Bears

Yellowstone has come a long way since the evening program for visitors was a trip to the dump to watch bears feast on hotel leftovers. However entertaining it may have seemed, the consequences were not altogether amusing for either the audience or the animals. Having lost their natural fear of people, these bears became bold in pursuing human food, resulting in frequent visitor injuries, property damage, and the killing of "problem" bears. But since the early 1970s, when the last park dump was closed and strict prohibition of roadside feeding began, the park's black and grizzly bears have survived on the plants and animals that are their natural foods and they have exhibited more natural bear behaviors.

Yellowstone's bear management office is staffed by two full-time wildlife biologists, who are typically assisted during the summer months by several seasonal employees or volunteers. This staff is also responsible for the capture of other wildlife for management purposes, wildlife health sampling, and roadkill removal. More than 95 percent of their budget is spent on personnel; the remaining funds must cover supplies, operational costs, and upgrading equipment such as bear traps and radiotelemetry gear.

The routine duties of many other employees are also essential to preserving bear populations and minimizing the possibility of bear-human conflicts. Scientists study seasonal bear use of the variety of habitats found throughout the ecosystem; maintenance staff help to ensure the elimination of food attractants from developed areas; and park rangers and interpreters report bear activities and educate visitors about safe behavior in bear country.

"Bear jams" still occur when a bear becomes visible from a park road. Traffic comes to a halt, and rangers must be summoned to keep people at a safe distance. But with bears no longer coming forward for handouts, they are seen by only a small portion of today's visitors, causing some to believe the number of bears has declined. Although both bear sightings in the park and hunting records outside the park suggest that black bear populations are in good shape, research is needed to scientifically validate population status and trends. Only one study of black bears has been done in one portion of the park, and that was 30 years ago. The park's grizzly bears have been the subject of far more research.

The Grizzly Bear: Still Threatened?

Although grizzly bears once roamed from Mexico to the Arctic Ocean, Yellowstone is one of just two major areas south of Canada still inhabited by grizzly bears. Grizzly bears in the lower 48 states have been listed as threatened under the Endangered Species Act since 1975. Much of the designated grizzly bear recovery area lies in the six national forests that surround the park, which are subject to a broader range of uses than park lands. Roads constructed through grizzly habitat result in significant bear displacement and mortality due to increased human contacts. Despite the large volume of traffic through the park each summer, Yellowstone's backcountry provides an essential roadless, non-hunted sanctuary in the center of occupied grizzly bear range.

Interagency Research and Coordination

The Interagency Grizzly Bear Committee was established in 1983 to coordinate grizzly bear management among state wildlife agencies and national parks and forests. Interagency cooperation has helped to bring about widespread use of bear-resistant trash receptacles, better opportunities to relocate nuisance bears away from livestock grazing allotments, and more consistent public information and regulations.

Much of what we have learned about Yellowstone grizzly bears since 1974 has come from research conducted or coordinated by the Interagency Grizzly Bear Study Team (IGBST). In cooperation with park, forest, and state wildlife managers in Idaho, Montana, and Wyoming, the IGBST has monitored bears throughout the recovery zone, estimated their population size and trends, and enhanced our understanding of grizzly life history, ecology, and behavior in relation to humans and to other wildlife species. Even if grizzlies can be removed from the endangered speices list, continued monitoring of the Yellowstone population will be needed .

Debates about how many grizzly bears there are and whether the Yellowstone population can survive over the long-term despite increasing human development and use of the ecosystem have been contentious. Some people believe the animal is doomed to extinction, while others think it has become so numerous that grizzly hunting should be permitted outside the park. Each year, about 40 to 50 radio-collared grizzlies are monitored to track population trends and learn about bear habitat use. It is neither practical nor beneficial to the survival of these wild animals to try to trap, mark, and count every bear.

As a result of an intensive bear management program that began in 1970, grizzly and black bears are now living naturally in the park with far fewer bear-human conflicts, despite a dramatic increase in human visitors. Although conflicts between bears

and people will continue to take place occasionally, most can be prevented if park staff and visitors know how to respond when an encounter occurs. Outfitters, conservation groups, recreationists, and residents of greater Yellowstone share credit for promoting new attitudes toward people living and working safely in bear country.

An Undevelopment Plan for Habitat Restoration

As early as the 1960s, park biologists were concerned about the proximity of bears to park visitors, especially in high quality habitats such as the riparian zones on the north shore of Yellowstone Lake. The area around Fishing Bridge, where the Yellowstone River flows north from the lake, was historically the most frequent site of bear-human conflicts, resulting in both human injuries and the removal of bears from the wild. This recurrent problem ultimately led to the decision to eliminate a 310-site campground located at Fishing Bridge. Despite the absence of funds allocated for this purpose, park staff from all divisions launched the Fishing Bridge campground restoration with a voluntary workday in September 1991 and gradually removed all fire grates, restroom fixtures and buildings, water spigots, signs, and asphalt. By September 1997, native trees and grasses obliterated the former campground loops, and 72 acres had been restored to natural conditions. Other disturbed sites have been identified for habitat restoration, partly as mitigation for increasing development pressures elsewhere in and around the park. But complete restoration will require additional funds, and bring continued controversy.

Future Outlook

The best available research suggests that the grizzly population is growing, with bears increasingly distributed throughout the greater Yellowstone area. Interagency scientists believe that a healthy grizzly bear population can be sustained in the ecosystem, but it will take the continued cooperation of federal and state agencies, an informed public, and staff trained in how to deal both with bears and the public. Even if the grizzly bear is "delisted" as a threatened species, it will always be necessary to manage bears and humans in order to prevent conflicts that could result in injury to either species.

How Many Grizzly Bears Are There?

Because females with cubs are the easiest bears to find and distinguish between, they are used to estimate the size of the bear population. In 1996, scientists estimated with 90 percent confidence that the ecosystem's grizzly bears numbered between 280 and 610 bears, and in 1998, 70 cubs were born to 35 females. The average litter size appears to have increased slightly since the mid-1970s, to approximately two cubs per litter.

Although the population estimate may seem very loose, it has met the statistical rigor and peer review required for publication in *The Journal of Wildlife Management.* A more precise count of bears would require an expensive bear-trapping effort that could be injurious to both the bears and to wildlife biologists. Biologists are investigating a non-intrusive method for estimating population size using DNA analysis of bear hair samples as part of a cooperative study with the Yellowstone Grizzly Foundation, the Interagency Grizzly Bear Study Team, the Wyoming Game and Fish Department, and the Shoshone and Bridger-Teton national forests. Much of the funding for this research is being provided by Canon U.S.A., Inc.

Bear Problems	Annual Average	
	1960s	1990s
Bears that must be relocated away from the frontcountry	More than 100 black bears and 50 grizzlies	1 black bear and 1 grizzly bear
Bears that must be killed or removed from the park	33 black bears and 4 grizzlies	1 black bear and 1 grizzly bear
Human injuries in the park	45 injuries	1 injury
Property damage in the park	219 claims	8 claims

Efforts to map habitat conditions and to develop quantitative techniques with which to monitor long-term trends in bear use of habitat have been expensive and time-consuming. Better tools, such as data-intensive computer models and Global Positioning Systems (GPS) collars, will become available for use by ecosystem managers and scientists, but they will require dedicated expertise to keep up with the new data and interpretations.

While black bears have benefitted from management efforts aimed primarily at recovering the threatened grizzly, Yellowstone has had no research on black bears since the 1960s. The lack of scientific information about black bear numbers and behavior is a major gap in our resource management program.

Program Needs

Yellowstone National Park has historically provided significant funding for grizzly bear research and for protection of their population and habitat—efforts that will continue to require highly trained staff and dollars.

• HABITAT PROTECTION. Park plans call for limiting visitor facilities to existing developments, keeping more than 95 percent of Yellowstone's natural landscape relatively undisturbed. Restoration of significant habitat, such as that near Fishing Bridge, is still a goal, as is continued use of Bear Management Areas, instituted in the early 1980s for the protection of both bears and visitors. These important habitats may have restrictions placed on visitor use during certain hours of the day or times of the year, and on the size of groups travelling in the area. However, management of these areas needs to be reassessed based on the latest research findings and the effects of the fires of 1988, which changed plant community patterns and diversity.

• EDUCATION. Bear education and awareness in the park and in surrounding communities and forests will continue to require funding and staff time to protect both bears and visitors.

• RESEARCH AND MONITORING. A well-designed study of black bear ecology should be funded and implemented, ideally with interagency cooperation from park neighbors. Research is also needed on the role of the cutthroat troat in maintaining Yellowstone's bear population; the effect of diseases and climate change on the whitebark pine (see "Toward the Timberline," page 5–10); and on the little-known army cutworm moth, which provides an essential protein-rich food source for grizzlies that congregate at high elevation talus slopes in the fall. Trapping and collaring bears provides crucial information on bear numbers and movements, but puts the individual bears and biologists at risk. New techniques such as DNA analysis of guard hairs and scats have the potential to be population monitoring tools, and hair and fecal analyses can also provide important information on bear foods and nutrition. Park staff need to investigate less costly—and less intrusive—research and monitoring methods, while pursuing information needed to recover this imperiled species.

Bear Management

Stewardship Goals

Working together with neighbors and partners, Yellowstone recovers and maintains a wild population of the threatened grizzly bear in the ecosystem.

Black bear populations and their habitat are preserved throughout the park.

Professionally trained staff participate in a cooperative program of professional research and management, using the best available science on the animals and their interactions with habitat, humans, and other species.

Park staff work with neighbors and partners to minimize bear-human conflicts and interactions based on food and garbage, and promote public safety through proactive management and education.

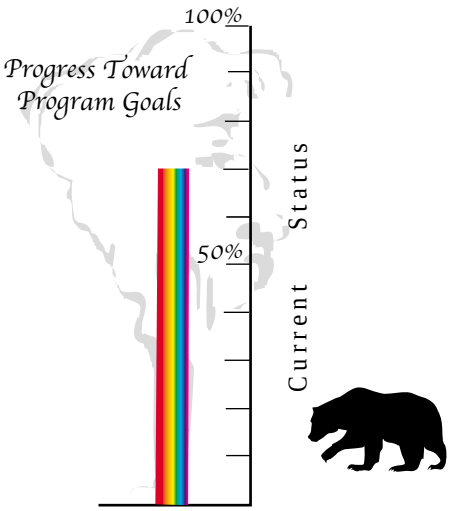
Current State of Resources/Programs

The grizzly bear population is increasing in number and distribution across the ecosystem, but habitat loss is an ongoing management concern.

Scientific research is needed to assess the state of the park's black bear population and ensure its long-term protection.

Research has provided increasingly sound grizzly bear estimates and data on bear use of habitat, but at a high cost; less expensive and less intrusive techniques are needed.

The incidence of bear-human conflicts and associated bear relocations and removals has declined greatly, decreasing the risk to bears and people.



1998 Funding and Staff

Recurring Funds	
Yellowstone N.P. Base Budget	$ 115,300
Cost Recovery/Special Use Fees	
Non-Recurring Funds	
One-time Projects	$ 25,300
Staff	2.5 FTE

The human resources and funding necessary to professionally and effectively manage the park to stewardship levels will be identified in the park business plan.