, road and trail segments from GLO maps created between 1858 and 1881, and aerial imagery were also added to the dataset to help identify features observed in the lidar.

During this phase of the analysis, the researchers documented 30 different linear features that could plausibly be related to the West Fork. Most are concentrated on the northern end of the San Luis Valley, mostly due to intensive agricultural uses on the southern end that have likely destroyed any evidence of historical trail segments.

Fourteen segments are the most likely to be related to the West Fork. All trend roughly north and south, none are directly associated with modern roads, and a few are related to the Saguache to Del Norte Road depicted on the GLO maps. Some believe the Saguache to Del Norte Road to be the route of the 1853 Beale



Lidar basemap showing recorded segment of an ephemeral trail along with three unrecorded segments not noted in the field but recognized in the lidar data. The map also shows that the proposed BLM route for the West Fork of the North Branch does not take into account the actual landscape traversed by the trail.

Expedition, which may have roughly followed the route of the West Fork.

Three of these segments are the most promising for future research on the West Fork. None are associated with GLO or modern roads which make them good candidates for metal detector surveys that could yield artifacts dating to the OST period of significance. Additionally, while many other identified segments could be seen in aerial imagery, these three are barely visible but are prominent in the lidar data.

Historical trails research is a multi-step process—from background historical research, to planning and data gathering, to boots on the ground survey, and final interpretations. A key component of this research is utilizing lidar data which should be included in the planning of any historical trails research project if it is available. You can read more about our search for the West Fork of the North Branch by viewing the entire report on our website at https://paleocultural.org/Research/ostwest/.

Groundwork:
Chancellor Ranch Cultural Resources Management Plan

The 53,000-acre Chancellor Ranch, which is owned and managed by the Colorado State Land Board, encompasses a pristine cross section of southeastern Colorado's canyon county, including a portion of the Purgatoire River Canyon, a series of north-flowing tributary canyons, and an expanse of upland steppe.

A premier property in the Land Board's extensive portfolio, the agency aims to manage the Chancellor Ranch as an economically sustainable ranching and recreation operation that produces income for the state's school system while also protecting the exceptional natural and cultural resources that make it unique.

To advance its cultural resources management goals for the Chancellor Ranch, the Land Board asked PCRG to prepare a management plan that identifies field projects and management practices designed to locate, evaluate, and investigate cultural resources and to maintain the integrity of documented resources.

To provide a baseline for future work, PCRG's plan assesses existing archaeological data for the Chancellor Ranch and then uses data from the adjacent Pinon Canyon Maneuver Site managed by the U.S. Army to develop estimates of the actual number and types of cultural resources present on the property.

The plan then outlines a strategy for conducting future on-the-ground archaeological inventory and documentation projects. Because systematic inventories have not occurred on the Chancellor Ranch, the plan emphasizes field investigations designed to identify and evaluate the property's cultural resources. Projects designed to learn about the past through investigation of the property's most important resources are also described, as are policies and practices designed to preserve the integrity of significant resources on the property.

PCRG and State Land Board staff currently are developing plans to begin archaeological investigations on the property, including a preliminary air photo interpretation and field reconnaissance project, focused site documentation projects, and sample inventory projects. Field research at the Chancellor Ranch may begin as soon as 2022.

***Above**: The Purgatoire River Valley marks the northern boundary of the Chancellor Ranch.*
***Below**: Historic homesteads occur throughout the Chancellor Ranch, along with rock art sites and American Indian architectural sites.*

PCRG Members' Activities

Bill Billeck

Since the museum has been closed to staff and visitors since March 2020, I have not been able to finish the documentation and analysis of the glass beads from the 2018 excavations at the Sakakawea village (32ME11). The analysis of the first half of the collection indicates that most beads likely date to the early nineteenth century, however, Unit 5 has a late eighteenth-century bead component underlying an early nineteenth century component.

Work continues on the XRF analysis of white glass beads to refine a chronology for the nineteenth century and earlier based on the type of opacifier used in making the beads. This analysis should provide a way to assess the age of white glass beads to help date historic components at archaeological sites and could also be applied to ethnographic objects. XRF will also be used with the white glass beads from Sakakawea village.

Two chapters for edited volumes are in press: a description of the glass beads from Pawnee Village (14RP1) and a description of the ceramics from Waldo Wedel's and Shippee's excavations at the Steed-Kisker site in Missouri that examines the incidence of incised decoration on jars and bowls. Nearly ready to be submitted is an article on the glass beads from the New Lenox site in Illinois. The beads date to the early seventeenth century.

Kevin Black

I authored or co-authored four more archaeology-related articles to the Colorado Encyclopedia website, and edited several others, all related to the topic of lithic sources. I now have eight articles in the Encyclopedia, including a major overview of Colorado archaeology posted in 2017. The four new postings are:

Billeck: *Visiting the 10-meter high Neolithic cairn thought to be the burial place of Queen Maeve in County Sligo, Ireland, in October 2019.*

Prehistoric Stone Quarrying in Colorado; Lyons Sandstone; Shield Cave Archaeological Site; and Trout Creek Archaeological Site. All can be accessed at https://coloradoencyclopedia.org/article-theme/origins.

In early March, along with a hundred of our closest friends, I attended the annual meeting of the Colorado Council of Professional Archaeologists (CCPA) in Pueblo where I was elected as an at-large board member of the CCPA Executive Committee. Little did we know that would be one of the last public gatherings allowed, but we were experiencing a run on hand sanitizer and toilet paper at the time. Next time, we'll know.

I also continue to serve on the Board of Directors of the Rocky Mountain Anthropological Association, in the position of Secretary. In 2020, we initiated planning for the next biennial conference to be held in the Fall of 2021 in the San Luis Valley, chaired by Drs. Jason LaBelle and Bonnie Pitblado, and hosted by Adams State University in Alamosa. The exact dates have yet to be finalized but will be posted on the RMAA website, https://rockymtnanthro.org/, and social media outlets when available.

Black: *Kevin's long love of quarries evidenced by this 1990 photo from Windy Ridge quartzite quarry near Steamboat Springs, Colorado.*

Rob Bozell

2020 saw some workload shifts at the Nebraska State Archeology Office. I turned over the day-to-day operation of our Highway Archeology Program to my most capable colleague Courtney Ziska. With retirement looming, this enabled me to focus a bit on 'spare time' projects and reports. A fair amount of time was spent with the libraries and papers of former staff members Gayle Carlson, John Ludwickson, and Amy Koch as well as beginning to weed my own materials. As enjoyable as sorting, weeding, and organizing these materials has been, one obvious realization is that no one wants books and gray literature reports anymore. Too many trips to Goodwill and recycling centers! I have also been slowly working on reports for three 1980s excavations at the Big Village of the Omaha, a protohistoric Pawnee hunting camp, and a Central Plains tradition farmstead.

I was also able to focus on analysis of a small collection of vertebrate material from the Garden Coulee site at Fort Union Trading Post National Historic Site and a large collection of fauna from the Tobias site—a protohistoric Wichita settlement in central Kansas. PCRG Vice President Carl Falk assisted with bird and fish identifications. Carl and I also saw the publication of our report on Woodland period fauna from the Quixote site in northeast Kansas in an issue of the Kansas Anthropologist prepared by Brad Logan.

The only professional meeting attended was the March Flint Hills Conference in Topeka literally a week before COVID shutdowns began. I sure look forward to seeing real faces at the 2021 Boulder Plains Conference!

Mona Charles

Durango-based Powderhorn Research LLC recorded an unusual stone enclosure this past summer in the San Juan National Forest west of Bayfield, Colorado, and northeast of Chimney Rock, a Chacoan Outlier. 5AA4901 consists entirely of a dry-laid, stacked-stone enclosure in good condition with some wall collapse, but which retains its original shape and size. The enclosure is situated on a narrow bench above a wide, shallow, dry ravine and below a low escarpment in a dense aspen/spruce/Gambel oak forest. The escarpment forms the west end of the enclosure. Inside diameter of the enclosure is about 4 m. The walls are built of 5-13 courses of tabular sandstone and range from between .6 to 1 m high. Lichen on the construction stones suggests that it is quite old. A large, old-growth ponderosa pine stump is off to the side. This tree, felled quite some time ago, may have been cut with a cross-saw. No artifacts were recovered from two shovel tests inside the enclosure. A metal detector survey of the site did not find any

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Charles: *Dry-laid stone feature near Bayfield, Colorado.*

metal objects. Several prehistoric sites are nearby, and a small shelter in the same ravine recovered ceramics that date to the Pueblo II Chimney Rock phase. The enclosure is tentatively assigned a prehistoric/protohistoric origin based on a lack of historic artifacts, its location near prehistoric sites, and the well-developed lichen growth. Possible uses could include a shelter, a hunting blind, animal control feature, or some type of ceremonial use. A water-control use is less likely.

Scott Dersam

The third season of the Beartooth Ecosystems Alpine Archaeological Research (BEAAR) project was abbreviated out of concern for our crew members health and safety during the Covid-19 Pandemic. Over the brief seven-day field session in our southernmost project area (~2930 meters above sea level), crewmembers were able to record an additional 14 archaeological sites. These localities displayed artifact assemblages ranging from the Middle Archaic to Late Prehistoric, additionally we expanded our project area by ~270 acres of newly surveyed alpine terrain.

During the last two days of the session, we returned to a previously recorded hunting blind feature found during the 2019 season. The feature was associated with Late Archaic surface artifacts including Pelican Lake projectile points and an oversized Pelican Lake hafted knife. A small test unit was excavated to confirm subsurface deposits. The excavation yielded an intact A horizon at 22 cmbs, as well as an additional Pelican Lake point and over 150 dendritic chert and orthoquartzite flakes, all from the same two source materials. The presence of only two material sources used for the tools and flakes associated with the site, in addition to the ubiquitous Late Archaic assemblages, potentially link the site to a single season of use. Soil samples and datable material taken form the excavation will be analyzed in the coming season.

Carl Falk

During 2020 I served as PCRG's Vice President and as a member of the Board of Directors. Able to work at home through the year, I finished analysis of vertebrate remains from 2018 excavations at Molander Village in North Dakota; the results are included in PCRG Research Contribution 116. PCRG member Rob Bozell (History Nebraska) and Tom Labedz (University of Nebraska State Museum) assisted with Molander raptor identifications. I completed preliminary analysis of vertebrate remains from the 2019 investigation of Awatixa Village and am currently working with modified bone from the village. Last year I completed a report draft for vertebrate fauna from the 2017 and 2018 excavations at Magic Mountain by PCRG and the Denver Museum of Nature and Science. A final report for Magic Mountain is projected in 2021. Lab work is near complete for bone remains from South Dakota Archaeological Research Center and South

Dersam: *A stacked rock hunting blind found in the high elevations of the Beartooth Wilderness.*

Dakota Archaeological Society investigation in 2015 and 2017 of the Initial Middle Missouri Nonnast site situated in the Prairie Pothole region of northeastern South Dakota. Also, lab work is complete for bone remains from two late thirteenth century village sites excavated by Dr. Alan Osborn (University of Nebraska-Omaha), one located in the Middle Loup River basin of central Nebraska (25SM20), and a second in eastern Nebraska (25DO209). Finally, I helped Rob with identification of fish, bird and other remains from the Tobias site in central Kansas, and Rob and I cleaned-up loose ends on our study of fauna from the Quixote site, a Late Woodland occupation in northeastern Kansas, recently published in *The Kansas Anthropologist*.

Kim Field

As the Chair of Littleton's Historic Preservation Board, I have been working on advancing historic preservation in Littleton. The Board is engaged in the development of the City's new comprehensive plan and city-wide rezoning project. We are updating and surveying properties in the Main Street Historic District and adjacent areas, assessing significance and integrity, and researching new districts. We have created an interactive story map including historic photos of properties around town for the City's website (https://www.littletongov.org/, click on the history tab), and we are also writing a new historic preservation ordinance. COVID is not standing in the way of history!

Craig Johnson

As in past years, a majority of my retirement has been spent on Northern Plains Village research focusing on producing site reports from five villages in South Dakota (Sully, Oldham, Cheyenne River, Black Widow, Black Widow Ridge) and one from North Dakota (Ben Standing Soldier). Work on the latter site was accelerated because progress on completing the other reports was largely suspended due to the closure of the Smithsonian Institution to researchers. I had planned to make a one-month trip there in mid-April to pull samples for radiocarbon dating and complete other tasks but luckily the closure took place before I drove out. Also, a review by Douglas Bamforth of my 2019 lithics book was published in the January 2021 issue of *American Antiquity*.

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During the year, I completed drafts of nearly all chapters on the South Dakota sites, including most maps from Sully with assistance from PCRG. Sully is interesting in many respects, including two field journals from Robert Stephenson who directed the excavations in 1956-1958. These journals provide a unique window into the field operations, including an entry about the issue of having the wives of Charles McNutt and William Bass as residents in camp, two supervisors sharing the field camp with Stephenson. Females on Smithsonian Institution River Basin Surveys crews or in camps were generally prohibited by Stephenson, then director of the Missouri Basin Program, which Ruthann Knudson has documented.

Lacking a PCRG field season this year, I took the opportunity to do more fishing in Minnesota focusing on bluegill sunfish. In addition to catching fish, I witnessed other wildlife on the lake including several bald eagle and osprey surface fish pick-ups, migrating common loons, and large flocks of migrating Franklin's gulls and American coots.

Johnson: *Making the most of all the free time fishing at Lake Waconia.*

Obi Oberdier

I spent ten months of 2020 working on a CRM project near the Caddo National Grasslands in East Texas. I did excavation and full data recovery on several hearth features, some midden deposits, and numerous post molds. The hearths were full of butchered animal remains, so I was excited to employ my zooarchaeological training to excavate, curate, and identify the specimens. This training also came in handy when I was able to identify a prehistoric dog burial. I also worked in a field lab, washing, identifying, and sorting tens of thousands of micro-artifacts that made it through ¼-in screens, but were caught by 1/8-in screens.

Pandemic-related precautions forced everyone on the project to work in almost total isolation. This presented challenges at first, such as learning how to piece-plot artifacts and write down their coordinates without any help from teammates. But excavating alone also meant refining the full suite of excavation skills I've learned, as everyone had to be a self-contained excavation team. Near the end of the year, I began work on my upcoming CCPA presentation aimed at helping field technicians identify scraps of comic books that date from 1935-1970.

Paul Picha

Greetings from North Dakota! 2020 was a year of transitions for me as it was for others. Following my retirement in May 2019 from the State Historical Society of North Dakota after nearly twenty-five years, I have been fortunate be able to pursue my research interests in archaeomalacology, ethnohistory, and the fur trade on the Great Plains. In coordination with Carl Falk and other PCRG colleagues, I have worked with molluscan remains from sites in Kansas, Nebraska, South Dakota, and North Dakota. Learning has proven to be a never-ending process. Lastly, the loss of a cadre of prominent archaeologists has again brought to the fore my thankfulness and gratitude for having been trained by formed long-term collaborations with a host of individuals who were and are "the best and the brightest."

Rin Porter

Since there were no field schools and PCRG projects to volunteer for in the summer, I took a week in September and went to southern Utah to see the natural wonders there, including Grand Staircase-Escalante National Monument. I like this photo because it shows the effects of wind and water, and a discontinuity right above the lines of erosion. Hope to see everyone this summer.

Porter: *Taking in the geologic beauty of Grand Staircase-Escalante National Monument.*

David Purcell and Kim Spurr

In late February, we spent a week in Maryland visiting David's parents, sharing hikes, birdwatching, good meals, relaxing at home, and a visit to Annapolis. Our trip back to Arizona paralleled the recognition of Covid-19 but once home we were able to start a small excavation project just outside Flagstaff and take one backpack trip into Glen Canyon for work before the initial public stay-at-home order occurred, which kept us working from home for a month. Once the order was lifted, we were able to convince our museum director that archaeology fieldwork can safely proceed with appropriate distancing and other precautions. We finished the excavation project in late April and Kim was able to participate in three more backpack trips in Glen Canyon over the summer to assess condition of previously recorded sites.

We spent a couple of weeks surveying on Cedar Mesa in Utah in June, which involved fabulous scenery and interesting archaeology but horrific wind and rainstorms. In September, we completed a survey along Hole-in-the-Rock road in southern Utah, again with amazing scenery but rough weather. These projects prompted us to buy a small camp trailer that we hope to put to good use for work and fun in 2021. The annual Pecos Conference that we help organize was cancelled for 2020 but we hope we will be able to attend with trailer in tow next August.

David started a new project in June to document Route 66 and other historic roads across Petrified Forest National Park, which kept him occupied much of the summer and fall. He has traced more than 6 miles of Route 66 and analyzed more than 11,000 artifacts that were thrown from cars, left at campsites, or mark the location of auto accidents. The ultimate goal of the project is to nominate that segment of Route 66 to the National Register of Historic Places.

Beyond work, we have stayed home in our pandemic bubble and tackled numerous house and yard projects. We finished building a house on the lot behind us in March, with our vehicles occupying the garage and a tenant in the living space above. Our outlook for 2021 is cautiously optimistic and we hope that the year brings a return to some semblance of normalcy.

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Purcell and Spurr: *Monument Valley in the clouds as seen from Cedar Mesa.*

Tim Reed

Greetings to all PCRG members, and good riddance to 2020! Best wishes to all for a healthy, safe and prosperous 2021.To say this past year has been challenging is a huge understatement, but I'm optimistic for the future and happy to share an update from North Dakota.

SHSND chief archaeologist Dr. Andrew Clark and I continue to build upon the SHSND Unmanned Aircraft Systems (UAS) program. We are working to produce high accuracy Digital Elevation Models (DEM) and high-resolution orthophotographs from aerial imagery captured using our growing squadron of drones. We were fortunate to acquire a new aircraft in September capable of longer flight times, increased range, and a heavier sensor payload. Two new sensors are particularly exciting: a camera with an integrated gimbal made for high-end filmmaking capable of shooting 6K video, and a 10-band multispectral camera. We are very excited to be working with this new equipment.

We flew several times in 2020: executing drone mapping missions or capturing imagery at four state historic sites and partnered with private landowners and a federal agency to overfly various site types, including earthlodge villages, stone feature sites, and a historical sunken steamboat. The steamboat Abner O'Neal (32BL33) was transporting grain between Washburn and Mandan, North Dakota on the afternoon of July 17, 1892 when it sank in the Painted Woods area of the Missouri River just 1.5 miles east of Molander Indian Village State Historic Site (32OL7). A detailed analysis of the orthophotographs, video, and multispectral images of the wreck is ongoing. Check out the SHSND staff blog to learn more: http://blog.statemuseum.nd.gov/blog/wreck-abner-oneal.

Finally, I was honored to have been elected President of the North Dakota Archaeological Association (NDAA) in November 2020. My coworker (and fellow PCRG member) Amy Bleier was also elected Newsletter Editor for the NDAA. There was a peaceful transition of power between the outgoing and incoming administrations, and we're both excited about what the future holds for archaeology in North Dakota. Visit https://www.ndarchaeology.com/ to learn more about the NDAA, including available scholarship opportunities. Good health to all, and we hope to see more of you in 2021.

Reed: *A high-resolution orthophotograph of the Abner O'Neal wreck produced from images captured on Oct. 2, 2020.*

Excavations at the Wootton Site, Denver, Colorado

Gene Wheaton

Starting in the Fall of 2018, the Community College of Denver (CCD) has conducted a field school at the Wootton site (5DV35112). The site is part of the Auraria Campus in downtown Denver, Colorado. Funding and support for the field school originated from a grant from History Colorado, State Historical Fund.

On Christmas eve 1858, Richard Lacy Wootton rolled his wagon train into the area on the south side of Cherry Creek loaded with a stock of flour and sugar to trade with the Tribes. Tiring of life on the frontier, Wootton decided to do one last trading trip before he took his family back home to Kentucky. Arriving in Auraria, Wootton "was at once surrounded by the miners who wanted his flour and sugar, and other merchandise I had with me". Giving up his idea of trading with the tribes, Wootton agreed to remain and set up a small store and sell out his stock of merchandise to the miners,

The store became the center for the new town's activities, and a series of meetings were held at Wootton's store over the next seven months to pass resolutions to organize the "State of Jefferson. Within days of the first meeting, another wagon train with office material and printing press for a newspaper arrived in Auraria, and Wootton's store became the first home of the "Rocky Mountain News".

The main focus of the field school is to determine if there are intact remains of

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Wootton's store located in areas of the site slated for development. Two areas were indicated by GPR reports to contain potential remains between 80-120 cm below the surface, and excavation units were established over these two locations.

Stratigraphic levels in the initial 2 x 2-m excavation units revealed that deposits with remains from the Wootton Site were below 95 cm, covered by a lens of building debris

Amy Gillaspie teaches students how to plot artifacts and take measurements.

from site leveling that occurred in 1939. Levels one through six were related to events after 1939 and were results of construction of the Auraria campus. At the sixth level we began to encounter remains of demolished brick buildings. Several of the bricks have distinctive marks and were manufactured in New York. The bricks were most likely the remains of an 1870s residence, and the remains of the Wootton site had yet to be revealed.

As work began again in late May 2020, J. E. Dunn construction Company offered the use of a backhoe to remove the 95 cm of construction fill over one of the excavation units. Consequently, a 3 x 1-m area was excavated down to 95 cm by the backhoe operator. Over the course of the summer semester, the pit was further excavated by students down to a level approximately 240 cm below the surface. At this level a concrete slab was encountered in the exact position that was projected for the footprint of the foundation of Wootton's Western Saloon.

Although it was thought the concrete slab might represent the floor of the Wootton building, further analysis will have to wait. Because of the coronavirus pandemic all activities at the site were halted in late 2020. Hopefully the field school will resume as soon as conditions allow for the safe return of students.

Community College of Denver field school students learned valuable skills while working at the Wooton site excavation.