Bison

The ancestors of modern American bison migrated from Siberia to North America across the Bering Sea "land bridge" about 10,000 years ago. The continent was hospitable to the animals; their numbers grew to the tens of millions. During the westward settlement of North America in the mid-eighteenth century these vast herds were decimated by harvest and slaughter. The bison population declined to mere thousands by the time Yellowstone National Park was founded in 1872. The devastation was so extensive that concerned individuals around the country began efforts to save the species.

Yellowstone was the first preserve created by the federal government where American bison were protected from extinction. However, early park managers had little legal authority with which to safeguard the animals. The legislation that established the park allowed hunting for subsistence and sport and bison numbers continued to decline for thirty years. When the Lacey Act of 1900 granted Yellowstone officials the authority to punish those who illegally killed wildlife in the park, the Yellowstone bison population had dwindled to fewer than two dozen, all concentrated in Pelican Valley. In 1902 Congress appropriated funds for Yellowstone to develop a bison restoration project. It began with the acquisition of twenty-one animals from the Goodnight (Texas) and Walking Coyote (Montana) captive populations, initially kept in an enclosure in Mammoth. By 1907 the Buffalo Ranch in Lamar Valley was constructed to manage these bison and increase their numbers, which by the 1930s had grown sufficiently to allow shipment of bison both to unpopulated ranges within the park and across the country to establish conservation herds.

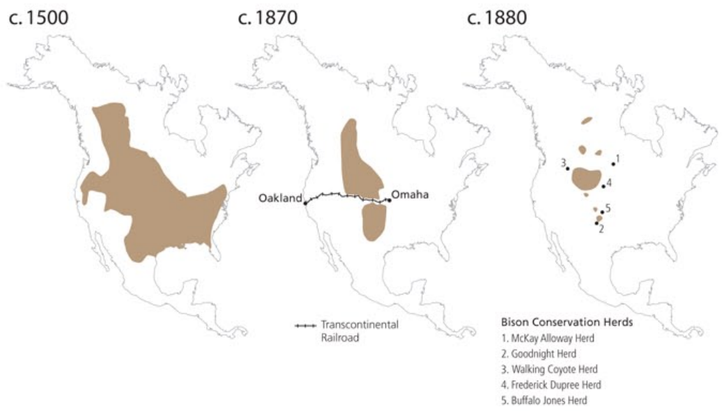
In 1970 the bison population in the park was about six hundred. During the following decade bison congregated for summer breeding in the Hayden Valley as well as atop the ridges of the Mirror Plateau and the west facing slopes of the Absaroka Range. As the accumulating snowpack made forage less available they dispersed to three primary wintering areas: the Lamar Valley floor, the Pelican Valley, and the geothermal areas of western Hayden Valley and the Firehole Geyser Basin. The general pattern of winter movement on this latter area was a slow but steady westward migration over Mary Mountain and a reverse passage back to Hayden Valley for breeding season.

By the early 1980s the population had grown to more than 2,000 and the breeding areas on the Northern Range now included the Lamar Valley floor; a broadening of wintering ranges also began at this time. As the population has continued to grow—to a current level of about 4,000—winter ranges have expanded primarily downstream along the Yellowstone and Madison river corridors. A portion of the Hayden Valley breeding group now moves northward, along several migration routes, until autumn snows block passage. The park's present bison population comprises two sub-populations that congregate separately during breeding season. As winter progresses, these breeding groups spread out extensively in response to weather severity and population abundance. Some overlap of the groups has developed on the Northern Range since the mid-1990s.

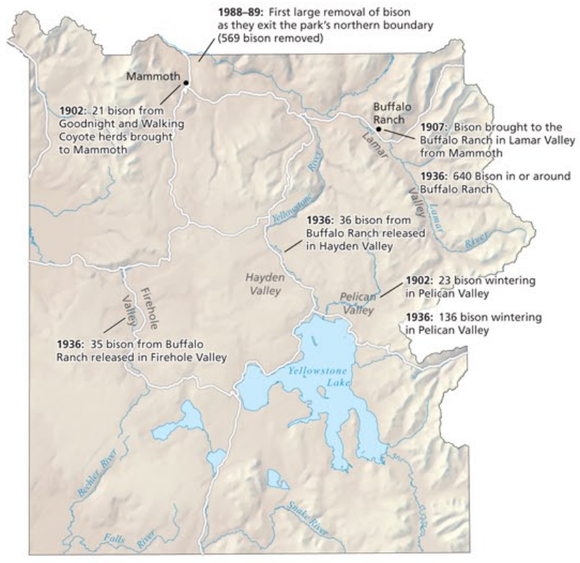
Bison move over nearly a quarter of Yellowstone in the course of a year, although the core of their summer breeding range is less than 4 percent of the park. Winter ranges extend through numerous interconnected open valleys, parts of which are near large geothermal features that help moderate harsh winter conditions. The Northern Range also provides a relatively mild environment, with lower elevations, less snow accumulation, many south-facing slopes, and rain shadows to the east of tall peaks.

From the 1960s onward, park policy has evolved to support preservation of ecological processes, and thus to allow bison to resume their functional role in the ecosystem. Given the animals' massive size, growing numbers, and far-reaching range, this role—which includes serving as food for predators and scavengers and eating and otherwise affecting plants—is of increasing significance to the park's ecology. When sufficient numbers of bison migrate beyond the park boundary a new set of challenges can arise, as the animals become the subject of social and political conflict among humans. The current management strategy maintains the bison population between 2,500 to 4,500. This supports bison conservation needs while also minimizing conflicts on low elevation winter ranges outside the park.

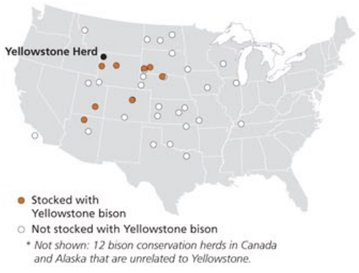
Bison Range 1500-1880



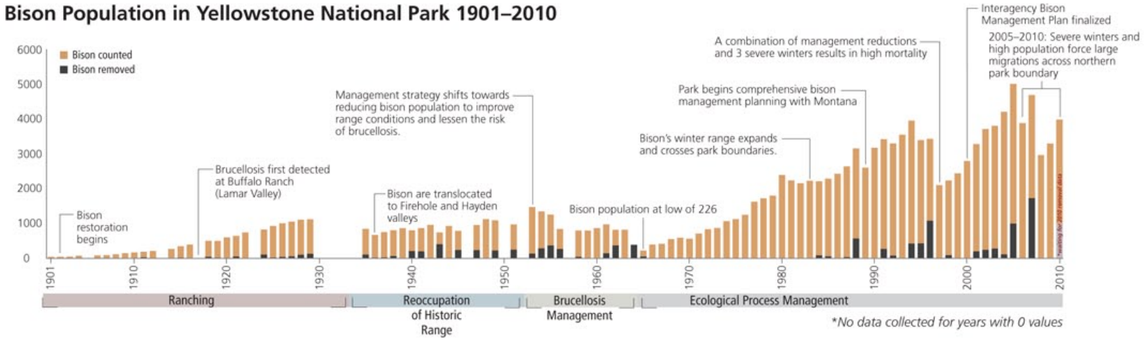
Historic Events in Bison Population



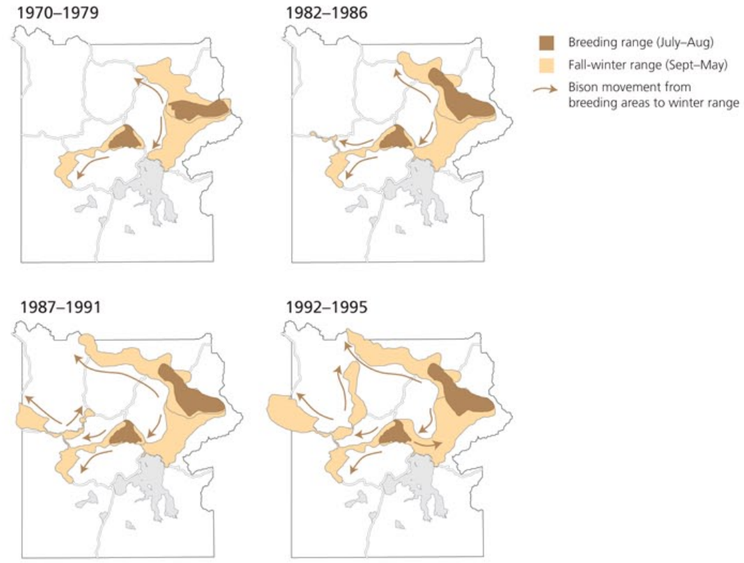
Bison Conservation Herds, 2003



Bison Population in Yellowstone National Park 1901–2010



Expansion of Bison Range, 1970–1995



Seasonal Distribution of Yellowstone Bison

General patterns of movement during fall and winter, 2000–2006