

## Population Status of Large Mammals in Yellowstone National Park

Counts provide only a rough estimate of minimum populations. Counts of large mammals depend primarily on the animals' visibility from the air. Visibility varies greatly with such factors as snow, weather, and food availability, that influence the use of forest versus open habitat.

No manipulative management of large mammals is planned within the park. Intensive research in the past two decades indicates that none is needed or justified by data for any of the species on this list.

Natural regulation of all ungulate species is being studied intensively. Harsh winters appear to be a major regulatory mechanism. In the past six winters, snow depths have been less than the 1961-1980 20-year average in the north part of the park; temperatures have been mild. Although no appreciable mortality was apparent, population figures continue to indicate an equilibrium, probably at higher levels than would occur with more severe weather conditions than have prevailed in recent years.

The carcasses of large plant eaters that die in late winter provide essential food for other forms of wildlife, especially bears, eagles, coyotes, ravens and magpies, and perhaps a rare wolf. Some birds may be very dependent on insects from winterkill carcasses some springs.

Bears - Grizzly - minimum estimate by Interagency Grizzly Bear Study Team 200 (including adjacent national forest lands). An unprecedented 24 sows with 46 cubs were seen in 1986. Black - common; occasionally seen from roads. Estimates have been 500 - 650, but we do not have current data.

Bighorn Sheep - March 16, 1983 count was 182. April 5, 1985 count, 245. April 1986 count, 247. April 2, 1988 count, 293. Sex and age structure suggests recovery from 1981-82 pinkeye outbreak.

Bison - There are three wintering population units: Lamar (northern range), Pelican, and Mary Mountain. There is no manipulative management of bison within the park. The February 1985 count was 2200; on the northern range, the 1986 winter count was 539. The February 5, 1987 parkwide count was 2433; northern range, 594. February 23, 1988, 2,644 were counted; 697 on the northern range.

Cougar - From 1974 through 1985, 204 reliable reports of cougar were received. January 7 to April 1, 1986, a field survey of cougar presence was made. Cougars and their sign were seen below 7,000 feet elevation, where snow depth was less than 20 inches. In 1987, a 5-year study began. Eleven lions have been marked, ten in the park, and one north of the park.

Elk - There are five major elk herds whose summer ranges overlap within the park. The elk herds are (1) Northern Yellowstone; (2) Sunlight-Shoshone; (3) Southern Yellowstone; (4) Madison-Firehole River; and (5) Gallatin River. The parkwide summer population is estimated between 35,000 and 40,000. The January 6 and 7, 1982 aerial winter count of the Northern Yellowstone herd was 16,000. Conditions did not permit an aerial maximum elk count of the northern herd during the winters of 1982-83 or 1983-84. The December 19-20, 1985 aerial counts yielded 16,286, and the December 11 aerial count was 15,962. Highly visible mortality did not occur with the mild winters of 1983-84 through 1986-1987. A December 12, 1986 aerial counted yielded 15,963 elk. The mild winter of 1986-87 resulted in very few elk being harvested in the Gardiner late hunt just north of the park. A high of 19,043 elk was counted January 26, 1988. Again this season, only 48 elk, instead of the normal 1,200, had been taken by hunters. Because the elk had remained at higher elevations in the park, such as Lamar Valley, they were more visible, and more easily counted than if they had been in lower elevation forests. Sightability was calculated at 91 percent, so actual numbers would be 20,800 plus or minus 540.

Moose - Common. A study of moose is under way in the northern part of the park in 1987-88. Moose are most frequently seen in willow flats.

Mountain goats - During the past 30 years, 1-15 goats have been reported on at least 17 occasions in the park, and on five occasions near the park. Of the 17 in-park observations, six were in the northwest corner, and 11 were in the northeast corner of the park. Mountain goats are not native to the park. We have no proof that a resident population exists in the park.

Mule Deer - At least 1100 were counted on the northern range in early April of 1979 (most of them are outside the park at that time). The March 14, 1986 helicopter count was 1,863--up 61% from 1979. An April 1, 1987 count yielded 2,134. An April 11-12, 1988 count was 2,271. Their reproduction rate of 47 fawns per 100 does in 1987 and 44 fawns per 100 does in 1988 is considered very high.

Pronghorn - Early (1875-1910) guesses of Yellowstone antelope numbers ranged from 500 to "thousands". In 1923, 253 were counted; 800 in the late 1930s-early 1940s. Between 1945 and 1979, they declined from about 800 to 152. They increased from 180 in 1981 to 365 in 1984; 363 in 1986, when the fawn/doe ratio was 80:100 - excellent. The March 17, 1987 count was 478. March 31, 1988, the count was 473. These recent increases are probably due to a series of mild winters.

White-tailed Deer - Seldom seen in the park on the northern range. Often seen along the Yellowstone River Valley north of the park.

Wolves - Occasional sightings (nine possible 1980-1986) may be of emigrants from Western Canada. There is no pack activity within the park, and no sustained population. Yellowstone's robust, densely-furred coyotes are frequently mistaken for wolves. Please report all wolf-like canids observed. Photos and tracks are particularly helpful.