

## **Bison**

### Natural History

Although these animals are not native to Arizona, American bison, more commonly known as buffalo, are found at two wildlife areas managed by the Arizona Game and Fish Department: Raymond Ranch Wildlife Area located east of Flagstaff, and House Rock Wildlife Area in House Rock Valley east of the North Kaibab National Forest. Approximately 250 buffalo inhabit the two areas, which are managed to provide both viewing and sport-hunting opportunities.

Buffalo are the largest living member of the cow family. Live adult weights range from 1,400 to 2,500 pounds for bulls and from 750 to 1,600 pounds for cows. Bulls have massive front quarters with a large hump above the shoulders covered with woolly hair up to 1.5 inches long that also covers the head and forelegs. This hair turns tan with age and is two to five times thicker than the hair on the hindquarters. The bull's head has a broad triangular appearance and possesses a beard or bell. Both bulls and cows possess horns, but the male's are much larger, attaining a length of up to 20 inches. Calves are reddish-tan at birth and change to brown or black in three months.

The senses of smell and hearing are acute, while the buffalo's eyesight is poor. Adult buffalo can run sprints of 35 mph for up to one-quarter mile and are capable of jumping over 6-foot-high fences. Buffalo are gregarious and often form large herds. Although the group composition of these herds changes constantly, the dominant animal is almost always a matriarchal cow. Adult buffalo eat approximately 35 pounds of forage per day, in general concentrating on the most abundant palatable forage, be it grasses, forbs, or browse. Buffalo may live as long as 28 years.

Breeding typically takes place from mid-July to early September. The bulls are polygamous, but do not maintain harems in the usual sense. Most of the breeding is done by mature bulls of five to eight years old. A bull can lose up to 300 pounds during the rut. Gestation ranges from 270 to 285 days, and typically a single calf is born in the spring from late April through May.

Numerous state and federal agencies, as well as private ranchers, have been trying to develop representative herds of free-ranging buffalo. Their goal is to maintain buffalo populations that provide recreational hunting, scientific research, and aesthetic uses with minimal management efforts. In these areas, hunting and live-animal sales are necessary to remove excess animals and keep the habitat within carrying capacity.

### Hunt History

Public buffalo hunts have been held at House Rock Ranch since the 1920s. These buffalo, which were originally brought to Arizona by Charles Jesse "Buffalo" Jones, were sold to the state by Uncle Jimmie Owens after their "cattalo" experiment proved unsuccessful. When the number of buffalo was judged excessive for their Forest Service grazing lands in the mid-1940s, the Arizona Game and Fish Department moved some of them to the agency's newly acquired Raymond Ranch. Other buffalo were moved to Fort Huachuca, which the Department acquired after World War II. The tenure of these latter animals

was short, however, as they had to be disposed of when the Fort was reactivated in the 1950s. Some were sold and sent to the state of Chihuahua, Mexico, and the remainder were removed through a public hunt.

The herds at House Rock and Raymond Ranch wildlife areas remained, however, and the Department set out to manage these herds on a sustained basis. A economic profit proved elusive, however, as it was impossible to sustain sufficient breeding stock without damaging the range. Moreover, the shooting of buffalo being driven out of a corral, while making economic sense, became increasingly difficult to justify from a sociological perspective. As a result, both herds were drastically reduced in the early 1970s by hunters who had to take their animals in the field. The management of the buffalo herds is now more in line with the carrying capacity of their respective ranges, with between 45 and 65 buffalo being harvested each year. A special permit has always been required for the taking of this species.

### Management Needs

### Research Needs

### Bison Operational Approaches

Below are approaches for guiding the management of Arizona Game Species. In all the approaches listed below, annual harvest objectives were derived from past harvest estimates and recent habitat conditions. In all cases, these harvest objectives are well within the range of sustainable harvest.

1. Maintain a statewide population of 200 buffalo (1.A.1-1.A.6).
2. Maintain annual harvest of 40 or greater (1.B.1-A.B.3, 1.B.6-1.B.7).
3. Provide recreational opportunity for 60 or more hunters per year (1.B.1-1.B.3).
4. Provide 650 hunter days or greater each year (1.B.1-1.B.3).
5. Maintain herds at levels consistent with good range management practices (1.A.1-1.A.6).
6. Provide a variety of quality hunt and recreational viewing opportunities (1.A.1-1.A.6, 1.B.1-1.B.5).
7. Manage and enhance habitats through partnerships with public agencies, property owners and lessees, and wildlife conservation organizations (1.A.1-1.A.6, 2.D.1-2.D.3).
8. Continue to pursue management opportunities to resolve bison issues associated with Grand Canyon National Park (1.A.1-1.A.6, 2.D.1-2.D.3).

