


National Park Service

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Yellowstone

National Park
ID, MT, WY

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Bison

DURATION: 6 minutes, 55 seconds

Yellowstone preserves the most important bison herd in the United States. Learn more about the near extinction and recovery of these remarkable animals, how they make it through harsh winters, and what their survival says about our ability to share the landscape with another species.

Yellowstone is the only place in the United States where bison (*Bison bison*) have lived continuously since prehistoric times. Yellowstone bison are exceptional because they comprise the nation’s largest bison population on public land and are among the few bison herds that have not been hybridized through interbreeding with cattle. Unlike most other herds, this population has thousands of individuals that are allowed to roam relatively freely over the expansive landscape of Yellowstone National Park and some nearby areas of Montana. They also exhibit wild behavior like their ancient ancestors, congregating during the breeding season to compete for mates, as well as migration and exploration that result in the use of new habitat areas. These behaviors have enabled the successful restoration of a population that was on the brink of extinction just over a century ago.

However, some Yellowstone bison are infected with brucellosis, a livestock disease that can be transmitted to wild bison and elk as well as cattle through contact with infected fetal tissue. To prevent conflicts with ranching and other activities outside the park, the National Park Service works with other federal, state, and tribal agencies to manage and develop policies for bison access to winter range outside the boundaries. Conservation of wild bison is one of the most heated and complex of Yellowstone’s resource issues. All of the interested parties bring their own wide-ranging values and objectives

to the debate.

Numbers in Yellowstone

Estimated at 4,816 in August 2017. This includes two primary breeding herds: northern (3,969) and central (847).

Where to See

- Year-round: Hayden and Lamar valleys.
- Summer: grasslands.
- Winter: hydrothermal areas and along the Madison River. Blacktail Deer Plateau, Tower, and the Gardiner Basin.

Size and Behavior

- Male (bull) weighs up to 2,000 pounds, female (cow) weighs up to 1,000 pounds.
- May live 12– 15 years, a few live as long as 20 years.
- Feed primarily on grasses and sedges.
- Mate in late July through August; give birth to one calf in late April or May.
- Can be aggressive, are agile, and can run up to 30 miles per hour.

History

- Yellowstone is the only place in the lower 48 states to have a continuously free-ranging bison population since prehistoric times.
- In the 1800s, market hunting, sport hunting, and the US Army nearly caused the extinction of the bison.
- By 1902, poachers reduced Yellowstone's small herd to about two dozen animals.
- The US Army, who administered Yellowstone at the beginning of the 20th century, protected these bison from further poaching.
- Bison from private herds were used to establish a herd in northern Yellowstone.
- For decades, bison were intensively managed due to belief that they, along with elk and pronghorn, were over-grazing the park.
- By 1968, intensive manipulative management (including herd reductions) of bison ceased.
- Reductions began again in the 2000's due to increasing numbers and litigation about migration into Montana.



Bull bison bellow during rutting season to display their dominance.

NPS / Jim Peaco

Description

Bison are the largest land-dwelling mammal in North America. Males (2,000 lbs/900 kg) are larger than females (1,100 lbs/500 kg) and both are generally dark chocolate-brown in color, with long hair on their forelegs, head, and shoulders, but short, dense hair (1 in/3 cm) on their flanks and hindquarters. Calves of the year are born after 9 to 9½ months of gestation. They are reddish-tan at birth and begin turning brown after 2½ months. Both sexes have relatively short horns that curve upward, with male's averaging slightly longer than those of adult females.

All bison have a protruding shoulder hump. Large shoulder and neck muscles allow bison to swing their heads from side-to-side to clear snow from foraging patches, unlike other ungulates that scrape snow away with their front feet. Bison are agile, strong swimmers, and can run 35 miles per hour (55 kph). They can jump over objects about 5 feet (1.5 m) high and have excellent hearing, vision, and sense of smell.

Behavior

Bison are mostly active during the day and at dusk, but may be active through the night. They are social animals that often form herds, which appear to be directed by older females. Group sizes average about 20 bison during winter, but increase in summer to an average of about 200, with a maximum of about 1,000 during the breeding season (known as the rut) in July and August. Bison are sexually mature at age two. Although female bison may breed at these younger ages, older males (>7 years) participate in most of the breeding.

During the rut mature males display their dominance by bellowing, wallowing, and engaging in fights with other bulls. The winners earn the right to mate with receptive females. Once a bull has found a female who is close to estrus, he will stay by her side until she is ready to mate. Then he moves on to another female. Following courtship, mature males separate and spend the rest of the year alone or in small groups. Group sizes decrease through autumn and into winter, reaching

their lowest level of the year during March and April.

Diet

Yellowstone bison feed primarily on grasses, sedges, and other grass-like plants (more than 90% of their diets) in open grassland and meadow communities throughout the year. They also eat forbs (weeds and herbaceous, broad-leafed plants) and browse (the leaves, stems, and twigs of woody plants) through the year, but those usually comprise less than 5% of the diet. They typically forage for 9 to 11 hours daily. Bison are ruminants with a multiple-chambered stomach that includes microorganisms such as bacteria and protozoa to enable them to effectively digest plant material. Bison alternate between eating and ruminating, which is regurgitating partially digested food and chewing it again, to allow microorganisms to further break down plant material into volatile fatty acids and other compounds. Their large digestive tract allows them to digest lower quality foods with greater efficiency than other ungulates such as cattle, deer, or elk.

Interaction with Other Wildlife

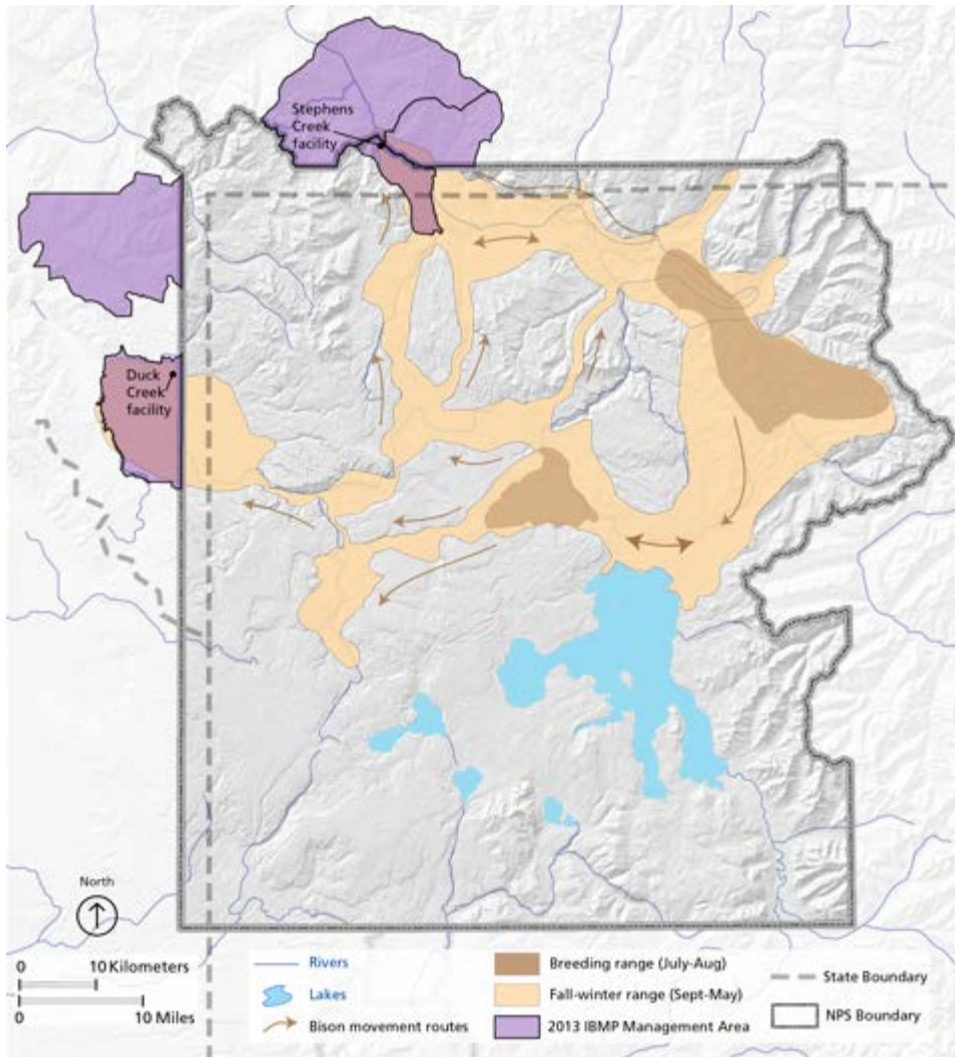
Wolves and grizzly bears are the only large predators of adult bison. However, predation has little effect on the bison population. Bison usually face their attackers and defend themselves as a group, making them more difficult to kill than animals like elk that run from predators. The size of bison also plays a role in persuading predators to look for an easier meal. When they die, bison provide an important source of food for scavengers and other carnivores. Bison will rub against trees, rocks, or in dirt wallows in an attempt to get rid of insect pests. Birds such as the magpie perch on a bison to feed on insects in its coat. The cowbird will also follow close behind a bison, feeding on insects disturbed by its steps.

What is the difference between a bison and a buffalo?

In North America, both “bison” and “buffalo” refer to the American bison (Bison bison). Generally, “buffalo” is used informally; “bison” is preferred for more formal or scientific purposes. Early European explorers called this animal by many names. Historians believe that the term “buffalo” grew from the French word for beef, “boeuf.” Some people insist that the term “buffalo” is incorrect because the “true” buffalo exist on other continents and are only distant relatives.

Migration

Like most other ungulates of the Greater Yellowstone Ecosystem, bison will move from their summer ranges to lower elevation as snow accumulates and dense snowpack develops. Most bison alter their diets somewhat during winter, feeding in lowland meadows with



The seasonal distribution of Yellowstone bison is shown here in comparison with the Interagency Bison Management Plan management areas.

Adapted from ©2009 University of Oregon, Atlas of Yellowstone

concentrated sedges and grasses compared to a more diverse diet during the rest of the year. Bison appear to select foraging areas during winter based more on plant abundance than quality, and then consume the most nutritious plants available. High densities of bison can deplete forage in high quality patches, resulting in subsequent use of areas with plants of lower diet quality. Bison in central Yellowstone frequently use thermally influenced areas near geysers, hot springs, fumaroles, and rivers with less snow during winter. Forested areas are used occasionally for shade or shelter, escape from insects and other disturbances, or to travel between foraging areas or seasonal ranges.

Habitat

Yellowstone bison historically occupied approximately 7,720 square miles (20,000 km²) in the headwaters of the Yellowstone and Madison rivers. Today, this range is restricted to primarily Yellowstone National Park and some adjacent areas of Montana. The bison population lives and breeds in the central and northern regions of the park. The northern breeding herd congregates in the Lamar Valley and on adjacent plateaus for the breeding season. During the remainder of the year, these bison use grasslands, wet meadows, and sage-steppe habitats in the Yellowstone River drainage, which extends 62 miles (100 km) between Cooke City and the Paradise Valley north of Gardiner, Montana. The northern range is drier and warmer than the rest of the park, and generally has shallower snow than in the interior of the park.

The central breeding herd occupies the central plateau of the park, from the Pelican and Hayden valleys with a maximum elevation of 7,875 feet (2,400 m) in the east to the lower elevation and thermally influenced Madison headwaters area in the west. Winters are often severe, with deep snows and temperatures reaching -44°F (-42°C). This area contains a high

proportion of moist meadows comprised of grasses, sedges, and willows, with upland grasses in drier areas. Bison from the central herd congregate in the Hayden Valley for breeding. Most of these bison move between the Madison, Firehole, Hayden, and Pelican valleys during the rest of the year. However, some bison travel to the northern portion of the park and mix with the northern herd before most return to the Hayden Valley for the subsequent breeding season. In addition, some females switched breeding ranges and successfully bred and reared young on their new range.

DURATION: 2 minutes, 52 seconds

Bison Ecologist Rick Wallen discusses some of the challenges faced by bison calves immediately after their birth.

Conservation

Yellowstone has played a key role in the conservation of wild bison in North America. In fact, we've been so successful that we now face the challenge of helping to manage a rapidly growing population of migratory bison that frequently roam beyond our borders onto private land and land managed by other agencies. Read more about the [history](#) of bison management and the [challenges](#) of maintaining a wild, migratory population of bison in a modern landscape.



Bison Goring at West Thumb

While bison may seem harmless and slow, they can be very dangerous and fast. This video shows what can happen when you approach too closely. Duration: 26 seconds

DURATION: 26 seconds



Bison or Buffalo? ›

Browse this and other frequently asked questions.



Wildlife Watching ›

Bring some binoculars and enjoy animals from a safe

distance.



Success & Controversy ›

Maintaining a wild, migratory bison population in a modern landscape.



Questions & Answers ›

About bison management in Yellowstone.



From Dozens to Thousands ›

A history of bison management in Yellowstone.

Resources

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RECOMMENDED READING

Yellowstone Bison-Conserving an Icon ›

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