How has the plan affected the bison population?

Similar to other large Rocky Mountain herbivores, bison move to lower elevation winter ranges in response to accumulating snow and crusting of the snow pack. Up to 50% of the bison in Yellowstone have migrated from the park in the winter. In some years risk management actions (hazing, capture, and removals) have resulted in many mortalities, but the reproductive capability of Yellowstone bison is high and the population has quickly rebounded.

For more information about activities taking place under the IBMP, go to <http://ibmp.info>.

Winter ending in	2004	2005	2006	2007	2008	2009	2010
Late winter count	3,620	4,063	3,430	3,579	3,662	2,870	2,964
Bison captured at west or north boundary	484	184	1,591	61	1891	0	0
Tested	425	184	98	0	539	0	0
Released after testing negative	207	69	0	0	191	0	0
Held without testing and later released	0	0	317	57	124	0	0
Lethal removals							
Tested bison sent to slaughter	217	97	11	0	216	0	0
Untested bison sent to slaughter	59	0	888	4	1218	0	0
Capture pen mortality	0	1	8	0	10	0	0
Bison shot because they could not be hazed	4	1	9	0	8	0	2
Bison shot in MFWP and tribal hunts	0	0	45	59	166	1	1
Bison sent to quarantine feasibility study	0	17	87	0	112	0	0
Total bison removed from population	280	116	1048	63	1730	1	3
Summer count/population estimate	4,240	4,070	3,905	4,700	3,000	3,248	3,900

Why has Yellowstone agreed to a plan that permits killing bison?

The National Park Service was established in 1916 to manage the parks so as to "conserve the scenery and the natural and historic objects and the 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." The Park Service cannot preserve the life of every *individual* wild animal, whether inside or outside the park; the primary goal is to preserve native *populations* of sufficient size so that each species will continue to have a viable population in the park for the long term.

Ideally, wildlife in the park is intensively managed only when necessary to protect human life or property, or to help in the survival of threatened or endangered species. However, wildlife do not recognize the park's boundaries, and the surrounding states bear the primary responsibility for regulating wildlife outside the park where unlimited bison population growth is not acceptable. Although the U.S. Forest Service is required by federal laws to provide habitat for bison and other native species, its mandate to provide for "multiple use" includes providing range for domestic livestock that graze under federal permits.

To try to prevent all bison departures through hazing or fences would be detrimental to bison and other wild animals. By helping to prevent the commingling of bison and cattle, the plan allows some bison to range freely outside the park, reduces the number of bison that must be killed, and helps preserve migratory behavior in a viable bison population.

Using bison calves captured at the park boundary, the U.S. Department of Agriculture and the state of Montana began a feasibility study in 2005 which has validated a protocol for identifying disease-free Yellowstone bison after a lengthy quarantine period. These bison may be used to start or supplement herds on public or tribal land.

Free-roaming bison in Yellowstone

The number of bison leaving the park each year is affected by herd size, forage production, and winter conditions. During the severe winter of 1996–97, which began with a population of about 3,400 bison, hundreds died of natural causes and, because of an interim bison management plan then in effect, more than 1,000 were killed when they attempted to leave the park. During the mild winter of 2000–01, when the population was estimated to be 2,870, fewer than 50 bison left the park and only six were killed.

Since the time when hunting for profit threatened to eliminate all big game animals and their predators in the West, a view of wildlife has evolved that enables many species to thrive on both public and private lands. It may be necessary to limit the presence of wild bison outside of places like Yellowstone National Park, but with adequate safeguards in place, the preservation of the species and the environmental processes that shape these ecosystems can be ensured.

Yellowstone
When Bison Leave the Park

National Park Service
U.S. Department of the Interior

Most animals in Yellowstone are subject to different management goals when they leave the park. Bison require special attention because many have been exposed to the bacteria that causes brucellosis, a disease that also infects domestic cattle. Yellowstone has worked with the state of Montana and other federal agencies to develop a plan for managing the bison population in a way that protects both its wild and free-roaming characteristics and the health of Montana cattle.

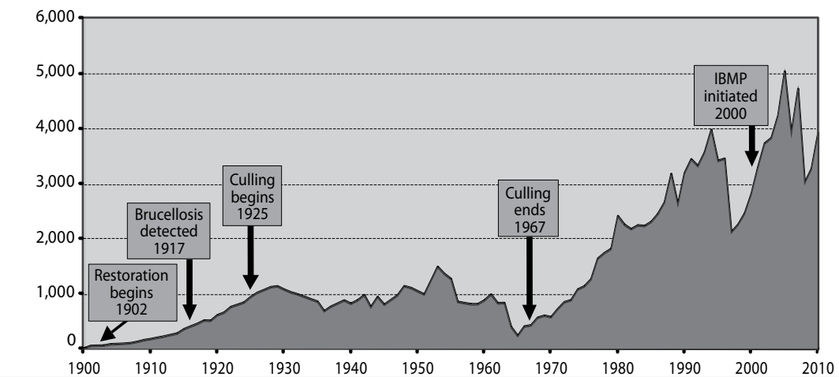
Changing views of the American bison

The current interagency bison management plan is another step in a long history of changing ideas about bison conservation. Although regarded as an icon of American wildlife, for most of the last 150 years bison have been subjected to efforts to remove them from Western ranges or manage them as domestic livestock. Congressional efforts to halt the slaughter taking place across the West in the 19th century were opposed by those who hoped that elimination of both bison and nomadic American Indians would hasten settlement by homesteaders with livestock.

By the 1890s, most American Indians were on reservations and Yellowstone was the last refuge for wild bison, but it lacked the means to protect bison from poachers. In 1902, with the herd down to 23 bison, the park purchased 21 bison from privately owned herds. To help ensure population growth, these animals were fed and bred in Lamar Valley at what became known as the Buffalo Ranch.

As the herd increased, the captive bison were released to join the park's increasing herd of free-roaming bison. But starting in 1925, concerns about brucellosis and how many bison Yellowstone could support led to periodic culling. During the next 40 years, park staff also reduced the elk herds in order to limit winter mortality and maintain a presumed "balance" between bison, elk, and their forage. However, by the 1960s, public opposition and evolving views of wildlife management brought herd reductions to an end. Instead of focusing on individual plants and animals, park managers now try to preserve the environmental processes that shape an ecosystem over time.

Bison population, 1900–2010



The goals for managing the bison population

The primary goals of the Interagency Bison Management Plan (IBMP) are to:

- Preserve a population of free-roaming bison in Yellowstone.
- Help maintain Montana's brucellosis Class Free status by preventing brucellosis transmission from bison to cattle.

The IBMP was agreed to by the state of Montana, the National Park Service, the U.S. Forest Service, and the Animal and Plant Health Inspection Service of the U.S. Department of Agriculture in December 2000. To achieve the plan's goals, some bison that leave the park may be killed each year. However, in considering a range of alternatives, the agencies rejected those that would have an unacceptable impact on ecological processes, the long-term conservation of bison or other wildlife, or the experience of park visitors, or that would not adequately safeguard livestock from brucellosis. Livestock owners in states with brucellosis Class Free status can export their cattle without testing or vaccination against brucellosis.

Why bison leave the park

Bison are often on the move across the landscape as they graze. Many bison remain in the park during the winter, living off stored fat as snow and ice make forage difficult to reach. But by late winter and early spring some bison usually leave the park following established routes in the Yellowstone and Madison river valleys that lead into lower elevation areas in Montana with less snow and ice pack. These areas are part of the bison's historical range, but they include public and private lands used for cattle grazing in summer. Bison usually return to the park by late spring.

What happens to bison outside the park

Under the interagency plan now in effect, park staff and Montana state employees monitor the two main bison exit areas from November until June.

- Bison that cannot be hazed into the park may be captured and sent to slaughter if they test positive for brucellosis. Bison that cannot be hazed into the capture facility may be shot.
- Bison that test negative may be released, but the number allowed to remain outside the park is limited.
- If the population estimate exceeds 3,000 before the calving season, captured bison may be killed without being tested.

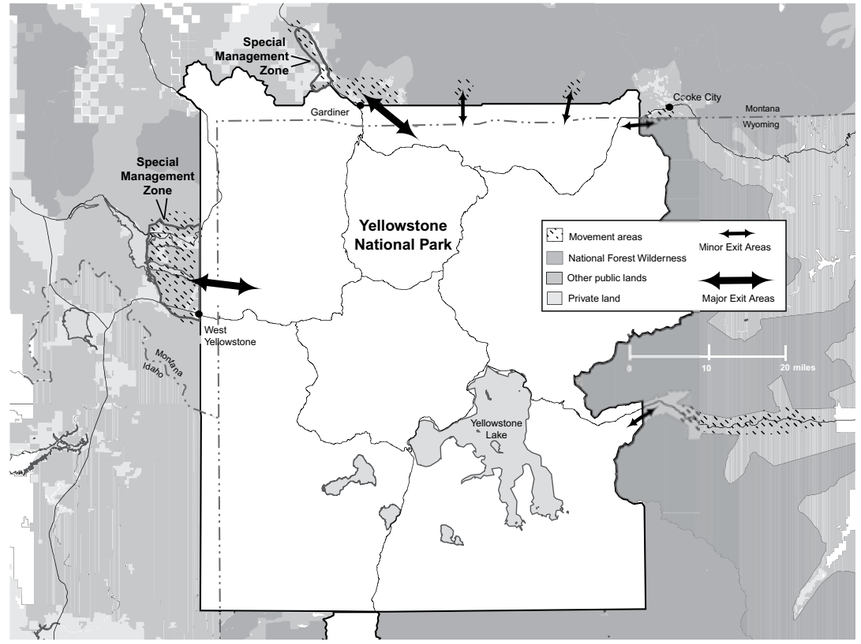
- If the population estimate drops below 2,300 during the winter, consideration will be given to increasing the use of non-lethal means of control at the boundary.
- After the bison vaccination program is fully implemented, some untested bison will be allowed to occupy the IBMP management zones.
- Bison are allowed to remain in some areas of national forest in Montana where overlapping use of range with livestock is very unlikely.

Wyoming permits up to 15 bison bulls beyond the park's east boundary on the Shoshone National Forest where cattle are not present. If any bison cows or more than 15 bulls remain there from July through January, hunting permits are issued to remove them.

The Montana Department of Fish, Wildlife and Parks is in charge of managing the limited public hunt for bison that migrate from the park to the Gallatin National Forest in Montana. For more information, go to <http://fwp.mt.gov/hunting/planahunt/huntingGuides/bison.html>.

The State of Montana also recognizes the treaty rights of four American Indian tribes which allow them to hunt bison outside the park boundary.

Where bison leave the park



How is brucellosis transmitted?

Brucellosis is caused by the bacteria *Brucella abortus*, which can infect both wild animals and domestic livestock. It is transmitted primarily through contact with the birthing materials or fluids from an infected cow. It is generally not sexually transmitted, so infected male animals are unlikely to pass it on. Human infection (from consuming unpasteurized dairy products from infected cows) was once a serious problem, but is now rare in the United States. Brucellosis was first detected in Yellowstone bison in 1917. It was probably transmitted by domestic cattle raised in the park in the early 1900s to provide meat and milk for visitors.

Based on testing conducted on part of the Yellowstone bison population, it is believed that about half of the animals have been exposed to the bacteria, and fewer than that develop an infectious reaction to it. Brucellosis may cause some pregnant bison to lose their calves, but over the long term it has not limited population size. There has been no known case in which wild bison have transmitted brucellosis to domestic cattle under natural conditions, but the possible consequences are too serious to permit bison that may be infected to commingle with cattle.

What can be done about brucellosis in bison?

To try to eliminate brucellosis in bison in Yellowstone by applying the same method as that used for livestock would require capturing and testing all the bison on an ongoing basis, slaughtering all bison that test positive for exposure to the bacteria, and shooting any bison that refused to be herded into the testing facility. This approach has been used with much smaller bison herds, but it would be neither feasible nor appropriate in Yellowstone National Park. Vaccination can reduce the number of bison susceptible to infection by brucellosis, but vaccination alone, using the currently available vaccine, could not eliminate the disease from the bison population. While research is underway to develop a better vaccine and delivery method for wild bison, the interagency plan focuses on reducing the risk of bison transmitting the disease to cattle. The National Park Service is committed to efforts to eliminate brucellosis from the ecosystem over the long term. *Brucella abortus* is also present in a small percentage of elk in the greater Yellowstone area, but more research is needed to determine the relationship between brucellosis infection in elk and bison.