Yellowstone Science

A quarterly publication devoted to the natural and cultural resources

Archeology at Osprey Beach
A Volunteer's Perspective
The Red Sowash Saloon
Theodore Roosevelt IV's YNP Keynote

Volume 11 Number 4

The Power of "the Thing Itself"

The great philosopher and purveyor of interpretive principles, Freeman Tilden, once noted the extraordinary advantage National Park Service employees have over others because we are the stewards of "the Thing Itself."

I remember experiencing this as a volunteer here 20 years ago, when I first walked through the Albright Visitor Center and viewed, with some reverence, the pen that was used to sign the National Park Service Act. It was more than just an object to me, more even than an interesting old ink pen. It represented the efforts of many to establish a Service to administer the national parks. It is the same hushed awe I feel when Lee Whittlesey pulls one of Nathaniel Langford's letters out of the archives or I see one of the many fascinating pieces from the park's museum collection. There is something magical about "the thing itself."

In this issue, you'll read Mack Shortt's account of archeological work at Osprey Beach, in which he and his team discovered a number of significant artifacts dating from roughly 10,000 years ago. These are the physical "things" providing evidence of people who once lived here. Having worked at Yellowstone Lake for a number of years, I wondered if they shared the same wonder at the beauty of the place as did I.

When discussing "the Thing Itself," Tilden implicitly includes "the Place Itself" and "the People Themselves." When visiting Robert Frost's cabin in Vermont many years ago, I sat down in an overstuffed chair and dutifully watched as the docent switched on a rickety old film projector to show us the interpretive film on the poet's years in this place. The footage portrayed Frost himself speaking from the same old worn chair in which I was sitting. My instinct was to immediately spring out of the chair, thinking two things: that I shouldn't be sitting in the famous bard's place, and that this organization should be taking better care of such significant "things" (in their defense, the Frost cabin was an exceedingly small operation, a tiny structure staffed by a couple of retired volunteers who seemed surprised and delighted to have any visitors at all out there in the middle of the Vermont woods). I am, nonetheless, grateful to have had this firsthand experience, and secretly hoped that even the smallest fraction of his writing prowess might have rubbed off on me. It is the same vicarious thrill I sensed in John Muir's "scribble den" in the study of his Martinez, California, home. I know that the irresistible authenticity of sharing the space of the great ones will compel me to visit Aldo Leopold's "Shack" in Sand County one day. In a like manner, when Theodore Roosevelt IV spoke at the recent event celebrating the centennial of the Roosevelt Arch, he embodied, as much as anyone today can, the spirit of his great grandfather. You can read his remarks in this issue.

This past year, I had the opportunity to go to the University of Pennsylvania to spea with students and faculty of the geology department where Ferdinand V. Hayden taught immediately before embarking on his first geological survey of Yellowstone in 1871. As I walked the corridors of Hayden Hall, named in honor of the intrepid explorer, some of the faculty confided in me that there's a longstanding tradition at the beginning of each academic year of visiting Hayden's gravesite in a nearby cemetery and drinking a toast in his honor. Before leaving Philadelphia to return to Yellowstone, I also visited Hayden's grave. Running my hand over the cold smooth stone and seeing that name etched in granite, I felt a mystical connection over time and space between this man and the wild place in the Northern Rockies he helped to preserve. It made me prouder still to be associated with the Service entrusted with the care of "the Things Themselves" that are the physical link between us and the people, places, and events that comprise our nation's natural and cultural heritage.

RJA

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Cover: *Cody Complex tools found at the Osprey Beach site, drawings by Tah Madsen. Researchers recording data in their logbooks at the site, 2002, NPS photo.*

Facing page: *Pen used to sign the National Park Service Act, NPS photo. John Muir's desk at the John Muir National Historic Site, Martinez, California.*

Above: *Emmanuel Gereta, of the Tanzania National Parks, speaks at the Seventh Biennial Scientific Conference on the Greater Yellowstone Ecosystem.*

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Record of Early People on Yellowstone Lake

Cody Complex Occupation at Osprey Beach

by Mack W. Shortt

AMANDA DOW

Artist's rendition of life at the Osprey Beach site 9,400 years ago.

Summary

Archeological research in Yellowstone National Park is in its infancy. While archeologists generally know who was in the park and when for any particular thousand year block, little is known about the daily lives of the people. The National Park Service and the Museum of the Rockies (MOR) have been investigating an interesting campsite that has potential to help fill in pieces of that gap.

The work described in this paper, conducted on Yellowstone Lake in 2000 and 2002, has revealed new insights regarding the earliest people who lived on the shore of the lake. The location was given the name Osprey Beach for the birds who live there (and whose fishing was not interrupted by our research). Our excavation and analysis have increased knowledge and understanding of those who occupied the area roughly 10,000 years ago. It has been learned that peoples thought to occupy only the plains and foothills, and believed to be primarily bison hunters, were also present in this mountainous lake area on a seasonal basis, and had adopted the broader strategy of hunter-gatherers. This work, while illuminating on its own, raises new questions about this early period, and should spark further investigations.

Introduction

In the study of archeology, the Precontact Period (i.e., the time prior to Native American contact with Non-Native Euro-American people) is divided into several broad time periods. Each time period is further broken down into cultural units (e.g., those with similar artifact assemblages) arranged in temporal sequences. One such cultural unit is the "complex," composed of a unique assemblage of artifacts. Questions relating to the origin and ultimate fate of each complex, or other cul-

DRAWINGS BY TROY HELMICK (LEFT AND MIDDLE) AND TAH MADSEN (RIGHT)

tural units, remain to be answered. It is important to note that the term complex does not directly equate with one particular ethnological tribe or cultural group we know from the historic period; in fact, it could be shared by several groups of distinct people. This article describes recent archeological discoveries in Yellowstone National Park that relate to the cultural unit known as the Cody Complex.

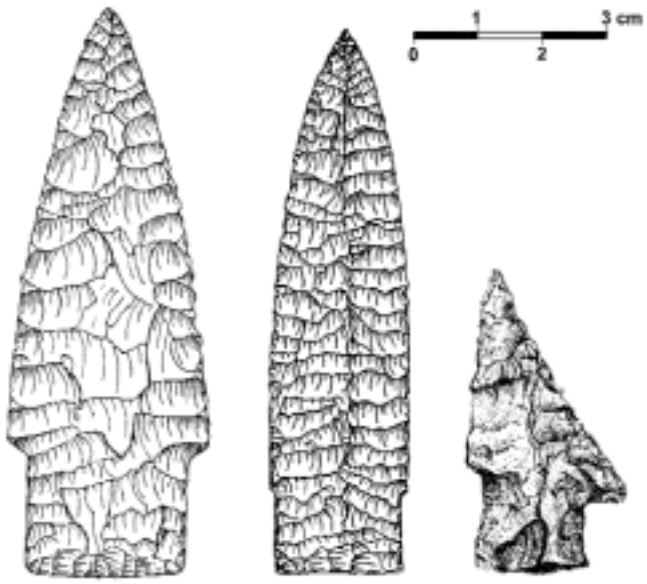

Figure 1. Idealized artifact types.
Left to right, Scottsbluff, Eden, and Cody knife.

The Cody Complex

The Cody Complex was first defined in 1951 at the Horner site; a bison kill located roughly 100 km (62 mi) east of Yellowstone Lake near Cody, Wyoming. The bison were identified as an extinct species known as *Bison Antiquus* that was half again as large as modern bison. Horner subsequently became the type site (where this particular group of artifacts were first identified as occurring together) for the Cody Complex. The three tools associated with the Cody Complex include Scottsbluff and Eden projectile points (Figure 1, left and middle) and specialized tools referred to as Cody knives (Figure 1, right). A diagnostic feature of Eden points (Figure 1, middle) that does not show well in this illustration is that they are diamond-shaped in cross-section. Complete Eden points are long and slender, which may account for their frequent breakage.

These three diagnostic tools may occur alone in sites or with either of the other two diagnostic artifact types. Radiocarbon dates from the Horner site ranged from approximately 9,300 to 8,700 radiocarbon years before the present (B.P.). In recent years, the Cody Complex has become a relatively well documented cultural entity identified on the Northwestern Plains and in adjacent Central and Northern Rocky Mountain basins. The typical Cody site dates from approximately 8,000 to 10,000 B.P.

Cody people traditionally have been viewed as representing "classic" early Native American plains bison hunters, different from the contemporaneous peoples who inhabited foothills and mountain regions. Our work is helping change that impression, which was, for the most part, based upon a singular focus on the excavation of Cody bison kill sites and their associated processing and campsite areas. Indeed, sites such as Finley in the Green River Basin, Carter/Kerr–McGee in the Powder River Basin, and the Frasca and Jurgens sites in northeastern Colorado, are interpreted as large-scale bison procurement operations. Campsites with Cody components include Hell Gap in eastern Wyoming, Medicine Lodge Creek in northern Wyoming, Claypool in eastern Colorado, the MacHaffie and Mammoth Meadow sites in southwestern Montana.

Cody Complex points and knives also have been found in montane and lakeside contexts, however, such as the Lawrence Site at Jackson Lake, and at Fishing Bridge and near Solution Creek in Yellowstone National Park. Unfortunately, the Cody Complex artifacts at these sites were mixed with those of more recent periods, making it impossible to determine what other artifacts may have been used at the Cody Complex camp. However, the distribution of these sites suggests that seasonal adaptive strategies are broadly-based, and that Cody people were engaged in a variety of subsistence activities, not just bison killing. The following discussion addresses Cody Complex strategies as reflected by the recent archeological investigations on the shore of Yellowstone Lake.

Archeology at the Osprey Beach Locality

The Osprey Beach Locality is characterized by a high north-facing bluff that rises slightly more than six meters (20 feet) above the current lake level (Figure 2). The site was first recorded during the 1958 and 1959 field seasons by the University of Montana's J. J. Hoffman, during the first professional archeological inventory of Yellowstone National Park. It was revisited in summer 2000 when, at the request of Yellowstone archeologist Ann Johnson, WSU volunteers surveyed a long section of beach and collected artifacts—two Cody knives and a Scottsbluff projectile point base—that suggested that early Precontact Period archeological deposits could be present.

The Museum of the Rockies archeolo-

Archeological sites and artifact types are typically named after the person who discovered the site, landowners of the site, or nearby towns. The Horner site is named after Pearl Horner, the original landowner. Scottsbluff and Eden points, Cody knives, and the Cody Complex derive their names from Scottsbluff, New Mexico, and Eden and Cody, Wyoming.

NPS PHOTO

Figure 2. The Osprey Beach site is on an eroding terrace about six meters above the current water level of Yellowstone Lake.

gy field crew has completed two field programs at Osprey Beach: a four-day evaluative excavation and survey in August 2000, and a 15-day data recovery excavation program in August 2002. The goal was to recover as much of the archeological deposits as possible, because ongoing natural erosion and illegal artifact collection continue to impact the site. The WSU group also conducted a limited test excavation program in the area during summer 2001. While the small number of artifacts recovered by the WSU test has not yet been documented in a formal report, the two Cody knives, a Scottsbluff point base, and a shaft abrader collected by that crew are included in this discussion.

Combined, the 2000 and 2002 MOR field testing programs at Osprey Beach resulted in the excavation of 66 complete and partial units that were one meter square (Figure 3). Even so, site boundaries have not been identified. The excavations revealed a simple stratigraphic sequence that consisted of three sedimentary units: two colluvial sand deposits and a series of pebbly beach sand lenses that resemble the sands exposed on the modern beach. Dr. Ken Pierce, of the United States Geological Survey, has suggested that after the formation of a paleo-shoreline dating to ca. 10,500 years ago, the level of Yellowstone Lake lowered and retreated to the north. The pebbly beach deposits represented former paleo-beach lines cut by wave action, and were formed when the level of Yellowstone Lake was approximately five meters (16 feet) higher than today. The artifacts were in bedded gravel beach deposits. Thus, at the time of occupation, Cody Complex peoples were camped on a vegetation-free beach, above the active wave zone (see rendering on page 2).

Who, What, Where, and When?

When were Precontact Native American people at Osprey Beach, and what activities took place there? A conventional radiocarbon age of 9,360 (± 60) B.P. was obtained on a charcoal sample collected by Ken Pierce in 2000. The large number of waste flakes (byproducts of manufacturing and repair activities), and a variety of stone tools suggested that a number of domestic tasks were undertaken. (An analogy for waste flakes would be wood shavings from whittling, as there are many more shavings than finished carving.) Several small activity areas consisting of concentrated scatters of flakes were recovered, marking the locations where someone worked on tools.

The great majority of artifacts were small pieces of obsidian produced during the manufacturing and maintenance of tools. High numbers of obsidian artifacts are unusual in Cody Complex sites, but Osprey Beach is the first Cody Complex site excavated in an area where people had easy access to unlimited amounts of obsidian. In addition to obsidian, stone material types at the site included opalized wood, various colors and grades of chert (an opaque stone with a high silica content that is prized for tool-making), including semi-translucent dark green and pinkish-grey varieties, and a single piece of Knife River flint (from quarries in west central North Dakota). The flakes from tool manufacture and repair are currently being analyzed and quantified.

The tools were of greatest diagnostic value, however, and much has been learned from them. Further, although no preserved animal bone was recovered, analysis of the tools has provided new and unique insights into subsistence activities of these peoples.

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Figure 3. Osprey Beach site during the 2002 excavations.

Analytical Tools

Archeologists make a concerted effort to determine the sources of stone used for tools, as this information provides insight into the travel patterns of the users. The dark green chert used for two of the Cody knives (Figure 4, top middle and right) are from the Absaroka Mountains,

which form the park's eastern border. There are many sources of obsidian, and it is often possible to distinguish between them.

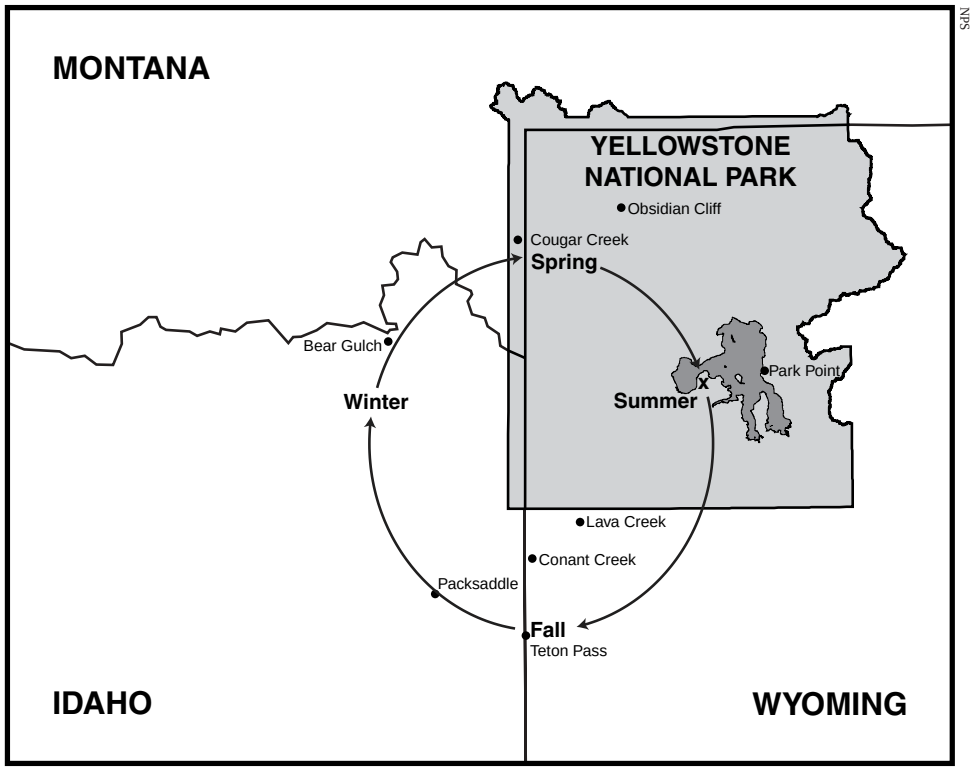
Obsidian sourcing: At 70–77%, silicon dominates the chemical composition of obsidian. In addition, each obsidian source contains a number of trace elements, whose relative abundance (in parts per million) varies from source to source. Using the trace elements zinc, gallium, rubidium, strontium, yttrium, zirconium, niobium, barium, titanium, and manganese, each source has a unique "fingerprint." The individual composition of these 10 trace elements (in parts per million) creates an original pattern that permits the identification and separation of different obsidian sources and artifacts made from those obsidians.

Thirty-eight specimens from Osprey Beach were analyzed through x-ray fluorescence. These obsidians were assigned sources as follows: 22 (58%) were from Obsidian Cliff Plateau, 8 (21%) were from Bear Gulch (in northeastern Idaho), and 4 (11%) from Teton Pass (west of Jackson Hole). Conant Creek Tuff (near the Idaho border between Yellowstone and Grand Teton National Parks), Huckleberry Ridge Tuff (in the southeastern quarter of the park), Cougar Creek (northwest of Madison Junction), Park Point (on the east shore of Yellowstone Lake), and Packsaddle (in southeastern Idaho) were represented by single specimens. We assume there was little trade in local lithic materials, as everyone would have had equal access to them. As people are believed to have collected from nearby sources in their travels, we can see where they went by knowing the location of each source.

A typical seasonal migration might look like this: Assuming that people were camped on Yellowstone Lake during the summer, they might have gone south in the fall and acquired obsidians from Conant Creek and Teton Pass on their way to their winter camps in eastern Idaho. In the early spring, they might have moved north and replenished their supplies of obsidian from the Bear Gulch source, before coming into the park up the Madison River Valley and past the Cougar Creek obsidian source. A slight jog to the north would get them in the vicinity of Obsidian Cliff obsidian, where a supply of raw material could be obtained before returning to the Yellowstone Lake for the summer. While on the lake, Park Point obsidian was a locally available resource for tools (see map below).

Blood residue analysis: Upon completion of the 2000 and 2002 field programs, the Cody knives, projectile points, end scrapers, and retouched flakes were submitted for blood residue analysis, a test that seeks to identify species of origin for blood proteins extant on some artifacts. This technique was pioneered by the Royal Canadian Mounted Police for modern forensics work, and has been applied to archeological specimens over the past 10 years with considerable success. Archeological specimens are washed with special liquids, and the residue is analyzed in a method similar to human blood typing. A tool's blade and base are washed separately, often producing distinctly different results. This may be because the knife or point is attached to the handle or spear with one type of material such as sinew or blood and then the blade may have had contact with a different animal. Labels in the artifact photos point to the

As people are believed to have collected [obsidian] from nearby sources in their travels, we can see where they went by knowing the location of each source.



Sources for obsidian specimens found at Osprey Beach and hypothesized seasonal round.

type of blood residue found on the blade and hafting (notches/base) elements. Hafting is the means by which the artifact is attached to a shaft or handle. About 25% of the specimens submitted for blood residue analysis produce positive results. At present, the technique can distinguish between families but not between members of the same family. We know the identified sheep blood is Rocky Mountain bighorn sheep because 9,400 years ago there were no domestic sheep in North America.

The stem of one of the green chert Cody knives (Figure 4) provided a positive reaction to rabbit antiserum. This may have been related to the site's inhabitants' skinning rabbits or to the use of rabbit ligaments for hafting. Both are strong possibilities. Second, the blade of a broken obsidian Cody knife yielded a positive reaction to canid antiserum, but we cannot differentiate between the four canid forms (wolf, coyote, fox, and dog) found in the park. It should be noted that a Scottsbluff projectile point collected during an excavation at Fishing Bridge in 1992 also tested positive to rabbit antiserum.

Two Osprey Beach knives provided positive mixed species results (Figure 4). One artifact elicited positive test results to rabbit and deer on its stem and blade. The other provided positive test results for rabbit on the stem and Rocky Mountain bighorn sheep on the blade. Combined, the blood residue analyses of the Cody knives indicate that rabbit tissues were likely used as hafting materials and that deer, Rocky Mountain bighorn sheep, and canids were probably butchered prior to artifact abandonment. Several years ago, a chert Cody Knife, collected from the beach in the late 1950s, tested positive for bison.

The projectile points submitted for residue analyses provided equally diverse results (Figure 5). The stems of two complete Scottsbluff projectile points each elicited positive test results to cat (felid) antiserum, and one also provided a positive result for bear. Another projectile point provided a positive reaction to deer antiserum on its stem and blade portions. Finally, the large obsidian expedient flake tool (Figure 5) provided a positive reaction to canid antiserum. A key finding is that bison, the hallmark target species of the Cody Complex, was conspicuously absent in the artifacts tested from Osprey Beach; however, it may simply not have been present in the samples tested. Had bison been identified, this would confirm the earliest evidence of bison in the park.

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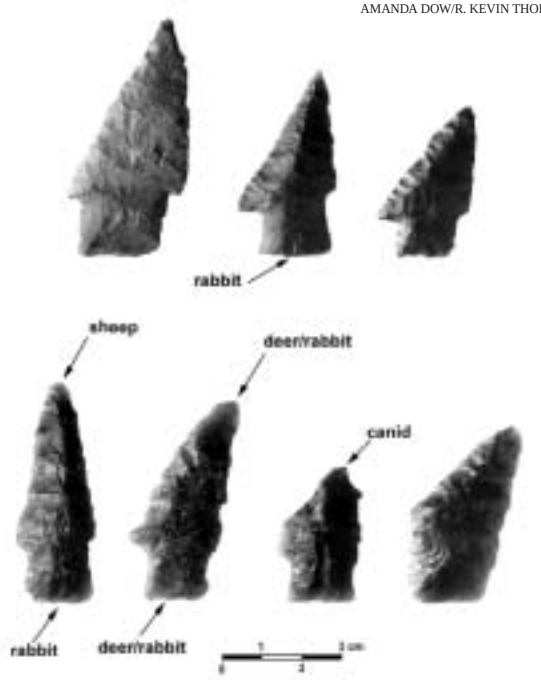
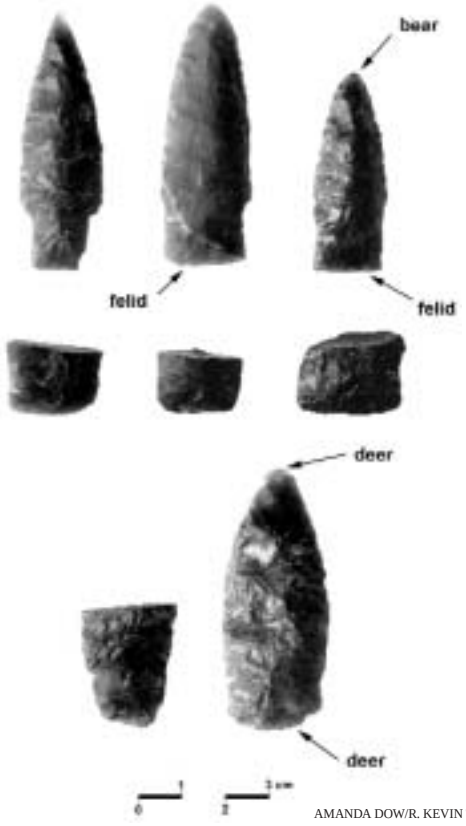


Figure 4 *(above)*. Cody knives from the Osprey Beach site. The bottom row are all obsidian. Top left is brown chert, top middle and right are dark green chert. Blood residue analysis results are shown by the arrows.

Figure 5 *(below)*. Scottsbluff points and bases (upper and middle rows), and parallel-oblique lanceolate projectiles (bottom row). Blood residue analysis results are shown by the arrows.



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Stone Tools Recovered

Stone tool types recovered from the Osprey Beach Locality included seven Cody knives, eight projectile points and fragments, five shaft abraders, five awl abraders, a ground cobble, two end scrapers, one large retouched flake, and an adze. These tools suggest that in addition to domestic activities, a wide range of manufacture and repair tasks took place, implying that the occupation lasted days or even weeks. It is likely that one or more hides were prepared at the site.

Cody knives: The Cody knives found both on the beach below the test units and during excavation represent three stone material types: vitreous dark green chert (probably from the Absaroka volcanic rocks on the park's eastern border), brown chert, and obsidian (Figure 4). All four obsidian knives were made of obsidian sourced to the Obsidian Cliff Plateau between Mammoth Hot Springs and

Norris Junction.

Generally, the finely-made brown chert and dark green chert Cody knives (Figure 4, top row) are in better condition than their obsidian counterparts. One obsidian specimen had snapped during use, and another appears to have been re-sharpened so often that the artifact has nearly lost its asymmetric form (Figure 4, lower left). The two remaining complete obsidian Cody knives were, in relative terms, less finely made and heavily worn. It seems that the Precontact Period inhabitants of the Osprey Beach locality were less concerned with curating obsidian knives than with maintaining the integrity of the green and brown chert specimens. This phenomenon may be related to the unlimited quantities of readily-available Obsidian Cliff Plateau volcanic glass versus more "exotic" stone types, and to the relatively more brittle nature of obsidian.

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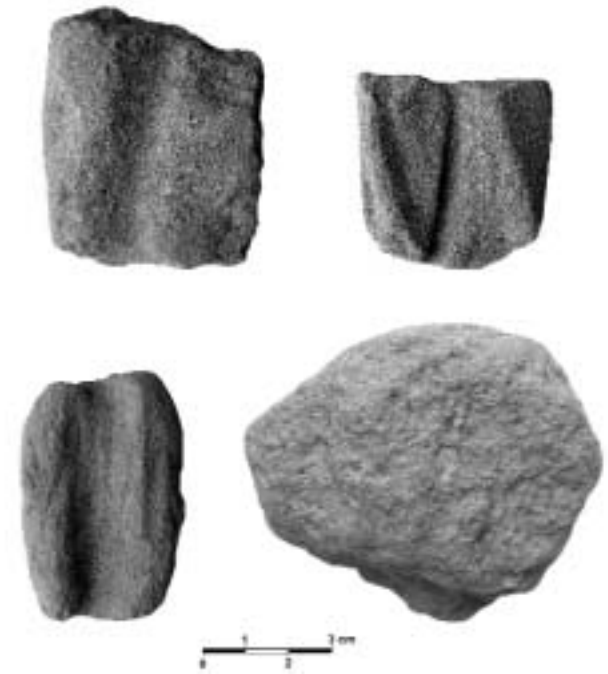


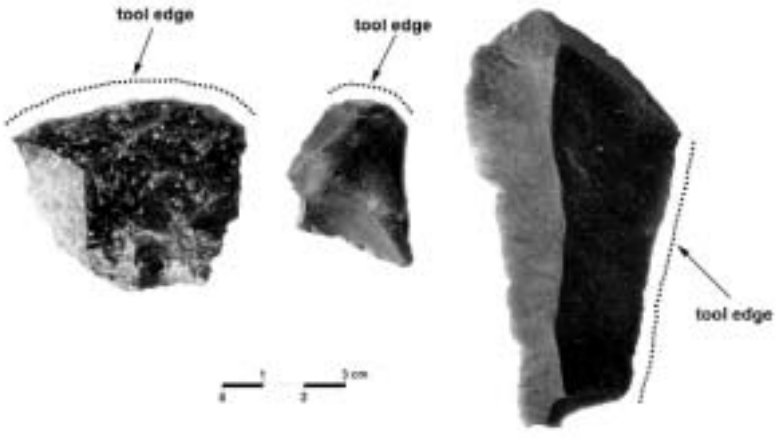
Figure 6. Three sandstone shaft abraders and split pumice cobble abrader (lower right).

Projectile points: For the most part, the projectile points recovered at Osprey Beach were consistent with styles found at other Cody Complex sites. These were probably attached to spears or darts (the bow and arrow do not appear until about 200 A.D. in this part of the world). Forms include three complete Scottsbluff projectiles, two manufactured of Obsidian Cliff obsidian and one of translucent brown chert (Figure 5, top row), and three Scottsbluff point bases, one each of Park Point, Obsidian Cliff, and Bear Gulch obsidian (Figure 5, middle row).

Two projectile points recovered during excavation were morphologically different from the Scottsbluff and Eden types, which are the hallmarks of the Cody Complex. One was a fragmentary specimen that had a convex base, straight lateral margins, and an irregular-to-parallel-oblique flaking pattern (Figure 5, bottom left). This is Bear Gulch obsidian. The other complete specimen, sourced to the Obsidian Cliff Plateau, was characterized by a convex base, excurvate lateral margins, a slightly narrowing stem, incipient shoulders, and a parallel-oblique flaking pattern (Figure 5, bottom right). The complete specimen closely resembles forms from the Lookingbill site southeast of Yellowstone National Park. While most parallel-oblique lanceolate projectiles temporally follow the Cody Complex (ca. 9,000 to 8,500 B.P.), archeological research at Barton Gulch (Alder Complex) in southwestern Montana, and Medicine Lodge Creek in the Bighorn Basin, demonstrate that lanceolate projectiles occur in assemblages that are roughly contemporaneous with, or older than, those of the Cody Complex. The association of these forms with the Cody Complex artifacts at Osprey Beach suggests that members of different cultural groups could have been coming together seasonally in multi-ethnic gatherings. Both groups may have originated from the Plains/Intermountain Basins and/or Rocky Mountains and foothills.

Abraders: Abraders are objects whose coarse surfaces are used to smooth a softer object. We identified three types: shaft abraders (used to straighten spear shafts), awl/artifact edge abraders (used to make bone/wood awls or to grind the edges of stone artifacts), and a ground cobble. The 10 shaft and awl/artifact edge abraders are pieces of stone composed of cemented sand. The size of the sand determines whether the artifact functioned as a fine or coarse abrader. The ground cobble tool is a split pumice cobble. The discovery of 11 sandstone abraders during excavation is noteworthy in light of the fact that they are rare at other Cody Complex sites. In fact, the Osprey Beach site has more sandstone abraders than any other Cody Complex site in North America.

The artifacts identified as shaft abraders (five) exhibit generally wider grooves that extend continuously between the lateral margins of the artifact (Figure 6, left column). Four



AMANDA DOW/R. KEVIN THORSEN

Figure 7. End scrapers and retouched flake (far right) showing working edges.

of the specimens have broader, u-shaped groove widths that approximate 1.5 cm in width. Another has a slight v-shaped groove with a maximum width of 0.75 cm. Other sites with shaft abraders are MacHaffie, Claypool and Jurgens, and Horner.

In addition, six awl/artifact edge abraders were found. These were likely used to make bone/wood awls, or grind or dull the edges of stone artifacts so that the sharp edges would not cut through the hafting materials for the points and Cody knives. These awl/edge abraders tend to be irregular in outline, and consist of amorphous sandstone cobbles with discontinuous 3- to 5-mm grooves incised onto flat cobble surfaces. The grooves generally do not extend to the lateral margins of the artifacts. The distinction between these artifact types is blurry, as both broad and long grooves can be found on the same object with the shorter, narrower grooves.

Finally, a 7.8-cm-long split pumice cobble had been utilized as an abrading implement (Figure 6, lower right). One side is relatively flat, with rough, unmodified surfaces, while the opposite exhibits an undulating surface with smoothed, polished facets. Portions of its edges also appear to have been worn smooth. References to the use of such artifacts occur in the ethnographic literature. For example, in 1854, the Assiniboine were described as rubbing a heated hide with a pumice stone or porous bone during tanning.

End scrapers: The two end scrapers found at the Osprey Beach Locality are large flakes with modification along single edges (Figure 7). The smaller (Figure 7, center) of the two has heavily worn ridges, perhaps indicative of heavy use, and is Obsidian Cliff obsidian, while the larger (Figure 7, left) is from the Cougar Creek source in the Madison Valley.

Retouched flake: The one large flake tool (created as the byproduct of the manufacture or refinement of another tool) has slightly irregular flaking (shaping/sharpening) along its shortest edge (Figure 7, right). The obsidian from which this tool was made is from Obsidian Cliff.

Adze: An adze-like implement was also recovered. It is a rectangular stone slab that has heavy stepping and battering on one end, and a flat, unmodified surface at the opposite end. Its lateral margins also consist of flat, unmodified surfaces. Thinning of the artifact is suggested by two large flake scars on one side. The tool may have been used to split wood, bone, or other soft materials. In addition, it could have served as a heavy, hand-held chopping tool.

Conclusions

The Osprey Beach site is the first Cody Complex site to be excavated that demonstrates a clear stratigraphy. Its content and context suggests the site is of at least regional and perhaps national importance. The MOR archeological program has demonstrated that by 9,360 (± 60 B.P.), probably during warm weather months, bands of Cody Complex peoples travelled into the heart of Yellowstone country to hunt, gather, and make a wide variety of tools, and that they were joined at Yellowstone Lake by other peoples. While no bone is preserved in the site, blood residue analysis of the tools indicated that a variety of mammalian species were exploited. While canids, sheep, rabbits, and deer were identified, no bison were present. It is not known that bison were present in the park at this early date. To date, we have no evidence of fish being used. We have found no evidence for season of use, but given the severity of the winters during this post-glacial period, it is assumed that this was a summer camp.

While in the area around the lake, people utilized obsidian from both Obsidian Cliff Plateau and Park Point to manufacture projectile points and specialized bifaces. Obsidian from sources such as Bear Gulch and Cougar Creek was proba-

Protecting Yellowstone's Archeological Sites

In the field of archeology, we always face the conflicting demands of education and preservation. New analyses and advances in our understanding of early people follow each important discovery of artifacts. The provenience of the discovery is often crucial to the new insights. Sharing this information widely, however, inevitably conflicts with our responsibility to preserve these resources as it advertises the park's archeological sites and sometimes, directly or indirectly, results in illegal collecting. Last year, artifact thieves were incarcerated and fined into the thousands of dollars for stealing artifacts within the park. As we continue our exploration of the park's cultural resources, we are always mindful of striking the proper balance. We work closely with law enforcement and are pleased with their cooperative efforts to preserve and protect the nation's archeological resources in the park. Visitors sometimes find sites and artifacts as they enjoy the park. They are encouraged to bring these finds to our attention, and we make every effort to provide those who do with information about what they found and what it means.

—Dr. Ann Johnson, park archeologist

bly brought in for tools during the late spring and early summer, and obsidian from other sources were in use as well. In addition, non-local cherts were used by Osprey Beach peoples. Only two pieces of obsidian were found during the excavations at the Horner site; one was from Obsidian Cliff Plateau, and the other from an unknown source. Most of the stone at the Horner site indicated close ties to the Bighorn Mountains to the east, and suggests minor contacts with the Yellowstone Park area by the people at the Horner site.

Pieces of locally-derived sandstone were used as abrading tools to fashion wood or bone tools. Indeed, the 11 sandstone abrading tools represent the largest assemblage of such tools ever found at a Cody Complex site. The type of grooves present suggests that spear shafts and bone awls were being worked. The end scrapers and hide abraders suggest that hides were being tanned, possibly for shelters. The sharpening of awls implies that clothing was being prepared, as these tools are believed to be associated with manufacture of clothing.

As a result of the Osprey Beach investigations, we have a more complete picture of human life in the park some 9,000 years ago. The picture on page 2 is an artist's rendition of what the Osprey Beach camp might have looked like. There are also archeological sites on six of the seven islands in Yellowstone Lake, and one of these sites is assigned to the Cody Complex. To date, there is no evidence for how people would have gotten to the islands during the summer.

Finally, in the past it was suggested that approximately 10,000 years ago, an ecological boundary separated intermountain basin/plains-oriented cultural groups (people adapted to plains bison hunting lifeways) from other contemporaneous cultural groups that occupied adjacent foothill and mountain regions. The latter cultural groups were thought to be adapted to hunting and gathering in environs where a wider ranger of faunal and floral species could be exploited. Other studies, however, suggest that by Cody Complex times, the different adaptations to those ecological zones were breaking down. The Osprey Beach evidence supports the hypothesis that Cody Complex peoples were seasonally adapted not only to the plains and intermountain basins as bison hunters, but also to upland/mountain environs, where a variety of mammalian species were available. The diverse blood residue data indicate that the mountains/plains cultural dichotomy, if it ever existed, was in fact breaking down by the time of the Osprey Beach occupation 9,360 (± 60 B.P.). It appears, therefore, that early Precontact Period Native Americans at Osprey Beach were versatile hunter-gatherers who sustained themselves in many ways under the various natural resource circumstances they encountered.

Acknowledgements

I would like to acknowledge the substantial support of the Yellowstone Park Foundation for the 2002 Osprey Beach Locality archeology project. Their generosity has made a highly significant contribution to the understanding of early Native American settlement in Yellowstone National Park. The Teton County Preservation Board is recognized for funding the 2002 blood residue analyses that provided critical insights. John Albanese and Dr. Kenneth Pierce visited the site and provided important contributions through their geological interpretations. Drs. Ann M. Johnson, Brian O.K. Reeves, and Leslie B. Davis are acknowledged for their considerable efforts in facilitation, coordination, and supervision. Finally, the participation of John Reynolds, a volunteer on the field project, in the review of this paper is gratefully noted.

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NPS PHOTO

Mack W. Shortt holds an M.A. in Archeology from the University of Calgary. From 1993 to 1998, he served as Project Archeologist for the Museum of the Rockies' Glacier National Park Archeology Program, and since 1996, he has held that position for the Museum's Yellowstone National Park Archeology Program. He has also performed archeological work in the Canadian Rockies, Northern Plains, and northern boreal forests. Mack lives in Calgary with his wife, Dinah, and his daughter, Amelia. Yellowstone is his favorite place.

A Volunteer's Perspective, and Archeology 101

by John Reynolds and Ann Johnson

Yellowstone's archeology program often uses a combination of professional archeologists and volunteers. As one of those volunteers, I worked at Osprey Beach during the 2000 and 2002 field seasons. The first season was abbreviated, but the results were very promising, and the program gained a Yellowstone Park Foundation grant for more extensive work in 2002; the work I will describe here. For 15 days in 2002, our days began with a short drive and then a hike of a mile or so, both along a low terrace above the shore and on the lakeshore itself. In both cases, we encountered a great deal of downed timber, the result of the 1988 fires. Clambering over this provided a good way to wake up the tired body for the rigors of the day. Once at the site, the archeologists began preparations for the day's excavation and I set up my own "work station." As the unskilled member of the group, my job was to carefully screen the soil excavated by the professionals. First, though, let's describe that excavation:

The following photographs illustrate important steps in archeological site investigation including SITE SELECTION, PREPARATION, EXCAVATION, DOCUMENTATION, and CLOSING THE SITE. The analysis and writing that follow the fieldwork are equally or more important than the digging, and create a record of what was found in the site, its meaning, and why the site and artifacts are important. The examples shown were taken during work conducted at Osprey Beach in 2002.

Above, Preparations for detailed excavation at the site required the efforts of the entire crew to clear the area of downed timber. Note the transit. It is used to precisely lay out a grid within which excavation of individual units will take place.

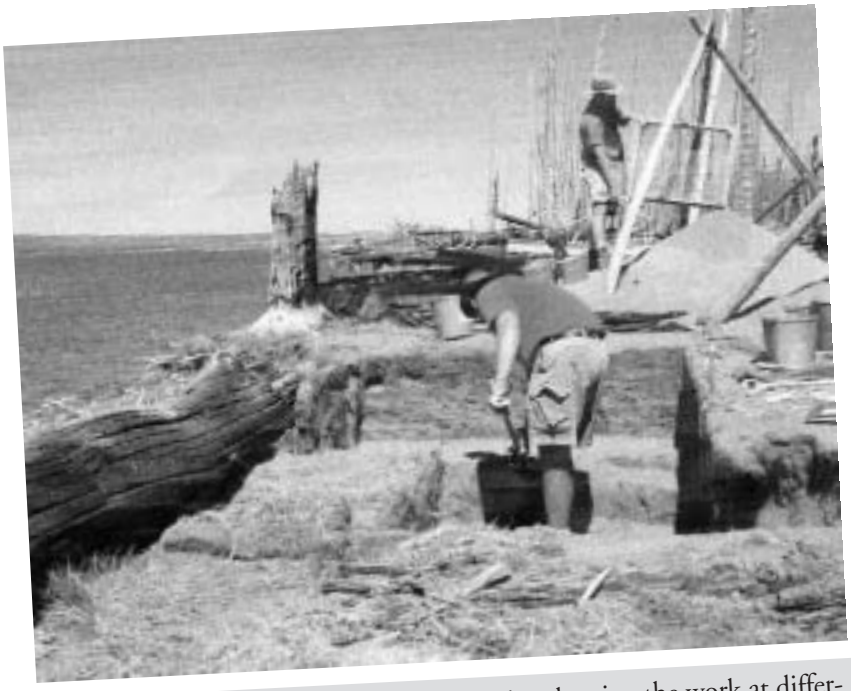
Mack Shortt and Kevin Thorsen establish a corner of the grid.

Getting Started

To ensure that no artifacts are missed during an excavation, and that the locations of each are precisely recorded, archeologists divide sites into excavation units, carefully measured to one meter square. They utilize a technique involving three tape measures, establishing two sides at a 90 degree angle, and then using the diagonal of the unit to produce a perfect square. Next, they set metal spikes at the four corners of the unit and, using a line level (a small level in a tube mounted on a string), establish the spot from which they will measure the depth uniformly throughout the unit as they excavate. The unit is then divided into four quadrants, or "quads" (NE, NW, SE, and SW). The archeologists excavate one quad at a time and, using the line level, take periodic measurements to ensure that each quad is excavated to a depth of 10 centimeters (four inches). Where the surface of the ground is uneven, the amount of soil taken from the first level for each quad can vary greatly. After the first level is established, however, the volume of soil for all subsequent levels is the same, because all are started at equal depths.

Excavation of each quad begins with a square-end shovel; the soil that is removed is placed into a bucket. Periodically, the archeologist stops to measure the depth of the hole being dug to be sure that s/he has taken 10 centimeters and no more. As that depth is approached, the shovel is used to "shave" the soil to achieve the correct depth. At times, a whisk broom and dust pan are used to remove the last bit of soil from a given quad.

During this process, rocks are often encountered. The archeologist must determine if they are of interest; for instance,



Excavation of a number of contiguous units, showing the work at different levels in separate units. Visti Kjar is at the screen, while Kevin Thorsen carefully removes soil from one of the units. In the sandy soil, it is difficult to keep the walls straight; they tend to collapse as they dry.

they may be the remnants of a hearth used for food preparation. If that is the case, the soil is meticulously removed from around the rocks (whisk broom and dust pan are brought into play again). The rocks are left in place, and then they are mapped and photographed to record their position, both laterally and in depth below the surface. This slows the excavation, but enriches the collection of information. If excavation continues in such a unit, these rocks have to be removed, and may or may not be collected for further analysis.

Screening

After the archeologist has finished sifting through the soil, s/he places it in a bucket to be literally "screened" for more material that merits collection. To accomplish this, the bucket is emptied into a wooden box of roughly two feet by two-and-a-half feet, and six inches deep, its bottom covered with heavy-duty screen. The standard size screen for most archeological work is one-quarter inch, which is what we used in our work during 2000. For the more lengthy excavation in 2002, we used a much finer grade, one-eighth inch screen. This ensured that even the smallest flakes would be collected, significantly enhancing the take from the site. It also made the work much more labor-intensive.

At Osprey Beach, we used rope to suspend the box and screen from a tripod made from downed timber, which was plentiful at the site. With the box hanging in this "swing," my job was to shake it vigorously to allow the soil to flow through the screen and onto a large tarp positioned under the tripod. When the soil is clean and sandy, it flows through the screen quickly, and the work is easy. More often, though, the soil is either full of clay or hard and cloddy. This makes for slow going, as the soil must be broken up to determine if it contains anything of value. I am sometimes able to crumble the soil by hand, but when it proves too hard for that (as it often does), smashing it against the side of the screen is a better solution. Soil containing lots of gravel or rocks poses a different problem, as stones that will not fall through the screen have to be removed by hand. I scratched through, examined by hand, and threw out tons of gravel at Osprey Beach. My fingers were scarred pretty badly by the end of the project, and I believe that my fingerprints were at least temporarily modified.

The tarp beneath the tripod collects the soil, and also protects the vegetation beneath it from damage. The tripod is easily moved by one person, so that the soil being processed can be spread over different parts of the tarp. By bringing the tripod's legs closer together, it was also possible to raise the height of the box above the growing pile of screened soil.

Because of its remote location, visitors to the Osprey Beach site were infrequent. Here, Mack Shortt describes the work to an interested group from the Yellowstone Park Foundation who made the trek. The YPF sponsored the 2002 excavation.

Because much of the time I screen for more than one archeologist, I must keep close tabs on whose

Top left, Meticulous notes are kept for each step of the excavation process. Here, Kevin Thorsen and Doug Mitchell record information in their log books while Mack Shortt prepares to photograph this stage of the work.

Middle left, When stones thought to be cultural in origin are uncovered, their precise location is recorded to assist subsequent analysis of the individual unit and of the overall site.

Bottom left, Kevin Thorsen carefully uses a whisk broom to remove soil from around a collection of stones believed to have been part of a hearth used by early peoples. Each stone's location is recorded before it is removed to allow further excavation.

soil is in the screen and where it came from within the unit to ensure that the material I collect goes to the right one so s/he can connect the collection to the correct unit, level, and quad. This is key, as evaluation of the excavation strategy goes on constantly; decisions about whether to go deeper in a given unit, to expand the unit laterally in one direction or another, or to open another unit that it is not contiguous to existing ones are based on the amount and type of material found at each level and quad during the excavation.

In addition to the tripod and tarp, my "work station" includes my trusted dustpan, in which I store the material of value collected during the screening process. My work is physically difficult, and my direct rewards are few. I usually find only flakes, as the folks excavating have extremely sharp eyes and collect the tools directly. Nonetheless, every day or two I will spot a fragment of projectile point or other tool, and have found a complete point a couple of times. I also have to be alert for fragments of rock that may have been fire-broken, as this can be another indication of food preparation. All of these finds are important, as they help unravel the puzzle of who was here, when they were here, and what they did.

Finishing Up

When the excavation in a particular area is complete, a detailed profile of one wall is created by taking measurements of each change in soil color or type. Multiple photographs are also taken, always using a tarp to shade the wall to ensue proper lighting. Then the final stage of work begins: backfilling. At this point, all the soil taken from a unit or units is returned to the pit. If the screening has taken place directly adjacent to the pit, everyone may grab a shovel and begin to pitch the soil directly back into it. The more common method, however, is to use buckets, as the pits are often several yards from the screening area. What made things more difficult at Osprey Beach was not just the distance that the soil had to be carried—it was the climbing over downed timber with a bucket in each hand. When many units are contiguous, such as at the Osprey Beach site, little backfilling can be done until excavation is complete; for us, it took more than a day. This is back-breaking work, even for the younger fellows.

After the backfilling is complete, we try to replace the original surface vegetation, even watering it to assist its recovery. Our goal is to return the site, as closely as we can, to its original state. At Osprey Beach, this meant even hauling downed timber back to the areas we had cleared.

While working on this project, I engaged the crew in an effort to develop a quantitative measure of our work. We calculated that in 2002 alone, we removed from the earth, one bucket at a time, 100

Top right, John Albanese, an experienced geoarcheologist (geologist with a long-term interest in archeology), visited the Osprey Beach site and provided an analysis of the origin and distribution of the site's stratigraphy.

Middle right, After all phases of the excavation are completed, an effort is made to return the site to its original state. The labor-intensive process of backfilling is illustrated here as John Reynolds returns a bucket of soil to the excavated unit.

tons of soil. All of this was returned to the earth, one bucket at a time—meaning that at this site alone, we moved 200 tons of soil by hand over the course of 15 days.

For the most part, the weather was great during this project, with clear-to-partly cloudy skies, mild temperatures, and always a breeze off the lake. On several days it was more than a breeze, and gale warnings were posted at least once. On that day, a large tree fell in the middle of our excavations, a few yards from where we were eating lunch. Fortunately, the wind had driven us to take our lunch down into the pits so neither our lunches nor we would be blown away, so we were all safe. When I began volunteering with the archeology program, I never thought I might qualify for the equivalent of hazardous duty pay.

Because of the discoveries noted in this article, as well as the fantastic people on the project (especially park archeologist Ann Johnson), this was another wonderful experience in Yellowstone, the nation's gift to itself and the people of the world. I consider myself very lucky to have participated in this effort and to have been associated with such fine people. It was exhilarating, fascinating, and rewarding, but at the end of every day my body reminded me that it was never easy.

John Reynolds ("A Volunteer's Perspective") has volunteered with archeologist Ann Johnson for the last five years. He holds a B.S. from the University of Kentucky and an M.A. in economics from the University of Maryland. Retired from the Central Intelligence Agency, he continues to work for that organization as a consultant while spending his summers in Yellowstone. In addition to the work noted in this report, John has worked on extended backcountry archeology projects on the Yellowstone River, Hellroaring Creek, and recently on the Southeast Arm of Yellowstone Lake. When not volunteering in the park, he lives in northern Virginia near his two daughters and son-in-law.

NPS PHOTO

Ann Johnson, a Montana native, earned a Ph.D. in anthropology from the University of Missouri at Columbia. Her areas of interest are the northern plains and adjacent montane areas, the past 3,000 years, and prehistoric, ceramic-using cultures. Ann has worked for the National Park Service for 26 years, but working with Yellowstone archeology and staff has been her best job.

NPS PHOTO

Red Sowash and the Round Prairie Saloon

by Bob Flather

ALL PHOTOS COURTESY HAYNES FOUNDATION COLLECTION, MONTANA HISTORICAL SOCIETY

Z. R. Sowash's "Round Prairie Hotel," photographed in 1884 by F. J. Haynes near the Cooke City road and Soda Butte Creek, was once thought to have been outside the park. In 1886, however, it was found to be three miles inside the park, leading to its removal in 1887.

"I took a trip up to Cook[sic] City on 17 inst and returned on the 18th. There is a man running a Saloon about nine miles this side of Cook[sic] at a place called Round Prairie," reported Yellowstone's Assistant Superintendent Cannon to Superintendent Conger on June 19, 1884.[1] A month later, F. J. Haynes took a photo of this saloon, which he described as "Round Prairie Hotel (Saloon) Soda Butte Valley near Cooke City, Mt."[2] There was confusion over the saloon's location until late May 2000, when acquaintances of this writer, who visit the park every spring, found the exact spot. The problem was with the words "Round Prairie," as over the past 50–60 years, at least, "Round Prairie" has referred to the large meadow surrounding the junction of Pebble and Soda Butte Creeks. However, as Elva and Dale Paulson of Roseburg, Oregon, discovered, the saloon had been in a small meadow, currently bisected by the Northeast Entrance road, about 0.1 mile west of the Barronette Peak pullout.

Discoveries in Yellowstone's archives have revealed that originally, "Round Prairie" was the meadow just north of the Barronette pullout, through which the first wagon road to Cooke City traveled, as is evident today. Perhaps the earliest reference to this Round Prairie is found in Superintendent Norris's 1881 Annual Report, where Captain Stanton's report on road distances in the park notes that it is 3.0 miles from Trout Lake to Round Prairie.[3] All the confusion could have been avoided if anyone had checked into Haynes's photos, because he took an additional picture from above and to the rear of the saloon that clearly shows the saloon, a stable to the north, a corral to the northeast and most importantly, what is unquestionably Barronette Peak in the background.[4] A trip to the location today, to line up the still-existing features observed in Haynes's photo, indicates that the front of the saloon must have bordered quite closely, if not protruded into, the current Northeast Entrance road (as can be observed today by examining the truncated rectangular depression in the ground about 1/3 of the way west across the meadow along the south edge of the current road).

The existence of this saloon was made known to the Secretary of the Interior in a letter from Superintendent Carpenter dated November 13, 1884, in which Carpenter noted that "about 8 miles further up Soda Butte Creek, I found a man with a small

house and stable keeping a stopping place and Station."[5] Carpenter was inclined to let Sowash stay, as the boundary had not been surveyed. Then, in an August 21, 1885, letter to Superintendent Wear, Z. R. Sowash, the saloonkeeper, stated that he had "been located at a point on the Cooke City road for the past two years. Have been keeping a mail station and road house."[6] Sowash was requesting permission to remain, as it was still not clear whether or not he was within the park's boundaries (for no survey had been made). Wear forwarded this request to the Secretary of the Interior recommending approval. Sowash also called attention to a letter written to Wear by George Wakefield, the first person to have been awarded the contract for carrying mail from Mammoth Hot Springs to Cooke City, on the same date. Wakefield stated that the station kept by Sowash was necessary for getting the mail to Cooke City in the winter.[7]

It is interesting to speculate on Wakefield's possible role in the building of the saloon, for in a letter to the Secretary of the Interior dated December 16, 1883, Wakefield noted that he, as mail contractor, had already built one mail station on the East Fork of the Yellowstone—probably the log cabin by Soda Butte cone that served the mail carriers until 1938 when all structures at Soda Butte were removed—and would need to build two more stations on the route next season.[8] Had he actually "jumped the gun" by a year in regard to Sowash's Saloon? Much was done in those days under the theory that it was better to beg forgiveness than ask permission, especially where structures were concerned. In any case, the situation remained in limbo until Captain Harris arrived in August 1886. While the basis for Harris's decision is unknown, he determined that the Saloon was inside the park, and verbally advised Sowash sometime in the fall that he would have to leave come spring.[9] Sowash then asked the help of Congressman J. K. Toole of Montana in seeking a lease, for in a letter dated January 25, 1887, from the Secretary of the Interior to Toole, the former refers to Toole's letter of January 5 forwarding Sowash's request, which the Secretary denied.[10] The Secretary's decision was undoubtedly strongly influenced by a January 15, 1887, letter from Captain Harris recommending that the Secretary not approve the lease sought by Sowash as "Mr. Sowash's place is perhaps as well kept as any of its kind, but it is nothing more than a liquor saloon and there is no question as to its being detrimental to the interests of the Park."[11] Thus, the stage was set for Harris's letter to Sowash on May 9, 1887, advising the latter he would have to leave by June 30 of that year.[12] According to Harris's 1887 Annual Report, the order was promptly obeyed.[13]

F. J. Haynes photo showing the saloon (arrow), a stable to the north, a corral to the northeast, and Barronette Peak in the background.

What happened to the saloon? Ordinarily in those days, the structure would have been destroyed—burnt to the ground, most likely. However, there is circumstantial evidence that the saloon may have survived, condition unknown, until at least February 10, 1908. This speculation makes sense in that Harris may have bought Wakefield's argument that the building was needed in winter by the mail carriers as a refuge in case of difficult weather conditions. The daily patrol logs of the U.S. Army's Soda Butte patrol station include the following entry: "December 7, 1895: patrol camped at Red's Sauvages cabin."[14] Patrols were also made to "Red's cabin on Cooke City road" on June 9, 1905, January 8, 1908 and February 10, 1908.[15] Sowash was known as Red, and the significance of the surname Sauvage will soon be discussed. The logs frequently mention the round-trip distance the patrols covered, and in the above instances, the distance was recorded as 15 miles. It is roughly seven miles from the Soda Butte patrol station to the original Round Prairie. By the early 1900s, the regular route to Cooke City traveled along the north side of Soda Butte Creek, except the mail carriers may have kept to the original route on the south side until the coming of the auto. From that time on, the saloon would have been "off the beaten path," as autos took the north side, but may have survived in deteriorating condition until it necessarily had to be removed to make way for the current road in 1934.

Who was Red Sowash? A picture of the man appears in Doris Whithorn's book on Gardiner, Jardine, and Crevasse, Montana.[16] A Mr. Richard Soash of Wichita, Kansas, has been researching the family history, and published some of his findings on the Internet.[17] It begins with a Johannes H. Sauvage (see previous paragraph) and his wife immigrating from Alsace-Lorraine to the U. S. in 1738. They settled and had several children, of which one son Americanized his name to Sowash. Subsequently, some family members used the spelling Soash. In a letter to this writer, Mr. Soash advised that he believes Z. R. Sowash was one of 11 children of a Jacob Sowash, that he was known as Jackwell or Joseph, and that he was listed in the 1870 census of Washoe County, Nevada, as being a resident of that county.[18] The 1880 census of Meagher County, Montana, lists a Joseph

Sowash, age 33, and a William Sowash, age 23, both born in Indiana, apparently with the same parents, engaged in mining activity in that county. By the early 1880s, Sowash's mining activities had moved to the Cooke City area, where on September 26, 1883, he and several others signed a notarized claim as being the locators.[19] He signed as Zack Sowash. Shortly, on September 23, 1884, he sold his interest in a mining claim, giving his residence as Cooke City, while when he sold his interest in the Big Blue & Richmond mines on July 13, 1885, he listed his residence as Round Prairie, Wyoming Territory.[20] In the 1900 Park County, Montana, census, a Zacarath R. Sowash is listed, age 53, born in Indiana, a saloonkeeper but unemployed for the past six months and owner of a home in Horr, Montana. The county records show no evidence of this ownership, but the county clerk noted to me that many individuals did not register their ownership in those days. It is doubtful that Sowash owned a home in Horr or anywhere else, for county mining records indicate that he lived in Gardiner, Montana, in 1899 and in Jardine in 1901. No further information has come to light except that no record exists in the Park County Clerk's Office of a Z. R. Sowash having died in Park County, Montana.

As a final aside, the small, white sign on the front of the saloon below the larger sign was hung apparently by Haynes, as it reads in part "Prof. F. J. Haynes, national park views."

NPS PHOTO

Site of Red Sowash's saloon as it appears today.

References

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[2]F. J. Haynes, Photo #1412, Montana Historical Society, Helena, Montana (hereafter MTHS).

[3]Superintendent Philetus Norris, Annual Report of the Superintendent, December 1, 1881, p. 66, Yellowstone National Park library (hereafter YNP library).

[4]F. J. Haynes, Photo #1410, MTHS.

[5]Superintendent Carpenter to Secretary of Interior, November 13, 1884, microfilm M-62 Roll 2 of 6, MTHS.

[6]Z. R. Sowash to Superintendent Wear, August 21, 1885, microfilm M-62 Roll 3 of 6, MTHS.

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[8]George Wakefield to Secretary of the Interior, December 16, 1883, 48th US Congress, 1st Session, Sen. Ex. Doc. 47, Serial Set 2162, Government Publications section, University of California at Santa Barbara library.

[9]Acting Superintendent Captain Moses Harris, Superintendent's Annual Report, August 20, 1887, p. 5, YNP library.

[10]Acting Secretary of Interior Muldrow to Hon. J. K. Toole, January 25, 1887, Document 123, NAYNP.

[11]Captain Harris to Secretary of the Interior, January 15, 1887, Letters sent Box 213, v1, p. 73, NAYNP.

[12]Captain Harris to Z. R. Sowash, May 9, 1887; Letters sent Box 214, v2, p. 18, NAYNP.

[13]Acting Superintendent Captain Moses Harris, Superintendent's Annual Report, August 20, 1887, p. 5, YNP library.

[14]Letter Box 93, Monthly Logs, Soda Butte Station, NAYNP.

[15]Bound volume 181 and Letter Box 90, Soda Butte Station Reports, NAYNP.

[16]Doris Whithorn, Photo History of Gardiner, Jardine, and Crevasse. Livingston, Montana: Park County News.

[17]Web site, rsoash@feist.com.

[18]Richard L. Soash to Robert Flather, undated letter.

[19]New World Mining District, Folder 2 of 2, p. 254, Accession number 96-132, NAYNP.

[20]Mining Claim Records, Books 9-143 and 9-196, Park County County Clerk's Office, Livingston, Montana.

NPS PHOTO

Bob Flather has worked for the National Park Service seasonally at Yellowstone since 1971, variously as a fire guard, ranger, fire researcher, and volunteer. The Lamar Valley is his favorite part of the park, which is what led him to his investigation of Red Sowash. He has also worked at Gulf Islands and Point Reyes National Seashores. When away from Yellowstone, Bob lives in Santa Barbara, California. He is 78 years old and hopes he has a few more good years left in him in Yellowstone.

The Froth and the Fury

Keynote speech delivered by Theodore Roosevelt IV on the occasion of the Roosevelt Arch centennial, Yellowstone National Park August 25, 2003

NPS ARCHIVES

NPS PHOTO

Left, President Theodore Roosevelt speaks at the dedication of the Roosevelt Arch, April 25, 1903.
Right, Theodore Roosevelt IV delivers the keynote speech at the Arch's re-dedication, August 25, 2003.

Theodore Roosevelt IV is a Managing Director at Lehman Brothers, and a member of the firm's senior client coverage group. Upon graduating from Harvard in 1965 with a B.A., Mr. Roosevelt joined the Navy as an officer in Underwater Demolition Team Eleven. Following his active duty, he joined the Department of State as a Foreign Service Officer. He initially served in Washington, D.C., and was subsequently assigned to Ouagadougou, Upper Volta, West Africa (now Burkina Faso). In 1970, Mr. Roosevelt took a special leave of absence from the Department of State to attend Harvard Business School, where he received his M.B.A.. Upon his 1972 graduation, he was offered a White House Fellowship, which he declined to join Lehman Brothers.

Mr. Roosevelt is an active conservationist. He is the former Chairman of the League of Conservation Voters; a Trustee of the American Museum of Natural History; and Chair of the Pew Center on Global Climate Change. He is also on the board of Trout Unlimited, on the Governing Council of The Wilderness Society, and is a Director of the University of Wyoming's Institute for Environment and Natural Resources. He was appointed by Governor Pataki to the New York State Recreation and Historic Preservation Commission for the City of New York and the Hudson River Park Trust. In addition, he is a member of the Council on Foreign Relations, a Governor of the Foreign Policy Association, and a frequent lecturer on history and economics at New York University. As a leader in the environmental movement, and for his expertise in foreign policy issues, Mr. Roosevelt is frequently asked to testify before Congressional Committees. He recently served on a Congressional Chartered Committee to evaluate the United States' role in multilateral institutions, and also served on a committee to review U.S. relations with Iran.

He and his wife, Constance, live in Brooklyn Heights, New York.

"Thank you for your welcome and for this chance to visit with you. It is enormous fun to be here...I think.

Well, it would be fun if it weren't for the peculiar stomp, stomp, stomping that I hear overhead. Undoubtedly, TR fulminating in Heaven, pacing as he usually did when he wrote a speech, and now just itching to put his words in my mouth.

Fulmination is probably not a heavenly activity, but I doubt even the lord almighty would want to come between TR and a podium. As Alice Roosevelt once said of her father: 'He wants to be the bride at every wedding and the corpse at every funeral.'

Facing this audience, I'm feeling a little like the corpse at my own funeral: local, regional, and maybe some national environmental groups on the one hand; the members of the Bush Administration and the residents of our gateway communities on the other hand; our overworked, underpaid, and sorely beleaguered National Park Service rangers; maybe some ranchers, and, then, perhaps a few innocent bystanders—or tourists—who might want to duck for cover during the course of this speech.

It always bemuses me that humanity never tires of these events: commemorations of dates on a calendar. We arrive at a certain number on a calendar, a certain distance in time from the original event, and we celebrate.

In reality, this often repeated look back to our origins is a profoundly necessary emotional and intellectual gesture: that of invocation, of calling upon the wisdom of our ancestors in our present day struggles.

In a society where the present and future claim almost all of our attention, this pause to invoke the past restores a sense of continuity, of intergenerational responsibility, pride and most importantly, humility.

Pride because Yellowstone was a revolutionary concept when it was created in 1872. No other nation had ever established a national park. But it took another two decades for Congress to pass the necessary legislation to protect the park from poachers and others who wanted to use it for selfish purposes. Humility because we, as shareholders, are not managing our heritage properly. The chronic underfunding of our national parks is tragic. The cumulative maintenance backlog, depending on what you count, is anywhere between $6–10 billion. A lot of money, on the one hand, but not even petty change in our nation's budget.

How do we find ourselves in this situation? I believe this chronic underfunding of our national parks is part of a larger failure—the lack of an ethical relationship with the land, the duty to which another 'ancestor,' Aldo Leopold, summoned us. And to which this gateway implicitly invites us, even if a 'land ethic' was not yet articulated when it was built.

NPS PHOTO

The crowd gathers in anticipation of the arch centennial celebration, August 25, 2003.

Most commentators on Leopold's land ethic will acknowledge that it obliges us to honor ecological process. I believe, and this is discussed less often, that a land ethic also obliges us to honor the process in the social contract: to ensure that the steps we take toward the goal don't so damage human relationships that we fail to arrive at the goal.

Two commentators, Annie Booth and Winifred Kessler, examined how the spotted owl controversy in the Pacific Northwest might have played itself out if the main actors had been truly informed by Leopold's land ethic. Back in 1998, in an essay they coauthored in the Wildlife Society Bulletin, they wrote: 'Having recognized that complexity is the norm in ecology, professionals would have recognized that this was not a simple biological problem requiring a technical fix. Presumably a full array of social scientists, economists, ecologists, policy scientists, and others would have been enlisted from the start. Those connected to the problem would have been engaged early on to find common grounds and search for alternative solutions…Having received a natural resources education that included humanistic as well as scientific values, leaders would have been more perceptive and empathetic toward the diverse views that comprised the spotted owl dispute.'

The authors of this essay opined that if a land ethic had been truly imbibed by those one presumes to be entrusted with it that maybe the spotted owl controversy might not have happened at all. Yet, in the five years since they wrote that essay, have we managed to avert any of the big controversies? Have we healed any of the rifts caused by the past controversies?

Honoring a land ethic, in my view, should necessarily involve us in a respectful dialogue with the communities who actually live on the land and for whom 'place' is neither an abstraction, a way station, or a career move. A respectful dialogue with rural communities means that we regard them as equal partners, not as colonial vassals.

And, here, we come to the crux of the resource issues that confound us today—or, I should probably say, 'that confront us.'

NPS PHOTO

As protestors from the Buffalo Field Campaign stood on a hill above him, Roosevelt expressed his belief that by embracing the "language of division," we "move farther and farther from a society that embraces a land ethic and is in turn improved by it."

I have begun to wonder if our battles with one another—sometimes characterized as 'cultural warfare'—aren't more about undoing the opposition than achieving positive benefits for the resource or for rural communities.

We have settled into painful and entrenched oppositions in which we now seem to delight: urban versus rural; gateway communities versus national stakeholders; the interior west versus the coasts; the right versus the left; the self-righteous versus the sanctimonious; the Princes of Darkness versus Nature's Anointed Ones.

As we practice the language of division and pressure politics, we begin to believe that economies of truth are true enough and that the end justifies any means whatsoever.

We begin to believe that some of us wear the mantle of protectors—whether of local communities and democracy, or of inviolate nature—while the unclean rest of us are the exploiters. Both sides poison the process: both sides play by the rules that suit them, use tactics and language to inflame their own constituencies, and treat anyone with a different point of view as the enemy.

Then we call our political stalemates by names like 'analysis paralysis'—as though our failures are more about the structure of thought than the exercise of a civic conscience. And we move farther and farther from a society that embraces a land ethic and is in turn improved by it.

And, yet, in the midst of hard-pressed, angry rural communities and sick ecosystems, American citizens are coming together quietly—on the q.t., as it were—to build consensus and forge solutions. They are engaging in the disciplined, unglamorous, unheralded, and arduous work of a democracy.

As Aldo Leopold wrote: 'One of the curious evidences that conservation programs are losing their grip is that they have seldom resorted to self government as a cure for land abuse. We who are "about to die" unless democracy can mend its land use have not tried democracy as a possible answer to our problem.'

So, I would like to pause in my polemic to tell a story about two such Americans who decided to talk instead of demonizing one another. Telling stories, after all, is what we do in Yellowstone. Usually in a circle around a campfire. TR was known for campfire tales and particularly hair-raising ghost stories! And this campfire tale might appeal to him; while it is not a ghost story, it is an east meets west and vice versa story.

A friend of mine—let's call her Jill—is an ardent conservationist, but she freely admits to having very little interest in spending any time actually in nature. Her sister once challenged her to a pack trip into the Bob Marshall Wilderness. Her sister is a good horsewoman; Jill is not. She's a good tango dancer.

Her sister tells me that in the beginning of the trip, their outfitter, Jack Rich, regarded Jill with considerable alarm. The last New Yorker of her type whom he had taken into wilderness apparently had a heart attack and was helicoptered back to civilization, where they soon discovered he actually had an anxiety attack brought on by too much peace and quiet. Nothing rattles a New Yorker quite like peace and quiet.

At the end of her trip into wilderness, Jill said that roads never looked so good, and her next vacation would be in Europe.

So, you can imagine my surprise when she announced last year that she planned on spending her vacation taking a rangeland management course at the University of Wyoming that required she live on a working ranch. I thought she had lost her mind and braced myself for a second Sagebrush Rebellion.

The ranchers in question, Jake and Kate, consider themselves traditional, as opposed to progressive, ranchers. They live where most ranchers do today—between a rock and hard place.

On Jill's first ride out onto the ranch, Jake turned to her to ask: 'Who are you talking to?' Perplexed, she replied: 'The dogs, of course.' Jake shrugged. Most ranchers don't spend a lot of time chatting up their sheep dogs.

The next day, Jake suggested that maybe Jill shouldn't go out on horseback. (We can only wonder why.) He had to get some antibiotics to a cow blinded by an infection, and so he loaded up his own horse and the dogs into the horse trailer, and together with Jill drove out to a hilltop that was in the vicinity of the blinded cow. He left one dog in the cab of the van and told Jill that she could wait up on the hill

and watch through the binoculars. What he didn't tell her was that he was leaving behind the two troublemakers—her and the dog, Bella.

The question the radical center poses for the rest of us is: "How can we develop a land ethic if our people are lost from the land?"

Jill described what she saw through the binoculars in her own peculiar terms. She said it was the perfect tango, where improvisation looks choreographed. Jake lassoed the rear leg of the cow and tied the other end of the rope to his saddle horn. The horse worked calmly. From her vantage point, Jill watched its shoulder muscles straining to pull against the cow's efforts to escape. And then, in Jill's words, 'before I knew it, Jake just flipped that cow over on its side. My gosh, how does anyone DO that?'

When the job was done, Jake seemed to disappear around another part of the hill on another errand. Since everything about ranching seemed to Jill to take a very long time, she expected to wait. She returned to the van, wherein the dog, Bella, was raising a raucous howl. She thought: 'Well, Jake may know a lot about cows, but the poor dog shouldn't be left in that hot van. I'll just let her out, and we can sit in the shade.' Upon her release, Bella paused for a nanosecond to look up at her foolish rescuer. Then, before Jill knew it, the dog was long gone and out of sight.

Jill figured she was in big trouble with Jake.

Sometime later, Jake appeared, riding up the hill. All the dogs, including the gleeful Bella, followed. Jake was laughing. He said: 'What happened? Bella make you think she was in there dying?' Jill said she thought that Bella had taken off for Idaho after her release and was gone for good. Jake explained that Bella could have found him in Idaho if he had gone that far.

In these hopefully somewhat humorous vignettes about Jill and Jake, I've tried to convey the differences between them: their personal geography, their life experiences, competencies, points of view. But there is much those vignettes don't tell you—Jill knew how angry ranchers were before she left on her trip and was actually pale with fear on her last day in the office. Despite that, because Jill believes that the war with the west is serving other purposes than protecting the resource, she wanted to find out the truth for herself, on the ground.

Those vignettes didn't tell you that Jake and Kate had supported wilderness designation on forest service allotments in their neck of the woods in order to, in their words, 'save a real pretty place.' Nor did those vignettes tell you that the same groups who shook hands with Jake and Kate and praised their foresight many years ago eventually grew churlish about the sight of cows in wilderness and pressed the Forest Service to unfortunate and punitive and inaccurate readings of the Congressional Grazing Guidelines as they affected Jake and Kate.

Both sides of this encounter brought trepidation, prejudice, and suspicion to the table. They also brought grit, determination, and a very necessary sense of humor.

Well, eventually, Jill returned to New York. She's still not a horsewoman. As she says, she loves ranchers, but doesn't much like ranches. After her return, she said to me:

'Ranchers have maybe two generations left on the American landscape, if that. They are TR's roughriders. Just as our ecosystems lose if we lose wolves and grizzlies, our nation loses if we lose rural people. What are you prepared to do about it?'

Jill, Kate and Jake had set an example for me that represents the best in the American people. We are, after all, essentially pragmatic and down to earth, with a bias toward action and problem solving, and an inherent respect for differences. In fact, the American people occupy no political position so well, in my opinion, as what some are beginning to call the 'radical center.'

For me, the radical center best models what the practice of a land ethic might mean on the ground and in our culture.

In order to learn about the radical center, I have spoken with the members of The Quivira Coalition in the Southwest, who include Bill McDonald, a rancher with the Malpai Borderlands Group; with ranchers such as the O'Keefe family and the Hatfields in the Northwest; and, of course, I continue to read Dan Kemmis's books and submit to his tutelage. I have talked to many many more people than these—our culture is rich in practioners of this unacknowledged new political movement. All in all, I can say that I find their decency, thoughtfulness, and commitment staggering and inspiring.

I also admire the willingness of the members of the American Wildlife Conservation Partners, who hold widely divergent views, to meet and find common ground. Or, right here, the Greater Yellowstone Coalition. While these groups do not sign onto the radical center ideas, that I know of, they work toward similar goals.

The radical center is committed to the idea that 'keeping people on the landscape is crucial to the health of that landscape and that the status quo is unacceptable.' As one rancher, Karl Ohs, put it: 'Collaboration is a sensitive process. You can't ram it down people's throats. But when it's done well, there's a trust that develops that's good for all society.' And another rancher, Doc Hatfield, put it this way: 'Consensus building is not kind and gentle. Consensus is agreeing not to agree on a lot of things, but working together on the things you can agree on.' And then, a forester describes the lack of funding for collaborative endeavors: 'There's more money for spear-throwers than peacemakers. There is a conflict industry out there, which seems to be well-served by deadlock.'

The question the radical center poses for the rest of us is: 'How can we develop a land ethic if our people are lost from the land?'

Well, let me finally answer the question that this speech seems to beg and that

is on everyone's mind. What do I think about snowmobiles in Yellowstone? Ridiculous that it all comes down to this, but this is where we find ourselves.

I heartily dislike snowmobiles in Yellowstone. But even more than I dislike snowmobiles in Yellowstone, I dislike the way we got to this point and where we are going. We have all laid the groundwork in divisiveness for more divisiveness to follow.

What do I think should have happened?

Instead of millions of dollars in American charitable donations to environmental groups spent in the courts or in public relations campaigns that utilize nothing so much as the language of division, I think it would have been far better to look at how that money might have been used to build sustainable economies and good will in the gateway communities which are so essential to the parks. For instance, perhaps it is possible to endow positions in Yellowstone that the current Superintendent, Suzanne Lewis, thinks would be useful in preventing another controversy like this one. Positions such as a full time economist for Yellowstone who could translate macro trends into trends for the park and the surrounding communities; a community outreach person in the interpretation area; and a conflict facilitator. Environmental groups could also invest green, in order to ensure that the proper incentives for industry to do the right thing are actually in the marketplace. In addition, they and their funders could look into securing low interest loans so that the communities could make the weighty investments in snow coaches, an investment they should only make if they have assurances that snow coaches won't be litigated off the park.

Instead of millions of dollars in shareholder earnings spent in litigation, the snowmobile industry could get off its collective rear end and get the next generation of snowmobiles, those beyond the current 4-stroke, off the drawing boards. They could embrace their civic obligation to honor the spirit of our national parks and not just make a buck off them. In doing so they might find that the triple bottom line—the social, environmental and economic bottom lines—yields them an edge in the market place. After all, less pollution and noise would be good for all of our public and private lands, and public relations is as much a part of business as capital investment.

The Bush Administration could finally understand that, no, where our national parks are concerned, it is not 'in the tourism business;' our national parks are not amusement rides.

Our parks carry meaning in law, in history, and in the hearts of the American public that far exceeds this year's vacation. The Secretary of the Interior is, or should be, the defender of that public trust.

This Administration would realize that as tempting as it is to play to the often-legitimate grievances of the west against environmental organizations, its current policies are doing nothing so much as prepare the next backlash against fragile communities. The Administration would realize that it is in those communities' best interests to translate the experiences of the west into the language of the east, and vice versa; to foster an understanding between regions so that we might authentically undertake restoring rural communities and failing ecosystems.

The American people could understand that the empty places in our hearts and lives are not filled by more mania, more activity, and more consumption. That we have obligations to one another and to the natural world to be less heedless and more observant, to be less willing to follow and more willing to lead, to give up the ease of rancor and blame and take up the difficulties of listening and learning.

And both sides—environmental and conservative—need to turn from the language of division, which is in essence propaganda. Propaganda has never brought the human race anything more than sorrow. As Aldo Leopold wrote, 'instead of building roads into lovely country, we need to build receptivity into the still unlovely human mind.'

This is a splendid gate, a splendid arch. But, when all is said and done, it is like those numbers on the calendar that we like to celebrate, meaningless in itself until we bring meaning to it. Throughout many cultures, crossroads and gateways signal us to pause: they are the place where we gather up our one more chance for rectification: rectification with our community, our culture, with our ancestors, and our god.

In terms of our use of the natural world, I believe that we enter into a covenant not only with God, our nation, and our neighbors, but with future generations—what Theodore Roosevelt described as "the number within the womb of time, compared to which those now alive form but an insignificant fraction."

The environmental community is very fond of the word stewardship. But I have a problem with it. It seems to leave us alone with our responsibilities, to shoulder them as best we can and at whatever personal cost. I would like to resurrect a concept, standing here before this gateway, from the Old Testament—covenant. Covenant conveys a sense of mutuality, that we have mutual obligations to one another.

In terms of our use of the natural world, I believe that we enter into a covenant not only with God, our nation, and our neighbors, but with future generations—what Theodore Roosevelt described as 'the number within the womb of time, compared to which those now alive form but an insignificant fraction.' I believe that the American people, who are so blessed with the bounty of this land, can find the good will and good sense to honor that covenant."

Seventh Biennial Scientific Conference Sets Attendance Record

by Alice Wondrak Biel

On October 6–8, the park hosted the Seventh Biennial Scientific Conference on the Greater Yellowstone Ecosystem. This year's theme was *Beyond the Arch: Community and Conservation in Greater Yellowstone and East Africa.* The conference, which included a world-class slate of keynote speakers, including Dr. Richard Leakey, surpassed all previous Biennial Conferences in attendance, with 188 pre-registered participants and attendees, and several walk-up registrants.

Paper and panel presentations included discussions of local ranchland dynamics (i.e., social, economic, and land use change); national policy and the rights of local peoples; conservation trends in both East Africa and the GYE; environmental perception and imagery; comparative ecosystem analyses; and the sometime collision of conservation efforts and cultural agendas.

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Samson Lenjirr, of Kenya's Narok Council, spoke in a session on African Conservation Trends.

Jeanette Wolfley, Shoshone-Bannock Tribes, and Drusilla Gould, Idaho State University, were part of a panel on conservation agendas and indigenous peoples.

The primary theme that emerged from the roughly 30 papers and seven keynote lectures presented was the question of whether conservation efforts are most effectively directed from the national or local scale. A variety of opinions and reasons were expressed throughout the three days, sometimes leading to heated debate. Overall, the assembled group seemed to generally conclude that national-scale conservation works best in some situations, and should be maintained as such, while community-based conservation efforts are most appropriate in other situations. Improved collaboration between national and local efforts was widely advocated.

The conference attracted speakers and attendees from across the U.S., and from Africa as well. Other keynote speakers included Drs. Dan Flores, A. B. Hammond Professor of History at the University of Montana, who delivered the Aubrey Haines lecture, "What We've Learned About Nature from the National Park Idea"; A.R.E. Sinclair, professor of zoology and Director of the Centre for Biodiversity Research at the University of British Columbia, who delivered the Superintendent's International lecture, "Understanding Ecosystem Processes for Conservation and Management"; Charles Preston, Founding Curator of the Draper Museum of Natural History; Lee Talbot, Professor of Environmental Science, International Affairs, and Public Policy at George Mason University; Steven Sanderson, President and CEO of the Wildlife Conservation Society; and Robin Reid, systems ecologist

Dr. Doug Smith receives the 2002 NPS Director's Award for Natural Resource Management. From left, Smith, Dr. Lee Talbot, and John Varley.

Dan Flores, A.B. Hammond Professor of History at the University of Montana, presented the Aubrey Haines Lecture.

for the International Livestock Research Institute.

On October 7, John Varley and Dr. Talbot, who was a co-author of the Endangered Species Act, formally presented Doug Smith with the 2002 NPS Director's Award for Natural Resource Management. Doug won the award last spring, but it had yet to be given to him, and the conference's A. Starker Leopold Banquet seemed an apropos venue. The award presentation was followed by the A. Starker Leopold lecture, delivered this year by Dr. Richard Leakey, who spoke about his experiences in both conservation efforts and the dangerous business of oppositional politics in Kenya.

A conference proceedings will be published. In the meantime, more conference wrap-up information and photos will soon be available at www.nps.gov/yell/technical/conference.htm.

Beyond the Arch

Dappled in the autumn sun, the conference's seven keynote speakers are pictured here with Yellowstone Center for Resources Director John Varley. From left, Drs. Lee Talbot, George Mason University; Robin Reid, International Livestock Research Institute; Steven Sanderson, Wildlife Conservation Society; Dan Flores, University of Montana; Charles Preston, Draper Museum of Natural History; (John Varley); A.R.E. Sinclair, University of British Columbia; and Richard Leakey, of Nairobi, Kenya.

NEWS & notes

Mardy Murie Passes Away

The wilderness and conservation communities lost one of their most eloquent and passionate pioneers on October 19, with the death of Mardy Murie at her ranch in Moose, Wyoming. She was 101. In the Fall 2002 issue of *Yellowstone Science* (volume 10[4]), Margaret Elizabeth Thomas was born in Seattle in 1902, but spent her childhood in Fairbanks, Alaska. In 1924, she was the first woman to graduate from the University of Alaska. Her marriage to Olaus Murie in 1924 began a lifetime of travel, scientific research, and involvement in conservation activities. Mardy and Olaus had three children, Martin, Joanne, and Don. Mardy was the author of several books, including *Two in the Far North* and *Wapiti Wilderness.* She played a key role in the the designation of the Arctic National Wildlife Refuge (1960) and the passage of the the Wilderness Act (1964) and Alaska National Interest Lands Conservation Act (1980). She served on the Council of the Wilderness Society, received an Honorary Doctorate from the University of Alaska, the prestigious Audubon Medal, and was an Honorary Park Ranger. She was on the founding board of the Teton Science School. In 1998, Mardy was awarded the Presidential Medal of Freedom, which President Bill Clinton bestowed on her for her lifetime of service to conservation. Her most recent accolade came at her 100th birthday celebration, when Mardy was awarded the National Wildlife Federation's highest honor, the 2002 J.N. Ding Darling Conservationist of the Year Award.

Mardy Murie.

To honor her life, The Murie Center will host a special event, "Celebrating the Life of Mardy Murie," on Saturday, November 15, 2003, at the Snow King Resort, Jackson, Wyoming. The tribute will begin at 5 p.m., followed by a light supper, cookie swap (in honor of Mardy's long tradition of "tea & cookies," all are invited to bring two dozen cookies-one dozen to share and one dozen to swap), and music and dancing. All ages are invited; interested parties can call 307-739-2246 for more information. For those unable to attend, a tribute to Mardy's life and work will also take place at the Murie Symposium, August 13-16, 2004 at the Murie Ranch in Moose.

Most of Norris Geyser Basin Reopens to Public

On October 9, 2003, portions of Norris Geyser Basin that had been closed since July 23, 2003, reopened to the public. Approximately 4,800 feet of the 5,800-foot temporary closure were reopened, with only the portion of the Back Basin trail from Green Dragon Spring to Porkchop Geyser intersection remaining closed.

Each year, there is a noticeable change in the color and steam discharge of many of Norris's existing geysers and thermal pools. Known as the "annual disturbance," it appears related to increased emission of deep, hot waters. This year's "annual disturbance" significantly increased measured ground temperatures to unacceptable levels (up to 200° Fahrenheit). Concern for visitor and employee safety necessitated the temporary closure. Over the last several weeks, monitored trail temperatures have significantly decreased in the closed area. Three of the four temperature monitoring sites now indicate ground surface temperatures of less than 120° Fahrenheit.

During this year's annual disturbance, a new thermal feature emerged near Son of Green Dragon Spring, emitting a mudflow that began spattering boiling, acidic mud onto the trail, requiring the trail closure. This feature continues to spatter mud onto the trail, and the area surrounding the new feature will remain closed until a reroute of the trail can be accomplished sometime in spring 2004.

2002 YCR Annual Report Available

The Yellowstone Center for Resources Annual Report for 2002 is now available from the YCR Publications Office. Contact Alice Wondrak Biel at 307-344-2233 or alice_wondrak_biel@nps.gov to obtain a copy.

Two Wyoming Men Charged with Poaching Elk

On October 3, 2003, two men from northwestern Wyoming were cited into federal court for illegally shooting and killing three bull elk in a remote area

inside Yellowstone's eastern boundary. Multiple items, including rifles, handguns, motor vehicles, trailers, stock and optical equipment were seized from the suspects after they abandoned the carcasses and attempted to leave the area. The investigation is continuing with assistance from the U.S. Fish and Wildlife Service and the Wyoming Department of Game and Fish. Multiple additional charges are anticipated.

Resource Damage at Lone Star Geyser

Considerable resource damage has been done to Lone Star Geyser and the surrounding area after two men illegally entered the area by vehicle and drove around the geyser and surrounding meadows. On Friday evening, October 10, 2003, Adam Ray Elford, 22 years old, of Vancouver, Washington, drove his 2000 4WD Toyota Tacoma around the locked barricade at the parking area and proceeded down the trail to the end of the asphalt. He and his companion then moved the log barrier and drove completely around the cone of the geyser and surrounding meadows until the vehicle became stuck in the soft soil. Once stuck, they set up camp near the geyser, started a fire, and stayed the night.

On the following morning, they walked to Old Faithful where they found an unidentified couple in the Old Faithful parking lot who agreed to help them. The couple drove Elford and his companion back to the Lone Star Geyser area, but after realizing the gravity of the situation, they refused to help and returned them to Old Faithful. Elford and his companion then went to the Old Faithful Ranger Station to report the incident.

Park rangers immediately returned to Lone Star Geyser with Elford and his friend. Once rangers investigated the scene and made preliminary evaluations of the damage, Elford was taken into custody and transported to the jail in West Yellowstone, Montana. His companion was not arrested but was cited for his part in the damage to park resources.

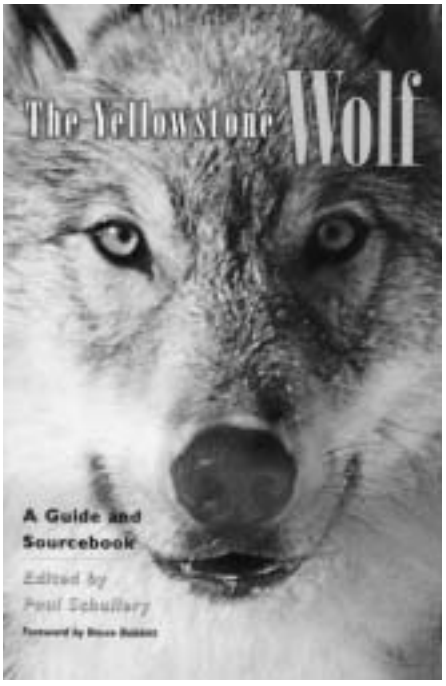
Tire tracks from Lonestar Geyser across thermal channel into wetlands.

Elford made his initial appearance before the U.S. Magistrate Judge Stephen Cole on October 13, 2003, and was charged with operating a vehicle off road; injuring mineral resources; possession of a loaded firearm in a motor vehicle; improper food storage; and operating a motor vehicle with a suspended driver's license. Judge Cole released Elford on a $5,000 Unsecured Bond. His companion's name will be released after he has made his initial court appearance sometime in the near future.

The park is currently assessing the resource damage done by the two individuals, which appears to be significant. Tire tracks are clearly visible (see photo) around the geyser and throughout the meadows near the geyser. On behalf of the National Park Service, the U.S. Attorney's Office in Cheyenne, Wyoming, will seek full restitution from the two individuals for all restoration costs.

***Yellowstone Wolf* Reprinted in Paper**

The Yellowstone Wolf: A Guide and Sourcebook, edited by Paul Schullery and with a foreword by former Secretary of the Interior Bruce Babbitt, has been reprinted in paperback by the University of Oklahoma Press. Originally published by the Yellowstone Association, the book is a comprehensive history of the Yellowstone wolf restoration effort, tracing the story of wolves in the park from the days of primitive wilderness, through the wolf eradication period, and on to restoration and re-establishment. The book features a new afterword briefly discussing the effects of the restoration on both wildlife and human populations. All proceeds benefit the Yellowstone Wolf Project.



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