

Bighorn Sheep

Natural History

Arizona's bighorn sheep population, consisting of both Rocky Mountain and desert races, is currently estimated at about 6,000 animals—a severe reduction from the numbers thought to once be present. The causes for this decline, which occurred primarily between 1860 and 1920, were exposure to livestock-borne parasites and diseases. Now, thanks to livestock-free refuges and an aggressive translocation program, bighorn sheep numbers are gradually edging upward.

Desert bighorn sheep weights vary considerably between the sexes. Adult rams weigh 160 and 200 pounds, with a maximum weight of 225 pounds. Adult ewes range from 75 to 130 pounds and average 110 pounds. The biggest visual difference between the two sexes is the horns. Ewe horns are generally 10 to 13 inches long with a circumference of three to six inches. An adult ram's horns may measure up to 40 inches along the outside curl with a basal circumference between 13 and 16 inches. The horn core is honeycombed with chambers, or sinuses, which reduce the weight of the skull.

Newborn bighorn lambs weigh from 8 to 10 pounds, have dark eyes and fuzzy, dark-gray hair, and are active within minutes of birth. As the lambs mature, their eyes take on the characteristic amber color of the adult's eyes. After several months, they also take on the adult's pale buff to dark, chocolate-brown coloration. This overall coat color is accentuated by a white muzzle, a white rump patch, light-colored eye rings, and a white edging on the rear legs. The tail is black, bordered in white.

Bighorn sheep have a life expectancy of 10 to 12 years, but may attain an age of 17 years or older. Usually one, rarely two, lambs are born. The youngsters typically stay with their mothers until two years of age. The young rams then leave the nursery herds of ewes and lambs and join a bachelor herd. The adults usually remain segregated according to sex except during the summer breeding season, and sometimes during the spring with the sprouting of early vegetation.

Sexual maturity varies, both physiologically and behaviorally. Although rams as young as 6 months of age may be capable of breeding, they refrain due to the dominance of older rams. Ewes do not breed until they are about two-years old, and rams usually not until at least three years of age. The breeding season extends from early June through October, but the peak rutting activity takes place in August. The gestation period is about six months, and most lambs are born in late winter or early spring.

Bighorn sheep are diurnal animals and are usually found in small groups, although herds of 50 or more are sometimes seen. Native grasses are important in the bighorn's diet, although the animals also feed heavily on jojoba and other woody plants. Pincushion, barrel, and saguaro cactuses provide needed moisture. Preferred plants vary with habitat quality, locality, and species availability. Mountain lions are the principal predator although golden eagles and bobcats have been observed taking lambs.

Hunt History

Totally protected by the territorial legislature in 1893, bighorn sheep were not legal game in Arizona until 1953, when it was determined that the limited hunting of trophy rams might be the only way to save these animals. Two limited hunts of 20 permits each were authorized, and 20 bighorn were taken. Since then, permit numbers, the number of units open to hunting, the number of rams taken, and hunt success have gradually increased. About 100 rams, mostly desert bighorns, are now being taken each year. This number will only increase, however, when the disease problem and other limiting factors are brought under control.

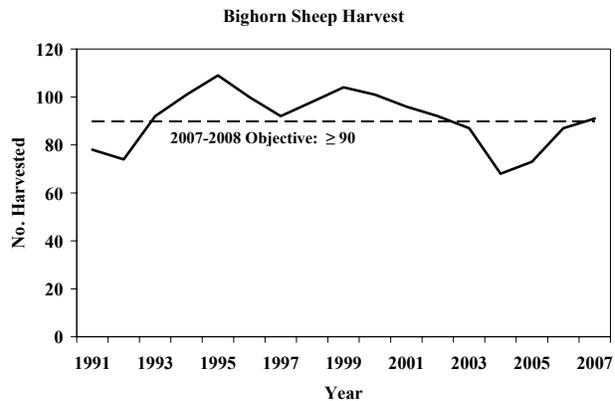
Management Needs

Research Needs

Bighorn 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. Increase the bighorn sheep population to 7,000 (1.A.1-1.A.6).
2. Maintain annual harvest of 90 or greater (1.B.1-1.B.3, 1.B.6-1.B.7).
3. Provide recreational opportunity for 105 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 existing occupied habitat, with emphasis on retention of medium and high quality habitat and maintain linkages between habitats (1.A.1-6).
6. Maintain the existing range of all subspecies in Arizona, and repopulate historical range through translocations. Translocations will continue into Hell's Half Acre, Mineral Mountains, Big Horn Mountains, and other suitable sites identified through habitat evaluations. Sources for these translocations will include the Virgin Mountains, Eagle Creek, and Region IV. (1.A.1-1.A.6).
7. Evaluate and pursue translocation sites for Rocky Mountain bighorn sheep and implement further translocations as appropriate. Assessments will continue to locate appropriate areas (1.A.1-1.A.6, 2.D.1-2.D.3).
8. Establish self-sustaining populations at all new translocation sites (1.A.1-1.A.6).
9. Use population modeling to assist in permit recommendations. Base management on population characteristics, herd units, and habitat potential (1.A.1-1.A.6).
10. Improve the condition of declining or low-density herds through habitat improvement, research, conservative hunt management, or predator management (1.A.1-1.A.6, 1.B.1-1.B.3).



11. Provide hunter recreation that stresses the quality of the hunting experience and harvest of older age class rams (1.B.1-1.B.3).
12. Coordinate with the Arizona Department of Transportation (ADOT) to maintain or enhance habitat connectivity among sheep herds. Also work with ADOT to determine the extent of vehicle-sheep collisions and to identify possible mechanisms by which to reduce the incidence or severity of such collisions (1.A.1-1.A.6, 2.D.1-2.D.4).
13. Cooperate with land management agencies, property owners, and lessees to reduce adverse interactions between bighorn sheep, feral animals, domestic livestock; and predators; manage from a landscape perspective (1.A.1-1.A.6, 2.D.1-2.D.3).
14. Address possible conflicts with bighorn sheep and predators through cooperative planning with land management agencies and implementation of management actions (1.A.1-1.A.6, 2.D.1-2.D.3).
15. Address off highway vehicle conflicts and rights of way issues to sheep waters (2.D.1-2.D.3).
16. Manage and enhance habitats, specifically including development of new and maintenance of existing water catchments, 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).
17. Identify disease outbreaks whenever they occur; implement prompt action to mitigate disease transmission (1.A.1-1.A.6).