

Yellowstone Center *for* Resources



2005 Annual Report

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(October 1, 2004, to December 31, 2005)

Yellowstone Center for Resources
National Park Service
Yellowstone National Park, Wyoming

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Photographs not otherwise marked are courtesy of the National Park Service.

Cover photos: *center*, spider web (NPS); *clockwise from top*, Swan Lake wolf #295M (by Bill Campbell); a researcher sampling at Angel Terrace (NPS); Nez Perce Tribe members after a ceremony (NPS); *Antennaria monocephala* CD. (by Jennifer Whipple); a yellow bus in front of the Heritage and Research Center (NPS).

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Introduction

Yellowstone's unique geological and biological resources inspired its creation as the world's first national park in 1872. The National Park Service (NPS) is legally responsible for preserving, unimpaired, the park's natural and cultural resources and values for the enjoyment, education, and inspiration of this and future generations. The Yellowstone Center for Resources works to fulfill these responsibilities for the resources we are mandated to manage and protect by providing outreach, contributing to literature, promoting interpretation, and striving to learn more about them. This report covers calendar year 2005, and also the period October 1 through December 31, 2004.

This year marked the opening of the Heritage and Research Center to the public, the initiation of a large-scale wolverine study, the discovery of a genetically pure population of westslope cutthroat trout in the park, and the first stage of development for a Greater Yellowstone Science Learning Center website. Also in 2005, the U.S. Fish and Wildlife Service proposed to remove grizzly bears in the Greater Yellowstone Ecosystem from the list of threatened species. The bison population summer count was estimated to be 4,900 animals, and an independent study of bison ecology and movements concluded that winter road grooming is not the major factor influencing bison distribution and range expansion. The northern Yellowstone elk population, which has decreased substantially over the past decade, numbered 9,545 in 2005. At the tenth anniversary of wolf restoration to the park, wolves numbered 118, showing the largest annual population decline since restoration began, due to poor pup survival caused by disease.

Highlights of the year included the Eighth Biennial Scientific Conference on the Greater Yellowstone Ecosystem, *Greater Yellowstone Public Lands: A Century of Discovery, Hard Lessons, and Bright Prospects*, which broke all previous conference attendance records and featured keynote speakers including U.S. Forest Service Chief Dale Bosworth and former NPS Intermountain Region Director Karen Wade. The Ethnography Program hosted a cross-cultural exchange with members of the Crow Tribe that allowed participants an opportunity to reconnect with their heritage. A workshop on arid lands reclamation was convened to discuss and recommend strategies for reclamation and long-term management of the Gardiner Basin area on both park and U.S. Forest Service lands which are dominated by exotic vegetation introduced by past homesteading, railroad, and gravel mining activities. Steamboat Geyser erupted again in 2005.

YCR's partnerships and agreements with other federal and state agencies, academia, and public organizations continued to be critical to our successes in stewardship. The YCR also benefitted from the hard work of many volunteers, one of whom, archeology volunteer John Reynolds, was selected as the Intermountain Region's 2005 representative for the national George B. Hartzog, Jr., Award for Outstanding Volunteer Service. The Historic Structures Program was again assisted by the Tauck Guest Volunteer Program, which received the Department of the Interior's "Take Pride in America" award in the corporate sponsorship category. Research Permit Office (RPO) staff authorized 221 research permits to investigators from across the U.S. and foreign countries, highlighting the park's value as a scientific laboratory as well as a pleasuring ground.

For more information about specific topics of interest, readers may contact us at (307) 344-2203, visit the park's web site at www.nps.gov/yell, or visit the Greater Yellowstone Science Learning Center website at www.greateryellowstonescience.org.



Tom Olliff
Chief, Yellowstone Center for Resources

PART I.

Cultural Resource Programs

The Branch of Cultural Resources helps preserve and increase knowledge of Yellowstone's resources in these areas:

- Archeology
- Archives, Library, and Museum Collections
- Ethnography
- Historic Road Rehabilitation
- Historic Structures
- Yellowstone History



Former park ranger Bob Murphy shares buffalo stories at the Research Library.

Archeology

Yellowstone's archeology is critical to understanding the precontact and historical record of the greater Yellowstone area. By studying the types of stone that were used and discarded, staff can track the early human residents as they lived and traveled in the park and beyond it. Although less than 2% of the park has been adequately inventoried, 1,204 sites have been documented into the Archeological Sites Management Information System (ASMIS). These sites demonstrate that people have been using the area's natural resources for some 12,000 years.

Some raw materials in the form of tools were brought into the park and left here; other tools manufactured from stone were found in the park and left with people traveling on seasonal routes. The most significant of many sources of tool stone in the park, Obsidian Cliff, provided unlimited quantities of raw materials and was used both by family parties traveling through the park during the warmer months and by work parties who came specifically to replenish their obsidian supply and returned to live outside the park.

Information obtained from historical archeology supplements the written records of the U.S. Army, early National Park Service, and park concessions development. Because the intensity of use varies through time as environmental conditions become more or less favorable, the archeological sites and their contents also provide a means for interdisciplinary investigations of past climate and biotic change.

Yellowstone's archeology program inventories, evaluates, interprets, and protects the precontact and historic archeological information, artifacts, and resources of the park. Staff work with other park divisions, the public, and volunteers to protect archeological sites and to increase understanding of and appreciation for the park's rich archeological record. Staff also strive to mentor, coordinate, and encourage other archeology programs in the Rocky Mountain Cluster parks.

2005 Highlights

During 2005, staff inventoried approximately 35 miles of Yellowstone Lake shoreline, adjacent terraces, and portions of the Promontory, resulting in the documentation of 100 new precontact sites. As part of ongoing assessment efforts, staff revisited 400 documented sites to obtain information about their current condition. The summer archeological staff was the largest the park has ever had, with one seasonal employee, one student intern (funded by the Yellowstone Park Foundation), and two volunteers helping the park's two full-time archeologists.

Yellowstone's senior archeologist, Ann Johnson, serves as Archeological Coordinator for the 15 national parks in the Rocky Mountain Cluster, Intermountain Region of the National Park Service. In this capacity she helped these parks prepare their contributions for the draft condition assessment plan that the region submitted to Washington, D.C.

Inventory of Yellowstone Lakeshore

In 2005, with funding provided by the William H. Donner Foundation to the Yellowstone Park Foundation, staff began a pedestrian inventory of the shoreline from West Thumb to Trail Creek that is expected to be completed in 2006. During the 2005 field season, staff documented 106 new precontact sites along the beach and the immediately adjacent terraces. Staff also revisited five previously known sites, including 48YE252, which continues to erode and expose many tools. The richest site that has been identified on the south lakeshore, it has been named after the Donner Foundation. The primary use of this site occurred between A.D. 200 and ca. 4000 B.C.

The first evidence of Lusk use of the park was found in an isolated Lusk point and an apparent Lusk campsite. Lusk is a Paleoindian culture that elsewhere dates between 7500–8000 B.C. and is one of a group of cultural complexes of the same general period that display similar technology (parallel diagonal flaking) on the points. The Lusk Complex is poorly understood and rarely identified, and an intact site would help increase understanding of this group in the western U.S. and Canada.

Inventory on the Promontory

The crew working on the shoreline inventory also carried out a small inventory of the Promontory that was funded by Yellowstone. A well preserved hunting blind (probably for deer) was identified that is a unique site type and structure among the sites so far recorded in the park.



Remains of hunting blind identified on the Promontory. Photo by Brian Vivian.

Excavations at 2,200-Year-Old Campsite

When important archeological sites cannot be avoided during reconstruction of the park's roads, excavations are undertaken to recover the archeological data that would otherwise be lost. A National Register-eligible, Pelican Lake culture campsite with buried components and an association with the procurement of obsidian by various peoples during precontact times is located in a thermally active area south of Obsidian Cliff through which the Grand Loop Road passes. As plans began for reconstruction of this road section, Yellowstone and the Wyoming State Historical Preservation Office reached an agreement to excavate those portions of a 2,200-year-old site where geophysical and shovel tests conducted in 2004 indicated that cultural material was buried.

The Park Service rarely has the opportunity to excavate buried precontact campsites associated with Obsidian Cliff, and this was the first excavation of a buried precontact campsite on thermally active ground. It was also the first excavation of a lithic workshop area associated with Obsidian Cliff that yielded grey obsidian in a variety of forms (naturally grey and patinated grey) and associated with two sources, Obsidian Cliff (160,000 years old) and the Huckleberry Ridge Tuff (1.8 million years old).

Some artifacts and artifact types (several large flakes with a notch, the reduction of small cobbles, and high quality knapping debris located near poorly produced flake debris) from the lithic workshop suggest people were teaching their young how to make stone tools, possibly a small family group, not a specialized group of hunters. They used large and small water-worked cobbles as well as obsidian with little cortex excavated from the cliff, making statistical analysis of the flaked debris an interesting challenge. Domestic activities rather than a hunting camp were also indicated by the buried hearth, the large quantity of fire-cracked rock, many scraping tools (large and small, and exotic in size and form, mainly obsidian but also some chert and quartzite materials), and the number of large, transportable bifacially flaked tools compared to the small number of projectile points. Most of these tools were diagnostic to the Pelican Lake morphological type. Perhaps Yellowstone has always been a family park, with this excavation revealing over 2,000 years of cultural continuity within the thermal landscape.

Condition Assessments

Yellowstone is participating in a servicewide effort to document the current condition of all known archeological sites and include information about all documented sites in ASMIS. During the summer of 2005 staff assessed and photographed 400 documented sites, and entered the information into the ASMIS database. Staff could not have gotten to this large number of sites without dedicated summer personnel and volunteers.

Hazard Fuel Reduction

To prevent inadvertent damage to archeological resources, the archeology staff works with the fire cache to complete site inventories near developed areas where wildland-urban interface hazard fuel reduction projects are planned. In 2005, 14 acres were inventoried for this purpose in the Norris Developed Area (Johnson 2005).

Volunteer Support

Three volunteers greatly aided the archeology program: Mary Meagher (Cinnabar Basin, Montana) was active in the field condition assessments; Diane Hargreaves (Bozeman, Montana) cataloged artifacts and entered them into the NPS Re-discovery program; and John Reynolds (Virginia) worked in the lab when not helping with field condition assessments and site documentation. John was chosen as the Intermountain Region's 2005 representative for the national George B. Hartzog, Jr., Award for Outstanding Volunteer Service.



Superintendent Suzanne Lewis presents volunteer John Reynolds with his Intermountain Region award.

Archives, Library, and Museum Collections

Yellowstone National Park's archives, library, and museum collections comprise more than 5.3 million items that document the cultural and natural history of the park, making them the second largest group of collections in the National Park Service. They include some of the first photographs taken of the park by William Henry Jackson; Thomas Moran's original field sketches from the 1871 Hayden Expedition; one of the most comprehensive collections of post-cards, souvenirs, and ephemera of Yellowstone; and a rare book collection. The archives collection consists of nearly 3,000 linear feet of historic records that document the history of Yellowstone since its establishment in 1872.

The goal of the archives and museum program is to properly preserve and document the park's cultural and natural history collections, and to make them available to as wide an audience as possible through on-site research, the Internet, facility tours, and temporary exhibits. The archival collection is one of nine affiliates of the National Archives and Records Administration (NARA), and the only one located in a national park.

The primary objectives of the Yellowstone Research Library are to document the history of Yellowstone National Park by preserving all relevant books and papers and to select, organize, and make accessible books and related materials that will assist park staff in the performance of their duties. The library also makes its resources available to the public; independent researchers; students; concessions employees; the local community in Gardiner, Montana; residents of the state of Wyoming; and park visitors through the Wyoming Library Database (WYLD) of the Wyoming Library Consortium.

Opening of Heritage and Research Center

With the opening of the Heritage and Research Center (HRC) this year, the collections now meet the standards for care, storage, and use required by the NPS and under a 1978 Memorandum of Agreement between NARA and the park, which grants the park custody of its archival records. The 32,000-square-foot facilities provide a 500% increase in the office, researcher, processing, and storage spaces of the

archives and library, and a 700% increase in those spaces relating to the museum collection. In addition to making the park's collections much more accessible, the new facilities have vastly improved environmental controls, security systems, and custom storage units.

Staff worked to prepare the HRC spaces for researchers and accommodated many park staff and contract researchers prior to the official opening on May 18. On that day, a community open house drew more than 500 visitors, all storage areas and researcher rooms were opened, and visitors were able to tour the HRC and view collections not normally on display. Several hundred visitors attended a second open house on August 25.

The park received almost \$300,000 in special projects funding for the design and installation of two large high-density mobile storage units in the museum storage room, and a five-carriage addition to the mobile unit in archives storage. These storage units provide state-of-the-art specimen and art cabinets, art racks, rolled textile storage, and visual storage cabinets for natural history specimens. This

special funding also provided storage units to properly house large scrapbooks and rare books.

New Internships

In 2005, staff established partnerships with Stanford University's Bill Lane Center for the Study of the North American West and with Montana State University's (MSU) Department of History and Philosophy to provide internships that would allow students to learn about curation and archives management while assisting the program in completing much needed work. With training provided by Tasha Felton, the six interns (two from Stanford and four from MSU) assisted park staff with cataloging 2,268 objects as well as exhibit design and fabrication, including the HRC's first temporary exhibit, which showcased the Susan and Jack Davis Collection. The interns also helped out at the HRC reception desk, answering visitor questions about the facility, interpreting the temporary exhibit, assisting researchers, checking IDs, and signing in visitors. The interns staffed the reception desk about 50% of the time, volunteers 10%, and HRC personnel 40%.



The Heritage and Research Center lobby during the grand opening, May 2005.

Collection Conservation

Through the Yellowstone Park Foundation, the Mercer Endowment provided funding for two conservators from Harpers Ferry Center to spend two weeks in the park this summer assessing the condition of the park's furniture and paper collections. Al Levitan examined almost all of the 300 items in the furniture collection, including those still in use in the park's hotels. Nancy Purinton examined works on paper, rare books, and oversized maps and blueprints. To help ensure that the pieces most at risk receive the proper conservation treatment with minimal loss of historic fabric, the conservators' reports included recommendations on treatment proposals for the more at-risk items and storage improvement.

Funding from the Yellowstone Association enabled the park to have James Everett Stuart's oil painting, "Constant Geyser," conserved by the Western Center for the Conservation of Fine Arts.

Assisting Researchers

Archives and museum staff handled research requests from 460 researchers since opening in May 2005, and the Yellowstone Research Library assisted 881 patrons. Included in this number were requests from many private individuals, organizations such as the White House Historical Society, and commercial enterprises including the Walt Disney Company, Yellowstone concessioners, and news and entertainment media. Accommodating Ken Burns's Florentine Films took the most staff time, approximately 120 hours, as staff provided almost 600 historic images in digital format for an upcoming documentary on the National Park Service.

Save America's Treasures Project

Save America's Treasures is a national effort to protect the nation's threatened cultural assets, including historic structures, collections, works of art, maps, and journals that document United States history and culture. Through a Cooperative Ecosystem Studies Unit agreement, students from the University of Colorado worked with Yellowstone and Xanterra staff to preserve, catalog, digitize, and re-house more than 5,000 drawings and blueprints that document the planning, construction, and renovation of park hotels, lodges, campgrounds, and restaurants, and

provide a visual history of concessions development in the park. The work was completed in two consecutive summer sessions with financial support provided by Canon U.S.A. and the Mercer Endowment (through the Yellowstone Park Foundation).

Digitization of Audiotapes and Films

The archives include 72 audiotapes in reel-to-reel format that contain interviews with former park employees and longtime local residents that were inaccessible because of the equipment needed to play them. So that these tapes will be readily accessible to researchers at the HRC, the Cutting Corporation created CD disc masters and access copies of each tape. Likewise, the archives and research library collections include many films in 16-mm format that have historical footage of wildlife, thermal features, and ranger activities. Another vendor, Scene Savers, provided digital Beta masters and DVD access copies of 15 films from the archives and 15 from the research library.

Research Library

With the installation of Workflows Database Software and the implementation of scannable library cards, the library's circulation system became fully automated in 2005. Patrons who wish to check out books are issued a library card and books are scanned to their account. Registered users can also request interlibrary loans from their own computers and are notified by e-mail when the material has arrived at the Research Library. Overdue notices are issued automatically through e-mail. In addition to tracking how many and which books have been checked out, the software enables staff to track which books are being used in the library; patrons are therefore asked to leave books they have taken off the shelf on a cart so that their bar codes can be scanned.

The Research Library circulation policy was revised to enable Yellowstone Association members as well as NPS employees in Yellowstone to borrow items from the collection.

Shaffner's Bindery in Missoula, Montana, bound 171 theses and journals for the library collection and created 32 clamshell boxes for storage and preservation of rare books.

Accessions

Museum. Among the museum's 88 acquisitions in 2005 were 67 wolf skulls, including those from wolves that were relocated to the park from Canada in 1995 and 1996, a 1910 Estey Reed organ that had been given to the Mammoth Chapel by the Woman's Army & Navy League, approximately 1,000 original printing blocks (ca. 1920s–1930s) from the Haynes Picture Shops, and a rare lantern slide from the 1920s showing the Wylie Camp at Swan Lake Flats.

Archives. In addition to the thousands of blueprints and drawings of park concessioner buildings, the archives also received an important collection of Horace Albright materials from his daughter, Marian Albright Schenck.

Library. More than 400 books and other items obtained through purchase or donation were accessioned into the library collection. Many of the books were part of the Susan and Jack Davis Collection and a significant number were donated by the Bob Jonas estate.

Assistance to Other Divisions and Parks

Archives and museum staff assisted the Division of Planning, Compliance, and Landscape Architecture by meeting with Shapins and Associates, the contractors working on the Lake Cultural Landscape Inventory, assisting with research in the archives and historic photograph collection, and providing digital images of selected photographs.

Museum staff provided historic photographs for the Division of Interpretation in planning numerous wayside exhibits and assisted with the removal and transport of two large dioramas from the Fishing Bridge Museum to the HRC. Staff also participated in exhibit and security planning meetings for the new Old Faithful Visitor Education Center.

Staff provided advice to Chaco Culture National Historical Park's curatorial staff on moving their collection, surplus acid-free packing supplies for Grand Teton National Park and Arlington House (the Robert E. Lee Memorial), and hands-on assistance to Grand Teton in packing and moving items from the Vernon Collection of Native American Artifacts at the Colter Bay Visitor Center.



Visitors looking at rare books displayed in the Research Library during the HRC grand opening, May 2005.

Nine works of art from the park's collection are on loan to the "Drawn to Yellowstone: Artists in America's First National Park" exhibit, which opened at the Autry National Center in Los Angeles, California, in 2004 and has traveled to the Buffalo Bill Historical Center in Cody, Wyoming, and the Northwest Museum of Arts and Crafts in Spokane, Washington. It will be at the Museum of the Rockies during spring and summer 2006. Staff also arranged for the loan of eight of Thomas Moran's original field sketches from the 1871 Hayden Expedition to the Washington County Museum of Fine Arts in Hagerstown, Maryland, for an exhibit entitled "The Moran Family of Artists" during summer 2005.

Ethnography Program

The goals of the Ethnography Program are to develop the programs, guidelines, and information needed to help management identify and protect culturally significant resources of peoples traditionally associated with the park, and to support relationships between the park and the peoples whose customary ways of life affect, and are affected by, Yellowstone's resource management activities.

Consultation Meeting with Tribes

Eight representatives from five of the park's associated tribes (Cheyenne River Sioux, Kiowa of Oklahoma, Oglala Sioux, Sisseton-Wahpeton Sioux, and Shoshone-Bannock) and four representatives of

the InterTribal Bison Cooperative (ITBC) attended the government-to-government consultation held in Mammoth Hot Springs on May 19. Yellowstone National Park was represented by deputy superintendent Frank Walker as well as staff from the Public Affairs Office and law enforcement, and YCR wildlife biologists and cultural resources personnel. Other participants included Chief Ranger Andy Fisher from Grand Teton National Park and Robert Grosvenor and Patrick Hoppe from Gallatin National Forest. Following the meeting, a community potluck sponsored by Bear Creek Council and the NPS was held at the Gardiner Community Center in the tribes' honor. More than 100 people attended including students from De La Salle Blackfeet High School in Browning, Montana.

Issues discussed included a history and review of the Interagency Bison Management Plan (IBMP), bison management in the field, the park's relationship with the governors of Montana and Wyoming, science-based bison management, the history and role of the ITBC, and management of bison and elk at the National Elk Refuge and Grand Teton. During the meeting, tribal representatives commended Yellowstone staff for their hard work and dedication to the resource, but continued to voice frustration about the IBMP test and slaughter program.

Ethnographic Research and Management

Nez Perce (Nee-Mee-Poo) Trail. Continuing work with the Division of Interpretation to develop media for the Yellowstone segment of this National Historic Trail, staff applied for a grant to host a meeting of tribal representatives and scholars to identify interpretive themes. With funding awarded to the Yellowstone Park Foundation by the National Endowment for the Humanities in August 2005, staff were able to invite historians, anthropologists, and representatives from the Nez Perce, the Joseph Band of the Confederated Tribes of the Colville Indian Reservation, and the Confederated Tribes of the Umatilla Indian Reservation to a meeting scheduled for April

2006. The goal is to provide a historical context for the 1877 trek through the park that reflects both scholarly perspectives and those of Nez Perce descendants.

Late Prehistoric Human Remains Documented.

The Native American Graves Protection and Repatriation Act (NAGPRA) requires a federal agency in possession of American Indian human remains to determine, if possible, their cultural affiliation or relationship with a contemporary tribe. YNP has three sets of human remains that were disinterred from the Fishing Bridge area during construction projects in the 1940s and 1950s. The preponderance of evidence obtained using the techniques of archeology, physical anthropology, historical documentation, and consultation with tribes indicates that these are the remains of Late Prehistoric ancestors of the Eastern Shoshone and the Shoshone-Bannock tribes. At Yellowstone, the Late Prehistoric Period ranges from 400 A.D. to approximately 1803, when the Lewis and Clark expedition arrived in the region. The Federal Register notice that announced this decision and provides additional details regarding the evidence used is available upon request. The tribes have requested that the remains be re-interred near where they were exhumed and staff are working to make arrangements for this.

Cross-Cultural Exchange with the Crow

With funding provided by the Yellowstone Park Foundation, staff arranged for six youth, four elders,



Crow Tribe youth viewing wildlife at Blacktail Plateau.

two chaperones, and one teacher from the Crow Reservation to come to Yellowstone for a three-day visit in August to reconnect with their heritage. With the guidance of Yellowstone Association Institute instructors Sandy Nykerk and Jim Garry, the group visited sites that highlighted both Crow perspectives and natural wonders and provided opportunities to share stories, describe plant processing techniques, teach Crow history, and learn the Crow language.

Nez Perce Commemorative Ceremony

Staff coordinated Yellowstone's second annual Nez Perce commemorative ceremony, which was held on August 27. Members of the Nez Perce (or Nimiipuu, meaning "we the people" or the "real people") gathered again to commemorate their ancestors' hardships during the arduous 1,170-mile journey of the 1877 Nez Perce War. The memorial and traditional pipe ceremony honoring those ancestors was held at the Nez Perce Ford, one mile south of Dragon's Mouth and Mud Volcano, where 800 Nez Perce and 2,000 horses crossed the Yellowstone River during their flight from the U.S. Army en route to the Canadian border.

The event was attended by about 50 park staff and visitors, including Nez Perce National Historic Park Superintendent Doug Eury and YCR Director John Varley. Nez Perce spiritual leaders and tribal members conducted a traditional pipe ceremony, sang songs, and gave prayers to honor their ancestors for their courage and the hardships they endured on the trek. Many tribal members expressed gratitude for being at the Yellowstone River, where over a century ago their ancestors had passed. Many audience members conveyed sentiments of unity and understanding as they experienced the Nez Perce commemorative ceremony for the first time.

The ceremony in Yellowstone, which is one of many that the Nez Perce tribe perform each year along the trail of their ancestors, was especially important to all those involved. The honoring of ancestors helps the Nez Perce to further connect with land that is culturally significant to them. Park staff invested more than 100 hours in their efforts to make this event a success. Thanks go to other divisions for their hard work and cooperation, especially Michael Keator, Supervisory Park Ranger, and Boone Vandzura, Park Ranger, of the Lake District,



Members of the Nez Perce Tribe after a private ceremony at Nez Perce Ford.

as well as to Nysa Dickey, supervisory interpretive ranger, of the Canyon District.

Volunteer Support

Staff couldn't have accomplished this year's work without 18 volunteers: B. J. Earle, Monica Mathis, Sandra Nykerk, Susan Kraft, Joe Cox, Katie White, Dan McNulty, Sabrina Hanan, Birdie Real Bird, Allen Pinkham, Phyllis Plain Bull, Clara Big Lake, Jim Garry, Gordon Plain Bull, George Reed, Paloma Hill, Wacey Dahle, and Albert Andrew Redstar. Their 1,747 hours of work was equivalent to having one and a half more people on staff. They helped organize and carry out events, transcribe oral history interviews, conduct research, and enter data for the Ethnographic Resources Inventory.

Historic Road Rehabilitation

As one of the first large-scale national road systems constructed, the Grand Loop Road is listed on the National Register of Historic Places. Yellowstone's remote and difficult terrain required the U.S. Army Corps of Engineers to address new logistical challenges and develop new techniques. The park's

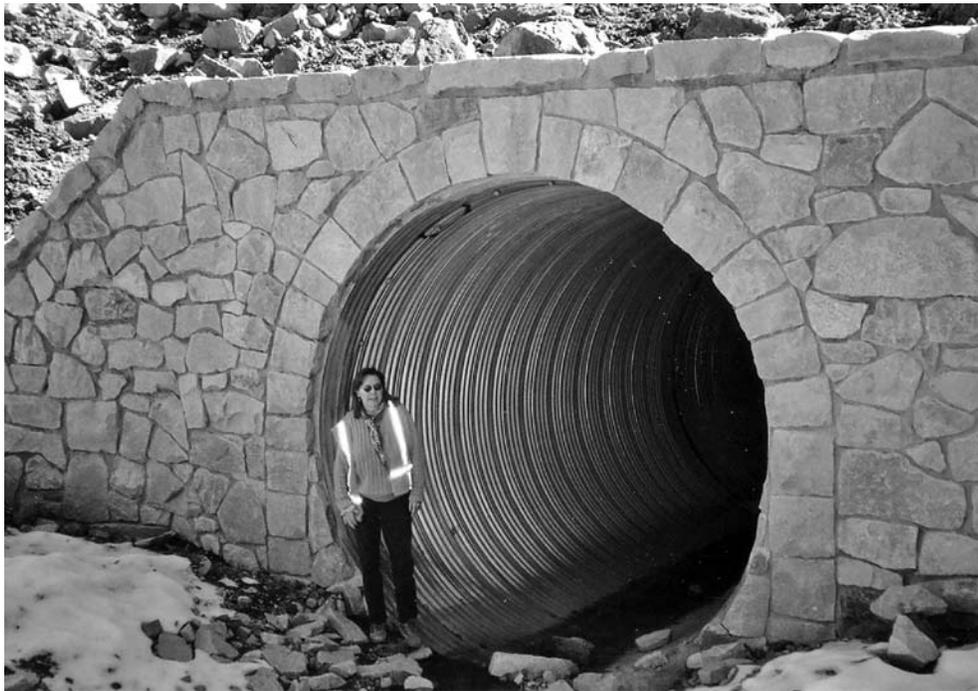
five entrance roads are also listed or eligible for listing. The evolution of the park's roads represents a continuing design philosophy that recognizes the roads as an integral part of the visitor experience and blends the road with the natural setting through the use of natural materials and by lying lightly on the land and not overpowering the landscape. The challenge in the current program is to preserve the character of the roads as distinguished from the surrounding modern highways, while repairing and rehabilitating them for today's greater traffic volume. During 2005, YCR staff were involved with the Canyon-to-Dunraven Pass and Sylvan Pass-to-East Entrance road rehabilitation projects by conducting archeological survey work and ensuring that the roads retain their historical integrity of materials and workmanship.

Canyon to Dunraven Pass Rehabilitated

The final inspection tour of the road over Dunraven Pass, where reconstruction began almost two years before, took place on September 26, 2005. This segment of the Grand Loop Road was reconstructed with a minimum width of 24 feet (up to 27 feet on some curves) rather than the parkwide standard of 30 feet in order to lessen the road's impact in

the high mountain terrain and because of geologic concerns about the effect such a width would have in the Overhanging Cliff segment (to be reconstructed in a future phase). Rockeries (mechanically stacked boulder walls) were used on the cut-side slopes to lessen the impact on vegetated areas. All of the curves were left in the road, but they were engineered for safer driving. The vertical rock cuts were designed to look as natural as possible and similar to the previous rock cuts. The deeply buried masonry culverts were repaired in-kind, replacing missing stones by hand and re-mortaring energy dissipaters and spillways. Concrete was pumped into the bottom of several buried culverts to repair damage.

Several new parking and viewing areas were added, in some places formalizing existing pullouts. Major improvements were made at the Dunraven parking area and trailhead using roadside curb stone that was buried under layers of asphalt during previous re-paving projects. New stone retaining walls and walks were added to the trailhead using a new but compatible masonry design and stone from nearby road cuts. Natural materials were used to construct the log and stone benches, log railings, and stone curbs and spillways. Many of the masonry culvert headwalls were reconstructed with



Elaine Hale inspects the award-winning design of the culvert and retaining walls on the rehabilitated East Entrance road.

the same stone and masonry patterns that were used in their original construction. These headwalls are considered one of the features that made the Grand Loop Road eligible for the National Register. The reconstruction of some headwalls that were in poor condition provided an opportunity to reintroduce the high quality workmanship and headwall patterns with which these features were originally built.

Award for East Entrance Road Design

The current road construction project from Sylvan Pass to the East Entrance won the overall best project of the year award in 2005 from the Western Federal Lands Highway Administration. Despite the landslides that occurred on Sylvan Pass in 2004 after reconstruction began, the Wyoming State Historical Preservation Office's prompt response to the emergency consultation enabled the quickly drafted culvert designs to incorporate the historic characteristics of the road while accommodating new culverts constructed with historical materials.

Sylvan Pass to East Entrance Under Construction

Major progress was made in widening and reconstructing this very scenic segment of historic roadway. Much attention was paid to retaining the curvilinear road alignment and recreating the natural look of the vertical rock cuts, many of which have water flowing down the face. Material excavated from the rock faces provided base material for a new overlook viewing Corkscrew Bridge and expanded parking and viewing opportunities at several of the scenic water courses. In compliance with the Secretary of the Interior's Standards for the Treatment of Historic Properties, 36 CFR 68.3 c (3), for reconstruction to be compatible with the historic roadway but not create a false sense of historical development, the new masonry headwalls contain design elements similar to those of the historic road features but not exactly replicating the historic headwalls.

Historic Structures

Yellowstone National Park has 993 historic properties listed on the List of Classified Structures (LCS). These structures range from world-renowned hotels like the Old Faithful Inn to simple backcountry patrol cabins. The Historic Structures Program protects

these resources, maintains and upgrades their condition to preserve significant architectural features, identifies significant historic buildings, and provides assistance when new structures are integrated into the park's historic districts. Yellowstone's historic architect also serves as a liaison between the park divisions responsible for Section 106 review and compliance under the National Historic Preservation Act and the Wyoming and Montana State Historic Preservation Offices.

The Historic Structures Program goals are to

- protect historically significant structures from modifications and alterations that have serious impacts on the historic and architectural character of the individual properties and of associated historic districts;
- enhance the management of historic park properties by park managers, maintenance personnel, contractors, and concessioners;
- develop a team approach to solving problems and accomplishing preservation work on historic buildings in the park.

In 2005, the Historic Structures Program benefited from several strengthened external partnerships and interdivisional collaborations that propelled the program toward achievement of its management goals. The successful funding of several projects enabled the Historic Structures Program to make significant progress in 2005. Because an all-inclusive approach was used to establish a team for each project, communications were improved between divisions and each project goal was shared by the divisions contributing to each project; credit goes to all involved.

Major Projects

Carpenter Shop Stabilization. The building in Mammoth now known as the carpenter shop was constructed in 1891 as a stable for U.S. Army horses and remains one of the oldest buildings extant in the park. As horseback patrols were replaced in large measure by motor vehicles, the stable was converted to a garage, doors were installed along the west elevation, and a carpenter shop was put in the south end of the building. Because its original columns had been altered, the building was moving downhill. The structural stabilization of this structure has been funded by \$150,000 in CRPP Base monies over

a two-year period beginning in 2005.

During the summer of 2005, a team of carpenters from the Maintenance Division worked to stabilize the northern third of the building, bury extensive concrete foundation footings below the dirt floor in the former stable, prevent the east wall from tilting further by shoring it with large timber trusses, and installing new columns and bracing. The preservation team doing the work was in direct contact with the job supervisors; their suggestions and concerns were addressed as part of the partnership between the divisions, consultants, and individual team members. The second phase of the structural stabilization project—structurally retrofitting the attic space above the carpenter shop—is underway; work will begin in spring 2006.

Mail Carrier's House. With funding obtained from the NPS Historic Structures Stabilization Fund, housing rehabilitation and structural stabilization of the Mail Carrier's House is being carried out with the assistance of the Montana Heritage Commission, and the Montana Preservation Alliance. The project will lift the three combined structures (the original 1895 log house, a 1903 kitchen and dining room addition, and the 1933 mudroom and bathroom addition) at one time so that a contiguous concrete foundation can be poured underneath them. Of the \$49,000 dollars allocated for this structural stabilization, about \$10,000 was used to compile a Historic Structures Report, which required testing of sample materials taken from the interior, composition of a mitigation plan, engineering and code analyses, and a license obtained from the state of Wyoming. The building contains some friable asbestos, primarily around an old wooden fuse box on the second floor. Asbestos had also been used to line the stovepipe openings in the two chimneys. Extensive photographs were taken, and historic materials and items were marked for salvage. Dating of the two additions was undertaken, including documentation of newspapers from 1903–1904 that had been glued onto interior walls to block drafts. The historic architect worked with consultant Ken Sievert to complete the report and submit it for review by management in the spring of 2005. The stabilization work is scheduled to begin in early 2006.

Old Faithful Haynes Photo Shop. This building, which was constructed in 1927 as a T-shaped structure, had a dormitory added to the back in 1951. It

was originally located adjacent to the Old Faithful Lodge, close to the geyser on a boulevard that ran south from the lodge to the Upper Hamilton Store. In 1971, when the road was re-aligned, both the store and dormitory were moved adjacent to the Upper Hamilton Store and old Snow Lodge, where they were positioned together as an L-shaped building, with a connecting section between the two. The main portion of the store has a one-and-one-half-story open interior; the rear portion contained storerooms, an accounting room, a men's dormitory, and an employee lounge and kitchen. The second floor of the addition was used as a women's dormitory.

In the spring of 2005, interest renewed in moving the structure from the Old Faithful Historic District to the Old Faithful Administrative Area (across the Grand Loop Road from its site near the Snow Lodge), and to place it on cribbing until a decision was made whether to make use of the building or demolish it. The historic architect, with VIP John Flanagan, measured, photographed, and researched the history of the structure in order to write a mitigation plan and conduct Section 106 review. A contract was awarded to Sievert and Sievert to complete a historic structures report on the building. At the superintendent's direction, relocating the structure was deferred pending the completion of Old Faithful foundation planning.

Lamar Buffalo Keeper's House. This project was funded through the Cultural Cyclic Maintenance fund and was coordinated with personnel from Maintenance; Planning, Compliance, and Landscape Architecture; and Telecommunications. The primary objective was to prevent water from coming into the basement on the east elevation of the Buffalo Keeper's Residence, which is also the office and home for the Lamar subdistrict ranger. The park's landscape architects surveyed the landscape elevations and grades and designed swales with the assistance of the historic architect. The plumbing shop provided a tractor and personnel, and the carpentry shop removed and rebuilt the building's historic windows. Telecommunications personnel ran telephone and direct satellite link lines underground between the historic barn, bunkhouse, Assistant Buffalo Keeper's House, and Buffalo Keeper's House.

Fishing Bridge Museum West Wing. Late in 2005, the historic architect, HRC curatorial staff, the

Division of Interpretation, and Lake Maintenance staff undertook a project to remove the mid-1960s interior from the west wing of the Fishing Bridge Museum, which is one of the park's National Historic Landmark structures. This required removing two dioramas, investigating the interior wall structure, photographing the non-historic interior and then removing it. This exposed the original views of Yellowstone Lake from the windows of the west wing, the original stucco-



Herb Dawson at the Hellroaring patrol cabin. Photo by Mary Meagher.

finished walls, historic windows, and historic double doors on the end of the wing. There had been considerable damage to the stucco plaster finish, and the window, door, and baseboard trim were missing. The crew from the Virginia City/Montana Heritage Commission partnership was brought in to assist with repair and replacement of the stucco walls. Lake Maintenance staff then finished the preparatory work and painted the interior, completing restoration of the interior to its original appearance.

List of Classified Structures

During 2005, files were updated and condition reports added to the LCS for historic properties in the Bechler Ranger Station complex, Norris Museum area, Northeast Entrance Station, and Mammoth Hot Springs Historic District. The historic architect continued survey work, primarily on the Gardiner Transportation District (the primary concessioner administrative area, garage, and warehouse district). Other survey work was conducted at the Hellroaring patrol cabin and barn and the Upper Blacktail Deer Creek cabin and barn.

Tauck Guest Volunteer Program

Bruce Fladmark, a retired NPS ranger and former cultural resource manager at Glacier National Park, served as Tauck Volunteer Coordinator for the

third year, with funding provided by Tauck through the Yellowstone Park Foundation. In 2005 he had an assistant, volunteer Dave Holmstrom. Tauck projects extended as far north as the Madison subdistrict, where the Madison Campground Amphitheater was prepared and stained. Projects were also accomplished in the West Thumb Geyser Basin and Grant Village subdistrict on a regular basis. Work on stabilizing the cabins in the lower loop of the Old Faithful Lodge cabins continued, with an additional eight structures prepped and stained or painted.

During the summer, Fladmark and the historic architect escorted David Cogswell, senior editor of *Travel Weekly*, to various sites and arranged for his participation in several volunteer groups, and the Tauck Program was subsequently featured in the magazine. In September, the program received the Department of the Interior's "Take Pride in America" award in the corporate sponsorship category.

In the three years since the program began, Tauck volunteers have donated approximately 10,000 hours of labor to help preserve historic structures suffering from deferred maintenance and to conduct cleanup and other routine maintenance activities. Volunteers have worked with park personnel from Resource Management, Maintenance,

Structural Fire, and YCR, as well as Xanterra concessions staff. This effort has benefited more than 25 buildings, 4 amphitheaters, thousands of feet of sit rail and fence, bumper logs, and public areas such as campgrounds and picnic areas. The total direct and in-kind contributions, including the approximately \$70,000 of funding donated by Tauck World Discovery and the Tauck Foundation, have been worth well over a quarter-million dollars.

Assistance to Other Divisions and NPS Units

The historic architect assisted the Division of Interpretation on the Old Faithful Visitor Education Center and the Section 106 review with the Wyoming State Historic Preservation Office; the Business Management Division on 25 projects involving rehabilitation, remodeling, lighting, design, installation, structural repair, restoration, structural additions, maintenance, and documentation; and Planning, Compliance, and Landscape Architecture on cultural landscape foundation planning for the Old Faithful and Tower–Roosevelt areas; consultation on historic structures, Section 106, and National Register eligibility; and four design and planning projects for lighting and parking lots.

The historic architect also served as the on-site grant coordinator and technical representative for review of projects that are being undertaken with a \$1.7 million NPS grant to the Montana Heritage Commission for the stabilization of more than 250 structures in Virginia City, including the restoration and rehabilitation of properties that are one of the most intact groups of mid-nineteenth-century mining town structures extant in the United States.

Yellowstone History

The mission of the History Program is to protect cultural resources and to increase knowledge and appreciation of Yellowstone’s history by educating and collaborating with park managers and staff, the public, partners and contractors, and other constituents about the park’s historical resources. Important considerations for the park historian, Lee Whittlesey, include inventory, research, evaluation, and documentation of historic properties and resources as well as important events, individuals, and themes. The program consists of

- researching and preparing historic contexts by

integrating the best of current historical methodology and scholarship into park research, education, and planning activities;

- reviewing for correctness and appropriateness dozens of books, articles, and manuscripts each year;
- outreach/information to other National Park Service divisions and the public.

Historical Research and Publications

During 2005, the park historian completed one long research paper, “A Post-1872 History of the Norris Area: Cultural Sites Past and Present,” and three shorter papers: “‘You Only Count One Here!’: Larry Mathews and Democracy in Yellowstone, 1887–1904”; “A Brief History of Moran Point and Artist Point and Their Association with Thomas Moran and William Henry Jackson”; and “Of Fairies’ Wings and Fish: Fishery Operations and the Lake Fish Hatchery in Yellowstone.” These papers were written in connection with Federal Highways and NPS projects at Norris and with the division of Planning, Compliance, and Landscape Architecture projects at Canyon and Lake. They will be published in *Yellowstone Science* and *Montana: The Magazine of Western History*. He co-authored two papers with Paul Schullery, “Greater Yellowstone Bison Distribution and Abundance in the Early Historical Period” and “Greater Yellowstone Pronghorn: A Nineteenth Century Historical Context.”

The historian continued work on the manuscript for a book to be entitled “Storytelling in Yellowstone: Horse and Buggy Tour Guides in the Grand Old Park” and scheduled for publication in late 2006 or early 2007 by the University of New Mexico Press.

The historian published the following journal articles in 2005: a book review of *After the Fires: The Ecology of Change in Yellowstone National Park* (Linda L. Wallace, editor), for *Montana: The Magazine of Western History* (Autumn 2005); “G.L. Henderson: Interpreter and Innovator” and “The Henderson Family Today,” for *Yellowstone Science* (Spring 2005); an article with Hank Heasler, park geologist, “A Guide to Making Proposals for Place Names of Thermal Features in Yellowstone National Park, Wyoming-Montana-Idaho (a National Park Service Document),” *GOSA Transactions* (January 2005).

The historian met frequently with Kiki Rydell regarding the historic resources study begun by Mary Shivers Culpin, the manuscript for which is entitled “Managing the Matchless Wonders: A History of Administrative Development in Yellowstone National Park, 1872–1965.”

The historian also went to Yale University’s Beinecke Library, where he found dozens of rare items pertaining to Yellowstone history and copied many of them for park collections. Some will be exhibited at the new Old Faithful Visitor Education Center.

Presentations

At the Yellowstone Association Institute the historian taught “History of Wildlife” with Dr. James Pritchard of Iowa State University; a “Flight of the Nez Perce” backcountry trip; and “Northern Roadside Yellowstone History.” Other presentations included: a tour of the new HRC, the Cinnabar area, and the Gardiner cemetery for Yellowstone Park Foundation board members; a

talk on G.L. Henderson at the Buffalo Bill Historical Center; a workshop and symposium with historian Jeremy Johnston for the American History Cowboy Coalition (history teachers); a bus tour for new NPS employees; an on-camera appearance for Ken Burns’s National Park Service documentary; presentations at the Northwest Museum of Cultural Arts in Spokane and the National Association of Interpreters; and a tour of the HRC with several workshops for Dr. Mary Murphy’s graduate history class from Montana State University.

Assistance to Other Divisions

For the Public Affairs Office, the historian fielded numerous reporters’ requests for interviews. He worked with Tom Cawley to write and record sound vignettes of the Fort Yellowstone walking tour. He helped Lindsay Robb write Yellowstone history vignettes for park management “Focus Days.” He met with the Division of Interpretation and contractors regarding the new Old Faithful Visitor Education Center.



Display of Yellowstone museum items at the Heritage and Research Center.