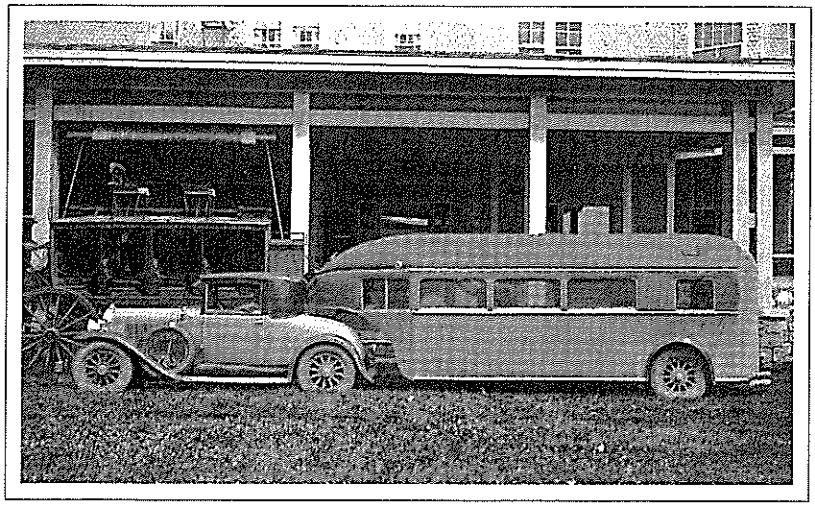
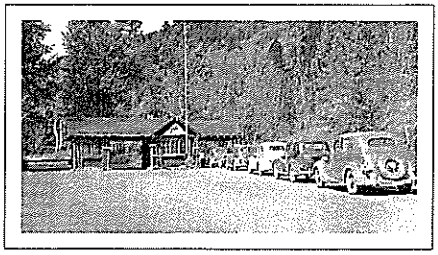




Cars lined up to be checked in at the East Entrance checking station, 1929. Left, a "house car" at Mammoth Hotel August 26, 1930.

cludes road houses and race courses because he does not want "a sort of Coney Island" (page 27) to invade the park. Culpin takes pains to differentiate this landscape aesthetic from Central Park, another New York reference. The better connection with the East may not be through theories of landscape gardening. Frederick Law Olmstead or Andrew Jackson Downing had well-articulated systems of domesticated nature based on the English garden. Yellowstone is not Kew Gardens, or Central Park, for that matter. The better connection may be through conceptions of tourism and leisure that developed during the last quarter of the nineteenth century, in which special spaces were designated as compensatory realms to escape from an increasingly industrialized, alienating world. Yellowstone is the opposite of Coney Island, perhaps, because they represent two variations on a common cultural theme.

The better reference may not be the stereotypical urban area of Manhattan, but the federal city, Washington, D. C. Here again, Culpin's material leads the way. In her Historic District Nomination for the Grand Loop, she points out that:

> Before the turn of the century, there was no national road system only road systems within states, and a few state-built public roads. The Federal Government had been responsible for the roads in Washington, D. C., the roads to government posts (which in most cases were no more than trails), roads on military reservations, and for building the road system in Yellowstone National Park (page 488).

We are thus encouraged to revisit the subject of nineteenth-century road conditions. Here is one eyewitness report:

> Nearly all of the streets were dirt roadways. Where these were improved they were rudely covered with gravel, from which, in dry weather, clouds of dust arose with the breezes or from the passing vehicles, and many of the streets were almost impassible in times of heavy rains. The few that were improved with a more durable surface....were paved with the roughest sort of cobble or other irregularly shaped stones, destructive alike to the vehicles which traveled upon them, and to the nerves of those by whom those vehicles were occupied (quoted in John Reps, *Monumental Washington*, page 56).

The author was commenting on Washington roads during the year of the founding of Yellowstone, 1872. It is nonsensical to equate Washington with the Yellowstone experience. But it is instructive, I think, to compare development of a landscape aesthetic in one national epitome area (Yellowstone) with the formulation of a civic aesthetic in the federal Capitol as it approached its centennial year, 1900. Why not begin with roads, not just the surfaces themselves and the technologically based experience of traversing them, but also the view from that sometimes unstable platform and the values that were to be learned from these vistas? The development of the Mall, the removal of a rail line from the front of the Capitol building, the debates within congressional committees concerning appropriations (and what is appropriate) may have interesting resonances in the history of the western park.

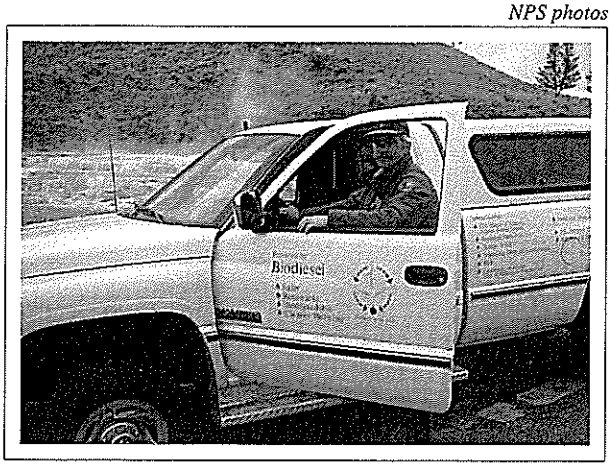
One more, equally broad, connection deserves exploration, although I have only a small space to mention it here. This is the figure of the engineer, which becomes important in the park with the Kingman/Chittenden duo and which emerges as a new form of western hero in American popular culture (not to mention American legislative history in the western states) in the late nineteenth century. Those interested in that topic could turn to Cecilia Tichi's *Shifting Gears* for an introduction. Those blazing a trail through this particular terrain will be rewarded with a new vista on the subject of management, a work loaded with assumptions about the value of nature and the function of technology to bring it to productive use.

Culpin's intent is that this volume be a management tool. I would like to suggest that the broad community who read works like Culpin's consider ways in which linkages in the current day can be made that parallel those I have suggested for times past. Does the meaning of roads in Yellowstone have anything to do with the construction of a bridge/road to another national epitome area, Ellis Island, for example? Does the web that these Yellowstone roads represent also connect public interests and private, local meaning with national memory? All of us travel these roads, and shouldn't all of us talk about the view from this thoroughfare?

Eric J. Sandeen
American Studies Program
University of Wyoming

Alternative Fuel Tested for Risks as Bear Attractant

NPS photos



Almost all of Yellowstone's 3 million or so annual visitors travel through the park in vehicles powered by a conventional internal combustion engine fueled with gasoline or diesel fuel. An estimated 7.6 million gallons of these fuels are used in the park, with potential effects on plant and animal communities, including humans. Yellowstone's Maintenance Division, in cooperation with the Montana Department of Natural Resources and Conservation and the U.S. Department of Energy's Pacific Northwest and Alaska Regional Bioenergy Program, is participating in a pilot project to evaluate the use of 100 percent rape ethyl ester (biodiesel) as a low-pollution alternative to diesel fuel in environmentally sensitive areas. Many visitors probably saw the biodiesel pickup truck used last summer by Maintenance Foreman Jim Evanoff.

Biodiesel is a vegetable oil derivative with several advantages over fossil fuels: it is biodegradable (important in the case of oil spills), contains negligible levels of sulfur (unlike fossil fuels, which contribute significantly to acid rain), emits fewer hydrocarbons and particulates than fossil-based fuels, and is derived from renewable resources.

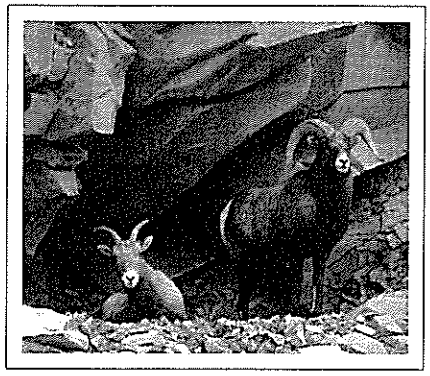
However, the vegetable base of the fuel causes concern in areas with wildlife that might be attracted to its odors, as both grizzly and black bears are quickly attracted to human foods and cooking odors in Yellowstone. As a result of these concerns, tests were conducted using the park's experimental vehicle, to determine if raw biodiesel fuel or its emissions were bear attractants. The tests, undertaken by Yellowstone bear-management personnel Mark Biel, Kerry Gunther, and Hopi Hoekstra, took place at Washington State University's captive bear facility in Pullman, Washington. As part of the tests, bears were exposed to ambient air and to odor from raw biodiesel fuel, raw diesel fuel, deer meat/dog food, biodiesel exhaust, and diesel exhaust. Of five captive grizzly bears and five captive black bears tested, all displayed a "significant non–attraction response" (they were disinterested) to ambient air, and a "significant attraction and investigation response" (they were interested and wanted to check it out) to deer meat/dog food. All bears were indifferent to biodiesel fuel diesel fuel, but many showed a "significant agitation/aggression response" to biodiesel exhaust and diesel exhaust. Grizzly bears reacted more strongly to the exhaust than did black bears.

The investigators concluded that there was "no statistical evidence that bears were attracted to biodiesel fuel or biodiesel exhaust any more than they might be to diesel fuel and diesel fuel exhaust. They recommended, however, that both experimentation and monitoring of biodiesel vehicles continue.

Northern Yellowstone Wildlife Working Group Research Reports

At the autumn meeting of the Northern Yellowstone Wildlife Working Group held in Gardiner, Montana, Montana State University (MSU) Dr. Carl Wamboldt reported on results of a multi-year study of sagebrush and ungulate habitat selection. Although there are three subspecies of big sage as well as black sage on the Northern Range, mule deer preferred mountain big sage; the black sage was least preferred, although it is high in protein and is highly digestible. Preference appeared to be related to the presence of secondary compounds, such as terpenoids, which influence browsing of the forage plants by making the plants less palatable to ungulates. Severe winters tended to reduce the preference differences of the ungulate browsers, which included elk as well as mule deer.

MSU graduate student Kristen Legg presented a progress report on her study of bighorn sheep in the Tom Miner-Point of Rocks area north and west of Yankee Jim Canyon. Her comparison of pellet transects to similar transects run in 1975 indicates an apparent shift from sheep use to elk use of steep grassy upper slopes in her study area. None of her radio-collared animals moved into Yellowstone National Park; most moved from winter ranges in her study area northward into the Hyalite Basin area. During monitoring flights, she and/or pilot Bill Chapman also reported seeing as many as 60 non-native mountain goats in the Tom Miner-Hyalite area.

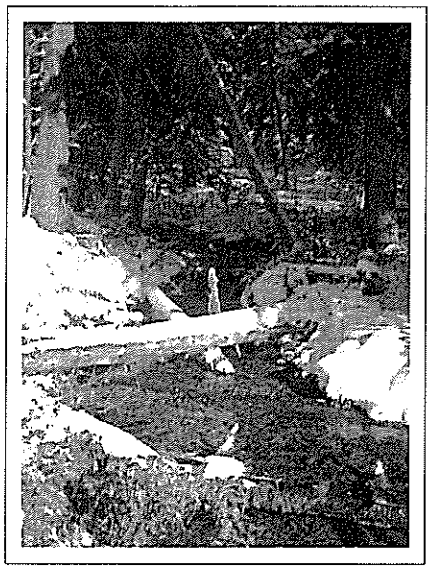


Gallatin National Forest staff reported that fall horseback surveys and drive-by counts were suggestive of a decline in moose numbers since the fires of 1988. Some moose are still being harvested by hunters, but moose permits were reduced following 1988.

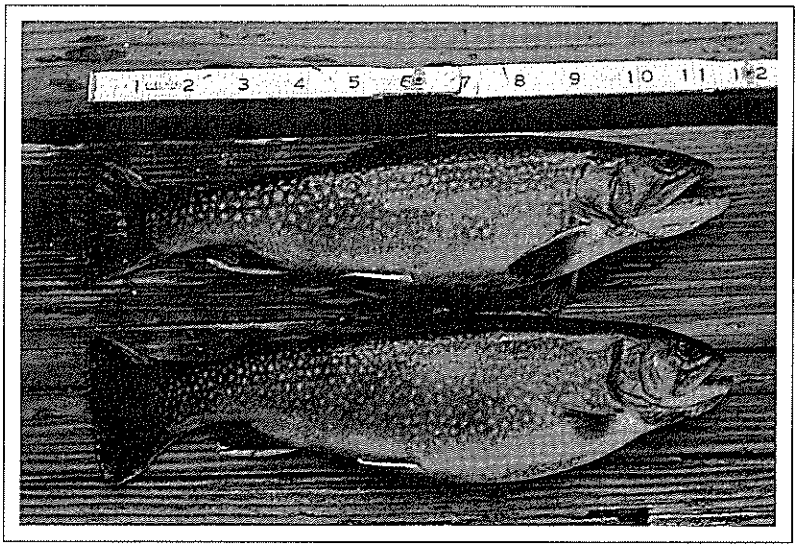
National Biological Service researcher Peter Gogan, whose mule deer study on the Northern Range was previously reported on in *Yellowstone Science* (Summer 1993), reported that deer radiocollared on the Northern Range outside of Yellowstone National Park summered as far away as Shoshone Lake, Bechler Meadows, Cooke City, and areas southwest of West Yellowstone, Montana.

Non-native Brook Trout Confirmed in Soda Butte Creek

Soda Butte Creek, which flows into Yellowstone National Park near the park's Northeast Entrance, is frequently in the news because of the past effects of mining activity in its headwaters and because of possible threats to this tributary of the Lamar River from proposed mining activity. A recently completed study of the headwaters of Soda Butte Creek, just outside the park, has added another worry for those concerned with the fate of this beautiful but troubled stream. The study revealed the presence of non-native brook trout (*Salvelinus fontinalis*) in water where native Yellowstone cutthroat trout (*Oncorhynchus clarki bouvieri*) have long been considered a species of special concern by managers.



The upper Soda Butte Creek site where non-native brook trout (below) were found.



The study, "Soda Butte Drainage Reconnaissance Fish Survey 1994," was prepared by Gallatin National Forest Fisheries Biologist Scot Shuler and published in January 1995. It was a partnership project of Shoshone and Gallatin National Forests, the Wyoming Game and Fish Department, the Montana Department of Fish, Wildlife and Parks, and the U.S. Fish and Wildlife Service Fisheries Assistance Office in Yellowstone National Park.

Because genetically pure Yellowstone cutthroat trout occupy only about eight percent of their historic range in the west, they are designated a "sensitive species" by the U.S. Forest Service and a "species of special concern" by the Montana Department of Fish, Wildlife and Parks. The status of the Yellowstone cutthroat trout has been in the news lately because of the threat to the last remaining large population of them, in Yellowstone Lake, where lake trout (*Salvelinus namaycush*) have recently been discovered.

Though there have been occasional reports of brook trout in Soda Butte Creek for at least 20 years, including some in Yellowstone National Park, this study, which summarized recent electrofishing results, provides the first scientific confirmation of their presence. No brook trout were found in any of the tributaries that were sampled (Woody, Republic, and Hayden creeks, and Guitar Lake); the brook trout were all in Soda Butte Creek itself. The report suggests two possible sources of origin for the brook trout. They may have been intentionally introduced by someone, or they may have entered the drainage during spring snowmelt runoff, when high water in the divide area between Soda Butte Creek and the Clarks Fork might allow passage of fish.

The report also points out that another non-native fish, westslope cutthroat trout (*Oncorhynchus clarki lewisi*), have recently been identified in Soda Butte Creek. This also is a troubling finding, because while the brook trout might outcompete the native Yellowstone cutthroat trout in the Soda Butte Creek drainage or move downstream into the Lamar River, the westslope cutthroat trout could interbreed with the native trout. Shuler recommended additional monitoring and study to keep track of both of these incursions.

Third Biennial Rocky Mountain Anthropological Conference, September 18-20, 1997

The Third Biennial Rocky Mountain Anthropological Conference will be held September 18-20, 1997, at the Holiday Inn in Bozeman, Montana. According to the conference organizers, "interested individuals are encouraged to organize forums as a possible alternative to symposia, to enable thoughtful, focused, and more open discussion of carefully delineated themes/topics." Please contact the organizers (below) for information about organizing a forum. The organizers encourage the participation of individual researchers from all areas of anthropological study pertaining to the Rocky Mountains, and researchers in related fields addressing issues of past environmental conditions are also welcome. The deadline for symposium or forum proposals is March 15, 1997. Other deadlines and information will be announced.

For more information, contact Ken Cannon, NPS Midwest Archeological Center, Federal Building, Room 474, 100 Centennial Mall North, Lincoln, NE 68508-3873 or (402) 437-5392 ext. 139,

FAX402-437-5098),email: ken_cannon @nps.gov; or Jack Fisher, Department of Sociology, Montana State University, Bozeman, MT 59717 (406-994-5250, FAX406-994-6879),email:isijf@msu.oscs.montana.edu.

Trumpeter Swans Killed

Yellowstone's bird biologist, Terry McEneaney, has been working cooperatively for several years with private landowners, organizations, and state wildlife managers to restore a population of trumpeter swans in the Paradise Valley of Montana. Swans have been purchased using donated monies and placed on private lands with suitable habitat along the Yellowstone River south of Livingston, about 45 miles north of Yellowstone. Although the released birds have their wings clipped, restricting flight, the clipped birds have successfully nested, and their offspring augment the population of wild trumpeter swans that now exists in the greater Yellowstone area. On December 2, 1995, four swans (two wing-clipped adults and two wild adults) were killed in Paradise Valley by a hunter. Although the birds have never been listed as threatened or endangered under the Endangered Species Act, they cannot be legally hunted in the ecosystem. Bruce Reid of Livingston, Montana, was apprehended and has yet to be tried on charges of shooting the wild swans. However, Reid, who claimed to have mistaken the swans for snow geese, paid $2,500 restitution to the Trumpeter Swan Recovery Fund for killing the two birds. Restitution monies were used to purchase two adult trumpeter swans and four cygnets, and the birds were placed on the Call of the Wild Ranch. As of February 1996, there were 33 trumpeter swans (20 adults and 13 cygnets) in Paradise Valley.

Alice Siebecker

Bison Research and Management Continue While Long-Range Plans are Prepared

Efforts to reach agreement on a long-range plan to manage bison in and outside Yellowstone National Park continue, as an interagency team strives to have a draft plan and Environmental Impact Statement (EIS) released for public comment in November 1996. In the past decade bison from Yellowstone have increased in number, and some of the animals have increasingly migrated, primarily in winter, outside park boundaries. State and federal agency representatives are addressing various issues, including public safety, property damage, and potential disease transmission from bison to cattle. Concern over the length of time it was taking to reach agreement prompted the state of Montana to file a lawsuit against the federal agencies, including the NPS, in 1995. A final plan and EIS to guide the management of bison that migrate from the park into Montana is expected by May 1, 1997, with a Record of Decision issued by July 1, 1997, as outlined in a settlement agreement approved by a federal court judge.

Meanwhile, the park is involved in several intensive bison management and research activities. Under an Interim Bison Management Operating Plan approved in November 1995 park rangers assist with bison control outside the north and west boundaries when requested by the Montana Department of Livestock. This winter, cooperative activities included regular monitoring and reporting of bison outside park boundaries, hazing bison back into the park, and shooting of bison outside the park. Mary Meagher, of the NBS Yellowstone Field Station, continues to monitor bison numbers and movements parkwide as part of her long-term ecological studies. From aerial observations throughout this winter, she estimated the park's bison population at between 3,500 and 4,000 animals. She believed that her highest winter count, of 3,398 bison in December 1995, was not a good indication of bison numbers parkwide, and more recent surveys were even less reliable, due to bison breaking their social bonds and scattering geographically. As of March 23, her records indicated that 355 bison had been removed outside the park's west boundary, and 20 bulls had been removed outside the north boundary; an additional bull was shot outside Gardiner, Montana, by a landowner concerned about the bison threatening his stock. Carcasses were donated to Native American tribes around the region.

A Draft Interim Bison Management Plan and Environmental Assessment (EA), outlining operational plans for the period until a longer-range program is in place, was released for public comment from December 20, 1995, to February 2, 1996. The park received 260 comments on the proposed action, which called for capture of bison migrating outside the north and west boundaries. Bison captured on the northern boundary, at facilities built at the NPS service area on Stephens Creek, would be sent to slaughter. Bison exiting the park in the Eagle Creek-Bear Creek areas near Jardine, Montana would only be monitored. Bison captured in the West Yellowstone area would be field-tested for brucellosis. Those animals of either sex that showed seropositive results, along with seronegative pregnant females, would be sent to slaughter. Other animals captured outside the west boundary would be released. Public comments have been analyzed and a decision on the interim proposal is expected by the end of April.

A pilot study of the epidemiology and pathogenesis of brucellosis in wild bison was initiated last summer by the Animal and Plant Health Inspection Service (APHIS), the National Biological Service (NBS), the Montana Department of Fish, Wildlife and Parks (MDFWP), and the NPS. Researchers implanted vaginal transmitters in ten radio-collared bison cows on the park's northern range. The transmitters were designed to indicate calving or abortion in pregnant females. All ten cows appeared pregnant and none had calved as of April 2, 1996; however, all but one of the transmitters had fallen out, indicating failure of this application of the vaginal transmitter technique. Researchers plan to continue monitoring bison throughout the calving period in April and May, then take additional samples from the cows and their calves. Researchers will then assess results of the pilot study and determine future study plans.

Numerous state and federal agencies continue to participate in the Greater Yellowstone Interagency Brucellosis Committee. Their stated goal is to protect and sustain the existing free-ranging elk and bison populations in the Greater Yellowstone Area (GYA) and protect the public interests and economic viability of the livestock industry in Wyoming, Montana, and Idaho. Toward this end, their mission is to facilitate the development and implementation of brucellosis management plans for elk and bison in the GYA. The NPS representative on the executive committee of the GYIBC is Dr. Dan Huff from the Intermountain Field Office in Denver. Representatives on the technical committee are Wayne Brewster from Yellowstone and Dr. Robert Schiller from Grand Teton National Park. The GYIBC hopes to proceed with development and implementation of programmatic plans to deal with the elimination of brucellosis in the GYA.

The NPS has committed approximately $900,000 over fiscal years 1996-1998 from servicewide Natural Resource Preservation Program (NRPP) funds for bison research and the building of capture facilities to manage bison. Research emphasis will be focussed on these topical questions: 1) the ecology of the brucella organism in the wild, and a risk assessment of its effects on wild ungulates, 2) testing new vaccines for biosafety and efficacy in wild bison, and 3) bison ecology. More information about bison and brucellosis studies will be forthcoming in future issues.

World Heritage Committee Calls Yellowstone "Endangered"

The World Heritage Committee, an international panel of conservationists from countries that signed the World Heritage Convention treaty in 1973, met in Yellowstone in September 1995. After touring the ecosystem and listening to concerns expressed by various citizens and organized groups, the Committee voted to add Yellowstone to a list of endangered natural and cultural sites that are "of universal value to mankind." Their decision was based on both ascertained and potential dangers. Among the general issues of concern were plans for the New World Mine site near the park's northeastern corner, potential development of geothermal systems outside the park, and growing numbers of park visitors.

A special area of focus related to the proposed gold, silver, and copper mine near Cooke City, Montana, including impacts on water quality in the Yellowstone River and its tributaries; associated impacts on aquatic invertebrates and fisheries; groundwater quality; long-term alteration of wildlife habitat; and increased road access; human use; and occupation of the area from the park's northeast entrance to Cody, Wyoming. The U.S. Forest Service and the Montana Department of Environmental Quality have been working on an environmental impact statement for several years; a draft plan is expected later this year.

In-park Training Focuses on Visitor Use Management

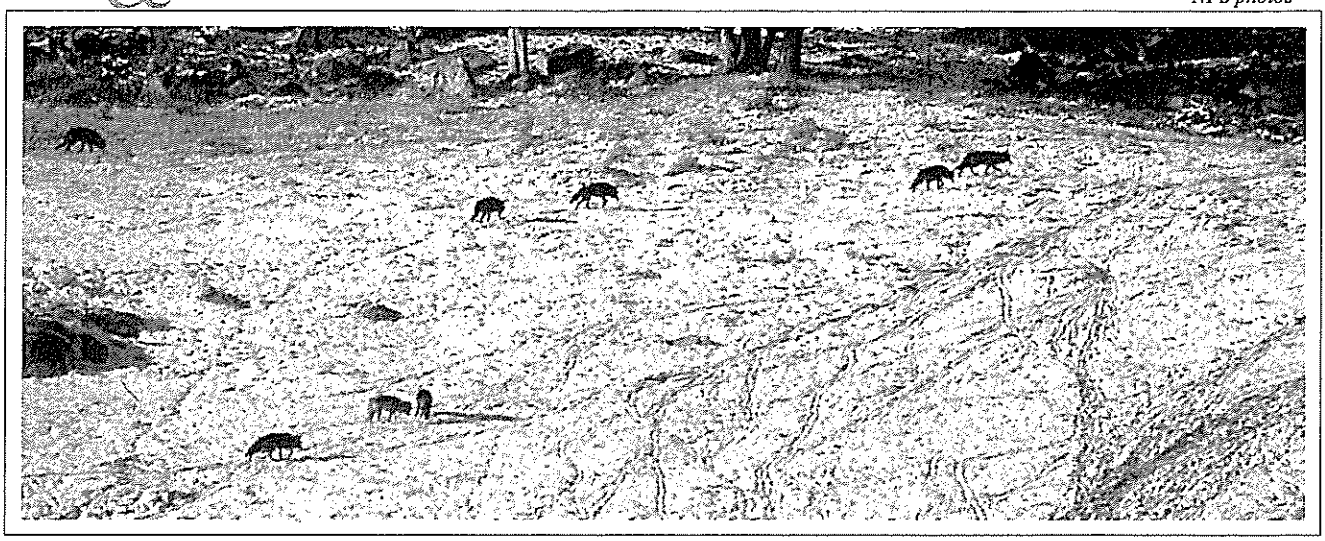
About 80 persons attended Yellowstone's Tenth Annual Resource Management Workshop, held January 24-26, 1996, in Mammoth Hot Springs. This year's theme was "Visitor Use: Impacts and Management." Guests included professors Gary Machlis, Steven McCool, and Bob Manning, who talked of "Understanding the Visitor" and "Perspectives on Carrying Capacity"; Wayne Freimund and Marilyn Hof, who have tested an NPS visitor use management process at Arches National Park; and Dave VanCleve, who described four case studies in management of visitors and resources in the California state parks. The workshop, sponsored by Yellowstone's Division of Resource Management Operations and Visitor Protection, brings together employees representing all park divisions as well as guest researchers and managers from other parks, forests, state agencies, and academia.

More Wolves Released in Yellowstone

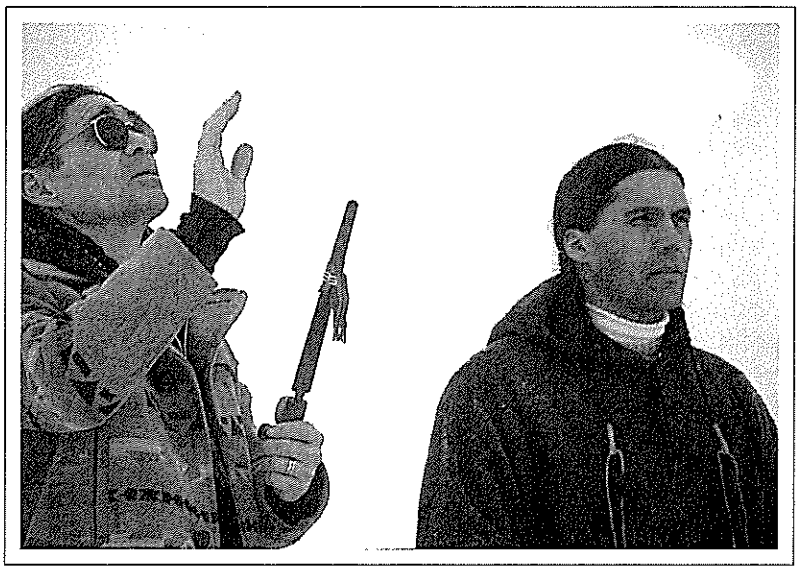
In early April 1996, 17 wolves—11 females and 6 males, ranging from 72 to 130 pounds in size and from nine months to five years in age—were released into Yellowstone to join wolves already roaming the ecosystem. The wolves, originally from six different packs in British Columbia, had spent about ten weeks in acclimation pens prior to being released.

Six wolves from the same pack—two males and four females—penned near Nez Perce Creek, in the Firehole River Valley in central Yellowstone, were freed

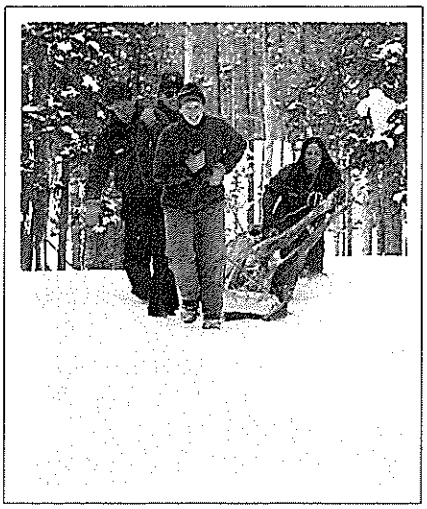
NPS photos



Rose Creek Pack, in the Lamar Valley, October 23, 1995.



Scott Frazier (left), a Sioux-Crow, and John Potter, an Ojibwa, during a prayer ceremony where they sang morning songs of welcome for the arrival of the new wolves.



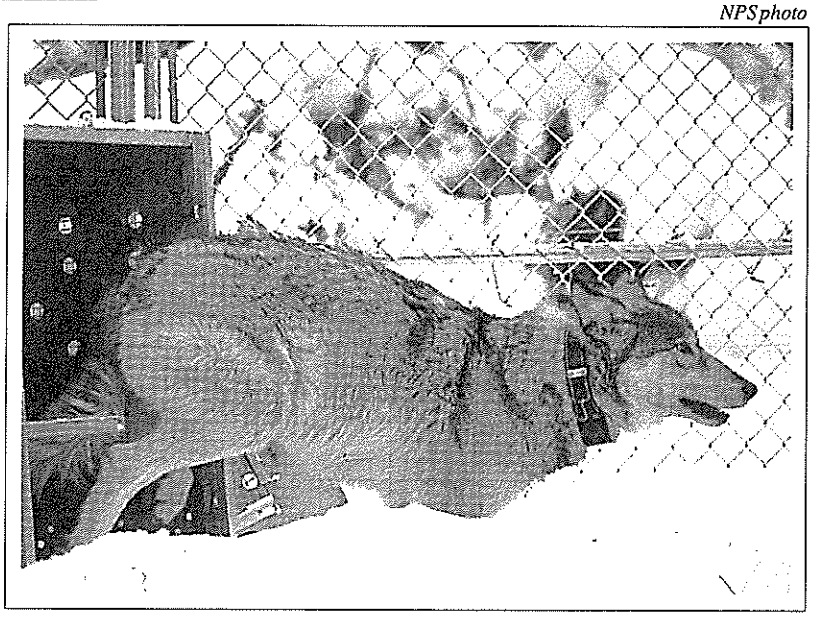
Volunteer Carrie Schaefer and park employees Carol Tepper, Les Brunton, and Mark Biel taking a carcass to the Nez Perce wolves on March1.

Mike Phillips (left), John Cook (center), NPS Intermountain Field Area director, and Dan Huff (right), assistant field director for Natural Resources /Science, at the Rose Creek pen.

Park wrangler Wally Wines on horseback and chief park ranger Dan Sholly on skis hauling a wolf to the Rose Creek pen.

when biologists cut a hole in their pen on April 1. The next day, the female wolves had all exited the pen and moved eastward toward the Yellowstone River, while the males stayed put. Within several days, all the wolves had left the pen, but the females continued moving northeast and left the park; the males apparently lost their trail along the river and moved north. By April 23, the wolf pack was still scattered; the alpha female was located near Nye, Montana, and the female pups were east of Red Lodge, Montana. The alpha male and a male pup were located in Paradise Valley, north of Gardiner, Montana. Biologists were monitoring the situation, in the hope that the pair would reunite, and leaving open the possibility that capture efforts would be undertaken to bring the alpha female and others from her pack back into the park.

NPS photo



Rose Creek female leaving the crate upon arrival in Yellowstone.

A male, a female, and her three female pups had been penned at Rose Creek. An opening was cut in their pen in April and—similar to what happened during the 1995 releases—the wolves took their time in vacating their temporary enclosure. By April 14, biologists confirmed that the newly-named Druid Peak pack had finally left the acclimation pen; they were moving generally northward at last report.

Since wolves released in 1995 have established territories on the northern range, animals in two other pens were transported to other parts of the park for release. Project biologists believed that relocating the wolves just prior to their release would accomplish the goals of soft release and decrease the likelihood that these wolves would immediately conflict with established packs in northern Yellowstone. Wolves mate from late February through early March, so the release of all penned wolves was scheduled prior to the onset of denning activity that might occur, typically from late April to May.

The pair held on Blacktail Deer Plateau was released on a service road near Lone Star Geyser, southeast of Old Faithful, on April 5, 1996. The wolves were located near the release site several times following their release. Both wolves were located on April 13 near Old Faithful and they seemed to be in good condition. However, during a routine monitoring flight on the afternoon of April 14, biologists received a mortality signal from the radio-collared female wolf, #36. She was spotted south of Old Faithful and appeared to be dead; the male wolf was located near the carcass of the female wolf. On April 15, project biologists searched the area and retrieved the carcass of wolf #36. A necropsy of the animal indicated that she was carrying six pups, and had died of thermal burns. The male wolf from the Blacktail pen was located in the south-central part of the park.

Four wolves—an adult pair and a younger male and female—from the Crystal Creek pen were moved to the northern end of the Firehole Valley on April 11. The wolves, renamed the Chief Joseph Pack, were temporarily placed in the Nez Perce pen, which had been vacated on April 3 by the pack of wolves held there all winter. On April 15, the pack was several miles west of the pen and had apparently successfully killed an elk. By April 23, the young male remained in the Firehole Valley, and the other wolves were west of Hebgen Lake feeding on a moose.

The wolves released in 1996 augment the existing population that has roamed wild for the past year. Fourteen wolves were released in 1995, and nine pups were born to two packs. Wolf #10, a male originally penned at Rose Creek, was killed by Chad McKittrick near Red Lodge last April. (McKittrick was found guilty of killing an endangered animal and sentenced to six months incarceration and ordered to pay $10,000 restitution if and when he is able.) In December, #22, a male pup from the Rose Creek Pack, was killed by a vehicle on the park's northeast entrance road.

Four wolf mortalities have occurred thus far in 1996. As mentioned earlier, #36 was found dead on April 14. On January 11, wolf #3, a yearling male from the Crystal Creek Pack, was spotted on a ranch at Dry Creek near Emigrant, Montana. On January 12, Animal Damage Control (ADC) agents found a sheep carcass that had been killed by a wolf. Based on the final rule for management of reintroduced wolves and upon consultation with USFWS and NPS staff, ADC recaptured the wolf and returned him temporarily to the Rose Creek pen. On January 25, #3 was released in Pelican Valley, approximately 60 airline miles from Dry Creek. The wolf stayed in the center of the park for a few days, but on February 3, he was back at the ranch. Another sheep had been attacked, and the responsible agencies decided that, under the circumstances, the wolf's removal was the most plausible action to benefit the wolf recovery program. On February 5, #3 was shot and killed by agents from ADC. Defenders of Wildlife planned to work with the landowners to compensate them for their livestock loss.

Wolf #12, a large adult male—but not the alpha—from the Soda Butte Pack, spent January exploring south along the Absaroka Mountains. On February 11, the wolf was found dead approximately 20 miles northwest of Pinedale, Wyoming. The carcass was shipped to the USFWS's National Forensics Laboratory in Ashland, Oregon, for further examination; investigators disclosed that the wolf had been shot. The USFWS has offered a $2,000 reward for information leading to the identification and conviction of the person(s) responsible. Information can be given anonymously. Anyone with information about the wolf's death may contact Special Agent Roy Brown in Lander, Wyoming, at (307) 322–7607, any other USFWS special agent, or any law enforcement agent with the Wyoming Game and Fish Department.

On March 30 biologists discovered that #11, a subadult female who had dispersed from the Soda Butte Pack, had been shot near Meeteetse, Wyoming. On April 15, the U.S. Attorney's Office announced that Jay M. York, an employee of the Deseret Ranch near Meeteetse, had pled guilty to illegally taking the endangered wolf. Mr. York was fined $500. The incident occurred during calving season on the ranch, when some 23 calves had already been lost to snow and cold weather conditions. Ranch managers were concerned about the number of coyotes they were seeing, and about the potential for coyote depredation on the newborn calves, so they decided to shoot any coyotes found in the calving pasture. York had seen two coyotes in the pasture on morning of March 30 and stepped out of his truck to shoot them. As a third animal came into view, York sighted in his rifle and shot it. Upon inspecting the animal he had shot, he believed it to be a wolf, and found it to be ear-tagged. York reported the killing that day, and both he and his employer were "very cooperative throughout the investigation" conducted by the USFWS, and the Wyoming Game and Fish Department.

The wolf mortalities are unfortunate but not unexpected; restoration of a wolf population in the ecosystem continues to progress well. Three wolves from six originally in the Crystal Creek Pack remain generally in the Lamar and or Pelican valleys; winter visitors reported seeing them chase and feed on elk. Throughout the winter, these wolves had also killed at least eight coyotes, according to researchers. The Rose Creek Pack spends most of its time in the Slough Creek-Hellroaring areas. The alpha female and her seven surviving pups were joined by #8 (a young male formerly of the Crystal Creek Pack) last autumn; he is now the alpha male. The Soda Butte Pack ranges along the northern front of the Beartooth Mountains and in upper Slough Creek in and outside the park. Perhaps most exciting is the news that wolf #2, a male formerly from the Crystal Creek Pack, paired with #7, a female originally penned at Rose Creek. They are the first naturally-forming wolf pack in Yellowstone in more than 60 years. The pair has been observed mating, and could have a litter of pups born this spring. Project biologists have decided to name this pack in honor of the late biologist, Aldo Leopold, who, in 1944, called for restoring wolves to Yellowstone. Other packs will be named based on geographic areas once they establish territories.

Annual Report Available for 1994

YELLOWSTONE CENTER FOR RESOURCES

ANNUAL REPORT

The Yellowstone Center for Resources has produced an annual report for its activities in calendar year 1994. The 100-page document highlights efforts to study and protect natural and cultural resources through reports by various staff specialists and interdisciplinary resource teams established to focus on specific priority assignments. Highlights from 1994 include the discovery of non-native lake trout in Yellowstone Lake, the growth of the park's cultural resource management staff and program, discovery of Eocene plant fossils during reconstruction of the East Entrance Road, and initiation of wolf restoration to Yellowstone. Some copies are still available by contacting the Yellowstone Center for Resources at (307) 344–2203.

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