



# Dall Sheep

**Dall Sheep** (*Ovis dalli dalli*) inhabit the mountain ranges of Alaska. Dall sheep are found in relatively dry country and frequent a special combination of open alpine ridges, meadows, and steep slopes with extremely rugged "escape terrain" in the immediate vicinity. They use the ridges, meadows, and steep slopes for feeding and resting. When danger approaches they flee to the rocks and crags to elude pursuers. They are generally high country animals but sometimes occur in rocky gorges below timberline in Alaska. Male Dall sheep are called rams. They are distinguished by massive curling horns. The females, called ewes, have shorter, more slender, slightly curved horns. Rams resemble ewes until they are about 3 years old. After that, continued horn growth makes them easily recognizable. Horns grow steadily during spring, summer, and early fall. In late fall or

winter horn growth slows and eventually ceases. This is probably a result of changes in body chemistry during the rut, or breeding season. This start-and-stop growth of horns results in a pattern of rings called annuli which are spaced along the length of the horn. These annual rings can be distinguished from the other rough corrugations on the sheep's horns, and age can be accurately determined by counting the annuli. Dall rams as old as 16 years have been killed by hunters, and ewes have been known to reach the age of 19 years. Most generally, a 12-year-old sheep is considered very old. As rams mature, their horns form a circle when seen from the side. Ram horns reach half a circle in about two or three years, three-quarters of a circle in four to five years, and a full circle or "curl" in seven to eight years.

**Life history:** The young, called lambs, are born in late May or early June. As lambing approaches, ewes seek solitude and protection from predators in the most rugged cliffs available on their spring ranges. Ewes bear a single lamb, and the ewe-lamb pairs remain in the lambing cliffs a few days until the lambs are strong enough to travel. Lambs begin feeding on vegetation within a week after birth and are usually weaned by October. Normally, ewes have their first lamb at age 3 and produce a lamb annually. Sheep have well-developed social systems. Adult rams live in bands which seldom associate with ewe groups except during the mating season in late November and early December. The horn clashing for which rams are so well known does not result from fights over possession of ewes, but is a means of establishing order. These clashes occur throughout the year (among females, as well) on an occasional basis. They occur more frequently just before the rut when rams are moving among the ewes and meet unfamiliar rams of similar horn size. Dall rams can sire offspring at 18 months of age, but normally they do not breed successfully until they approach dominance rank (at full curl age and size).

**Food habits:** The diets of Dall sheep vary from range to range. During summer, food is abundant, and a wide variety of plants is consumed. Winter diet is much more limited and consists primarily of dry, frozen grass and sedge stems available when snow is blown off the winter ranges. Some populations use significant amounts of lichen and moss during winter. Many Dall sheep populations visit mineral licks during the spring and often travel many miles to eat the soil at these unusual geological formations. As several different bands of sheep meet at mineral licks, ram and ewe groups may mingle and young rams join the ram band which happens to be present at the time. This random contribution of young rams to different ram bands may benefit sheep by maintaining genetic diversity. Sheep are very loyal to their home ranges. Mineral licks are good spots to observe sheep because the animals are so intent on eating the dirt they pay little attention to humans. However, major disturbances such as low-flying aircraft or operating machinery readily drive sheep from the mineral licks.

**Populations:** Dall sheep in Alaska are generally in good population health. The remoteness of their habitat and its unsuitability for human use has protected Dall sheep from most problems in the past. However, an increasing human population and more human use of alpine areas may cause future problems for Dall sheep. Mountain sheep in general are extremely susceptible to disease introduced by domestic livestock. If grazing of domestic sheep (or possibly cattle) occurs on their ranges, mass die-offs from disease can be reasonably expected.

Sheep numbers typically fluctuate irregularly in response to a number of environmental factors. Sheep populations tend to increase steadily during long periods of mild weather. Then, sudden population declines may occur as a result of unusually deep snow or other severe winter weather. Low birth rates, predation (primarily by wolves, coyotes, and eagles), and a difficult environment tend to keep Dall sheep population growth rates lower than for many other big game species. However, their adaptation to the alpine environment seems to serve them well. They have survived for thousands of years and are among the more successful animal groups.

**Hunting:** Dall sheep produce excellent meat but are relatively small in size (usually less than 300 pounds (136 kg) for rams and 150 pounds (68.1 kg) for ewes), and it is difficult to retrieve meat from the rugged alpine areas which they inhabit. These factors have limited sheep hunting to a relatively few, hardy individuals whose interest is more in the challenge and satisfaction of mountain hunting and the alpine experience than in getting food. Recreational hunting is limited to the taking of mature rams during August and September. Many recreational hunters are very selective and choose not to kill a ram unless it is unusually attractive. Instead, these hunters often choose to watch sheep and share their environment.

In some communities of the Brooks Range, Dall sheep are hunted for subsistence. These hunts commonly take place during winter when snow machine travel makes it easier to reach the sheep and retrieve the meat. Subsistence regulations commonly allow taking of all sex and age classes of sheep. Populations which support subsistence hunting must be closely watched to assure that populations are not overexploited.