

LONG-RANGE INTERPRETIVE PLAN

**YELLOWSTONE
NATIONAL PARK**

June 2001

prepared by

**Department of the Interior
National Park Service**

Yellowstone National Park

**Harpers Ferry Center
Interpretive Planning**

**If you are planning for a year,
sow rice;**

**If you are planning for a decade,
plant trees;**

**If you are planning for a lifetime,
educate people.**

Chinese Proverb

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INTRODUCTION

Message from the Superintendent

Yellowstone National Park represents the finest of our country's treasures. People from around the world come here each year to experience the wonders of Yellowstone's unique geothermal features, immense herds of free-roaming wildlife, pristine air and water, and remarkable mountain scenery. As the steward of this special place, it is the National Park Service's responsibility to protect its priceless resources. The challenge for Yellowstone's Division of Interpretation in this task is exceptional. Through the message we present in our programs, facilities, exhibits, and publications, we give the visitor more than just information. The art of interpretation is to provide the meaning behind the message - to connect the tangible resources visitors see with the multitude of intangible ideas that weave the web that is Yellowstone.

The profession of interpretation in the National Park Service (NPS) began in Yellowstone. Unfortunately, today, Yellowstone is not a national leader in interpretation. In fact, Yellowstone's 1999 *State of the Park* report lists Yellowstone's Interpretive Program as only achieving 20% of its full potential. Many of the interpretive methods and programs currently used in Yellowstone have changed very little through the past several decades. While it is important to retain the successful aspects of interpretation used during the past century, it is incumbent on us to ensure that Yellowstone remains relevant to today's visitors.

The major goals and recommendations in this Executive Summary of Yellowstone's *Long-Range Interpretive Plan* (LRIP) are to keep the park meaningful, relevant, and valued to our diverse and increasingly sophisticated public. The LRIP recommends programs, technologies, and methods to achieve these goals within the next 7-10 years.

While it is the primary responsibility of professional interpretive staff to carry out the park's formal interpretive program, every park staff person is involved in interpretation - from the park maintenance worker responding to a visitor's need for directions to the resource management biologist explaining wolf activity to a family watching them in the wild. It is important that the interpretive efforts of all Yellowstone staff be guided by an overall plan for interpretation; this is that document.

The recommendations in the LRIP are designed and intended to ensure that the park meets its goal of providing Yellowstone's visitors with a satisfying and memorable experience. Our ultimate goal, however, is for park visitors to

understand and appreciate the significance of Yellowstone and to become inspired by this extraordinary place so that after their visit they become life-long partners in its preservation.

THE PLANNING PROCESS

Yellowstone's Division of Interpretation began the LRIP planning process in October 1998. While National Park Service LRIPs are conceptual plans and do not require public participation, the park recognized that the success of this plan would be dependent on the participation of Yellowstone's long-established partners in education and interpretation. To this end, four workshops were held in 1999, and 70 park staff and partners attended one or more of the workshops. Partners participating included the Yellowstone Association, Yellowstone Park Foundation, Museum of the Rockies, Buffalo Bill Historical Center, Amfac Parks and Resorts, area schools (Cody, West Yellowstone, Gardiner, and Mammoth), Teton Science School, National Parks and Conservation Association, U.S. Forest Service, and U.S. Fish and Wildlife Service.

While this plan proposes a number of new initiatives, facilities, and services (some of which will require additional compliance and public participation prior to undertaking), all are in keeping with the vision of previous planning efforts in Yellowstone. Certain specifics of those plans will be developed more fully in the LRIP. For example, the park's *Master Plan* proposed that "hospitality centers" be developed throughout the region in cooperation with other agencies and partners in order to better orient visitors to the area and that an audio interpretive system be installed throughout the park to supplement traditional interpretive media. The LRIP expands on these ideas and suggests ways the park can accomplish these objectives in the next few years.

Numerous specific park planning efforts, from development concept plans to more general planning documents like the *Wildland Fire Management Plan* (1992) and the *Resources Management Plan* (1995), all address the need for increased interpretation as a means of providing the public with a better understanding of park resources and issues. Few specific recommendations (beyond themes) are made in any of these plans. The LRIP addresses how these recommendations will be implemented. All programs, facilities, and media developed as a result of this plan will comply with federal accessibility standards.

An Executive Summary of Major Recommendations was printed as a separate document. It includes the planning process, visitor experience goals, interpretive themes, and major recommendations.

FOUNDATION FOR PLANNING

Sections on legislative intent, purpose, significance, mission statement, and mission goals are derived from the Yellowstone Strategic Plan (FY 2001-2005).

Legislative Intent

The law creating Yellowstone National Park mandated the Congress:

- Dedicate and set apart a public park or pleasuring ground for the benefit and enjoyment of the people.
- Provide for the preservation, from injury or spoliation, of all timber, mineral deposits, natural curiosities, or wonders within said park, and their retention in their natural condition.
- Conserve the scenery and the natural and historic objects and wildlife therein and to provide for the enjoyment of the same in such manner and by such means as will leave them unimpaired for the enjoyment of future generations.

Purpose

Therefore, the **purpose** of Yellowstone National Park is to preserve for the benefit and enjoyment of present and future generations, its geologic, natural systems and process, and history.

Significance

The primary **significance** of Yellowstone National Park is found in its natural and cultural resources and related values, including:

- The majority of the world's geysers, including Old Faithful, the icon of them all.
- The core of the last large ecosystem in the lower 48 states still inhabited by every wild species present when Columbus reached the New World.
- The powerful evidence of human history, such as several hundred archeological sites, nearly one thousand historic structures, and six designated National Historic Landmarks - Old Faithful Inn, the Northeast Entrance Station, Obsidian Cliff, and the Norris, Madison, and Fishing Bridge Museums.

Yellowstone National Park was created as the first national park in 1872, and it has served as a symbol for establishing additional national parks in the United States and National Park systems in more than 140 countries around the world. In recognition of this significance, in 1972 the United Nations Educational, Social, and Cultural Organization (UNESCO) named Yellowstone as the first American area to be designated as a Biosphere Reserve. In 1978, UNESCO designated Yellowstone National Park as a World Heritage Site.

Mission Statement

Preserved within Yellowstone National Park are Old Faithful and the majority of the world's geysers and hot springs. An outstanding mountain wildland with clean water and air, Yellowstone is the home of the grizzly bear and wolf, and free ranging herds of bison and elk. Centuries-old sites and historic buildings that reflect the unique heritage of America's first national park are also protected. Yellowstone National Park serves as a model and inspiration for national parks throughout the world. The National Park Service preserves unimpaired, these and other natural and cultural resources and values for the enjoyment, education, and inspiration of this and future generations.

Mission Goals

Government Performance and Results Act (GPRA); Goal Category II: Provide for the Public Use and Enjoyment and Visitor Experience of Yellowstone National Park (*National Park Service, 2000, Strategic Plan, Yellowstone National Park*)

IIa. Visitors to Yellowstone safely enjoy and are satisfied with the availability, accessibility, diversity, and quality of park facilities, services, and appropriate recreational opportunities.

IIb. Park visitors and the general public understand and appreciate the preservation of Yellowstone National Park and its resources for this and future generations.

VISITOR EXPERIENCE GOALS

Visitor experience goals describe the cognitive, affective, sensory, and behavioral experiences that the park would like to be available to visitors. Like interpretive themes (which are largely the cognitive elements of visitor experience goals), they provide direction to designers, planners, managers, park staff, and partners.

Visitors will have opportunities to:

- Experience the essence of the park's wild nature - from wildlife, waterfalls, geysers, and scenery to wonder, quiet, solitude, and personal inspiration
- Develop a sense of appreciation and responsibility that will result in actions to protect, support, and promote the park and the National Park System (e.g., politically, financially, through volunteer activities)
- Successfully plan their visits and orient themselves to facilities, attractions, features, and experiences
- Behave in ways that do not hurt themselves or park resources
- Enjoy themselves, have memorable experiences, and go home feeling enriched
- Understand the park's significance and its primary interpretive themes
- Experience programs, media, and facilities that enhance their educational experiences
- Learn about the fragility of the park and threats to its resources

PRIMARY INTERPRETIVE THEMES

Interpretive themes are the most important ideas, stories, and concepts that should be presented to park visitors. They portray the significance of the park. The interpretive themes provide direction to designers, planners, managers, park staff, and partners.

Geology

Yellowstone lies on a restless part of the earth; physical evidence of the park's geologic history spans at least 2.7 billion years, and geologic forces continue to shape the land and the patterns of life on the landscape today.

Yellowstone is positioned on top of a "hot spot" where the earth's crust is unusually thin, and molten magma rises relatively close to the surface. Past volcanic eruptions were among the strongest that have ever occurred on earth, and they have shaped the present landscape.

Geothermal Features

Yellowstone has more active geothermal features (geysers, hot springs, mudpots, and fumaroles) than the rest of the world combined; they are a product of underlying geological activity, and their heated waters are habitat for diverse thermophilic life forms that we are only beginning to understand.

Ecosystem

The greater Yellowstone area is one of the largest and most intact temperate ecosystems in North America; it supports an exceptional concentration and diversity of terrestrial and aquatic life.

The Greater Yellowstone Ecosystem extends well beyond the park's boundary. It encompasses unique thermal features, the headwaters for many rivers, diverse habitats and life forms, research benchmarks, sustainable recreational and economic opportunities, and wilderness. It is conceptualized and viewed by the public in the contexts of contemporary issues, values, and personal meanings.

Wildlife

Yellowstone is home to abundant, diverse, and free-ranging wildlife in a largely undisturbed setting; their survival depends on sufficient and healthy habitats, the preservation of biological diversity, and minimal human interference and impact. These wildlife provide outstanding opportunities to experience and appreciate the diversity of life.

Management

Effective park management requires the protection of resources, promotion of sustainable public use, involvement by and cooperation among interested individuals and groups, and the support of the American people for their National Park System.

Issues such as management of elk and bison herds, endangered species protection, non-native species management, fire management, and visitor-use management must be addressed through good science, effective public involvement, and affirmation of park values.

First National Park

Yellowstone is the world's first national park, and it continues to be a model for the preservation and enjoyment of park resources.

Designation as a World Heritage Site and an International Biosphere Reserve recognizes the international significance of Yellowstone National Park. From the history of the park's founding to the variety of today's management challenges, we celebrate an extraordinary idea - the preservation and enjoyment of our natural and cultural heritage.

Natural Resource Preservation

The Greater Yellowstone Ecosystem preserves a world-renowned biological reserve with a gene pool that includes rare and endangered species.

Yellowstone preserves biological processes and ecosystems as well as living things and their surroundings. Threats to resources are not limited by park boundaries. For example, migratory species require healthy habitats and protection as far away as Central America and the Arctic tundra; exotic species from around the world have invaded the park and now compete with native species; global warming could alter climate and shift habitats.

Human History

Yellowstone preserves resources associated with some 11,000 years of human history, which provide insights into varieties of cultures, values, and perceptions, including those of Native Americans, trappers, explorers, miners, U.S. Army personnel, National Park Service and private-sector concession staffs, neighboring communities, and more than 125 years of park visitors.

Resources have physical, cultural, and spiritual dimensions. Diverse perceptions and values characterize human experiences of any one place at any one time; the continuum of these experiences helps shape our present identities and our future possibilities.

Wildness

Yellowstone is an extraordinary place where visitors can experience wildness.

The Greater Yellowstone Ecosystem preserves a vital part of America's wilderness system. Experiences of wildness range from scenic driving and day hiking to backcountry hiking and camping to offsite experiences through media, outreach programs, the Internet, and personal photographs, stories, and recollections.

Laboratory

Yellowstone's diverse resources, ecological processes, and cultural history provide important opportunities for research and education.

GOALS AND CURRENT STATUS

(National Park Service, 2000, State of the Park Report, Yellowstone National Park)

Goal: Professional staff keeps abreast of critical issues and use innovative skills and techniques to help the public understand and appreciate the park's primary mission, values, and resources.

Current Status: Neither the permanent nor seasonal staff receives adequate training to develop the skills needed for their positions.

Goal: Visitor centers have well-designed and up-to-date exhibits and sufficient staff to operate at convenient locations and times to meet visitor demand.

Current Status: Facilities are outdated and too small and/or poorly located to provide the services expected by the public: a fund-raising campaign is underway to construct a new visitor center at Old Faithful through donations.

Goal: Yellowstone provides a broad range of high-quality interpretive and educational programs that enhance visitor experiences while addressing the park's mission or resource conservation.

Current Status: Summer campfire programs and walks are well attended, but few programs are offered during the rest of the year. The popularity of new exhibits and the Junior Ranger program indicate an interest in greater program variety.

Goal: Advanced interpretive technologies, publications, and outreach activities are proactively used to inform diverse audiences in and outside the park.

Current Status: The demand for books, newspapers, websites, other printed information, and offsite programs outstrips the park's ability to provide the variety and quality needed.

Goal: Interpretive services, products, and facilities promote public safety and resource conservation through both the information provided and the way in which it is presented.

Current Status: Traditional programs are conducted with minimal impact on other visitors, and convey messages that promote visitor safety and conservation of natural and cultural resources.

ISSUES AND INFLUENCES

Issues and Influences Affecting Interpretation

Surveying the Public

Anecdotal data and comment forms which the park has from a small segment of the public provide at best an incomplete understanding of the views of the full range of park visitors and the general public. Opinion surveys would help assess where to focus our resources to meet goals for public education and resource protection. Evaluation of program and media effectiveness would determine whether desired outcomes are being achieved, and permit improvement of products and services.

Visitor Centers

The nine major visitor contact facilities range in age from 30 to nearly 100 years old, and are generally shabby and too small to even provide adequate restrooms for the more than two million people who pass through them each year. For example, the tiny lobby at Old Faithful Visitor Center has no space for exhibits and is often so jammed with visitors that many give up before receiving the information they want. The Albright Visitor Center in Mammoth is cramped, confusing, disjointed, and has inadequate parking. Insufficient staff and space at most information desks make it impossible to serve more than a few visitors at a time, causing long lines to form and frustration to flare as people wait 20 minutes or more for assistance. Exhibits and audiovisual programs at many visitor centers are outdated and/or dilapidated. Physical and programmatic accessibility is often inadequate.

A backlog of more than \$100 million dollars in capital improvements has been identified to update visitor centers to acceptable standards of accessibility and safety, and to equip them with appropriate exhibits and audiovisual presentations. More advanced technologies, such as digital monitoring and relay of geyser prediction information, are important if both the resources and visitors are to be well served. In addition to better staffing of the interagency facilities in West Yellowstone, Montana, and Jackson, Wyoming, visitor centers are needed in other gateway communities, including a new NPS visitor center in West Yellowstone and at the north entrance outside Gardiner.

Staffing and Funding

Park staffing and funding are far short of what is needed. Staffing is only 20% of what is needed to provide information at visitor centers and major attractions throughout the year at levels appropriate to visitation patterns and trends. A survey (*National Park Service, 1989*) showed that 72% of respondents believe that ranger-led programs are very useful to extremely useful. However,

the staff was able to reach only 8% of visitors with such programs in 1999 because of budget and staffing limitations. Additional staff is also needed to provide non-personal interpretive services - publications, exhibits, audiovisual media, and website management - to meet the park's goals for outreach to nontraditional audiences and the general public. Public awareness of funding and staffing limitations is scant.

Housing

Limited housing availability limits the number of volunteers and other staff positions that can be filled, even if funds were available. Yellowstone is relatively remote, and little affordable housing is available outside the park; for employees stationed in the park interior even scarce outside housing is too far away. Much available housing is substandard, which affects employee morale and limits the park's ability to recruit and retain qualified employees (especially seasonals, whose pay is lowest and competition for living quarters are the most intense).

Self-Guiding Trails

Most of the 12 existing trails require upgraded or additional trailside exhibits and booklets to adequately explain park features and issues. At least four more self-guiding trails are needed (Firehole Lake, Mount Washburn, Artist Paint Pot, and Natural Bridge) to interpret resources, facilitate safe visitor access, and resource protection.

Restoring In-depth Programs

Limited staffing forced the park to discontinue popular specialized and in-depth interpretive programs. These programs could be maintained as pay-if-you-go activities. This would enable the park to restore some educational activities for that segment of the public who is willing to pay for them.

Upgrade Equipment

Most of the park's electronic interpretation equipment is obsolete. Developing kiosks and a website with interactive capabilities, and using the park's radio and television infrastructure to their full potential would breach many gaps in interpretive services both inside and outside the park. More than ever, these tools can bring the meaning, value, and significance of Yellowstone National Park to audiences who may never have the opportunity to visit Yellowstone in person, but who nonetheless can benefit from and support the park.

Outreach

The number of outreach services fall short of what is needed. Communication and marketing with park neighbors is important. Priorities include interpreting controversial issues, interpreting and listening to multiple perspectives, and effectively delivering important park and NPS messages.

Complex Interpretive Program

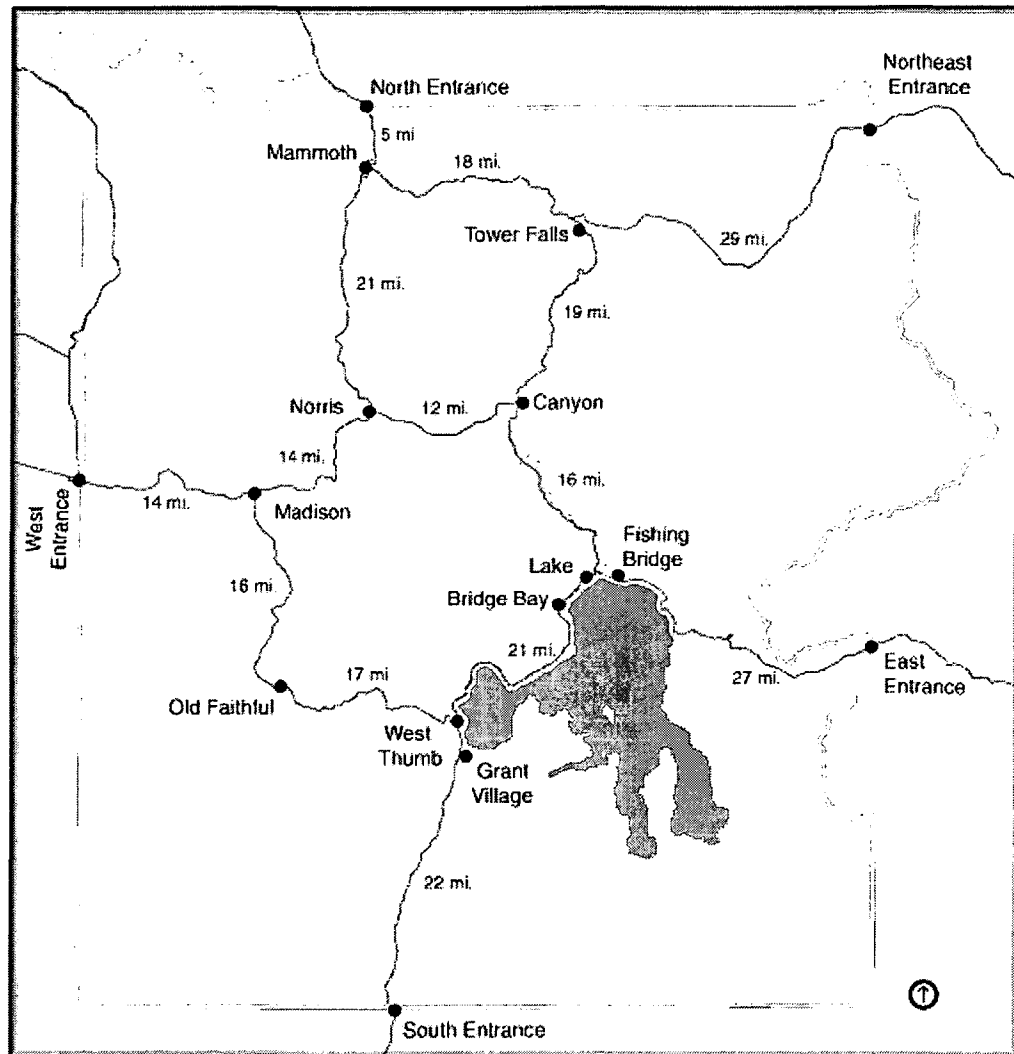
Complexities of the interpretation and education programs include diverse audiences, numerous public and private sector partners, the need to interpret multiple perspectives, and inherent complexity of the park story. Several park divisions and partners are involved in aspects of interpretation, such as publications and roving interpretation. Strategies for communication and coordination among groups involved in Yellowstone interpretation are a continuing challenge.

Diverse and Increasing Visitation

Visitation generally continues to increase. Visitors bring different education levels, ages, experiences, cultural backgrounds, languages, expectations, and abilities. Diverse visitation requires varied strategies for enhancing visitors' enjoyment while protecting resources.

EXISTING CONDITIONS

The Park



Yellowstone is the first and oldest national park in the world. By Act of Congress on March 1, 1872, Yellowstone National Park was "dedicated and set apart as a public park or pleasuring ground for the benefit and enjoyment of the people" and "for the preservation, from injury or spoliation, of all timber, mineral deposits, natural curiosities, or wonders . . . and their retention in their natural condition."

The features that initially attracted interest and led to the preservation of Yellowstone were largely geological: chief among them was the hydrothermal features. Yellowstone has over 10,000 geysers, hot springs, mudpots, and fumaroles (more than half of the known features in the world). It has the largest concentration of geysers in the world; its 300-plus geysers are about 2/3 of all the geysers on the planet. The spectacular Grand Canyon of the Yellowstone River, extensive fossil forests, and size and elevation of Yellowstone Lake also marked this as a place worth saving. Yellowstone Lake is the largest lake above 7,000 feet in North America and supports the largest natural cutthroat trout population in the world.

Boundaries rarely coincide with ecological realities and Yellowstone is no exception: the Greater Yellowstone Ecosystem (GRE) encompasses 28,000 square miles, and includes two national parks, seven national forests, three national wildlife refuges, and private lands. Ninety-nine percent of the park's 3,400 square miles (2.2 million acres) remains undeveloped, providing a wide range of habitat types that support one of the continent's largest and most varied large mammal populations. Yellowstone is one of the few large natural areas remaining in the lower 48 states of the United States.

Two primary factors govern vegetation zones in the park: precipitation and bedrock. Precipitation - mostly in the form of snow - varies from the arid northwestern corner to the southwestern corner of the park (where more than 150 inches of snow falls each year). Bedrock is largely a function of the park's volcanic history. Yellowstone is the site of some of the largest volcanic eruptions in history. A rare continental geologic "hotspot" - where the earth's crust is unusually thin, which allows molten magma to migrate close to the surface - lies below the Yellowstone Plateau. As the continental crust moves to the southwest, the hotspot shifts in relative terms slowly to the northeast; powerful eruptions have occurred in this area 2 million, 1.3 million, and 600,000 years ago. The last eruption created the Yellowstone caldera, which is about 47 miles long and 28 miles wide. Subsequent lava flows nearly filled the caldera, and left bedrock of rhyolite. The other major bedrock in the park is andesite, a product of the volcanic events that created the Absaroka Mountains on the eastern boundary of the park. Andesite has much more calcium than rhyolite does, and supports a richer vegetation regime that includes spruce and fir forests. Rhyolite hosts forests dominated by lodgepole pine.

Geothermal features also derive from the park's geologic history. Water percolates through layers of porous rock, through the thin crust of the geologic hotspot, and is heated by the hot rocks above the shallow magma chamber. Superheated water rises back to the surface. Depending on conditions, the water emerges in geysers, mudpots, fumaroles, or hot springs.

Glaciers also shaped the landscape. Although the Yellowstone area wasn't covered by the great continental ice fields, glaciers as recently as 50,000 years ago flowed from the mountains around Yellowstone to cover virtually the entire present park. The expansion and subsequent retreat of the glaciers (about 15,000 years ago) left a landscape of valleys, canyons, moraines, hills, polished rock surfaces, and glacial erratics.

About 80% of this landscape is forested, with lodgepole pine being the dominant species. Other areas may contain spruce, fir, or whitebark pine. Meadows (commonly interspersed with stand of Douglas fir and aspen) constitute about 15% of the park, which provides vital grazing habitat for elk, bison, and other species. Other zones include the Great Basin-like northwestern corner (with saltbush, greasewood, winterfat, blue gramma, and other species) and the alpine tundra above 10,000 feet. Hydrothermal areas feature unique plant and microbial communities that reflect the varying chemistry and heat regimes in these habitats. About 1,200 vascular plant species have been identified, and some 100-plant species have been listed as special concern by the Natural Heritage Programs of the surrounding states. Yellowstone is home to at least 44 mammal species, 279 species of birds, 6 reptiles, 4 amphibians, and 13 native and 5 non-native species of fish. Numbers of invertebrate species are anybody's guess. Four species of mammals and birds are federally listed as endangered or threatened: grizzly bear, Canada lynx, whooping crane, and bald eagle. The gray wolf is classified as an experimental population under the Endangered Species Act.

Yellowstone straddles the Continental Divide halfway between the equator and the North Pole. Most of the park lies between 7,000 and 9,000 feet, in montane and subalpine zones. Timberline appears at about 10,000 feet, and many peaks extend higher. The park's climate is characterized by long cold winters and short cool summers.

Human use of the park area is preserved in cultural sites dating back at least 10,000 years to the Paleo-Indian Period (12,000 to 8,000 years before present). The earliest evidence of human occupation is a Folsom projectile point discovered in the Bridger-Teton National Forest, dating to about 10,900 years ago. These points are often found in association with bones of extinct bison. Small groups of people hunted bison, bighorn sheep, and deer, and collected plants. Later Paleo-Indian groups subsisted on a more diverse array of plants and animals. The Archaic Period (8,000 to 1,500 years before present) saw a

continuation of the diverse economies of the late Paleo-Indian Period. Projectile points changed, and subterranean pithouses and cooking hearths have been found. Use of this area increased after the Archaic Period. Subsequent technological developments included the bow and arrow, traps or corrals to catch bighorn sheep and bison, and vessels made of steatite (soap-stone) and clay.

Early historic accounts record a number of Indian tribes using the park area; chief among them was the Shoshone. Accounts of Indians being afraid of Yellowstone because of its hydrothermal features are incorrect. Most occupation was seasonal; the Crow, Bannock, Nez Perce, and Blackfeet visited the area in addition to the Shoshone. Several tribes used the Bannock Trail and other trails to traverse the park to and from bison-hunting areas on the plains east of the park. A small group of Shoshone called the Sheepeaters (so named for the importance of bighorn sheep in their diet) lived in Yellowstone for at least part of the year.

Fur trappers in the early 1800s were the first Euroamericans to visit Yellowstone and later write or tell about their travels. John Colter visited the future park in 1807-08 and wrote of his discoveries with considerable imagination and enthusiasm. Subsequent trappers, explorers, and prospectors added to the tales. Organized exploration commenced in 1860. The Washburn-Langford-Doane expedition in 1870 led to national attention; the U.S. Congress funded an official exploration of Yellowstone in 1871. The Hayden expedition (and a simultaneous survey by the U.S. Army Corps of Engineers) produced an official map of Yellowstone, photographs by William Henry Jackson, and art works by Henry W. Elliott and Thomas Moran. The wonders of the region were becoming internationally known.

After Yellowstone was declared a national park it suffered through decades of trial-and-error management. Few staff and primitive or nonexistent infrastructure greeted the rare visitors. The first superintendent, appointed without staff, funding, or a salary, was unable to prevent continuing poaching and other resource depredations. The next superintendent was more effective, and started building roads and other infrastructure. But poaching and vandalism continued, and commercial interests maneuvered to control and profit from access to the park. The early years were difficult for the world's only national park. In 1886 the cavalry arrived.

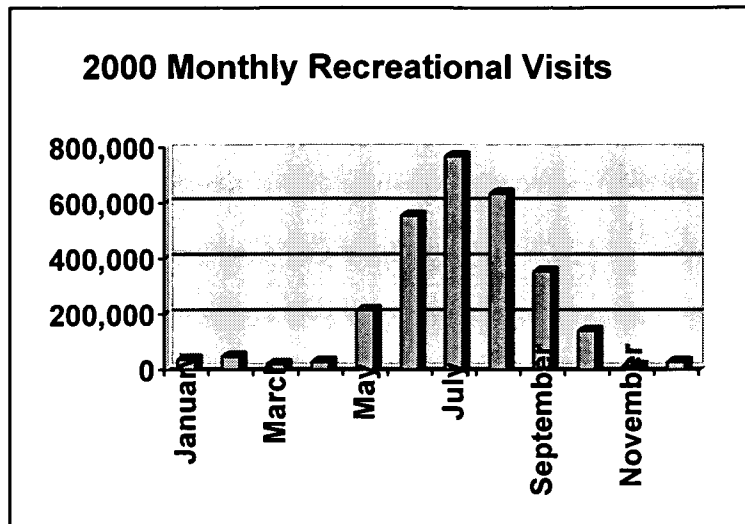
From 1866 to 1916, Yellowstone was protected and administered by the U.S. Army. Appropriations accompanied the change in jurisdiction, and the Army Corps of Engineers built the system of roads and trails that in basic outline exists today. Army headquarters was at Mammoth Hot Springs; in the 1890s Fort Yellowstone was built at Mammoth; park headquarters still resides there. Although the Army greatly improved protection and administration, running

parks was not their natural mission. Professional administration was needed. In 1916, the National Park Service was created and park rangers assumed responsibility for Yellowstone in 1918. Horace Albright was the first NPS park superintendent; ten years later he became the second director of the National Park Service.

Yellowstone was one of the first places where interpretation was practiced. Professional naturalists were hired to conduct research, give talks, and conduct walks. The Laura Spellman Rockefeller Foundation funded trailside museums. Explanations of natural phenomena became more sophisticated, incorporating the relatively new science of ecology, and including cultural history perspectives as an integral part of the park story. Resource management evolved as well, and over the years Yellowstone has become a leader in the management, preservation, and interpretation of natural and cultural resources. From the first tent camps and corduroy roads of the 1870's, visitor services and accommodations have developed to meet the needs of the more than three million visitors each year. Yellowstone remains the world's first and foremost national park.

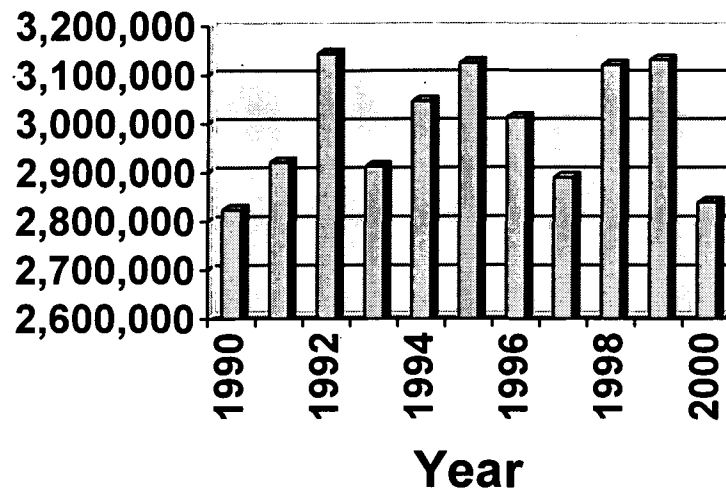
VISITORS

Nearly three million people visited Yellowstone in 2000. An unknown number of people outside the park read a publication or watched a video on to the park, logged onto the park or Yellowstone Association or other park partner website, or saw or read about the park in the news. Yellowstone's website is the most visited website in the national park system. It is expected that on-line visitors will exceed on-site visitors to Yellowstone within two to three years.



Month	Visits
January	37,301
February	47,573
March	20,404
April	27,869
May	214,814
June	553,892
July	768,040
August	634,104
September	353,728
October	139,784
November	13,422
December	27,302
2000 total	2,838,233

Annual Recreational Visits



Year	Recreational Visits
1990	2,823,572
1991	2,920,537
1992	3,144,405
1993	2,912,193
1994	3,046,145
1995	3,125,285
1996	3,012,171
1997	2,889,513
1998	3,120,830
1999	3,131,381
2000	2,838,233

Summer Visitor Survey (National Park Service, 1989)

From July 12-18, 1989 the NPS Visitor Services Project (VSP) conducted a survey of park visitors. Findings are summarized as follows:

- Forty-two percent of visitors were in groups of two people. Seventy-eight percent of visitors were in family groups. The most common ages were children younger than fifteen years old (23%) and adults aged 36-45 (21%). Almost half of visitors (49%) were on their first visit.
- Seven percent of visitors were foreign, with the highest proportions of those from Canada (43%) and Germany (14%). U.S. visitors came from 48 states. Leading states were California (11%), Wyoming (7%), Utah (6%), Idaho (6%), Montana (6%), and Colorado (5%). Seventy-five percent of park visitors came from states or countries farther away than the neighboring four states.
- Of the visitors who stayed more than one day, 68% stayed two to three days. Common activities included viewing wildlife (93%) and thermal features (85%), photography (83%), walking for pleasure (75%), and visiting museums/visitor centers (73%). Fifteen percent attended interpretive programs.
- Most visitors stopped at Old Faithful (84%), Canyon (68%), Grant Village/West Thumb (63%), Madison (61%), and Norris (61%). First stops were at West Yellowstone, MT (24%), Cody, WY (20%), Jackson, WY (17%), Gardiner, MT (10%), and Grant Village/West Thumb in the park (7%).
- Most visitors used the park folder/map (92%), park newspaper (68%), visitor center exhibits (60%), and wayside exhibits (51%). All interpretive services were rated as moderately to extremely useful by at least 74% of visitors.
- On the nights visitors spent in the park, most stayed in developed campgrounds (84%) and one night was the most common length of stay. Outside the park, most nights were spent in hotels or cabins (59%) and three nights were the most common length of stay.
- Regarding the 1988 fires, 64% of visitors stated the fires were not a reason for their visit; 7% stated they were the primary reason for visiting; and 86% would recommend a visit to family/friends. Most (54%) felt that they would likely visit the park again within the next five years. Almost half (48%) said they felt the fires were beneficial to the park's natural systems; 28% said they were not; and 24% didn't know. Almost equal numbers of comments said the park appeared worse than expected and better than expected.

Winter Visitor Survey (National Park Service, 1995)

To get a better picture of winter visitors, the VSP surveyed visitors to Grand Teton and Yellowstone National Parks during February 11-20, 1995. The results for Yellowstone visitors are summarized below:

- Thirty-seven percent of the visitors were in family groups; 29% were in groups of friends. Thirty-three percent of Yellowstone visitors were in groups of six or more people.
- Three percent of Yellowstone visitors were international visitors. Many of those (51%) were from Canada. United States visitors were from Montana (20%), Utah (10%), Wyoming (9%) and 45 other states. Fifty-five percent were from states other than the four neighboring states or from foreign countries.
- Many Yellowstone visitors (57%) stayed more than one day. Many Yellowstone visitors (55%) had visited the park previously during the winter. On this visit, the most common activities were viewing wildlife (91%), viewing scenery (90%), snowmobiling (74%), and photography (66%).
- Most visitors (62%) participated in winter recreation outside the parks in places such as the West Yellowstone area; Big Sky, Montana; and Jackson, Wyoming. Their activities included snowmobiling and skiing.
- In planning trips to national parks, most visitors (73%) talked to someone who had been there as their source of information about the park. Previous visits were the source of information that influenced most visitors (73%) in deciding to visit Grand Teton/Yellowstone.
- The most visited sites were Old Faithful (76%), Madison (62%), Canyon (48%), and Norris (48%).
- The most used education/information services were the park brochure/map (89%), visitor center exhibits (50%), wayside exhibits (47%), and visitor center staff (45%). All interpretive services except the park radio information station were rated as moderately to extremely useful by at least 84% of visitors. The quality of interpretive services was rated average to very good by at least 88% of visitors.
- The most used visitor services were the restrooms, groomed snowmobile routes, warming huts, and informational/directional signs. The most important services were the airport, ungroomed ski trails, restrooms, gas station, and informational/directional signs. The best quality services were the visitor center, commercial guide service, and the airport.
- The most important park qualities to Yellowstone visitors were scenery, wildlife, and clean air. Visitors rated recreational activities, clean air, wildlife, and scenery as more important than educational opportunities, solitude, or quiet.

- Most visitors (62%) preferred not to limit winter visitor use at Grand Teton/Yellowstone. Of those visitors who thought winter use should be limited, many (71 %) preferred a reservation system.

Old Faithful Survey: Visitor Origins (National Park Service, 2000)

Park staff conducted 98 surveys of visitors to Old Faithful from August 10 through September 2, 2000. The purpose was to determine the origins of visitors to Old Faithful and the number travelling on bus tours. A total of 4977 visitors were contacted.

Origins: 79% were U.S. citizens; 21% were from other countries. Of the total number of foreign citizens, the order of representation was:

Germany (18.2%)
 Canada (15.2%)
 England (9.3%)
 France (6%)
 Netherlands (5.5%)
 Italy (5.4%)
 Korea (4.4%)
 Japan (3.5%)
 China (2.9%)
 India (2.8%)
 Israel (2.8%)
 Switzerland (1.9%)
 Taiwan (1.9%)
 Australia (1.5%)
 Belgium (1.5%)
 Poland (1.2%)
 Brazil (1%)
 Unknown (5%)

Bus tours:

U.S. citizens on bus tours - 8% of total U.S. visitors contacted

Foreign citizens on bus tours - 15.1% of total foreign visitors contacted

Total of all visitors on bus tours - 9% of total visitors contacted

The nationality figures, particularly if replicated at other locations and at other times, would be useful in determining needs for foreign-language translations of interpretation and orientation materials, and for guiding possible information/outreach and partnership programs (e.g., with education and tourism organizations). Bus tour statistics show a significant number of visitors arriving on bus tours. These numbers would impact subsequent design of facilities such as visitor centers, parking lots, and food service; interpretive program planning would also take these into consideration.

Government Performance and Results Act (GPRA) Visitor Survey

The GPRA Visitor Survey annually measures visitor satisfaction, understanding, and appreciation. For Yellowstone, the FY00 survey (conducted July 1-31, 2000) yielded the following satisfaction results (National Park Service, 2000, Visitor Survey Card Data Report (GPRA), Yellowstone National Park).

	<u>Very Good</u>	<u>Good</u>	<u>Average Evaluation Score</u>
Visitor centers	58%	34%	4.5
Exhibits	47%	43%	4.4
Combined facilities	38%	42%	4.1
Staff assistance	65%	30%	4.6
Park map/brochure	69%	23%	4.6
Ranger programs	72%	22%	4.7
Combined services	57%	28%	4.4
Learning about nature, history	59%	37%	4.5
Outdoor recreation	58%	30%	4.5
Sightseeing	80%	16%	4.8
Combined recrea- tional opportunities	66%	27%	4.6

The overall satisfaction rate (equaling the total of "good" or "very good" responses) for facilities, services, and recreational opportunities was 93%.

The overall level of understanding and appreciation of the significance of Yellowstone was 59%, just slightly below the Park Service goal. It is thought that this goal was not reached due to budget and staffing constraints.

PARK RESOURCES & FACILITIES

General Assessment

Rehabilitating or replacing inadequate visitor contact facilities is a major priority. There are nine major visitor contact facilities in the park, ranging in age from 30 to nearly 100 years old, and serving over two million people a year. Most appear rather shabby, are too small, and don't even provide adequate restrooms. Insufficient staff and space at information desks prevent serving more than a few visitors at a time, causing long lines to form and frustration to flare.

Indoor exhibits at seven of nine visitor contact facilities are either obsolete (20-60 years old) or nonexistent. Exhibits at Canyon Visitor Center were designed in 1997 to be temporary; they are already showing wear caused by visitor use. Major interpretive theme areas - geology, wildlife, and human history - are given little attention by exhibits. New and effective technologies such as interactive computers, audiovisual media, and environmental simulations have not been used.

There are many topics that would make excellent audiovisual programs, especially those that are complex, contain appealing visuals, and evoke emotional responses. Yet only four of the park's visitor centers still show films or automated slide presentations; the programs and equipment are outdated, and accessibility requirements are not met. Two new films are being developed with funding from partners.

While a wide variety of quality publications are available to the public, there are many themes and topics for which little written material exists. The park has identified a need for a publications plan.

Developed Areas

Mammoth

The Mammoth Hot Springs terraces are the main attraction in the Mammoth District. These features are quite different from thermal areas elsewhere in the park. As hot water rises through limestone, large quantities of rock are dissolved by the hot water, and a white chalky mineral is deposited on the surface. The location of springs and the rate of flow can change daily, while the overall volume of water discharged by all of the springs fluctuates little. The North Entrance Road from Gardiner, Montana, to Mammoth Hot Springs, Wyoming, runs along the Gardner River. The road winds up the canyon past crumbling walls of sandstone and ancient mudflows. Rocky Mountain juniper, cotton-

wood, and Douglas fir grow in the canyon, and willows crowd the river's edge. Eagles, osprey, dippers, and kingfishers can be seen along the river and bighorn sheep in the steeper parts of the canyon. Mt. Everts is a prominent feature of the Mammoth District, and is made up of distinctly layered sandstone and shale. Bunsen Peak is another prominent feature and may be climbed via a trail.

Due to its year-round access and comparatively mild winters, Mammoth has always been the headquarters for the park. The hot springs were an early commercialized attraction for those seeking relaxation and relief from ailments in the mineral waters. Two historic events taking place at Mammoth were the Nez Perce flight in 1877 and President Teddy Roosevelt's visit in 1903.

Archeological Resources

There are several wickiups in the vicinity as well as the Bannock Indian trail, roasting pits, and the Obsidian Cliff quarry site. In 1959, a Clovis point that was dated to more than 10,000 years ago was found at the site of the old Gardiner post office.

Fort Yellowstone

All of the red-roofed, stone buildings in the Mammoth area are part of historic Fort Yellowstone. In 1886, after 14 years of poor civilian management of the park, the Cavalry was called upon to manage the park. The Cavalry only expected to be here a short time, and they built a temporary post near the base of the Terraces called Camp Sheridan. After five cold, harsh winters, they realized that their stay in the park was going to be longer than expected, so they built Fort Yellowstone, a permanent post.

In 1891, the first building to be constructed was the guardhouse because it directly coincided with the Cavalry's mission--protection and management. There were three stages of construction at Fort Yellowstone. The first set of clapboard buildings were built in 1891, the second set in 1897 as the Fort expanded to a two-troop fort, and, finally, the stone buildings were built in 1909 making the fort's capacity 400 men or four troops. By 1916, the National Park Service was established, and the Cavalry gave control of Yellowstone back to the civilians. After a short time away, the Cavalry returned in 1917 and finished their duty completely in 1918. Since that time, historic Fort Yellowstone has been Yellowstone's headquarters.

Mammoth Hot Springs development is eligible for listing in the National Register of Historic Places and Fort Yellowstone is potentially eligible for listing as a National Historic Landmark.

Roosevelt Arch

The first major entrance for Yellowstone was at the north boundary. Before 1903, trains would bring visitors a few miles northwest of Gardiner, Montana, and people would climb onto horse-drawn coaches to enter the park. In 1903, the railway finally came to Gardiner, and people entered through an enormous stone archway. Robert Reamer, a famous architect in Yellowstone, designed the immense stone arch for coaches to travel through on their way into the park. At the time of the arch's construction, President Theodore Roosevelt was visiting the park. He consequently placed the cornerstone for the arch, which then took his name. The top of the Roosevelt Arch is inscribed with "For the benefit and enjoyment of the people," which is from the enabling legislation for Yellowstone National Park.

Obsidian Cliff

Obsidian Cliff is located 11 miles south of Mammoth Hot Springs and rises 150-200 feet above Obsidian Creek. The wayside exhibit kiosk here is one of the first of its kind in Yellowstone, built in the 1920s. Obsidian is created when lava cools so quickly that it does not have time to form large crystals. A massive outcrop the size of Obsidian Cliff is quite rare because obsidian is usually found as small sections of other rock outcrops. Obsidian can be dated by measuring the hydration rate (absorption of water) of the rock. Because there are so few outcrops of obsidian, matching a projectile point to an outcrop is fairly easy.

For centuries, many Native Americans made their projectile points from obsidian. Projectile points found as far away as Ohio have had their origin traced to the Obsidian Cliff area. In 1996, Obsidian Cliff was named a National Historic Landmark.

Other Historic Sites

The list includes: the Engineer's office, designed in 1903 by Hiram Chittenden of the U.S. Army Corps of Engineers; Scottish Rite Chapel, 1913; Capitol Hill, former site of Superintendent Norris' headquarters blockhouse; Kite Hill cemetery, 1880s, containing graves of early settlers and employees; Reamer House, designed in 1908 by well-known architect Robert Reamer, an example of Prairie-style architecture; Haynes Picture Shop, photographic studio used by the Haynes family; old roads, railroad beds, bridges; and historic structures in Gardiner.



The **Albright Visitor Center and Museum** (open year-round) is located at Mammoth Hot Springs, five miles inside the north entrance. The visitor center and neighboring buildings were part of Fort Yellowstone.

Visitor center exhibits interpret historical themes, including Native Americans, mountain men, early exploration, the Army days, and early National Park Service. In early 1998, new exhibits with a predator-prey theme were installed upstairs.

The Moran and Jackson galleries display reproductions of Thomas Moran watercolors and original photographs by William Henry Jackson. A theater features film and video presentations every half hour in summer and on request in winter. Films include *The Challenge of Yellowstone* (1979, 25 minutes) on the history of Yellowstone and the evolution of the national park idea, and *Thomas "Yellowstone" Moran* (1997, 12 minutes) on Moran's contribution toward the establishment of Yellowstone National Park. The Yellowstone Association (YA) operates a sales area.

The Division of Resource Management and Visitor Protection operates a backcountry office inside the visitor center during the summer months. This office issues backcountry camping permits, boating permits, fishing permits, and general information.

The Albright Visitor Center is an important facility for providing orientation and information to visitors. However, there are many problems with the present situation: space is limited, over-crowding is frequent, light levels are low, parking is limited, restrooms are too small, and physical accessibility is poor.

Norris

Norris Geyser Basin is the hottest, oldest, and most dynamic of Yellowstone's thermal areas. The highest temperature yet recorded in any geothermal area in

Yellowstone was measured in a scientific drill hole at Norris: 459°F (237°C) just 1,087 feet (326 meters) below the surface. There are very few thermal features at Norris under the boiling point (199°F at this elevation). The features in the basin change daily, with frequent disturbances from seismic activity and water fluctuations. The vast majority of the waters at Norris are acidic, including acid geysers which are very rare. Steamboat Geyser, the tallest geyser in the world (300 to 400 feet) and Echinus Geyser (pH 3.5 or so) are the most popular features. The basin consists of three areas: Porcelain Basin, Back Basin, and One Hundred Springs Plain. Porcelain Basin is barren of trees and provides a sensory experience in sound, color, and smell; a 3/4-mile dirt and boardwalk trail accesses this area. Back Basin is more heavily wooded with features scattered throughout the area; a 1.5-mile trail of boardwalk and dirt encircles this part of the basin. One Hundred Springs Plain is an off-trail section of the Norris Geyser Basin that is very acidic, hollow, and dangerous. Travel is discouraged without the guidance of knowledgeable staff members.

Located just north of Norris on the Norris-Mammoth section of the Grand Loop Road, **Roaring Mountain** is a large, acidic thermal area (solfatara) that contains many steam vents (fumaroles). In the late 1800s and early 1900s, the number, size, and power of the fumaroles was much greater than today.

The **Gibbon River** flows from Wolf Lake through the Norris area and meets the Firehole River at Madison Junction to form the Madison River. Both cold and hot springs are responsible for the majority of the Gibbon's flow. Brook trout, brown trout, grayling, and rainbow trout find the Gibbon to their liking.

Norris-Canyon Blowdown is a 22-mile swath of lodgepole pine blown down by wind-shear action in 1984. It burned during the North Fork fire in 1988. This is the site where a famous news anchor said, "Tonight, this is all that's left of Yellowstone." A wayside exhibit there tells the story.

Archeological Resources: Digs by the Midwest Archeological Center in Norris and Madison campgrounds reveal that people have camped in these areas for at least 10,000 years. Campfire remnants, obsidian flakes, and bone fragments show that these campgrounds have long been favorites. Other such sites abound throughout the Norris area, particularly along the Solfatara Trail that connects Norris Campground with the Obsidian Cliff area.

The **Norris Geyser Basin Museum** is located 1/4 mile east of Norris Junction. Built in 1929-30, it is a National Historic Landmark. Its distinctive stone-and-log architecture became a prototype for park buildings throughout the country (Fishing Bridge Museum and Madison Museum date from the same time period and are of the same style). New exhibits on geothermal geology, Norris Geyser Basin features, and life in thermal areas were installed in 1995. There is no auditorium in this building, which consists of two wings separated by an

open-air breezeway. NPS interpreters staff an information desk in the breezeway. An adjacent facility of matching architectural style houses and a YA bookstore.

The **Museum of the National Park Ranger** is housed in the Norris Soldier Station, located at the entrance to Norris Campground. This building was built in 1908 as an outlying station for soldiers on patrol. The building has been completely rebuilt, using original materials where possible and retaining the original floor plan. Exhibits depict the development of the park ranger profession. A small auditorium shows a laser-disc production of the 25-minute movie, "An American Legacy," which tells the story of the development of the National Park Service. There is no YA sales outlet in this museum. Primarily retired National Park Service employee volunteers staff the building.

Madison

Artist Paint Pots is a small thermal area just south of Norris Junction. A one-mile round trip trail takes visitors to colorful hot springs, two large mudpots, and through a section of forest burned in 1988. Adjacent to this area are three other off-trail backcountry thermal areas: Sylvan Springs, Gibbon Hill Geyser Basin, and Geyser Creek Thermal area. These areas are fragile, dangerous, and difficult to get to; travel without knowledgeable personnel is discouraged.

The **Madison River** is formed at the junction of the Gibbon and Firehole rivers, hence Madison Junction. The Madison joins the Jefferson and the Gallatin rivers at Three Forks, Montana, to form the Missouri River. The Madison is a blue-ribbon fly fishing stream with healthy stocks of brown and rainbow trout and mountain whitefish.

The **Firehole River** starts south of Old Faithful and runs northward through the thermal areas to join the Gibbon and form the Madison River. The Firehole is world famous among anglers for its pristine beauty and healthy brown, brook, and rainbow trout. Firehole Canyon Drive follows the Firehole River upstream from Madison Junction to just above Firehole Falls. The drive takes sightseers past 800-foot thick lava flows. Firehole Falls is a 40-foot waterfall.

The **Madison Museum** building dates from 1929-30 and is a National Historic Landmark. It is built from wood and stone, and located at Madison Junction in the Madison Picnic Area. The building sits near the site of the mythical campfire circle of the Washburn-Langford-Doane Expedition. In previous years, this building has been used as a museum, housed the Arts Yellowstone program, and sat empty and abandoned. It began its new life as an information station and Yellowstone Association bookstore during the summer of 1995. The museum presently contains only touch-table exhibits. Plans are underway to design and install orientation panels, and to convert the building to an arts activity

center. A nearby wayside exhibit commemorates the mythical NPS "campfire story," and a commemorative plaque honors Stephen T. Mather.

Old Faithful

Upper Geyser Basin: The Upper Geyser Basin is home to the largest numbers of geysers found in the park (including Old Faithful); within one square mile there are at least 150 geysers.

Lower Geyser Basin: This large area of hydrothermal activity can be viewed by foot along the boardwalk trail at Fountain Paint Pots and by car along the three-mile Firehole Lake Drive. The only handicapped-accessible backcountry site in the Old Faithful district is at Goose Lake.

Midway Geyser Basin, though smaller than its companions along the Firehole River, holds large wonders. Excelsior Geyser reveals a gaping crater 200 x 300 feet with a constant discharge of more than 4,000 gallons of water per minute into the Firehole River. Also found here is Yellowstone's largest hot springs, Grand Prismatic Spring, 370 feet in diameter and more than 121 feet in depth.

Lone Star Geyser Basin is reached by a five-mile roundtrip hike from the trailhead south of Old Faithful. Lone Star Geyser erupts about every three hours.

Shoshone Geyser Basin is reached by a 17-mile roundtrip hike that crosses the Continental Divide at Grant's Pass.

Isa Lake: At 8,262 feet along the Continental Divide, Isa Lake is a uniquely confusing feature. During spring runoff, it drains into both the Atlantic and Pacific Oceans. The west side of the lake flows into the Firehole drainage and eventually the Atlantic throughout the year. The east side during spring flows toward the Snake River drainage and the Pacific. An historic wayside kiosk is found here.

Waterfalls: Kepler Cascades is the most easily reached waterfall in the district. Mystic Falls and Fairy Falls are found here as well.

Old Faithful Historic District: This designation applies to the historic structures surrounding Old Faithful Geyser.

Old Faithful Inn was built in 1903-04. Robert C. Reamer, who wanted the asymmetry of the building to reflect the chaos of nature, designed it. The lobby of the hotel features a 65-foot ceiling, a massive rhyolite fireplace, and railings made of contorted lodgepole pine. Wings were added to the hotel in 1915 and 1927, and today there are 327 rooms available to guests in this National Historic Landmark.

The **Old Faithful Lodge** is a result of numerous changes dating back to the early days of tent camps. These camps were erected throughout the park and offered shelter before hotels and lodges were built. Construction of the Lodge began in 1918 and continued until 1928 when the Lodge reached its present configuration. Cabin-style accommodations are available at Old Faithful Lodge, which includes a cafeteria, gift shop, and coffee shop.

The **Old Faithful Visitor Center** is about 200 yards from Old Faithful Geyser. A 100-seat auditorium features *Yellowstone Revealed*, a 14-minute film that reveals newly discovered life forms in thermal features, and the associated benefits to society. Evening ranger-led programs are presented here during summer and winter. The YA sales outlet provides their largest merchandise selection in the park. The visitor center has no space for exhibits, and the tiny lobby is often so jammed with visitors that many give up before receiving the information they seek. Two adjacent buildings complete the visitor center complex. Both were built as satellite theaters, but are used today for a variety of other purposes. One is a multi-purpose building that is utilized as a warming hut in the winter, and the other is used occasionally for presentations.

A ranger station, backcountry office, clinic, library, and office are located in a building across the west parking lot from the visitor center.

The Yellowstone Park Foundation is spearheading a major private fundraising campaign to build a new visitor education center at Old Faithful, with exhibits and interactive media focusing on the wonders of Yellowstone's hydrothermal features. The new center will also house a classroom, auditorium, space for traveling exhibits, YA bookstore, and backcountry office.

West Thumb and Grant Village

The **West Thumb** area was the first Yellowstone feature to be written about in a publication. Daniel T. Potts, a trapper in the Yellowstone region in the 1820s, wrote a letter regarding his experiences here. The letter was printed in the Philadelphia Gazette on September 27, 1827. Part of the letter described the northern part of the West Thumb Geyser Basin, which is currently known as "Potts Basin":

. . . on the south borders of this lake is a number of hot and boiling springs some of water and others of most beautiful fine clay and resembles that of a mush pot and throws its particles to the immense height of from twenty to thirty feet in height. The clay is white and of a pink and water appears fathomless as it appears to be entirely hollow underneath. There is also a number of places where the pure sulfur is sent forth in abundance.

The West Thumb area used to be the site of a large campground, cabins, a photo shop, a cafeteria, and a gas station. This development was located immediately next to the geyser basin with the park road passing between the two. In an effort to further protect the scenic quality and the resource that visitors were coming to see, the National Park Service removed this development in the 1980s.

Lodgepole Pine Forests & Fire: The fires of 1988 greatly affected this part of the park. Several trails including the Lake Overlook Trail, Duck Lake Trail, and Riddle Lake Trail provide excellent opportunities to examine the various stages of lodgepole pine forest succession and development as well as fire ecology.

Cutthroat Trout Spawning Streams: Big Thumb Creek and Little Thumb Creek along with several other intermittent streams serve as cutthroat trout spawning streams; these are major feeding areas for both grizzly and black bears during spawning season.

Red Mountains, located just west of Heart Lake, are completely contained within the boundaries of Yellowstone National Park.

Shoshone Lake, the park's second largest lake, is located at the head of the Lewis River southwest of West Thumb.

It is 205 feet at its maximum depth, has an area of 8,050 acres, and contains lake trout, brown trout, and Utah chubs. Originally, Shoshone Lake was barren of fish owing to waterfalls on the Lewis River. The trout were planted beginning in 1890, and bait fishermen apparently introduced the Utah chub. This large lake is the source of the Lewis River, which flows to the Pacific Ocean via the Snake River system. The U.S. Fish and Wildlife Service believes that Shoshone Lake may be the largest lake in the lower 48 states that cannot be reached by road. No motorboats are allowed on the lake.

The **Snake River** is a major tributary of the Columbia River and has its headwaters just inside Yellowstone on the Two Ocean Plateau. The Snake River is the nation's fourth largest river; 42 miles of it are in Yellowstone National Park.

Archeological Resources: The shoreline of West Thumb is the location of several Native American hearth sites providing evidence that native peoples once used this area as a travel route, camping ground, and food-gathering area.

The **Grant Visitor Center** is located on the shore of the West Thumb of Yellowstone Lake one mile off of the main park road at Grant Village Junction. The facility was constructed in 1965. The Grant area development (including Grant Village, constructed in the early 1980s), is controversial due to its loca-

tion in prime grizzly bear habitat (the area is the location of several major cut-throat trout spawning streams).

Exhibits interpret the role of fire in the environment, highlighting the fires of 1988. The movie *Ten Years After the Fire* (on the 1988 fires--20 minutes) and the slide show *Touring Yellowstone, A Journey of Discovery* (orientation to the park--22 minutes) are shown on a regular schedule throughout the summer months. YA operates a sales area in the lobby of the visitor center.

The **West Thumb Ranger Station** serves as a YA sales outlet as well as a meeting place for interpretive walks and talks during the summer season. During the winter, this facility is a warming hut. Visitors can warm up, peruse interpretive exhibits, and get their questions answered. It was built in 1925, and the open breezeway was enclosed in 1966.

The Law Enforcement Division operates the **Grant Ranger Station** that is intermittently staffed during the spring and fall (before and after the visitor center is open). It is located 0.25 miles east of Grant Village Junction. Patrol rangers make most of their contacts for backcountry and boating permits from a small office in the ranger station.

Lake, Bridge Bay, and Fishing Bridge

The park's largest lake is **Yellowstone Lake**. It is the largest natural freshwater lake in North America above 7,000 feet and is one of the largest such lakes in the world. It covers 136 square miles and is 20 miles long by 14 miles wide; it has 110 miles of shoreline. The lake is at least 320 feet deep in the West Thumb area and has an average depth of 140 feet. Situated at an elevation of 7,733 feet, the lake remains cold the year-round, with an average temperature of 41°F. Because of the extremely cold water, swimming is not recommended.

The lake has the largest population of wild cutthroat trout in North America. Lake trout, an illegally introduced, exotic species, is now found in Yellowstone Lake and threatens the existence of the native cutthroat trout. This predation may cause impacts on wildlife that feed on cutthroat trout in the spring.

If one could pour all the water out of Yellowstone Lake, what would be found on the bottom is similar to what is found on land in Yellowstone; geysers, hot springs, and deep canyons. Nutrient- and mineral-rich submarine fountains support incredible plant and animal communities, including bacterial mats, sponges, and earthworms.

The **Yellowstone River** is the last major undammed river in the lower 48 states. It begins in the Absaroka Mountain Range on Yount Peak. The river enters the park and meanders through the Thorofare region into Yellowstone

Lake. It leaves the lake at Fishing Bridge and flows north over LeHardy Rapids and through Hayden Valley. After this peaceful stretch, it crashes over the Upper and Lower falls of the Grand Canyon. It then flows generally northwest, meeting its largest tributary, the Lamar River, at Tower Junction. It continues through the Black Canyon and leaves the park near Gardiner, Montana. The Yellowstone River continues north and east through the state of Montana and joins the Missouri River near the eastern boundary line of the state. The Missouri River eventually joins the Mississippi River, which flows into the Atlantic Ocean at the Gulf of Mexico.

In addition to the Yellowstone River, many of the spawning streams in the Lake/Fishing Bridge/Bridge Bay area provide critical food sources for grizzly bears in the spring. The **LeHardy Rapids** are a cascade on the Yellowstone River, three miles north of Fishing Bridge. Many cutthroat trout may be seen here in the spring, resting in the shallow pools before expending bursts of energy to leap up the rapids on their way to spawn under Fishing Bridge. LeHardy Rapids exists because the hotspot beneath Yellowstone continues to bulge the earth's surface. Two resurgent domes are found today in the park - one near LeHardy Rapids and the other near Old Faithful.

Mud Volcano: When the Washburn Expedition explored the area in 1870, Nathaniel Langford described Mud Volcano as "greatest marvel we have yet met with." Although the Mud Volcano can no longer be heard from a mile away nor does it throw mud from its massive crater, the area is still intriguing.

Two of the most popular features in the Mud Volcano front country are the Dragon's Mouth and the Black Dragon's Caldron. The rhythmic belching of steam and the flashing tongue of water give the Dragon's Mouth Spring its name, though its activity has decreased notably since December 1994. The Black Dragon's Caldron exploded onto the landscape in 1948, blowing trees out by their roots and covering the surrounding forest with mud. Farther in the backcountry behind Mud Volcano, several features are being tested for the existence of thermophilic microbes, which may offer insights into origin of life theories as well as having medical/environmental applications.

The **Sulphur Caldron** area can be viewed from a staging area just north of Mud Volcano. The Sulphur Caldron is among the most acidic springs in the park, with a pH of 1.3. Other features visible from this overlook are Turbulent Pool (which is no longer turbulent) and the crater of a large, active mudpot.

The **Hayden Valley** is located six miles north of Fishing Bridge Junction. The **Pelican Valley** is situated three miles east of Fishing Bridge. These two vast valleys comprise some of the best habitat in the lower 48 states for grizzly bears, bison, elk, and other wildlife species.

Fishing Bridge: The original bridge was built in 1902. It was a rough-hewn corduroy log bridge with a slightly different alignment than the current bridge. The existing bridge was built in 1937. The Fishing Bridge was historically a popular place to fish. Angling from the bridge was quite good because it was a major spawning area for cutthroat trout. However, because of the decline of the cutthroat population (in part, a result of this practice), the bridge was closed to fishing in 1973. Since that time, it has become a popular place to observe fish.

The **Lake Yellowstone Hotel** was built on a site long known as a meeting place for Indians, trappers, and mountain men. The hotel opened in 1891. In 1903, the architect of the Old Faithful Inn, Robert Reamer, directed the renovation of the hotel. A number of further changes were added in 1929. In 1981, the National Park Service and the park concessioner, TW Recreational Services, embarked upon a ten-year project to restore the Lake Hotel in appearance to its 1920s appearance. The hotel was placed on the National Register of Historic Places that year.

Amfac Parks and Resorts currently operate the hotel.

The **Lake Ranger Station** was completed in 1923. The first Director of the National Park Service, Stephen Mather, suggested that the station should blend in with its natural and cultural environment. A local woodsman used pioneer building techniques to give the station its "trapper cabin" style. With park architects, Superintendent Horace Albright designed a large octagonal "community room" with a central stone fireplace. This rustic hall served an informational function by day, and in the evening it became the scene of gatherings around a log fire.

The Lake Lodge: The advent of the automobile in the park in 1915 created a great influx of visitors. The need arose for an intermediate style of lodging between the luxury of the Lake Hotel and the rustic accommodations of the tent camps. In 1926, the Lake Lodge (also a Robert Reamer design) was completed, one of four lodges in the park. The park was no longer primarily accessible to only the affluent; populism had come to Yellowstone. Amfac Parks and Resorts currently operate the lodge.

Archeological Research: For compliance purposes associated with the reconstruction of the East Entrance Road, recent archeological research has been conducted by the Midwest Archeological Center of the National Park Service. Preliminary studies indicate that indigenous people inhabited the Lake area 9,600 years before present. Numerous projectile points have been found in addition to a hearth (cooking) structure, middens, and a bison harvest site.

The **Fishing Bridge Museum and Visitor Center** is located one mile off the Grand Loop Road on the East Entrance Road. Built in 1931, it is a National Historic Landmark. Its distinctive stone-and-log architecture became a prototype for park buildings all around the country. The historic bird specimens (by Carl Russell) were installed in 1931, and provide an overview of the birds of Yellowstone. Other mounted specimens include a grizzly sow and two cubs and a family of river otters. The east wing of the building houses a YA book sales outlet.

The Division of Resource Management and Visitor Protection operates two **ranger stations**, one at Lake and one at Bridge Bay, where they issue back-country and boating permits and also distribute general park information. Canyon

The **Grand Canyon of the Yellowstone** is the primary geologic feature in the Canyon District. It is roughly 20 miles long from the Upper Falls to the Tower Fall area. Depth is 800 to 1,200 ft.; width is 1,500 to 4,000 ft. The canyon as we know it today is a very recent geologic feature. The present canyon is no more than 10,000 to 14,000 years old, although there has probably been a canyon in this location for a much longer period. The exact sequence of events in the formation of the canyon is not well understood, as there has been little fieldwork done in the area. The few studies that are available are thought to be inaccurate. It is known that the canyon was formed by erosion rather than by glaciation. The Yellowstone River is the force that created the canyon and the falls. The canyon's significance derives from its geologic story, importance as a destination/attraction, appearance in Native American and Euroamerican lore, beauty and grandeur, and relationship to the development of the national park idea.

The **Upper and Lower Falls** are erosional features formed by the Yellowstone River as it flows over progressively softer, less resistant rock. The Upper Falls is 109 ft. high. The Lower Falls is 308 ft. high. The volume of water flowing over the falls can vary from 63,500 gallons/second at peak runoff to 5,000 gallons/second in the fall. A third falls can be found in the sidewall of the canyon between the Upper and Lower Falls. Crystal Falls is the outfall of Cascade Creek into the canyon.

Hayden Valley is one of the best places in the park to view a wide variety of wildlife. It is an excellent place to look for grizzly bears, particularly in the spring and early summer when they may be preying upon newborn bison and elk calves. Large herds of bison may be viewed in the spring, early summer, and during the fall rut, which usually begins late July to early August. Coyotes can almost always be seen in the valley.

Bird life is abundant in and along the river. A variety of shore birds may be seen in the mud flats at Alum Creek. A pair of sandhill cranes usually nests at the south end of the valley. Ducks, geese, and American white pelicans cruise the river. The valley is also an excellent place to look for bald eagles and northern harriers.

Mt. Washburn is the main peak in the Washburn Range, rising 10,243 ft. above the west side of the canyon. It is the remnant of volcanic activity that took place about 50 million years ago. It is an excellent example of subalpine habitat and is easily accessible to most visitors. Bighorn sheep and an abundance of wildflowers can be found on its slopes in the summer.

The **Canyon Village** complex is one of the Mission 66 projects in the park. The development was completed in 1957. The development is representative of the architecture of the time and is eligible for listing in the National Register of Historic Places.

Other Cultural Resources: Most of the remaining cultural resources associated with earlier developments are far from the public eye and not easily accessible; one has to know where to look for them. They include remnants of the hotel, the lodge, the Ram pump on Cascade Creek, the concrete apron (for water supply) on Cascade Creek, the hotel water tank, and the water tank at the Brink of the Upper Falls. All are slated for some kind of mitigation.

The Canyon Visitor Center is located 1/8 mile southeast of Canyon Junction in the Canyon Village complex. The building was completed and open for public use in 1958 as part of Mission 66 in Yellowstone. The Canyon Visitor Center has traditionally been the location of exhibits explaining the geology of Yellowstone, but there have been no permanent exhibits since the summer of 1990. The Fire Exhibit, now at Grant Visitor Center, was displayed here in 1991. During the 1992 and 1993 seasons, geology exhibits designed and produced by students from Shelley, Idaho; Cody, Wyoming; and Helena, Montana, were displayed. "Imagine Yellowstone," children's art exhibits, were here in 1994 and 1995, and retrospective exhibits in 1996. In August 1997, new exhibits on bison were installed. These exhibits are the result of a cooperative effort between Yellowstone National Park and the Buffalo Bill Historical Center in Cody, Wyoming. The exhibits deal with the natural history of bison and the bison as a symbol of wildness; they also include information on the current controversy about brucellosis. Planning for a major rehabilitation of the building and for permanent geology exhibits is underway. Audiovisual programs currently are not available at the Canyon Visitor Center. YA has a large book sales outlet in the lobby.

The Division of Resource Management and Visitor Protection operates a **ranger station** and a backcountry office in the Canyon Visitor Center. Visitors may obtain backcountry permits, boating permits, and first-aid assistance here.

Tower-Roosevelt

Specimen Ridge, located along the Northeast Entrance Road east of Tower Junction, contains the largest concentration of petrified trees in the world. There are also excellent samples of petrified leaf impressions, conifer needles, and microscopic pollen from numerous species no longer growing in the park. Specimen Ridge provides a superb "window" into the distant past when plant communities and climatic conditions were much different than today.

The **Petrified Tree**, located near the Lost Lake trailhead, is an excellent example of an ancient redwood, similar to many found on Specimen Ridge, that is easily accessible to park visitors.

Tower Fall is the most recognizable natural feature in the district. People from the earliest explorers have documented the 132-foot drop of Tower Creek. Its idyllic setting has inspired many artists, including Thomas Moran. His painting of Tower Fall played a crucial role in the establishment of Yellowstone National Park in 1872. The nearby Bannock Ford on the Yellowstone River was an important travel route for early Native Americans as well as for early European visitors and miners.

Calcite Springs: This grouping of thermal springs along the Yellowstone River signals the downstream end of the Grand Canyon of the Yellowstone. The geothermally altered rhyolite inspired the artist Moran; his paintings of this scene were among those presented to Congress in 1872, leading to the establishment of the park. The steep, columnar basalt cliffs on the opposite side of the river from the overlook are remnants of an ancient lava flow, providing a window into the past volcanic forces that shaped much of the Yellowstone landscape. The gorge and cliffs provide habitat for bighorn sheep, red-tailed hawks, and osprey.

The **Buffalo Ranch** was built in the early part of the 20th century in an effort to increase the herd size of the few remaining bison in Yellowstone, preventing the feared extinction of the species. Buffalo ranching operations continued at Lamar until the 1950s. The valley was irrigated for hay pastures, and corrals and fencing were scattered throughout the area. Remnants of irrigation ditches, fencing, and water troughs can still be found. Four remaining buildings (two residences, the bunkhouse, and the barn) from the original ranch compound are contained within the Lamar Buffalo Ranch Historic District and are on the National Register of Historic Places. In the early 1980s, old tourist cabins from Fishing Bridge were brought to Lamar to be used for Yellowstone

Institute classes. In 1993, a cabin replacement project, funded by the Yellowstone Association, was begun. At this time all of the old cabins have been replaced with new insulated and heated structures. The facility is also used in the spring and fall for the Park Service's residential environmental education program, *Expedition: Yellowstone!* There are no facilities open to the general public at this location.

The **Roosevelt Lodge** was constructed in 1920 and has been determined eligible for the National Register of Historic Places. The **Roosevelt National Historic District** also includes the Roosevelt cabins. One of the reasons Roosevelt Lodge was nominated for the National Register was due to its important role in early park interpretation.

The Bannock Trail was used by Native Americans to access the buffalo plains east of the park from the Snake River plains in Idaho; intensive use was from about 1840 to 1876. A lengthy portion of the trail extends through the Tower District from the Blacktail Plateau (closely paralleling or actually covered by the existing road) to where it crosses the Yellowstone River at the Bannock Ford upstream from Tower Creek. From the river, the trail's main fork ascends the Lamar River splitting at Soda Butte Creek. From there, one fork ascends the creek before leaving the park. Traces of the trail can still be plainly seen in various locations, particularly on the Blacktail Plateau and at the Lamar-Soda Butte confluence.

Archeological sites are found in a greater density in the Tower District than in most other areas of the park. Few sites have been adequately documented or studied.

The Tower District has no visitor center, museum, or formal interpretive contact stations.

The **Tower Ranger Station** issues backcountry and fishing permits. The building, constructed in 1923, is a reconstruction of the second Tower soldier station, originally constructed in 1907. Visitors frequently use the Tower Junction ranger station for information services.

The **Lamar Ranger Station**, located at the Buffalo Ranch in the Lamar Valley, provides emergency visitor services only. The ranger station is also used as housing for the Lamar ranger and is a historic structure (one of four at the Buffalo Ranch) on the National Register of Historic Places. It was constructed around the turn of the century.

The **Northeast Entrance Ranger Station** issues both backcountry and fishing permits. This structure also serves as the entrance station and is a National Historic Landmark that was constructed in 1934-35.

Warming Huts

There are five warming huts - at Canyon, Madison, Norris, Fishing Bridge, and West Thumb -- which provide information about travel conditions and park resources, and offer a brief respite from the cold. Snacks are available at Canyon and Madison. Visitors arrive via snowmobile, snowcoach, or cross-country skis. Huts are staffed intermittently, during busy periods or when staffing levels permit. Bulletin boards feature announcements, posters, weather, resource information, safety, and other park-produced information.

Two visitor centers - Albright and Old Faithful - are open in the winter.

Wayside Exhibits

Major progress has been made in replacing damaged and obsolete wayside exhibits; more remains to be done.

There are 192 wayside (outdoor) exhibits in the park, which have been installed within the last nine years; an additional 100 have been funded and are in production. About 500 additional waysides are needed, as replacements or to fill existing gaps in interpretation. Yellowstone has 12 self-guiding trails in popular areas; more trails are needed.

Museum Collection

The Yellowstone museum collection includes nearly 200,000 cultural objects and natural history specimens representing archeology, ethnology, history, archives, biology, paleontology, and geology. The collection includes paintings by Thomas Moran, J.H. Renshaw, and J.H. Twachtman; pencil sketches by Moran, William H. Jackson, H.W. Elliot, and W.H. Holmes; photographs by Jackson; historic hotel furnishings; Yellowstone Park Company touring cars and buses; stagecoaches and wagons; NPS uniforms; park souvenirs, postcards, and scrapbooks; archeological objects; prepared birds, insects, mammals, and fish; fossils; geological specimens; and one of the most complete herbarium collections for high altitude environments in the region.

Library

The park maintains its own archives through a cooperative agreement with the National Archives and Records Administration; Yellowstone's archives constitute a portion of Record Group 79 of the National Archives. The research library consists of approximately 14,000 bound publications, 150 linear feet of vertical files, approximately 2,000 manuscripts, and a rare book collection. The bulk of Yellowstone's 80,000-image photograph collection is also consid-

ered part of the National Archives. To improve accountability and facilitate item-level access, photographs are catalogued into the NPS Automated National Catalog System.

Interpretive programs and services

NPS Interpretation and Education Services: Fiscal Year 99

- At 14 Visitor Centers and Contact Stations, 2,504,174 visitor contacts were made by staff.
- Informal interpretive contacts numbered 212,847.
- 5,653 formal interpretive programs were attended by 249,059 visitors.
- 14,896 Junior Rangers completed the program.
- 25 different types of residential education programs served 802 students.
- 58 outreach programs were attended by 1,760 people.

Formal Interpretive Programs

In 1999, formal programs included approximately 2,000 guided walks, 1,000 campfire talks, and 1,400 interpretive talks and 8 demonstrations at visitor centers. Many programs include audiovisual media, especially slides. Seven areas offer ranger-led interpretive programs: Canyon, Fishing Bridge/Lake, Grant, Madison, Mammoth Hot Springs, Norris, and Old Faithful. All programs relate to the natural and cultural resource themes of that area. Most programs are offered in the summer season. Program schedules and locations are listed in *Discover Yellowstone*, a special supplement to the summer newspaper, which is given to all visitors entering the park, and mailed to Yellowstone Association members and those who request it.

Informal Contacts

For many visitors to Yellowstone, the experience of seeing and talking with a park ranger is as memorable as seeing Old Faithful Geyser. They seek out those friendly, knowledgeable, and versatile men and women in the gray and green uniforms and the flat hats. They have come to know and expect that the ranger will not only provide answers to their questions but will also help them connect with the deeper meanings behind the information or facts. While some park visitors take part in formal ranger-led programs, talks, or walks, many others encounter a ranger on the trail in one of the park's geyser basins or along the rim of the Grand Canyon of the Yellowstone. These "roving rangers" are an important part of the park's Interpretive Program, and recommendations in this plan will allow expansion of the program. The roving assignment provides opportunities to answer questions, monitor the resource, and be available to interpret the park and its resources onsite.

Community Outreach

Yellowstone National Park is well known and much loved throughout the nation, but the local "gateway" communities surrounding the park can feel alienated and isolated from the resource that is in their own backyard. Decisions made in Yellowstone to protect and provide access to resources are made on behalf of all the people of the nation. These decisions can have economic and social impacts on the gateway communities. The long-term need for protection of park resources in order to ensure quality visitor experiences into the future may not be evident to local residents who depend on tourism for their livelihood. Understanding the reasons for park management decisions and finding ways to lessen the economic or other impacts of those decisions can best occur in an atmosphere of collaboration where finding reasonable solutions to problems is the priority. An expanded formal program of Community Outreach will open new avenues of communication between the park and its neighbors and build solid relationships. The recommendations in this plan include significantly increasing the size and geographic scope of the Outreach Program.

Outreach services include personal services such as interpretive talks and attended booths, and non-personal media such as the Internet, informational mailings and other publications, and exhibits outside the park. Specific services include:

- Presentations, exhibits, and attended booths at trade shows and other conventions for outdoor recreation groups, teachers, conservation organizations, and career counseling fairs.
- Speeches to nearby community groups, agencies, clubs, and other groups on park-related topics.
- A traveling exhibit that is displayed in museums and other park visitor centers.

Expedition: Yellowstone!

Each year, nearly 800 students, teachers, and parents from communities surrounding Yellowstone National Park spend several days and nights at the historic Buffalo Ranch in the Lamar Valley. Here, they are immersed in Expedition: Yellowstone!, a curriculum-based program that connects gateway community 4th - 6th graders with the national park in their own backyard. Expedition: Yellowstone! affects children during their formative years, helping Yellowstone National Park's future constituents become fully informed citizens, better consumers of environmental information, and better decision makers in their own communities.

Because of staffing and facility limitations, Expedition: Yellowstone! is not advertised, and it currently reaches only a small percent of gateway community students. Classes must be selected by lottery - and the program can only accommodate 40% of the annual requests. Recommendations in the Long-Range Interpretive Plan call for a significantly expanded school-based educational program - one that will reach the majority of gateway community students at least once during their school-age years. The investment in a proactive program of this scope will reap tremendous future benefits by instilling park values and an understanding of Yellowstone's mission and philosophy in the park's most critical audiences for education - its neighboring populations.

Programming generally includes pre-site and post-site contacts, onsite activities, and educational materials. Programs are conducted with three types of organized groups: **formal education programs** include curriculum-based programs for schools, colleges, and universities; **informal programs** involve groups from museums, zoos, and other parks; and **non-formal programs** are conducted with groups such as clubs, scouts, and community groups.

Vision for Yellowstone Education Program

Yellowstone National Park is a world-class laboratory for experiential educational programs that facilitate life-long learning, connections with our natural and cultural heritage, and stewardship of parks worldwide.

Purposes of education programs include:

- Communicating park themes, especially stewardship messages, and topics that participants are interested in
- Facilitating communication and enhancing relationships with nearby communities

- Serving a national constituency by communicating information about park themes, resources, and values
- Targeting important audiences such as children and those with little previous access to the park

Education programs are highly important to the park and to participating groups, especially those in gateway communities. The Yellowstone Education Program includes Expedition: Yellowstone!, Exploring Yellowstone, a cross-country ski program, the Junior Ranger Program, special events such as Earth Day Yellowstone, and an educational information services program.

Expedition: Yellowstone!

This residential environmental education program offers fourth through sixth graders an in-depth park experience. Each year, some 800 students, teachers, and parents spend several days and nights at the historic Buffalo Ranch in the Lamar Valley. Here they are immersed in a curriculum-based program that connects students with the national park in their backyard. Rangers lead the groups on field explorations where they learn about the natural and cultural history of the area and the issues associated with the ecosystem. This program has been in existence since 1986 and has served over 11,000 students. Most groups come from Montana, Wyoming, Idaho, and Utah. Because of staffing and facility limitations, *Expedition: Yellowstone!* is not advertised, and it currently reaches only a small percent of gateway community students. Classes must be selected by lottery, and the program can accommodate only about 40% of the requests. Recommendations in this Plan call for a significantly expanded school-based educational program -- one that will reach the majority of gateway community students at least once during their school-age years. The investment in a proactive program of this scope would yield significant benefits by communicating park values and an understanding of Yellowstone's mission and philosophy in the park's most critical audiences for education -- its neighboring populations.

Exploring Yellowstone

This summer program is offered through the Yellowstone Park School, and is open to students from the gateway communities of Mammoth, Gardiner, Cooke City, and Emigrant. Students are from first through seventh grades. The program is largely funded by grants; there is a nominal registration fee. Exploring Yellowstone! lasts for seven weeks, with varied activities that involve outdoor skills and environmental education.

Cross Country Ski Program

First through third graders in the Gardiner School learn winter ecology and cross-country ski techniques in this program. Activities occur in the classroom and in the field and are designed to promote safe outdoor recreation and greater resource appreciation and understanding.

Junior Ranger Program

Each summer approximately 15,000 visitors' children between the ages of 5 and 12 become Yellowstone National Park "Junior Rangers." The Junior Ranger Program is an important part of Yellowstone's educational program and has become institutionalized throughout the National Park System. The program is designed to develop a conservation ethic in youth through a self-guided, activity-based program. A fun and engaging activity brochure guides the child and his or her family in learning about the park's major themes, and educates them on the need to protect park resources. Upon completion of the series of activities, the child is awarded a patch and publicly recognized by a park ranger in a visitor center. Public support for this program is tremendous. Each year, Yellowstone receives many letters from visitors attesting to the long-lasting impact the program has had. Recommendations in this plan will enhance and expand the Junior Ranger Program -- allowing more children to participate in and benefit from the program.

Earth Day Yellowstone

More than 350 students, teachers, and parents from communities surrounding the park attend this annual event. This educational fair attracts students from grades K-12, and involves park personnel from various divisions and disciplines. The goal of this program is to both celebrate and promote a sense of personal responsibility for the resources of the greater Yellowstone ecosystem.

Educational Information Services

A variety of scientific papers, monographs, articles, brochures, posters, audio-visual programs, and teaching packets are available through the park Environmental Education Office to educators and students. Materials are distributed through the residential program, workshops, and on request. Publications are free; films and videos are available on a subscription basis. More than 200 requests are handled annually, resulting in more than 8,000 visitor contacts.

Additional Education Services

Education programs are also provided by the Yellowstone Center for Resources, Yellowstone Institute, Amfac and other concessioners, and visiting educators.

Yellowstone On-line

Yellowstone National Park's unique and diverse resources attract visitors from all around the world. However, not everyone is lucky enough to be able to come to Yellowstone to see its wonders. For an increasing number of people, a visit to Yellowstone National Park means a "virtual visit" on-line. Yellowstone's official website is the most visited site in the National Park System, providing critically important education, resource protection, and orientation functions. More than 500,000 people viewed the main web page in

1999. In the near future, visitors to Yellowstone's web page will surpass those who physically visit the park. The impacts and influence of Yellowstone's website are tremendous. When the Old Faithful WebCam was shut down for several days late in 1999, the park received more than 100 e-mail inquiries into its status each day. Yellowstone's website is an example of the need for the park's interpretive programs and techniques to grow, change, and keep pace with the way people learn and seek information in the 21st Century. Virtual tours, WebCams, and other multimedia content recommended in this plan will offer on-line experiences that allow more people to understand and appreciate Yellowstone and develop a desire to protect it and its resources.

VISITOR ACTIVITIES

According to a July 1989 survey (*National Park Service, 1989*), park visitors participated in the following activities:

- Wildlife viewing (93%)
- Viewing thermal features (85%)
- Photography (83%)
- Walking for pleasure (75%)
- Visiting visitor centers/museums (73%)
- Shopping (67%)
- Picnicking (43%)
- Fishing (17%)
- Attending interpretive programs (15%)
- Other activities (15%)
- Hiking in backcountry (7%)
- Swimming (4%)
- Riding horseback (4%)
- Boating (4%)
- Bicycling (2%)

Respondents to a February 1995 survey (*National Park Service, 1996*) reported participating in the following winter activities:

- Viewing wildlife (91%)
- Viewing scenery (90%)
- Snowmobiling (74%)
- Photography (66%)
- Staying overnight (27%)
- Driving for pleasure (22%)
- Cross country skiing (20%)
- Using the Continental Divide Snowmobile Trail (18%)
- Riding a snowcoach (12%)
- Snowshoeing (2%)
- Winter camping (2%)
- Fishing (2%)
- Other activities (8%)

Note: percentages do not equal 100% since many visitors reported more than one activity.

Interpretation, education, and orientation play vital roles in helping visitors enjoy these activities safely and with minimal negative impacts. Interpretation, education, and orientation play a particularly important role in the most popular visitor activity - wildlife viewing.

Viewing Wildlife in Yellowstone

Wildlife viewing seems to be the most popular activity for Yellowstone visitors (*National Park Service, 1989, 1996*). Interpretation and education play a vital role in encouraging safe viewing that doesn't disturb animals' natural activities.

Yellowstone's abundant and diverse wildlife are as famous as its geysers. Most attention is paid to the "charismatic megafauna" - the large mammals such as bear, elk, bison, wolves, and bighorn sheep. Habitat preferences and seasonal cycles of movement determine, in a general sense, where a particular animal may be at a particular time. This unpredictability diminishes the effectiveness of fixed media and stationed or scheduled interpretation to directly facilitate beneficial and safe encounters. Roving interpretation is the method of choice here, and it must be done by staff and volunteers from all divisions - whoever is on the scene. Visitors tend to focus on the experience of seeing animals; interpreting more complex subjects such as ecosystem dynamics and interrelationships is more difficult yet may ultimately be more valuable than simply providing identification and natural history information.

Safety and resource protection are primary concerns for wildlife interpretation. Each year a number of park visitors are injured by wildlife when approaching too closely. "Bison jams" and "bear jams" are common on park roads, caused by hordes of visitors stopping or slowing their vehicles to look at roadside wildlife. Visitors are directed to use roadside pullouts when viewing wildlife, and to use binoculars or telephoto lenses for safe viewing and to avoid disturbing animals. Proper viewing techniques will allow visitors to see more of an animal's natural behavior and activity, while minimizing disturbance.

Concessioner-led Activities

Many popular and important activities are provided by the park concessioner. Amfac Parks & Resorts is the concessioner that operates the hotels and dining rooms in Yellowstone, and offers a variety of activities for park visitors. Activities include horseback rides, scenic boat trips, guided fishing trips, and several additional types of tours and guided trips. Amfac provides a thorough training program for its staff; the NPS contributes to this program, and provides oversight of visitor activities as directed by NPS policy.

PARTNERSHIPS

Yellowstone's stories are numerous and complex; the National Park Service cannot fully and completely tell all of those stories by itself. To best serve the park's visitors, Yellowstone must work with partners to develop complementary programs that capitalize on each partner's strengths and perspectives so that visitors to the Yellowstone region have the best experiences possible. New and expanded partnership opportunities are proposed in this Long-Range Interpretive Plan that will benefit Yellowstone's and the region's visitors and residents. Private/public partnerships offer visitors more choices, more access, and more opportunities to learn, all of which serve to protect, preserve, and promote the resources of the park.

Some important existing partnerships are:

Yellowstone Association

Yellowstone has had a successful partnership with its non-profit cooperating association, The Yellowstone Association, since 1933. Originally established to provide a research library for Yellowstone staff and others, the library has grown into one of the finest in the National Park System, and the Association has expanded its educational, interpretive, and research programs. Association sales outlets are located throughout the park and at two U.S. Forest Service locations outside the park. Sales items provide theme-related educational materials that provide take-home extensions of visitors' park experiences. The Association has over 10,000 members, who receive the Association newsletter and park newspaper, and demonstrate strong support for the park goals. The Association website extends their ability to communicate and provide services. Substantial funding for interpretive and educational products and services is provided to the park.

For the last 25 years, the Yellowstone Association Institute has supplemented the educational programs offered by the park with more than 100 in-depth field seminars for park visitors. Subject matter experts present courses in geology, history, ecology, wildlife observation, photography, and other topics of interest within the park for reasonable fees. Winter field seminars at Mammoth and Old Faithful are offered in cooperation with Amfac; the Institute provides instruction and arranges college credit, and Amfac offers special lodging rates.

Yellowstone Park Foundation

The Yellowstone Park Foundation is a non-profit organization created by a group of concerned citizens, working with the National Park Service to preserve and enhance Yellowstone National Park and to enrich visitors' experiences. The Foundation funds projects and programs that are beyond the financial capacity of the Park Service. Assistance has been provided to projects such

as wolf restoration, relocation of the Pelican Valley Trail (to remove it from prime grizzly bear habitat and delicate wetlands), production of the new film on Yellowstone thermophiles, and continuing operations of the Youth Conservation Corps. The Foundation is currently raising funds to support the construction of a new visitor education center at Old Faithful.

Museum of the Rockies

The Museum of the Rockies in Bozeman, Montana is renowned for its paleontology collection, research, and interpretation, planetarium, and staff. Its domain of interest is the Northern Rockies. A cooperative program allows the Museum to present astronomy programs in the park where the night skies are ideal for viewing the stars. In addition to its onsite activities, the Museum conducts a variety of outreach programs and field seminars. Many people visit both the park and the Museum on the same trip.

Buffalo Bill Historical Center

Located in Cody, Wyoming, the Buffalo Bill Center operates four museums and a research library. The Center acquires, exhibits, and interprets collections relating to the cultural and human-related natural history of the West. Special attention is paid to interpreting William F. "Buffalo Bill" Cody, American firearms, and Plains Indians. The Center offers educational programs; these are extended via its website, virtual programming, traveling trunks, and other outreach activities. It also provides Yellowstone orientation to people on their way to the park. Many people visit the park and Historical Center on the same trip. The Buffalo Bill Center is working closely with NPS staff to develop a new 40,000 square foot Draper Museum of Natural History. The exhibits and programs in this museum will complement Yellowstone's interpretive efforts.

RECOMMENDATIONS

Recommendations in this long-range plan represent the consensus of the nearly 100 people involved in the planning workshops and associated meetings and consultations. All recommendations are based on the foundational legislation, purpose, significance, themes, and goals. Also considered were visitor feedback (as represented by park staff and partners, and by evaluation research) and research on the effectiveness of interpretive facilities, programs, and media. Alternatives were discussed and evaluated for all significant actions.

This is a long-range document, and it is by necessity more conceptual than detailed: all actions will require subsequent design and refinement. Location, design, and construction of facilities will require environmental compliance. Costlier actions will undergo formal value analysis. This document looks at the total interpretation, education, and visitor experience context of Yellowstone National Park, and provides recommendations for specific actions that will continue the park's unparalleled tradition of preservation and enjoyment.

Interpretive Facilities

Visitor Centers

Visitor centers serve three primary functions: providing interpretation, orientation and information, and visitor services. This is done through personal contacts, exhibits, audiovisual presentations, and interpretive sales. Visitors are best served when they are also able to obtain all necessary park permits (e.g., backcountry, fishing, boating) in one location. To this end, visitor centers will be designed to accommodate the staffing and offices necessary to facilitate "one-stop shopping." New or rehabilitated visitor centers will incorporate sustainable designs, construction techniques, and long-term maintenance features.

Yellowstone visitor centers can be divided into three groups: **satellite centers**, which are located in communities within a short drive of the park; **gateway centers**, which are located at the entrances to the park; and **in-park centers**, which are located within the park. These three centers are like concentric circles and provide a layered system of information, orientation, and interpretation. Satellite centers and most gateway centers focus on providing information and orientation while most in-park centers emphasize interpretation as well as providing information and orientation.

Satellite visitor centers

- **Work with partners (e.g., U.S. Forest Service, Yellowstone Association, and Chamber of Commerce) to establish a satellite cen-**

ter in Livingston, Montana. This center would provide information/orientation, other visitor services, and, possibly, a sales area.

- **Work with partners (e.g., state highway and tourism departments, airport authorities) to design and install information kiosks** that provide orientation and area information at interstate highway rest stops, chambers of commerce, welcome centers (i.e., the new facility in Bozeman at 19th Avenue and I-90), and airports within a 3-hour drive of the park. Airports could include Jackson and Cody, Wyoming; Idaho Falls, Idaho; Billings and Bozeman, Montana; and Salt Lake City, Utah (farther away but a major trip-starting point for many park visitors). Kiosks would include interactive computer stations that would be phased in as technology evolves and would be easily updated and reliable with little maintenance required.
- **Augment Grand Teton National Park seasonal staffing of the information services desk at the Jackson Hole/Greater Yellowstone Visitor Center.**

Gateway visitor centers

Visitors need access to interpretation, orientation, and information before they enter the park. Most visitors currently receive the park newspaper at fee booths; during busy seasons, long lines of cars hinder rangers' abilities to answer visitor questions, and many visitors fail to stop at pullouts inside the park boundary to read the information they are handed. Along with efforts to provide these services at home prior to a visit (via the Internet, mail, and telephone) and at satellite centers, visitor contact points are needed at each park entrance. These centers could be just outside or immediately inside the park boundary. The centers at the north, west, and south entrances should be attended year-round. Gateway centers should offer orientation and information along with introductions to the park's significance, primary themes, and resource preservation issues. Entrance permits, fishing permits, campground reservations, theme-related sales, and trip planning should also be available.

- **Provide a new information center at the South Entrance.** Two alternatives include expanding the current ranger station just inside the park boundary into a T-shaped building and staffing an information desk with interpretive personnel or developing the gateway center at Flagg Ranch in cooperation with Grand Teton National Park.
- **Locate an information center for the East Entrance in Cody, Wyoming.** Explore a partnership with Buffalo Bill Historical Center, the Cody Chamber of Commerce, and others for the development of a gateway center in Cody, which is a stop for nearly all East Entrance

Yellowstone visitors. A cooperative center would reduce costs and increase benefits to all partners. An alternative would be to construct a seasonally attended contact station at the East Entrance.

- **Provide a small, seasonally attended contact station at the Northeast Entrance.** Alternatives include expanding the ranger station, locating a center in Silver Gate or Cooke City, or constructing a new contact station just inside the boundary. This contact station could either be seasonally staffed or function without staffing. The contact station would have appropriate exhibits and, as technology advances, it could include an interactive computer station that could be easily updated and reliable with little maintenance required.
- **Construct a new visitor center in the North Entrance area to replace the Albright Visitor Center facility currently at Mammoth.** One alternative location for this visitor center is the "triangle" just south of Gardiner and between the fee station and entrance arch. Themes interpreted would include the northern range, the Greater Yellowstone Ecosystem, wildlife, and human history of the park. Park staff would work with resource specialists and affiliated tribes to develop appropriate exhibits about the history of Native Americans in Yellowstone.
- **Convert the Albright Visitor Center in Mammoth to an administrative use,** such as offices or housing (similar to its original functions), for NPS and/or Yellowstone Association staff. The artwork in the Moran/Jackson gallery could be transferred to a number of other locations as appropriate and where conditions are suitable. A small visitor contact station would be located in Mammoth near the terraces in the vicinity of the new restroom building.
- **Construct a new visitor center outside the West Entrance in West Yellowstone** to incorporate and significantly expand the functions of the present information center that is operated by the local Chamber of Commerce, U.S. Forest Service, and NPS. The new center would accommodate a full spectrum of interpretative media (including exhibits and audiovisual programs), all information and orientation services, and the permitting (e.g., backcountry, fee, fishing) functions. Additionally, partnerships with existing non-government visitor facilities in the West Yellowstone area would be explored.

In-park visitor centers

- **Continue to develop plans for the new Old Faithful Visitor Education Center.** The new state-of-the-art visitor center will focus on interpreting the park's geothermal resources. The completion date for this facility is contingent on private fundraising.

- **Continue to develop plans for the rehabilitation of the Canyon Visitor Education Center.** The new visitor center will focus on interpreting the park's geological history, including plate tectonics, the Yellowstone hot spot, earthquakes, glacial history, and the geoecosystem. The new center is scheduled for completion in 2004.
- **Major park visitor centers (Gardiner/North Entrance, Canyon, Old Faithful) will each have space for travelling and changeable exhibits.** Additionally, within each visitor center, there will be distinct areas dedicated to exhibits and interpretation specifically designed for children.
- **Major park visitor centers (Gardiner/North Entrance, Canyon, Old Faithful) will each have classroom space for public lectures and training functions.**
- **Convert Albright Visitor Center to administrative use for offices or housing** (see "Gateway Visitor Centers" section).
- **Develop a winter warming hut/contact station at Tower/Roosevelt.** Either convert an existing structure or construct a new building to function as an information/interpretation center in temperate months and a warming hut in winter. Consider demolition of the current gas station and construction of a new building appropriately designed for the area that would serve as a gas station and snack bar with an area for information and audiovisual programs. Consider moving the ranger station permitting functions into this new facility. Construct an outdoor plaza to provide supplementary interpretation and orientation that would be available 24-hours a day, year-round. Interpret wildlife (especially wolves, bears, and ungulates) in the context of the Northern Range and human history (especially Yancey's Hole and the Wylie tent camps).
- **Rehabilitate Norris Geyser Basin Museum exhibits.** Consider a design approach that is compatible with the historic, rustic style of the building, which is a National Historic Landmark. The building's historic significance could be interpreted with a small wayside exhibit. The interior exhibits should concentrate on the unique geothermal features in the Norris area and on geothermal research.
- **Broaden the focus of the Norris Ranger Museum to include NPS career information.** Provide information on career progressions in a multitude of NPS professions. Develop exhibits on NPS careers. Staff the Museum with uniformed personnel. Add an information/orientation kiosk outside that includes an interactive computer station (as technology permits) that could easily be updated and would be reliable with little maintenance required. Provide better signing on the road to direct visitors to this museum.

- **Construct a visitor contact station at Lake.** The new contact station could be strategically located in either the previously identified disturbed site along the entrance road into the development and near the spur road to the hospital and Lake Hotel or behind the Lake Hotel in the area between the Lake Hotel cabins and the Post Office where adequate parking exists. Consider moving the former Lake gas station to one of these locations and rehabilitating it to serve as the visitor facility. As an alternative, consider locating the contact station along the lakefront. This new visitor contact facility could possibly include a sales area.
- **Retain original Fishing Bridge museum exhibits,** with minor rehabilitation as needed, and focus the interpretive message on the building and media as an example of early National Park museum exhibits and architecture. Restore one or both wings to the original appearance (windows along both sides of the wing). Convert one wing of the museum into an information and visitor services center (possibly with a walk-around horizontal relief map of the lake bottom) and retain the other as a Yellowstone Association sales area. As another option, consider moving the interpretive office function to Lake and using the current office for affiliated visitor services.
- **Rehabilitate the Grant Visitor Center.** In order to restore the original function of the lobby, expand and enclose the rear porch or an adjacent area to provide space for the Yellowstone Association bookstore and offices. Do selective vista clearing of the young trees in back of the visitor center in order to restore the original unobstructed view to the lake from the lobby. Move the backcountry office into the visitor center, possibly into the existing exhibit area. Develop interpretive displays for the remaining exhibit area on the themes of wilderness, backcountry ethics, and wildness. Improve the theater acoustics, seating, and projection/sound systems. Consider switching the theater and exhibit spaces.
- **Retain the Yellowstone Association bookstore at West Thumb** and rehabilitate the structure. Add daily roving interpretation presence.
- **Provide a summer visitor contact station at Madison** in the winter warming hut that is proposed for construction at Madison Junction. Develop appropriate exhibits for this location.
- **Convert the Madison Museum building to an arts activity center.** At this center, visitors could attend resource-related arts programs or engage in self-directed arts activities. Art supplies, publications, and works would be sold to offset program operating costs. A non-profit partner could manage the sales operation. Add an information/orientation kiosk outside the Museum.

- **Convert the present Nature Store in Mammoth** to a new facility to enhance visitor experiences. Alternatives include providing classrooms and/or administrative offices/housing for the Yellowstone Association and/or installing exhibits to interpret the pre-1915 cultural history of the park.
- **Convert and move to a new location the present Photo Shop at Old Faithful.** The building could be used as an art studio with art displays, classes, and activities. Investigate whether or not the upper story could be converted into an artist's residence. A non-profit organization would provide the classes and activities.

Partners and Area Museums

Area museums and other non-profit organizations are important partners in the educational, interpretive, and outreach programs of Yellowstone National Park. Many visitors to the Yellowstone region will visit one or more area museums and/or participate in non-NPS educational classes or activities. The park is committed to working closely with our partners to ensure that the visitors to the region receive the best experiences possible as they learn about the Greater Yellowstone Ecosystem. Such cooperation will capitalize upon each organization's strengths and ensure that exhibits and other media and educational programs are complementary rather than competitive or redundant. Yellowstone will continue to involve our partners in park project planning processes and, when asked and where appropriate, will participate in partner organization planning and development efforts.

INTERPRETIVE MEDIA

Interpretive media includes films, printed materials, Internet websites, and exhibits. These are the most common means by which visitors and the general public receive information about Yellowstone, its resources, and their safe use of the park.

Films

- **Work with partners to produce new audiovisual programs.** The following topics are priorities for new productions. Most new programs would be 10-20 minutes in length, with longer versions produced for sale and/or broadcast. Some material would also be suitable for short segments that could be incorporated into visitor center exhibits. Several productions could be developed for each topic, and many topics are appropriate for specific productions for children. Films will be produced to complement the major theme(s) at each in-park visitor center. Other films developed for or on behalf of the park will be shown, as appropriate, as options to the primary film at each visitor center.
- **Park Orientation:** Produce an overview of park resources, significance, need for preservation, and general visitor experience opportunities. The production should be directed toward a general audience with two seasonal versions developed, one for summer and another for winter. Additional versions narrated in Spanish, French, German, and Japanese should be produced. Standard safety segments will be developed for the orientation programs.
- **Wildlife:** Interpret the "stories" of Yellowstone's large charismatic species to draw visitor attention and include the smaller and lesser-known species for a more complete picture of the park's wildlife in a naturally functioning ecosystem. The stories would include adaptations, ecological relationships, habitats, seasonal variations, visitor safety, how people can minimize disturbance of wildlife, and natural resource preservation.
- **The Human History of Yellowstone:** Produce an overview of the various peoples, including Native Americans (prehistoric and historic peoples), early Euro-American explorers, resource exploiters, and early tourists and park administrators, who have visited and lived in Yellowstone. The history of the world's first national park and how it was administered (absentee civilian superintendents followed by the U.S. Army prior to the establishment of the National Park Service in 1916) could also be explored. The question, "What did this area mean to various people in the past and what does it mean to you today?" could be used

as a theme. Because of the variety of these and other human-history topics, several individual productions could be developed.

- **Geology:** Produce an overview of park and area geology and geologic history. Yellowstone National Park was set aside as the world's first national park because of its extraordinary geothermal features. Yellowstone remains one of the most geologically dynamic areas on earth, and the active volcano beneath the park's surface continues to influence the area.
- **Aquatic Resources:** Interpret the park's aquatic resources, underwater geology in Yellowstone Lake, and fisheries history including issues such as fish stocking, hatcheries, and the introduction of exotic species.
- **Greater Yellowstone Ecosystem:** Introduce visitors to the idea that the park is not a distinct, separate entity, biologically or geologically. Yellowstone is part of a greater ecosystem that crosses individual management jurisdictions. The health of this ecosystem (as well as others) depends on understanding this concept and on the cooperation of the different management agencies.
- **Safety for Kids and Their Parents:** Produce a park safety video for children from a child's perspective. This could be shown in exhibit areas, on the park website, and at outreach locations.
- **Junior Rangers:** Produce a short orientation to the Junior Ranger program that is intended for children and their parents.
- **Pre-Visit Orientation to *Expedition: Yellowstone!*:** Produce an orientation for students and teachers who will be participating in *Expedition: Yellowstone!*, including the subjects of food, lodging, what the area looks like, and what to bring as well as an introduction to the educational activities.
- **Winter Visits to Yellowstone:** Produce a pre-visit overview for those visiting the park on snowcoaches, snowmobiles, skis, and snowshoes. Interpret themes of wildlife, ecosystem, natural resource preservation, and wildness. Emphasize safety and minimal impacts to wildlife and other resources. This video would be shown in venues outside the park. Details of this production will be contingent on the park's final Winter Use Plan.
- **Wilderness Orientation/Awareness:** Produce a general overview for day hikers (and campers) using Yellowstone's backcountry; this video could be shown in backcountry offices.
- **Orientation for New Employees:** Work with partners to produce an orientation film for new NPS employees.

Publications

- **Work with the Yellowstone Association and other park divisions to develop and implement a parkwide publications plan.** A publications plan describes the range of publications and other interpretive products that the park wants to provide for the public, from free items to those for sale. The plan examines what is currently available and what is needed in relation to each of the park's themes. The plan considers the different types of audiences (e.g., children, adult, foreign), different types of publications (e.g., books, pamphlets, posters), price ranges of sales items, and range of complexity of the publications. The publication plan identifies and prioritizes publications needs and identifies potential authors.

Interpretive Sales Areas

Interpretive sales areas offer visitors an opportunity to obtain high-quality, in-depth materials that are an important component of a comprehensive interpretive program. Within Yellowstone National Park, the Yellowstone Association is the park's official partner in providing educational materials in NPS-operated facilities.

- **Work with the Yellowstone Association to enhance and improve existing sales areas.**
- **Consider appropriate space needs for sales areas during development planning for all new interpretive facilities.**
- **Encourage the Yellowstone Association to develop and carry a wide range of additional educational materials (e.g., software, videos, CDs, and other appropriate products) that will enhance and expand upon the themes in newly developed exhibit areas.**
- **Work with the Yellowstone Association to incorporate interpretive elements (e.g., exhibits and educational and informational services) into the design of their sales areas.**

Other Indoor Exhibits

- **Work with the Resource Management and Visitor Protection Division to develop standardized exhibits for all backcountry offices and trailheads.**
- **Provide standard orientation and interpretive exhibits in winter warming huts with specific variations as required describing local features and conditions. Inform users of current conditions such as roads,**

weather, and wildlife. Orientation and safety messages are especially important.

Internet

- **Develop a procedure for quality control and review of information presented on Yellowstone's website.**
- **Continue to expand the capabilities and content of the website** and keep up with evolving technology. For example, live-streaming video and radio broadcasts are possible if the park obtains the appropriate bandwidth; this offers partnership opportunities.
- **Explore providing access on the website to normally inaccessible resources or events.** For example, remote broadcasts from sites that visitors seldom see (such as backcountry geysers like Lone Star Geyser) or "virtual tours" of sites or facilities that are inaccessible to the public (such as the historic "Officer's Row" homes in Mammoth or the inside of a park fire tower) will soon be technologically feasible. "Real-time" Web media could also be used to broadcast interpretive programs, special events, and scientific conferences.
- **Use the website to provide expanded information and improved connections with the Yellowstone Association and NPS educational programs.**
- **Develop a new website to provide a one-stop calendar of special events and programs** offered by the park and its partners in the Greater Yellowstone Ecosystem.

Outdoor Media

- **Install information kiosks at all appropriate locations** and, where feasible, include interactive computer stations to provide area information and orientation and recreational activities reservation services. These interactive computer stations would be phased in as technology evolves and would be easily updated and reliable with little maintenance required.
- **Develop standardized information kiosks at all NPS campgrounds** with site-specific campground maps and information. Ensure that the information kiosks at concessioner-operated campgrounds are consistent with NPS kiosk information and presentation.
- **Prepare a bulletin board plan.** Address themes, goals, and objectives for each park bulletin board and develop uniform design elements.

- **Develop a system that alerts visitors to major wayside exhibits along the road.**
- **Construct a sheltered information kiosk in the Norris Geyser Basin parking lot** (near the now-closed restrooms on the island between parking areas) that would have wayside exhibits providing general park orientation. An alternative location for this kiosk could be at the proposed warming hut.
- **Develop a prototype mobile contact station** (van or trailer) to use at community events and fairs, road construction barricade locations, campgrounds, and other areas where visitors congregate in order to interpret resource issues, discuss recreational opportunities, and/or to use for recruiting purposes.
- **Develop portable, durable, A-frame-style exhibits that can be used opportunistically to interpret rapidly changing conditions** (such as fire, new geothermal features, landslides or other geologic events, and large winter-kill events).
- **Upgrade outdated and worn wayside exhibits parkwide and develop a cyclic maintenance schedule for all waysides.**
- **Amend the Parkwide Wayside Plan** to add new waysides in appropriate areas, such as:
 - **Construct an outdoor interpretive plaza inside the South Entrance** at the first appropriate location where the fires of 1988 are evident. Use wayside panels to interpret the fires, fire ecology, and fire-management policies.
 - **Provide interpretive media on underwater geothermal features at the observation deck along the lake in front of the Lake Hotel.** Wayside style would be low profile. Early lake transportation and/or the historic buildings along the lakeshore could also be interpreted.
 - **Provide interpretive media on the park's resurgent domes at LeHardy Rapids.**
 - **Provide interpretive media at Buffalo Ford about the flight of the Nez Perce through Yellowstone in 1877.**
 - **Provide interpretive media in the Lamar Valley area,** focusing on Northern Range wildlife, particularly wolves. Wayside style would be low profile and unobtrusive in keeping with the topography and openness of the area.
 - **Provide interpretive media at an appropriate pullout where visitors can view Specimen Ridge.** Provide a viewing scope for visitors to

see the petrified trees on the ridge or, alternatively, clearly point out the location of the trees through the exhibit.

- **Provide interpretive media that highlights Yellowstone's greening efforts** (e.g., the solar panels at Lamar Buffalo Ranch, the fuel cell at Old Faithful, and the recycled plastic boardwalks in the geyser basin areas).
- **Shorten the Two Ribbons Trail** (into a T-shape) **and install wayside exhibits** to interpret bison, fire, and riparian ecology.
- **Provide additional interpretive media in the Mammoth Terrace area.**
- **Rehabilitate the Travelers Information Station (TIS), an AM radio repeater system.** Install more antennas throughout the park and use the system to provide an audio tour of the park. Use a recording system that can be accessed via telephone lines to allow timely updates on road conditions, wildlife "jams," timing of Old Faithful eruptions, and weather forecasts. Develop a signage system that publicizes the station. Consider incorporating multiple foreign language messages.

Concession Facilities

- **Install interior exhibits in hotel lobbies, hallways, restaurants, bars, and other appropriate areas** that interpret themes such as wildlife, ecosystems, geothermal features, and cultural history (review all available historic structure reports for appropriate ideas). Exhibits might include graphic panels, artifacts, silent video programs, interactive displays, and other appropriate techniques. Specific opportunities include:
 - **Mammoth Hotel:** Install exhibits in public locations to interpret the history of tourism in the Mammoth area and local transportation history (including railroads and stagecoaches), as space permits.
 - **Old Faithful Inn:** Place small, appropriate-period photo albums on the tables on the mezzanine level to interpret the history of visitation to that area; provide a booklet on the second floor balcony to interpret Old Faithful Geyser and other geothermal phenomena.
 - **Old Faithful Lodge:** Install lobby exhibits to interpret local tourism, including the history of lodges and camps in the park.
 - **Old Faithful Lodge Recreation Hall:** Once a new recreation hall is constructed, work with Amfac to develop this space for travelling exhibits that are too large for the new visitor centers' travelling exhibit spaces. Examples of exhibits that could be displayed include the Canyon Visitor Center's current bison exhibit or major national travelling exhibits (such

as the Minnesota Science Museum's exhibit on wolves).

- **Old Faithful Snow Lodge:** Upgrade exhibits presently in the corridor that interpret winter recreation.
- **Old Faithful Lower Gas Station:** Work with Yellowstone Park Service Stations to convert one repair bay into exhibit space for early tourist conveyances. Explore partnerships with regional antique car clubs to use the space for rotating vehicle displays.
- **Grant Village:** Install exhibits in common public spaces of the lodging facilities, as appropriate, to interpret local issues such as early lake transportation history.
- **Lake Lodge:** Install lobby exhibits that interpret the ecology and geology of Yellowstone Lake and area wildlife (especially bears).
- **Lake Hotel:** Upgrade exhibit frames to match architecture; interpret history of local visitation and lake geothermal features. Place small, appropriate-period photo albums on the tables in the sunroom.
- **Bridge Bay Marina:** Develop outdoor exhibits in the marina plaza to interpret Yellowstone Lake fisheries and ecology and boating safety.
- **Canyon Lodge:** install lobby exhibits to interpret Hayden Valley geology and wildlife. Develop an outdoor kiosk between the registration building and the Lodge on these same themes. Explore the feasibility of installing a small portion of the bison exhibit currently at the Canyon Visitor Center inside the Lodge.
- **Roosevelt Lodge:** install lobby exhibits to interpret early history of the area. Consider one or more of the following topics: the route to mining areas around Cooke City, Yancey's Hole, preservation of the bison, and President T.R. Roosevelt's visit to the area.
- **Evaluate outdoor orientation panels at all gas stations and upgrade as necessary.**
- **Install wayside exhibits interpreting history and architecture outside significant historic structures.**
- **Produce standard exhibits for restrooms that focus on a greening message, sustainable practices, and safety.**
- **Develop and upgrade site-specific history wayside exhibits at concessioner horse corrals (Mammoth, Tower/Roosevelt, Canyon) covering the history of horse operations for early tourists in Yellowstone.**
- **Develop standard exhibits for cross-country ski rental facilities at Mammoth and Old Faithful.**

PERSONAL SERVICES

INTERPRETATION

Interpretation that involves the presence of park staff during the visitor's participation in an event or activity is called "personal services interpretation." The NPS is committed to providing the public with the highest quality personal services.

Many new and expanded formal and informal personal services programs are proposed in the LRIP. Partner organizations contribute valuable service to this program by providing memorable opportunities for the public that are not possible or necessarily appropriate for the NPS to offer.

Outreach

Yellowstone has initiated a formal Community Outreach Program to improve two-way communication with our park neighbors on park activities, developments, and current management issues and their consequences. However, current staffing levels can only accommodate reaching approximately 1,000 individuals in the closest gateway communities annually. (See "Formal Education" section for outreach recommendations related to schools.)

- **Expand the Community Outreach Program into all 21 counties in the tri-state region of Wyoming, Montana, and Idaho.** The more than 807,000 people living in this area will benefit by receiving timely information about park issues that affect them. This program will also provide an avenue for the public's concerns to be communicated to the park Superintendent for consideration during the decision-making process.
- **Assign interpretive staff to specific regional areas in order to enhance the consistency of presence within each community.** This approach will facilitate communication for community leaders and others in the public needing information or answers to specific questions.
- **Target audiences representing a broad cross-section of each community will be contacted.** Chamber of Commerce meetings in the communities will be regularly attended. Staff will also be available to speak at business and civic organization meetings, social club and church group functions, and with Native American groups.

Visitor Center Operations

- **Expand in-park visitor center hours by length of day and length of season to provide information and orientation services when the public is present.**
- **Provide seasonal staffing for information services at satellite and gateway visitor centers, including the Jackson Hole/Greater Yellowstone Visitor Center, Livingston, Cody, West Yellowstone, South Entrance, and Northeast Entrance.**

Formal Interpretive Programs

- **Expand the number, variety, and range of the programs offered, topics covered, and locations and audiences served based on the park goals and themes.** Included might be early morning bird walks; special walks in unique geological areas, historic districts, and architecturally important areas of the park; early evening programs to accommodate families with young children; and walks and hikes targeted at specific age groups (i.e., children, teens, seniors).
- **Develop a plan for fee-based interpretation.**
- **Explore ways to provide more NPS-uniformed interpretive staff to enhance visitor enjoyment of Yellowstone, specifically, seek grants and/or establish an endowment to pay for increased operational field staff.**
- **Increase involvement of interpretive staff in field activities in order to enhance their first-hand knowledge of park resources.**
- **Increase involvement of interpretive staff in developing briefing statements on resource- and research-related topics for use in formal interpretive programs.**
- **Reestablish the Resource Interpreter position.**
- **Provide Native American cultural demonstrations and programs presented by Native Americans.**
- **Afford Native Americans opportunities within the Division of Interpretation by developing a Native American Co-op Program.** Work with Yellowstone National Park's affiliated tribes to carry out this program.
- **Expand the winter program offerings to include ranger-led interpretive snowshoe and ski excursions at various locations throughout the park.**

Informal Interpretation

Informal interpretation includes a program called "roving." Roving is the assignment of a uniformed interpretive ranger to a specific area in order to assist the many visitors who do not seek out Formal Interpretive Programs. The Roving Interpreter provides educational opportunities, a sense of security for visitors, and protection of the park resources, year-round.

- **Expand the daily roving interpretive program (including impromptu programming) to provide a uniformed ranger presence on a routine basis during peak daytime visitor-use at West Thumb Geyser Basin, Old Faithful and the Upper Geyser Basin, Norris Geyser Basin, Mammoth Hot Springs Terraces, Artist Point, all park campgrounds, and at various other high visitor-use locations.** These include: Tower Fall, Petrified Tree, Fort Yellowstone, Roosevelt Arch, Boiling River, Obsidian Cliff/Sheepeater Cliff/Willow Park, Elk Park/Gibbon Meadows, Artists' Paintpots, Gibbon Falls, Seven-Mile Bridge, Firehole Canyon Drive, Fountain Paint Pot, Black Sand and Biscuit basins, Geyser Hill/Observation Point, Lewis River Canyon/Lewis Falls, Lake Village, Fishing Bridge, LeHardy's Rapids, Mud Volcano, Hayden Valley, the North and South rims of the Grand Canyon of the Yellowstone, Lookout Point, Uncle Tom's Trail, and Mount Washburn.
- **Explore non-traditional modes of transportation (i.e., bicycle, horse, ski, snowshoe) as a means to reach the greatest number of people during roving assignments.**
- **Provide an interpreter in Lamar Valley** to accommodate the dramatic increase in wolf-watching activities.
- **Implement Wildlife Safety Education Program.** Interpretive rangers assigned to rove in campgrounds, picnic sites, parking areas, geyser basins, and other visitor-use sites would be available to immediately respond to wildlife jams and other situations in order to provide resource education and visitor safety interpretation. This function would be done in conjunction with and augmenting the roles of the resource and protection staffs.
- **Provide an interpretive park ranger at trails and roads where visitors may encounter active, prescribed, or natural fires in order to explain the park's fire policy and provide for visitor safety.**
- **Develop a short training program on informal interpretation that would be available to all non-interpretive, uniformed NPS employees.**

Partner Roles

Partner organizations provide opportunities and activities for interpretation that complement and enhance park efforts. These interpretive services are guided by NPS policy and monitored for content and accuracy by NPS staff.

- **The Yellowstone Association has distinguished itself by providing a variety of educational services, including in-depth specialty courses through the Yellowstone Association Institute.**
 - **Capitalizing on this strength, the Yellowstone Association Institute will continue to provide and expand their offerings of full-day and multi-day, adult-oriented, in-depth programs using subject-matter experts as teachers/facilitators.**
 - **The Yellowstone Association Institute would explore developing multi-day programs for organized adult groups, such as Elderhostel and service organizations.**
 - **The Yellowstone Association Institute would expand program offerings to include expedition-type tours for small groups (less than ten people) that are no less than six hours in length. (The NPS will continue to offer programs for the public that are generally designed for more than ten people and less than a full day in length. Some of these NPS programs will be fee-based.)**
 - **The Yellowstone Association Institute would explore the development of multi-day family classes and other multi-day educational niches not currently offered.**
 - **As part of its expanded interpretive program, the Yellowstone Association Institute might also develop a training course for commercial guides and others who (by permit) lead tours in the park. The NPS views this as a positive service because it will ensure that tour guides have accurate and current information and, thus, can provide consistent and high-quality service to the public.**
- **Continued cooperative efforts with Amfac Parks and Resorts and between the Yellowstone Association and Amfac will be promoted and encouraged in order to take advantage of the opportunities and strengths this partnership brings to Yellowstone and its visitors. Because of the nature of their businesses, it is safe to say that employees of the concessioners in Yellowstone probably interact with more park visitors than NPS staff does. Amfac has provided the visiting public with a variety of interpretive services for many years, including walking tours of the Old Faithful Inn, boat tours on Yellowstone Lake, horseback and**

stagecoach rides, wildlife bus tours, and snowcoach tours. Amfac has a training program for its staff that the NPS contributes to and provides oversight for as directed by NPS policy.

- **Provide a uniformed presence on Amfac bus, wildlife, and boat tours during summer and snowcoach tours during winter, as staffing permits.**
- **Explore partnership opportunities that provide programs for foreign visitors in their languages** by seeking employees with foreign language skills, establishing an internship program for foreign language majors, partnering with concessioners, or contracting with outside providers.
- **Continue to explore partnership opportunities that increase programs for visitors with varying physical and mental abilities.** This includes providing programs for hearing-impaired visitors by employing sign-language proficient staff or interns or having such staff available by partnering with concessioners or contracting with outside providers. Appropriate programs for sight- and mobility-impaired visitors would be provided as well.
- **Develop an arts program in Yellowstone in association with a non-profit partner.** Yellowstone has a long history and association with the arts and artists. The arts are a means by which the public can come to understand the meaning and significance of the park by forging aesthetic and emotional connections with Yellowstone. The program would include demonstrations, an Artist-in-Residence Program, competitions, exhibits, workshops, and special events.

FORMAL EDUCATION

A formal education program is curriculum-based, includes both pre-site and post-site activities, and serves organized groups. The park's Formal Education Program provides enormous benefits to both the participants and the park. The park is committed to giving priority to the needs of the gateway communities; however, only a small fraction of those schools and other groups wanting educational programs are now served. The park is desperately short of facilities for its Formal Education Program. In order to meet the current demand and expand the program, additional resources, including funding, staffing, and facilities, will be required.

- **The Formal Education Program's goal is to contact each greater Yellowstone area school child at least three times and each tri-state school child at least once in their K-12 career.** Children in kindergarten through 3rd grade will have the opportunity to attend a one day-use program; children in 4th through 8th grades will have the opportunity for a residential experience in the park; and young people in high school will have the opportunity to attend a camp or have a work experience in the park.
- **Expand *Expedition: Yellowstone!* (the park's curriculum-based, residential program) to a full school-year program for 4th through 8th grade students.** Establish pre-residential experience, school-based programs for all groups attending *Expedition: Yellowstone!*
- **Develop additional residential and day-use educational facilities inside the park to accommodate a variety of programs, including training.** Cooperate with the Yellowstone Association, Amfac, and other partners to locate facilities. Explore using existing facilities within the park. Some alternatives include: the Nature Store at Mammoth (for the Yellowstone Association Institute), Mammoth School (in summers), Young Adult Conservation Corps (YACC) camp, and the Tower dormitory (September through May).
- **Develop a residential high school field camp program** that allows students a unique opportunity for extended learning, research, and career exposure in the areas of geology, microbiology, wildlife management, archeology, and historical restoration, to name just a few.
- **Develop facilities outside the park's boundary for additional residential education campuses** in order to meet program demands and year-round gateway community access and attendance goals.
- **Develop a consistent, coordinated, and workable menu-driven park-wide reservation system to deal with requested educational services, including guest speakers.** Consider making this service part of the fee-

based interpretive program.

- **Explore partnerships with area educational institutions to develop a Greater Yellowstone Geocosystem Learning Center.**
- **Expand the summer day-use program, *Exploring Yellowstone!*, in order to serve more children and to offer more courses, particularly in the nearby communities of Gardiner, Cooke City, and West Yellowstone.**
- **Expand day-use programming for school groups requesting educational programs, both in the park and at their schools.** Day programs will be fee-based, but scholarships would be available for schools in need. Strong park/school partnerships are recommended in the 1995 National Science Education Standards as a means of enhancing school lessons, addressing a variety of learning styles, increasing community and parental involvement, and promoting life-long learning.
- **Develop day-use programs for Scout, 4-H, and other such groups designed to meet their program achievement goals, including service-project needs.**
- **Increase programming for groups that have had little previous access to park experiences and programs** (e.g., tribal schools, the economically disadvantaged, ethnic minorities, those who do not speak English as their first language, those with disabilities). Work with students in tribal schools to compile oral histories of their people that document connections to Yellowstone National Park.
- **Provide educational programs for seniors** (e.g., Elderhostel).
- **Increase the use of the arts in the Formal Education Program.**
- **Expand teacher training through workshops.** Workshops would be offered for teacher re-certification (as approved by state Offices of Education) and for graduate credit at participating universities. Workshops would be a minimum of ten hours and would cover a broad range of curricular material and resource information relevant to Yellowstone's interpretive themes. Workshops will be available to anyone working with youth, including scout leaders, concessioners, guides, and camp staff.
- To enhance staffing, **initiate an intern program** with graduate students in education.
- **Increase partnerships** with other agencies and organizations, including affiliated tribes.
- **Develop electronic field trips via the Internet to expand outreach capabilities to schools and other groups.**

- **Expand the Junior Ranger program by providing year-round programming to expanded age groups in order to serve a larger percentage of park visitors.** Ensure that at least 90% of those children participating complete the program and receive their patch.

Research and Evaluation

- **Develop an evaluation tool to determine visitors' expectations related to interpretive services and general park experiences.**
- **Develop an ongoing program of evaluation and monitoring** to determine whether goals are being achieved, the effectiveness of services and facilities, and the efficiency of resource allocation. This program will include front-end, formative, and summative evaluation and monitoring.

CONCLUSION

This *Long-Range Interpretive Plan* outlines Yellowstone National Park's goals for the Division of Interpretation and presents recommendations that will keep the park meaningful, relevant, and valued to our visitors. This plan is a "living document" - it will be reviewed annually and adjusted to respond to changing park issues, visitor expectations, and funding opportunities. Full implementation of this plan will allow Yellowstone to once again become a national leader in resource education and interpretation and will provide our diverse and sophisticated public with the high level of interpretive services that they deserve.

PLANNING TEAM

Nearly 100 people have been involved in the preparation of this interpretive plan. Three workshops were held; 70 people attended the first, and about 40 participated in the next two. Subsequent meetings and consultation were frequent and extensive. Participants included partners and stakeholders such as the Yellowstone Association, Yellowstone Park Foundation, Museum of the Rockies, Buffalo Bill Historical Center, Amfac Parks and Resorts, area schools (Cody, West Yellowstone, Gardiner, and Mammoth), Teton Science School, National Parks and Conservation Association, U.S. Forest Service, and U.S. Fish and Wildlife Service. Park staff from all divisions and the Intermountain Regional Office participated in the workshops and subsequent meetings. The Yellowstone Division of Interpretation and the Harpers Ferry Center Department of Interpretive Planning coordinated the preparation of the long-range interpretive plan.

For further information on the plan, contact the Chief of Interpretation, Yellowstone National Park, or the Associate Manager for Interpretive Planning, Harpers Ferry Center.

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