



WILDLIFE NOTES

Rocky Mountain Bighorn Sheep High, Wild, and On the Edge!

Bighorn sheep were extirpated or greatly reduced from most of the western states after the arrival of European settlers. Over-hunting and disease transmission from livestock were largely responsible. The New Mexico Department of Game and Fish has worked since 1932 to restore Rocky Mountain bighorn sheep (*Ovis canadensis canadensis*) to historic habitats in New Mexico. Approximately 900 bighorn sheep now exist in the state.

RANGE

Two hundred years ago, bighorn sheep were widespread throughout the western United States and Canada. Their population may have been as great as 2 million. However, by 1900, they had decreased to only several thousand. Rocky Mountain bighorn never were widespread in New Mexico, with historical evidence for just 4 populations in the Wheeler Peak Wilderness, Pecos Wilderness, White Rock Canyon, and the Manzano/Los Pinos Mountains. By the late 1800s, New Mexico bighorn were faring poorly; they were gone from the state by 1906.

HABITAT

Steep terrain is the defining component of bighorn habitat. They like open, rugged, mountainous areas either above timberline or in river canyons.

DESCRIPTION

Bighorn are covered with rich brown coats. The belly, rump, back of legs, and muzzle are



white. Unlike domestic sheep, bighorn do not have wool, rather a thick coat covered with insulating hollow hairs protects them from temperature extremes. Adult rams weigh about 200-300 pounds and have huge curling horns that typically measure 35-40 inches in length. The horns can weigh up to 30 lbs, as much as the rest of their skeleton. Ewes (female bighorn) weigh 130- 200 pounds and have horns that are short and slender with only a slight curvature. Horns are not shed annually but grow throughout the life of the animal. Rams use them primarily to fight

for females during mating season. Fortunately, the sheep have double-layered reinforced skulls for battle protection.

BEHAVIOR

Bighorn are generally active during the day, with several periods of foraging interspersed with periods of lying down to chew their cud, grooming, and/or sleeping. Bighorn sheep are social animals.

Ewes, lambs, and young rams congregate while mature rams form bachelor groups or become solitary. Young sheep learn migratory paths and suitable habitats from adults in the group. Males and females join during the rut. During the fall and early winter rutting season, males fight for dominance or mating rights. They rear up on their hind legs, and hurl themselves at each other in charges of 30 mph or more. Rams may butt each other for hours and the resounding clash of horns can be heard echoing through the mountains. Usually after several bouts the rams casually separate, and it is not always apparent to the human observer which ram is victorious. Serious injuries are rare.

Bighorn sheep traverse cliff faces with amazing ease. They have remarkable eyesight that allows them to judge distances accurately (and to spot predators). They grip slippery surfaces with the shock-absorbing elastic pads on their feet. The hooves are cupped in the middle to help prevent slipping. Bighorn sheep easily balance on ledges only 2 inches wide and can jump spans of 20 feet.

DIET/FEEDING

Ovis canadensis canadensis is largely a grazer, consuming grasses, sedges, and forbs. They will browse willows and shrubs in winter if graze is scarce, and tender new leaves during the spring. They regurgitate their food to chew it as cud before swallowing it for final digestion. Bighorn can get along with a minimal amount of free water, obtaining moisture from snow, dew and vegetation.

REPRODUCTION

Mating season starts as early as October in low elevation herds, but not until December in the alpine. Rams may breed several ewes, and male status is determined by horn size. The largest rams breed the most ewes, but while big rams are busy fighting, smaller rams will sneak in and do

some breeding. Females generally do not breed until their second year. Gestation lasts about six-months; the single lamb is born June-July in the alpine, when climate and forage conditions are most favorable. Newborns are able to follow their mothers over the rocky terrain after only a few days.

CONSERVATION

Alpine bighorn sheep populations thrive in New Mexico. High quality habitat and few threats allow populations to grow. However, lack of forces regulating their numbers (such as predation) can result in too many bighorn on the landscape. This can lead to limited resources which can promote large-scale dieoffs.

Low-elevation bighorn sheep populations face very different challenges. Habitat continues to be reduced due to encroachment of woody vegetation from fire suppression. As habitats become more wooded, visibility decreases and predation increases. Mountain lion predation is a principal cause of mortality on low-elevation bighorn sheep populations. Domestic sheep that graze near bighorn populations can spread diseases, especially pneumonia, to bighorn that can result in population-level dieoffs. Hunting for trophy rams must be managed very carefully to prevent elimination of dominant, breeding males, and laws preventing poaching are strictly enforced.

The story of reintroduction efforts of Rocky Mountain bighorn to New Mexico is a study in persistence, education, and gradual success. The first reintroduction of Rocky Mountain bighorn in 1932

involved 6 sheep in the Pecos Wilderness, north of Santa Fe. Unfortunately, it was not successful. Since then, many other transplants have occurred. Unsuccessful transplants (those that did not result in persisting populations of bighorn) in Wheeler Peak, Latir Wilderness, Fort Wingate, and Cimarron Canyon failed mainly due to small numbers of transplanted bighorn, and disease transmission from large herds of domestic sheep that were grazed in bighorn sheep habitat shortly after their reintroduction. Rocky Mountain bighorn populations were eventually established in the Pecos Wilderness, Wheeler Peak Wilderness, and Latir Peak Wilderness by successful transplants after domestic sheep grazing was prohibited in those areas. Multiple transplants established Rocky Mountain bighorn populations in lower elevation habitats: the Sandia and Manzano Mountains near Albuquerque, and Turkey Creek and San Francisco River in the Gila National Forest of southwestern New Mexico, where the historically-occurring sheep was probably desert bighorn (*Ovis canadensis mexicana*). The Sandia bighorn population died out by the early 1990s, and only a remnant population exists in the Manzanos today. Recently, Rocky Mountain bighorn were transplanted to the Rio Grande Gorge near Taos and the Dry Cimarron in far northeast New Mexico, but it's too early to know if those transplants will be successful.

Perhaps one day, through more transplants and other management efforts, these unique and magnificent animals will live in all their historic ranges for the enjoyment of New Mexicans.

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