

LARGE UNGULATES: ROCKY MOUNTAIN BIGHORN SHEEP

Rocky Mountain Bighorn Sheep (*Ovis Canadensis canadensis*)

Vermejo's western boundary peaks are home to a population of Rocky Mountain Bighorn sheep (RMBHS) who live on the alpine tundra and alpine meadows seeking safety in the steep rock cliffs and scree. The RMBHS are the largest wild sheep in North America with a range from the northern Rockies in Canada to the southern Rockies of New Mexico. A population of desert bighorn sheep (*Ovis canadensis nelsoni*) live on the Armendaris in southern New Mexico.

Population History

Unregulated hunting and diseases introduced by livestock brought by European settlers decimated the RMBHS population in the late 1800's. Only a few sheep remained in Colorado by the early 1900's. Through conservation efforts and reintroduction, it is now estimated that there are 7,000 RMBHS in Colorado and 1,800 in New Mexico.

Appearance

RMBHS rams typically weigh 250 -300 lbs. with ewes weighing about 150 lbs. Both rams and ewes have similar coat coloring, a light brown to grey brown with white nose and rump. The sheep molt or shed their heavier winter coats during the summer months.

Horns

The rams have large curling horns or 'curls' that can weigh up to 30 lbs. The ewes have smaller and shorter pointed horns that are around 4-8 inches in length. The horns have a keratin sheath that protects the interior bone. Since they are horns, they are NOT shed annually. The rams horn adds a growth 'ring' every autumn.

Adaptations

The sheep have sharp hooves with rough pads that give them extra traction when climbing rock and scree. They have very good eyesight with eyes that are set far apart giving them a broad angle of vision. They also have a keen sense of smell and good hearing letting them know potential predators are in the area. Their amazing agility is probably their best defense for escaping predators. The sheep can also go days without needing to drink water limiting their time in more vulnerable areas around water sources.

Diet

RMBHS eat grasses, forbs, and tough shrubs. The sheep will mostly eat green grasses and forbs when they are available in summer. The sheep will feed in open areas such as alpine meadows but stay within a short distance to cover or rugged terrain where they could escape. Being an ungulate, they have a four-chambered stomach to help digest the tougher plant materials. The sheep can rechew the vegetation later after retreating to a safer location inaccessible to predators. They also utilize mineral licks to obtain nutrients.

Social Groups

The sheep remain in matriarchal groups of ewes and lambs. Rams cover much larger territories either alone or in bachelor groups. The matriarchal groups may have safe bedding and cud chewing areas that they reuse. Ewes and lambs vocalize in their groups with ba's and bleats. Lambs will play in their groups, practicing to become 'grown-up' sheep and their athletic leaps and jumps are amazing to observe. Biologists believe that

the matriarchal ewes also teach their home range and migration routes to the younger sheep and that the herd will likely stay in the same home range over multiple generations.

Reproduction

The sheep rut or compete for the chance to breed with ewes in the fall with peak breeding in November. This competition includes ramming where two males will charge and ram horns. The rams may reach speeds of up to 40 mph before impact. Their thick skull and horns normally prevent injury during the ramming. The rams may also vocalize during the rut by snorting. Gestation is about 6 months and lambs are born in late April to June. Birth of twins is rare in RMBHS.

Recruitment and Mortality

Estimated lamb recruitment can vary but is usually about 30% in a healthy herd. Primary predators are mountain lions, coyotes, bobcats, and golden eagles. The life expectancy of a RMBHS is around 12- 14 years. The sheep are very susceptible to diseases, often introduced by domestic sheep and goats and then transmitted by traveling RMBHS rams to different herds. The deadliest disease for RMBHS is pneumonia. The agent causing the pneumonia can be one of several bacteria including Mycoplasma and Mannheimia. It is estimated that if an infection gets into a herd 50-80% of the sheep may perish.

Population Surveys

Vermejo biologists work with New Mexico Game and Fish to survey the Costilla-Culebra sheep population annually in late summer. The biologists conduct ground surveys hiking the high peaks and counting sheep with spotting scopes. The ground survey is followed by an aerial survey. Population estimates for the RMBHS are 75-90 sheep from the 2023 survey.

Frequently Asked Questions:

1. **Do sheep ever fall?** Falling is pretty rare but lambs are more susceptible to falling when they are playing around.
2. **Does Vermejo hunt Rocky Mountain Bighorn sheep?** Yes, as long as the population can sustain it; Vermejo has an agreement the Rio Costilla Cattle and Land Association (RCCLA), and New Mexico Department of Game and Fish for 1 ram tag that rotates amongst the stakeholders. Both Vermejo and RCCLA sell it privately while the NMDGF will place the tag in the public draw. Vermejo and RCCLA then grant access to the tag holder who draws the tag. The last time Vermejo held the tag was in 2023 and will have it again in 2026.
3. **What do the sheep eat in winter?** Sheep eat the residual grass on the exposed, wind-swept sides of the range (typically the west side). If they need to, they will paw away snow to get down to the grass.
4. **Do they move down into the forest or stay on the high peaks?** RMBHS will move to forested areas if they feel comfortable and if there is enough escape terrain nearby. They travel through forested areas to get to and from Colorado to the north and the Latir Wilderness to the south in order to get on the Culebra Range of Vermejo.