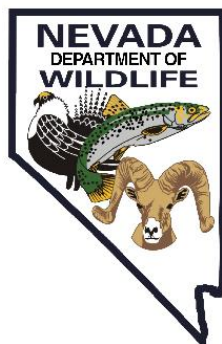


Mountain Goat Hunting Orientation



Nevada Department of Wildlife



Preface

This document serves to provide you with an understanding of general mountain goat morphological characteristics which will aid in proper field identification and assist you on your hunt.

Patience is Key



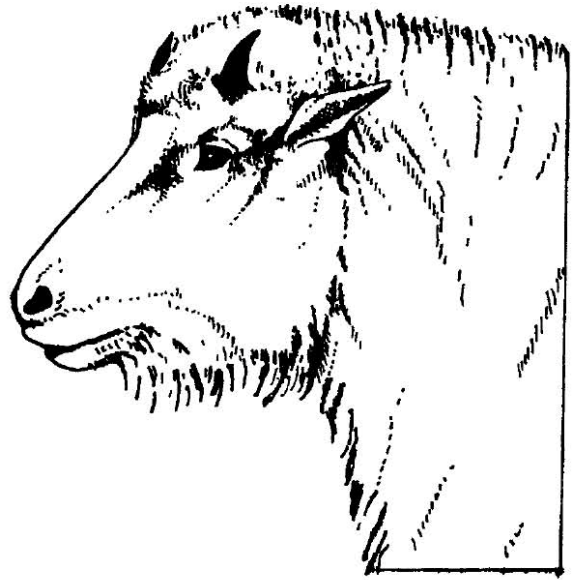
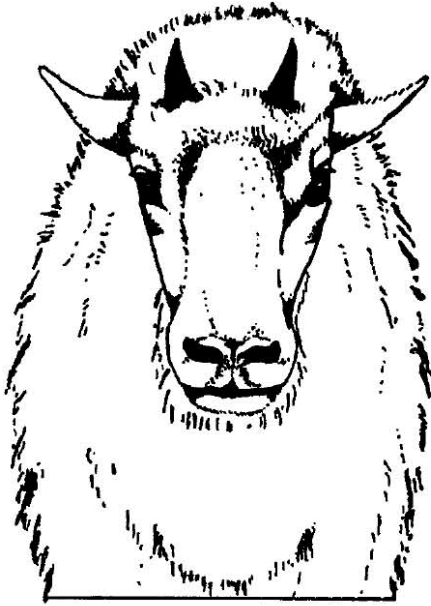


The longer you watch a goat the better your chances for gathering enough clues to determine its sex. Mountain goats use cliffs as escape cover much like a deer running into thick brush when they are spooked. A hasty decision to shoot may result in wounding or losing an animal because you cannot retrieve it from the bottom of a crevasse. Once a billy is identified, most seasoned goat hunters will wait until the goat is away from any dangerous terrain in which the animal might hang up or fall after the shot. Goats are creatures of habit and if a hunter is patient to observe a goat's feeding habits they will find out that goats generally come off of the cliffs to feed early in the morning and late in the afternoon. By not rushing

your shot, a hunter has an increased chance of taking a large billy, which sometimes have a reputation of appearing when you least expect them.

Identification

Kid



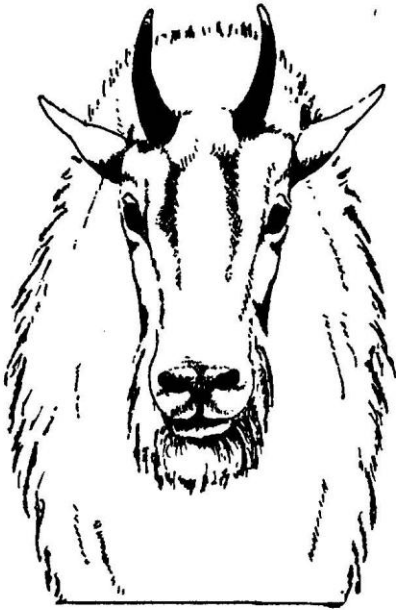
Weight: 7-50 pounds

Horn length:

0 to 3.5 inches Horns are barely visible in early summer, and are less than $\frac{3}{4}$ of the ear length by fall.

Comparative Body Size: Extremely small compared to all other age classes.

Male and Female Yearlings



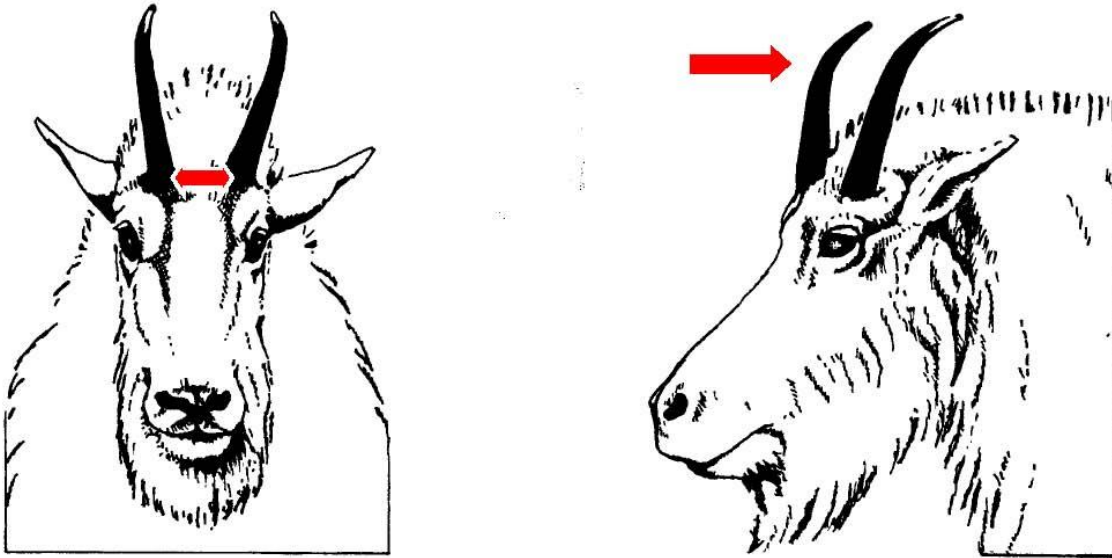
Weight: 45-70 pounds

Horn length: 3.0 to 6.5 inches

Horns up to one and a half times ear length by Fall.
Yearlings are frequently “picked on” by all older animals.

Comparative Body Size: Obviously smaller in late summer as compared to other individual

Nanny Sub-adult



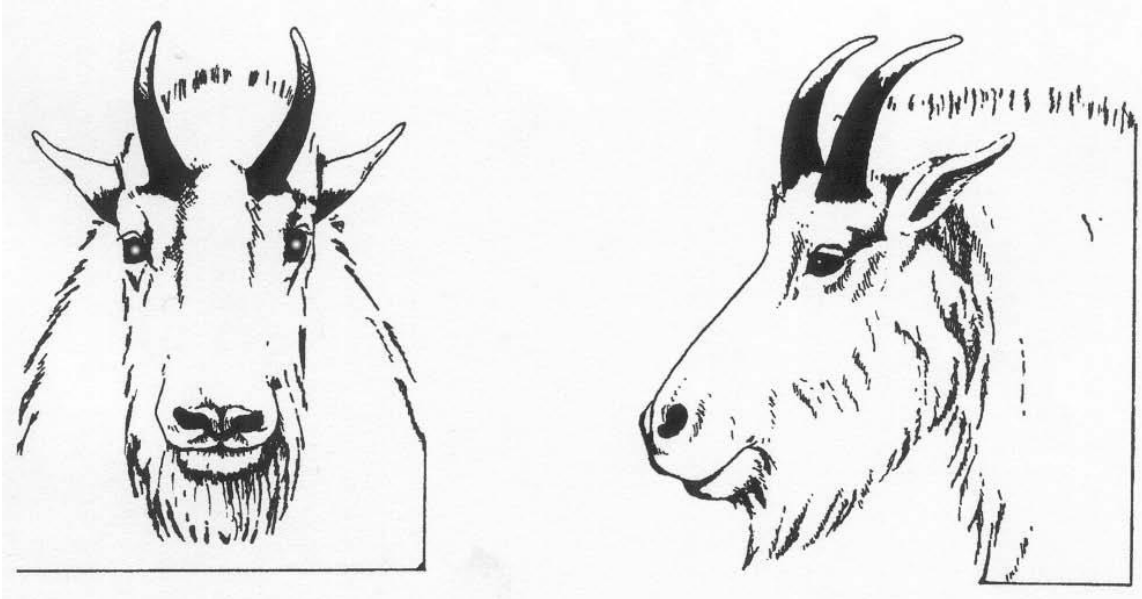
Weight: 65-110 pounds

Horn length: 5.5 to 8.5 inches

Horns are longer than ears. Horns are thinner and usually slightly more angular (see arrow) than males' as viewed laterally. More space between the horn bases as viewed frontally.

Comparative Body size: Nearly equal to an adult by Fall.

Billy Sub-adult



Weight: 65-110 pounds

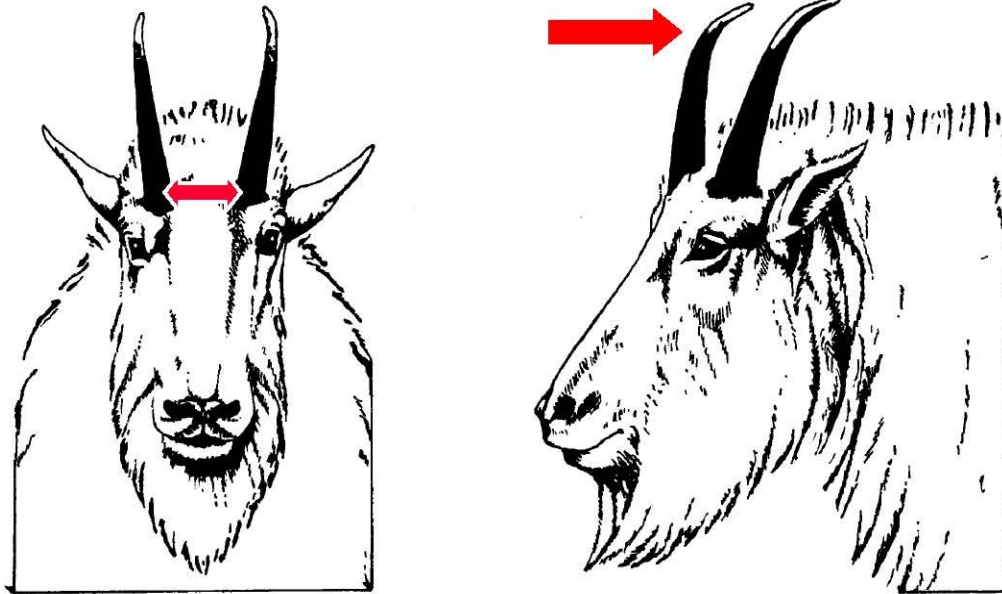
Horn length: 5.5 to 8.5 inches

Horns are noticeably thicker than females' with less space between bases. Smoother curve from base to tip (curved throughout the whole horn length).

Comparative Body Size: slightly larger and heavier over neck and shoulders than females.

Other Distinguishing Features: Usually still in company of female/kid groups during the summer.

Nanny Adult



Weight: 120-160 pounds

Horn length: 8-11 inches

Horns thinner than males and more angular (see arrow). Space between horn bases is wider than males and is about equal to $\frac{3}{4}$ the width of horn base.

Comparative Body Size: Faces are long and angular.

Other Distinguishing Features:

Nannies may have kids at their side and are usually in groups with other females and juveniles. Side of rump is usually not stained.

Billy Adult



Weight: 150-225 pounds

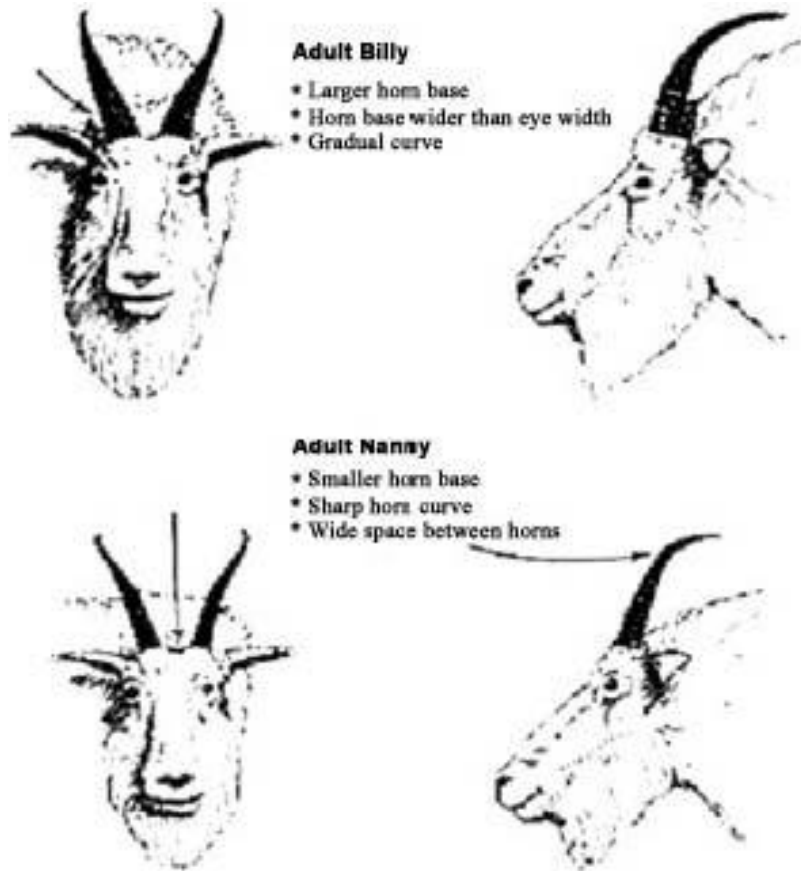
Horn length: 8-11 inches

Horns more massive than females', tapering and curving smoothly from base to tip as viewed laterally; horn base heavy, and space between bases is about one-half the width of the base. Horns may appear smaller because of the large head and body size.

Comparative Body Size: Neck and shoulders massive.

Other Distinguishing Features: Rump progressively more dirt smeared in late summer and into winter. Mature billies are often solitary.

How to Judge Sex and Age by Horn Size and Appearance

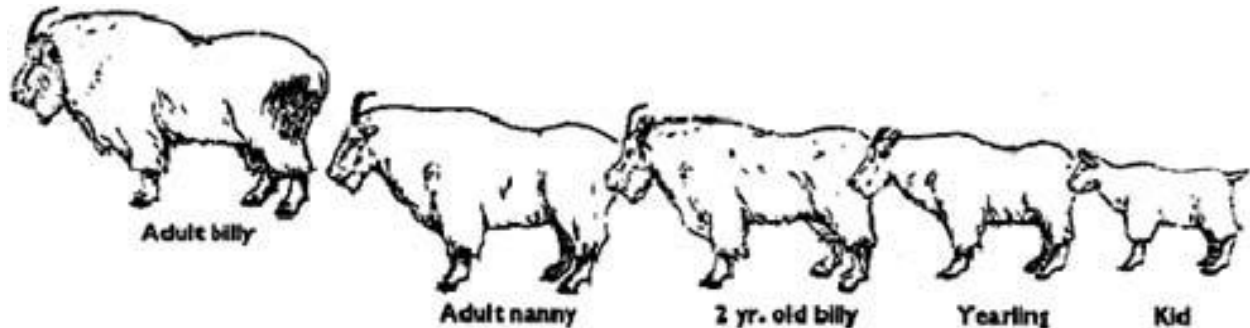


Horn lengths are approximately the same in male and female goats of the same age. Kids have only short buttons up to one inch long during their first fall. By the time a goat reaches the yearling age class, it has attained over half its expected horn length. Most yearling goats have horns about six inches long, which at a casual glance look much like adult horns. Although goats live to be ten years old or older, the annual horn growth increments are frequently less than 1/10 inch after the fourth year. It is extremely difficult to estimate a goat's horn length in

the field, since in most cases we are talking about an inch. In the Boone and Crocket Club record book the top ten record billies all had horns longer than 10 inches. One tool a person can use to compare the length of a goat's horn to the length of the ear. **Generally an adult goat's ear is about six inches long** So, an ear length and one half should equal a 9-10" horn length. Another useful measurement is **the eye. From tip to tip, the eye is approximately 1 ¼ inches long.** Goat's two years old and older will have horn lengths longer than their total ear length. Brooming (or the wearing down of the tip of the horn) will also affect the total length of a goat horn. Most billies that are four years old or older show evidence of brooming. Two eleven year old billies which were harvested on Kodiak during the 2000 fall season differed by over an inch (8 ¾ inches versus 10 ¼ inches) because of the wearing down of tips of the horns. Since horn length is essentially indistinguishable from a distance, other horn characteristics can be used to distinguish the two sexes. Males have thicker horns, with a greater basal diameter and greater diameter along the entire length of the horn. Female horns are thinner and more spindly. Horn curvature also differs significantly between most males and females. Males exhibit a smooth, even curvature throughout the entire length of the horn, while females exhibit the greatest curvature near the tips. **Most female horns seem to make an abrupt curve about 2/3 of the way to the tips.** Comparing the width of the base of horn with the width of a goat's eye probably provides one of

the best ways to distinguish the sex of mature goats. Mature billies will have bases which are greater than the width of his eye. Even the oldest nanny will have horn bases equal to or less than her eye width. You can practice your sexing technique by looking at pictures of hunters with their trophies on the web or in hunting magazines. Before reading the fine print on the bottom of the picture, guess whether it's a billy or nanny by comparing horn characteristics. Most seasoned goat hunters agree that horn characteristics are an excellent way to tell the difference between nannies and billies, but all hunters agree that getting close to the animal is key to confirm one's observations. By getting close enough to use horn characteristics to identify a goat's sex, you accomplish two things; first, you reduce the chance of taking a female by mistake and second, you will greatly increase your chances of a clean kill because you have reduced the range. Impatient hunters that take long shots have a higher risk of wounding loss, carcass and horn damage from falls, and self injury from trying to recover a kill from steep terrain.

Using Body Size to Judge Sex and Age



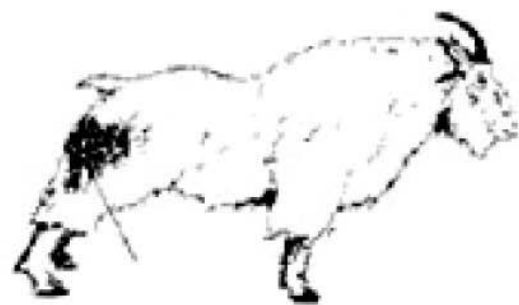
Body size can be used to sort kids, yearlings, and adults. Kids are easily recognized by their small size, weighing only about 35 lbs. and standing 20" at the front shoulder. Yearlings weigh about 60-70 lbs. and stand about 27" at the shoulder. Once an animal is older than two years they are extremely hard to discern from other adults. Adults billies average about 150 lbs., but may weigh up to 300 lbs. They can also be distinguished from a distance because they are larger and stockier than nannies. Adult females average about 125 lbs. and can reach a maximum weight of 250 lbs. Body size alone cannot be a reliable indicator of a goat's sex, since in some groups of goats an old female can be the largest goat in the herd.

Behavioral Characteristics Provide More Clues to a Goat's Sex

Goats are frequently seen in groups of varying sizes. Groups larger than three or four animals are usually made up of kids, adult females, and immature goats of both sexes. The likelihood of adult males being with these groups increases in November as breeding season approaches. During most of the year adult males are more frequently found as solitary animals or in small isolated groups. If you see a lone animal bedded on the edge of a 2,000 foot cliff, chances are good it's a mature billy. If adult males are found with larger groups of goats, look for them on the edge of the group. After a few minutes of careful observation, it usually becomes apparent which are females and which are males. Goats usually have only one kid, but twins sometimes occur. If you see a nanny with three or more kids you can bet that the rest of the group is on the other side of the ridge. Mountain goats generally have lower productivity than other game animals because of high mortality of kids and yearling animals. Don't make the mistake of assuming that animals in the company of kids are always female. Kids will frequently be seen with billies especially as nannies are harvested and they are orphaned.

Urination Postures

Another way to distinguish the sex of a goat is the urination posture. Males stretch their hind legs backward, slightly flexing and barely splaying their legs to the side. Billies often will have a yellow stained patch of hair on their hindquarters. The patch becomes more evident around the end of September and can be observed clearly from a good distance away. Females squat to urinate, partially raising their tails and usually do not have any stains on their hindquarters.



Yellow Stained Rump Patch

Billy



Nanny

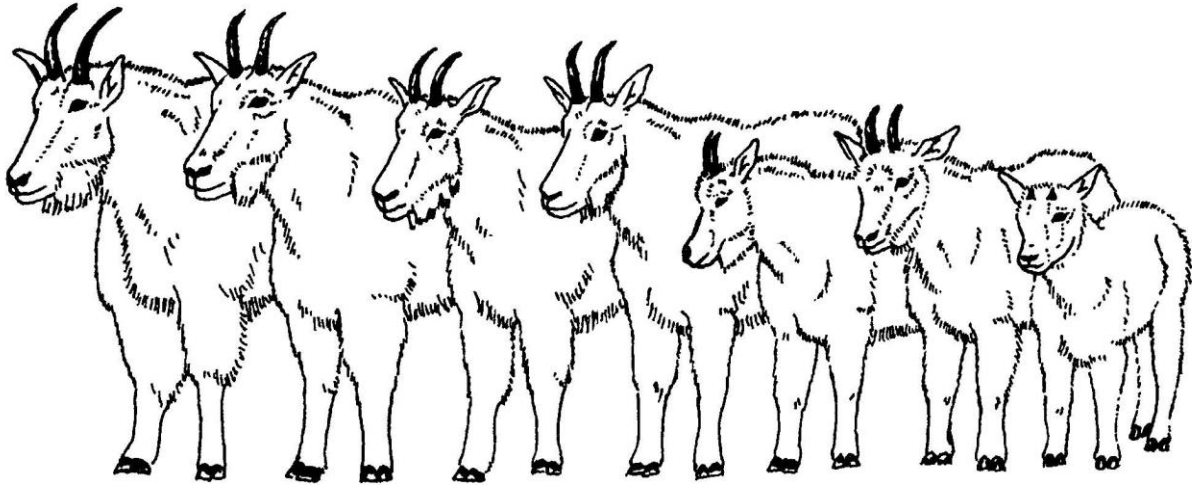


Billy urinating-Note the stretched out posture



Nanny urinating-Note squatting behavior

Adult to Kid



Criteria for Distinguishing Sex

Possible Features

- Horn mass
- Horn shape
- Body size
- Group size
- Shoulder size
- Rump cleanliness

Positive Features

- External genitalia
- Urinating Posture

Remember, Patience is Key



LOOK FOR:

- Horn Mass
- Horn Shape
- Body Size
- Shoulder Size
- Rump Staining (or lack thereof)
- External Genitalia Urinating Posture

Remember to tag your animal before the carcass is moved or you leave the site of the kill. **Also it is very important to remember that within 5 days after killing a mountain goat, you must personally present the skull, hide, and any edible portion of the animal or its carcass to a representative of the Department for inspection. See page 22 in the 2010 Nevada Hunting Seasons and Regulations for details.**

Report all hunting violations to the Operation Game Thief: 1-800-992-3030

Mountain Goat Identification Self Test



Photo 1



Photo 2



Photo 3



Photo 4



Photo 5



Photo 6



Photo 7



Photo 8



Photo 9



Photo 10

Mountain Goat Identification Self Test

Please check Billy or Nanny for each question.

1. ____ Billy ____ Nanny
2. ____ Billy ____ Nanny
3. ____ Billy ____ Nanny
4. ____ Billy ____ Nanny
5. ____ Billy ____ Nanny
6. ____ Billy ____ Nanny
7. ____ Billy ____ Nanny
8. ____ Billy ____ Nanny
9. ____ Billy ____ Nanny
10. ____ Billy ____ Nanny

Now that you have completed the test, see below for the answers.

Answers: 1) Nanny 2) Billy 3) Nanny 4) Billy 5) Nanny showing horn structure and vulva patch 6) Billy 7) Nanny 8) Adult Nanny and kid 9) Nanny 10) Billy

References

Utah Division of Wildlife Resources, Anis Aoude. *Rocky Mountain Goat Hunt Female Only-Orientation*