

# Bison Management



Bison  
NPS/Peaco

The management of bison near the boundary of Yellowstone National Park, which includes hazing, capture, culling, and vaccination, is unsettling to many people. Park rangers are often asked why bison are managed differently from other wildlife and not allowed to move freely into Montana and disperse to new areas. Conversely, other people believe bison should be kept in the park and either managed like livestock or hunted to reduce numbers below the capacity of the winter habitat to support them. Many constituents are adamant that Yellowstone bison should be relocated elsewhere instead of being culled (e.g., shipped to slaughter) due to concerns about brucellosis transmission to cattle.

The debate about how to conserve and manage Yellowstone bison involves a variety of issues, including:

- abundance – how many are enough?
- distribution – where will bison be tolerated outside the park?
- brucellosis infection – what should be done and what can be done to suppress the disease and/or lessen transmission risk to cattle?
- genetic integrity – what should be done to preserve existing genetic diversity and population substructure?
- habitat – should humans intervene to control ungulate numbers and grazing effects?

- wildness – what intensity and types of management are appropriate in a national park whose mission is to preserve native species and the ecological processes that sustain them?

Incorporated in these overarching issues is a broad spectrum of beliefs, concerns, and values held by a diverse range of stakeholders, including advocates, local community members, regulators and scientists, American Indian tribes, and the national and international public. Many of these constituents from across the spectrum of values support the conservation of wild Yellowstone bison, but with differing views regarding what constitutes responsible management actions to mitigate conflicts. The challenge for bison managers is how to consider this wide variety of viewpoints to reach a reasonable solution for the long term conservation of this iconic and ecologically important population. There is no quick and easy resolution, but in the following paragraphs we suggest that the intense management of Yellowstone bison is necessary at times to gain tolerance for them in modern society in the short term and enhance the conservation of this valuable population and the habitats that sustain them over the long term.

#### Ecosystem-wide Interaction

Yellowstone bison are prolific and have high survival rates, with wolves currently killing few bison because elk are more vulnerable prey. As a result, bison numbers increase rapidly when environmental conditions are suitable, with abundance increasing to more than 4,000 individuals on several occasions and reaching a high of approximately 5,000 bison in 2005. At these numbers, a winter with deep snow pack can induce many hundreds of bison to migrate into Montana because lower-elevation habitat for bison is limited by mountainous topography within Yellowstone National Park. As a result, bison will continue to move from the park into Montana during winter, with higher numbers migrating as bison abundance and winter severity increase.

Due to existing agriculture and development in the Yellowstone and Madison River valleys, however, there is not sufficient low-elevation, valley bottom habitat north and west of Yellowstone National Park where bison are currently tolerated that could



sustain many hundreds or thousands of bison for extended lengths of time during winter. Thus, bison could rapidly fill available habitat, and if given the opportunity, attempt to migrate further during some winters, which will eventually bring them into areas (e.g., Paradise Valley) occupied by many hundreds of cattle. Without human intervention, some bison that spend winter north and west of Yellowstone National Park in Montana will not migrate back into the park during spring, but will attempt to expand their range into other areas with suitable habitat but currently no tolerance for bison. In addition, there are still tangible concerns about the transmission of brucellosis from bison to cattle, with regulatory and economic consequences of cattle contracting brucellosis. As a result, there is a need to manage bison to prevent comingling with cattle. Furthermore, there are political and social concerns about allowing large numbers of these massive, wild animals into Montana, and options for relocating Yellowstone bison elsewhere are limited by real and perceived disease and social concerns. Therefore, bison will at times need to be intensively managed and culled from the population to prevent the limited tolerance for wild bison on the landscape in Montana from being rescinded.

#### Multiple Jurisdictions, Multiple Interests

The National Park Service cannot achieve bison conservation on its own because when bison cross the boundary of Yellowstone National Park into Montana they are no longer under the jurisdiction of the National Park Service and their management is the prerogative of the state and the Gallatin National Forest on National Forest System lands. Bison are managed differently than other wildlife that migrate or disperse outside Yellowstone National Park because the Secretaries of Agriculture and Interior and the Governor of Montana signed a court-mediated agreement in 2000 that included guidelines for limiting bison abundance and distribution in Montana. The State of Montana allows some bison to migrate outside Yellowstone National Park and occupy suitable winter range near the park boundary—and tolerance on additional range may occur in the future. However, mass migrations of many hundreds of bison out of the park have, at times, upset state and local governments and many private landowners and cattle operators. As a result, if bison were allowed to increase in

abundance and disperse unimpeded into cattle-occupied areas of Montana, it is likely those bison would be lethally removed by state employees or during regulated hunts. Also, the state would likely retract tolerance for bison in Montana because the agriculture department has superseding management authority due to chronic brucellosis infection in Yellowstone bison. Thus, management practices such as hunting, hazing, capture, and culling are necessary at times to limit the abundance and distribution of bison and allow people (including federal and state managers) time to learn to live with, and manage, bison.

The demand for bison for quarantine or research is minimal and the current social capacity for public and treaty harvests near the boundary of Yellowstone National Park is probably only about 250 to 300 bison each winter. Thus, bison will at times need to be removed from the population by other means, such as shipments to slaughter facilities or terminal pastures, even though there is little political or social support for such actions. Wild ungulates are commonly harvested throughout most of the United States, and some bighorn sheep, deer, elk, and moose that spend summer in Yellowstone National Park, but migrate to lower elevations in surrounding states in autumn and winter, are harvested during regulated hunts.

#### Interagency Bison Management Plan

In 2000, the federal government and the State of Montana signed an agreement that established guidelines for cooperatively managing the risk of brucellosis transmission from bison to cattle—primarily by excluding bison from areas used by cattle. This Interagency Bison Management Plan (IBMP) also emphasized preserving the bison population as a natural component of the ecosystem and allowing some bison to occupy winter ranges on public lands in Montana. Five agencies were originally responsible for implementing the plan—the National Park Service, Animal and Plant Health Inspection Service, U.S. Forest Service, Montana Department of Livestock, and Montana Fish, Wildlife & Parks. The Confederated Salish and Kootenai Tribes of the Flathead Nation, Nez Perce Tribe, and InterTribal Buffalo Council were added as members in 2009 due to their treaty hunting rights on some unoccupied federal lands in southwestern Montana and their commitment to restoring bison.



## Quick Facts about the IBMP

- Final Environmental Impact Statement for the Interagency Bison Management Plan (IBMP) for the State of Montana and Yellowstone National Park was adopted in 2000.
- Adaptive management plan for implementation was developed in 2008.
- [www.ibmp.info](http://www.ibmp.info) (<http://www.ibmp.info>) provides bison management documents to the public.

### Interagency Partners

- National Park Service (NPS)
- Animal and Plant Health Inspection Service (APHIS)
- US Forest Service (FS)
- Montana Department of Livestock (DOL)
- Montana Department of Fish, Wildlife and Parks (FWP)
- InterTribal Buffalo Council (ITBC)
- Confederated Salish Kootenai Tribes of the Flathead Nation
- Nez Perce Tribe

### Objectives

- Maintain a wild, free-ranging bison population.
- Reduce risk of brucellosis transmission from bison to cattle.
- Maintain and preserve the ecological function that bison provide in the Yellowstone area, such as their role as grassland grazers and as a source of food for carnivores.
- Maintain genetic integrity of the bison population.
- Prevent dispersal beyond conservation area.
- Lower brucellosis prevalence because it is not a native organism.

### Current Status

- Yellowstone bison have access to 75,000 acres of additional habitat in the Gardiner Basin of Montana (State decision Feb 2012).
- Untested bison are now tolerated outside the west boundary Nov. 1–May 15 and the northern boundary Nov. 1–May 1.
- Fewer cattle graze lands near park than in 2000.
- A vaccine used in cattle, RB51, is sometimes used for Yellowstone bison.
- The state of Montana is managing a bison hunt on public lands outside the park.
- Four tribes are conducting subsistence bison hunts on unclaimed federal lands outside the park by authority of their respective treaties with the United States.

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The IBMP members cooperatively support various management and monitoring activities for bison. The National Park Service has jurisdiction over all bison management actions inside the park, while the Montana Department of Livestock has lead responsibility outside the park. Property damage issues on private lands are the responsibility of Montana Fish, Wildlife & Parks, who may request assistance from the Department of Livestock. The IBMP uses risk management procedures to maintain spatial and temporal separation between bison and cattle around Yellowstone National Park. For bison to transmit brucellosis directly to cattle, infected bison must leave Yellowstone National Park where there are no cattle, enter areas where cattle graze, shed infectious tissues via abortions or live births, and have cattle contact these tissues before they are removed from the environment or the *Brucella* bacteria die. The plan was designed to progress through a series of management steps that gradually tolerated more bison on winter ranges outside Yellowstone National Park when cattle are not present as the risk of brucellosis transmission from bison to cattle was reduced.

The plan was adjusted in 2005 and 2006 to include bison hunting as a management action outside Yellowstone National Park and increase tolerance for bull bison in Montana because there appears to be little risk of them transmitting brucellosis to cattle during winter and spring. These adjustments allowed bison not tested for brucellosis exposure to migrate to winter ranges outside the park and provide hunting opportunities for state-licensed hunters, as well as tribes with rights reserved through treaties with the U.S. government to hunt on certain federal lands. Since 2005, these hunts have been implemented with variable harvest levels depending on how many bison move outside the park in response to snow depths in the higher mountains.

In addition, Montana Fish, Wildlife & Parks and the Animal and Plant Health Inspection Service initiated a quarantine feasibility study during 2005 through 2008 with bison calves from Yellowstone National Park that initially tested negative for brucellosis exposure. All of these bison were held at a research facility north of Yellowstone National Park to evaluate if they would remain free of brucellosis through at least their first



pregnancy and calving. By 2010, the quarantine feasibility study was deemed successful and the surviving original bison and their offspring were considered brucellosis free. In February 2010, 87 bison were transferred from the quarantine facility to the Green Ranch in Montana owned by Turner Enterprises, Inc. for five years of additional surveillance. Thereafter, the original quarantine bison plus about 25% of their offspring will be transferred to Tribes or public lands. The rest of the bison will be retained by Turner Enterprises. Also, in March 2012 Montana transferred 61 bison from the quarantine facility to the Fort Peck Indian Reservation for five years of additional surveillance. In August 2013, the Fort Peck Assiniboine and Sioux Tribes transferred 34 Yellowstone bison to the Fort Belknap Reservation in Montana.

The IBMP members meet several times each year in public venues to review, evaluate, and modify operating procedures for accomplishing the objectives of the plan (see meeting minutes at the [www.ibmp.info](http://www.ibmp.info) website). By 2009, several adaptive adjustments to the management plan were approved to improve management of Yellowstone bison, including increased tolerance for bison in some areas north and west of the boundary of Yellowstone National Park. During 2009 through 2013, between 200 and 700 bison were allowed to migrate beyond the western boundary of Yellowstone National Park and access suitable habitat north of West Yellowstone, Montana from March through mid-May. During 2011 and 2013, more than 200 hundred bison migrated north of the park boundary onto habitat north of Gardiner, Montana during winter.

Under the IBMP, treaty harvests, the provision of bison meat to American Indian Tribes for consumption, and the restoration of bison to tribal lands to improve their cultural, economic, nutritional, and social well-being are primary options for culling some bison due to the way bison are interwoven into the cultures of tribes. The National Park Service has been working to transfer some Yellowstone bison directly to tribes for immediate slaughter, and is working with the InterTribal Buffalo Council and federal and state animal health officials to develop protocols and facilities for transferring brucellosis-free bison to tribal lands and/or establishing quarantine facilities and terminal pastures on tribal lands in accordance with applicable state, federal, and tribal codes.