



Alaska's Wild Wonders Horned Animals

In This Issue

In this issue of Wild Wonders you will discover the differences between horns and antlers, learn about the different animals in Alaska who have horns, compare and contrast their adaptations, and discover how humans use horns to make useful and decorative items.

Horns and antlers are available from local ADF&G offices or the ARLIS library for teachers to borrow.

Learn more online at: alaska.gov/go/HVNC

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Horns or Antlers!

What's the Difference?

Sometimes people use the terms horns and antlers in the wrong manner. They may say "moose horns" when they mean moose antlers! "What's the difference?" they may ask. Let's take a closer look and find out how antlers and horns are different from each other. After you read the information below, try to match the animals with the correct description.



Horns

- Made out of bone and covered with a keratin layer (the same material as our fingernails and hair).
- Are permanent - they do not fall off every year like antlers do.
- Both male and female members in the Bovid family (cloven-hoofed animals such as sheep) have horns.
- You can tell whether an animal is a male or a female by looking at the difference in their horn shape or growth.



Antlers

- Made out of bone.
- Grow and fall off every year.
- Are grown only by male members of the Cervid family (hoofed animals such as deer), except for female caribou who also grow antlers!
- Usually branched.
- Antler is one of the fastest growing animal tissue. Moose antlers can grow 1 inch per day during the summer months!

Moose

Mountain Goat

Dall's Sheep

Caribou

Muskox

Black-Tail Deer



Traditional Uses of Horns



Animals aren't the only ones who benefit from their horns. Alaska Natives also use animal horns for useful items such as spoons, fish hooks, and even a Shaman's headdress! Take a look at the items below, and think about what else you could make using an animal horn.

Dall's Sheep Horn Oil Dipper

This dipper was collected in Southeast Alaska. The low sides curve up to form a sea bird head on one end and a wide flat tail on the other. This was used as an oil dipper at feasts.



Muskox Horn Ulu & Holder

Horns from muskoxen were donated to Bering Strait School District so students could learn traditional carving methods.

Tlingit Goat Horn Spoon

Horn spoons are both ceremonial and functional. The Tlingit people also carved wooden spoons for everyday use. Traditionally when traveling to gatherings, people brought their own utensils.

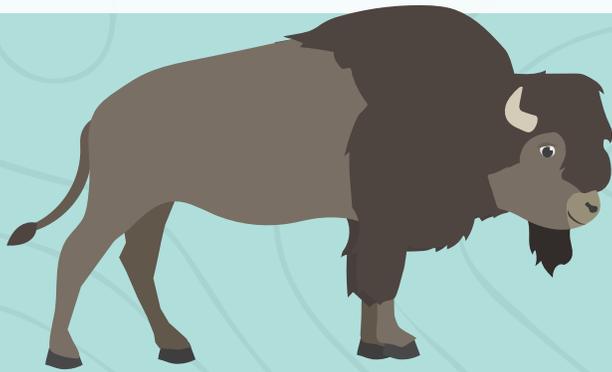
Image from Davina Cole, Art Project Coordinator at Sealaska Heritage Institute in Juneau



Wood Bison and Muskox

Bison

Bison are grazers. The habitat they thrive in hosts mostly grasses, sedges, and flowering plants. They find food in meadows, around lakes, along rivers, and where new growth has returned after wild fires. Males are larger than females and the horns of males are thicker. You can tell the approximate age and gender of bison by the shape of the head and the horns.



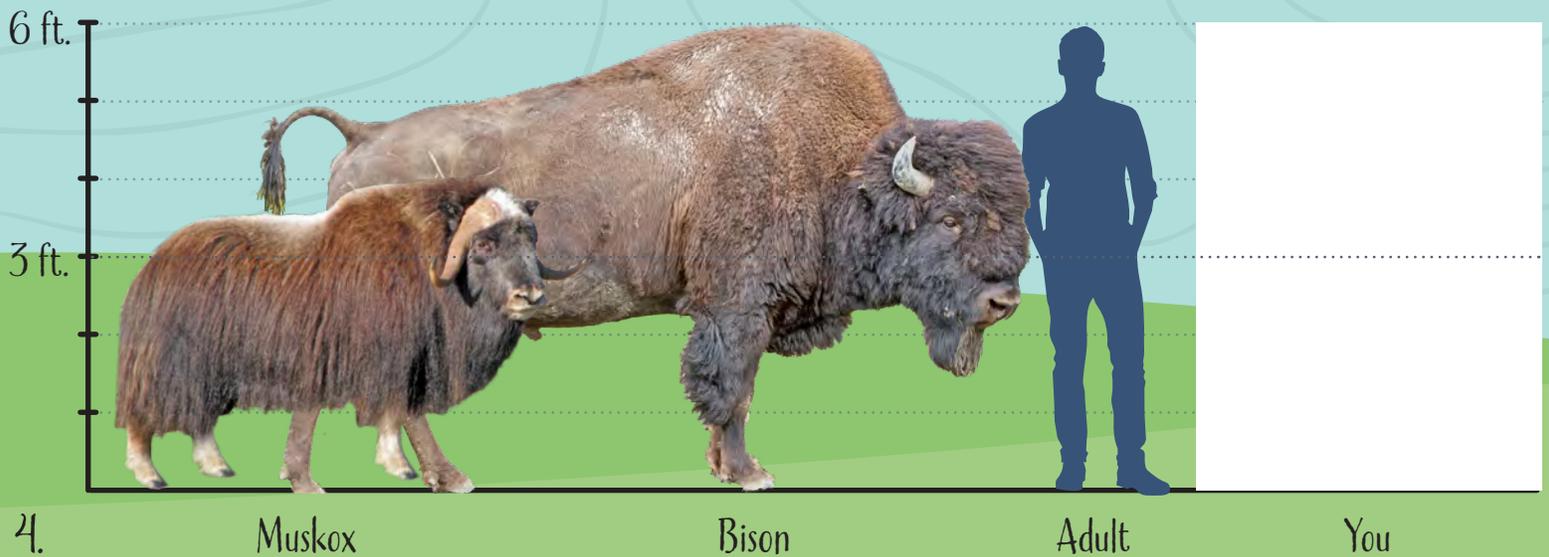
Muskox

Muskoxen are northern animals. They are well-adapted to life in the Arctic. They are stocky and have long outer hair and soft under hair called Quiviut. Their shoulders have a slight hump, and their tails are short. In summer, muskoxen are found along streams, rivers, and valleys eating a wide variety of plants.



Measuring Up

Bison are huge! Adult males stand about six feet tall at the shoulder and can weigh more than 2,000 pounds! Muskox are smaller. They are about four feet tall. How do you measure up compared to a bison or a muskox? Measure how tall you are and then draw a picture of yourself on the graph.



Dig Deeper!

Learn more about the reintroduction of Wood Bison in Alaska online at:

alaska.gov/go/VPHV

Learn more about muskoxen at:

alaska.gov/go/KXgT

Bull Muskox



Horn Boss

Cow Muskox



Horn Boss

Who's the Boss?!

Both male and female muskoxen have horns. The horns of a bull are larger and heavier than a cow's horns. Male muskoxen fight for dominance by charging other males at full speed. They then collide squarely on the horn bosses. The horn bosses are four inches thick! Underneath the horn bosses are three more inches of skull which protects their heads and necks.

Welcome Home!

Muskox

In the late-1800s, over-hunting of muskoxen contributed to their disappearance from Alaska. This concerned people who lived in the Arctic. So, in 1930, 34 muskoxen were captured in Greenland and brought to Fairbanks. Five years later those muskoxen and their calves were relocated to Nunivak Island. They have since been released to other areas in Alaska.

Bison

Two subspecies of bison live in Alaska; the plains bison and the wood bison. Plains bison were introduced in 1928 near Delta Junction. Other plains bison herds were later established along the Copper River, Chitina River, and in Farewell.

Wood bison were the first type of bison to inhabit Alaska. Yet, in the 1900's, they disappeared across the state. In 2015, in an effort to restore the native bison, the Alaska Department of Fish and Game released 130 wood bison near the community of Shageluk on the Lower Innoko River. Wood bison are now once again roaming in the wild.

Habitat Map

- Current Muskoxen Territory
- Muskoxen Release Location
- Bison Location



Fun Fact!

Currently, more than 4,800 muskoxen call Alaska home.

Dall's Sheep & Mountain Goats

Dall's Sheep

The most notable characteristic of a Dall's sheep is its horns. Both males (rams) and females (ewes), grow horns throughout their lives, but rams' grow to be much larger. Generally by the age of eight, a ram's horns will be "full curl," creating at least a 360 degree circle if viewed from the side.



Dall's Sheep Ram



Dall's Sheep Ewe



Mountain Goat Billy



Mountain Goat Nanny

Mountain Goats

Both male (billy) and female (nanny) mountain goats have horns that are sharp, black and curve backwards in a slight bend. It's hard to tell the difference between a billy and a nanny — they both have white coats and a beard — but the horns give some clues. The horns of billies are thicker at the base and situated closer together than those of a nanny. Nanny horns are more slender, with bases located further apart and curve back more than their male counterpart.

Home in the Mountains

Lambs and kids are born from May to June. The first few weeks of life are difficult for newborns. Luckily, both mountain goats and Dall's sheep live high in the mountains. They have specialized feet that aid in climbing. By having small hooves that are soft on the bottom, their feet are like rock climbing shoes that humans wear. This allows the animals to perch on precarious rock faces and avoid predators.

Fun Fact!

Baby sheep are called lambs and baby goats are called kids.

Dig Deeper!

Watch biologists capturing sheep at:

alaska.gov/go/WYgT



Fleece as White as Snow

A white coat is a good adaptation for prey animals like Dall's sheep and mountain goats. It helps keep these animals cool in the summertime, and avoid predators by camouflaging with snow year-round. Sometimes people get confused distinguishing a Dall's sheep from a mountain goat because they both have white fur, horns, and live in the mountains. It is true, they both have horns and are ungulates (hoofed animals), but Dall's sheep prefer dryer climates while mountain goats tolerate wetter areas in Southeast and southcentral Alaska.

Aging Goats and Sheep

How do you know the age of a sheep or goat? Count the rings! Mountain goats and sheep never shed their horns. They grow continuously, unlike deer and moose. Wildlife biologists determine the animal's age by counting growth rings that circle the horn. This is similar to aging a tree. Horns grow in the spring, summer and fall, but in the winter, growth stops. This start-stop cycle results in a pattern of rings called annuli. Rings are sometimes hard to see, as "false" annuli are sometimes mistakenly counted.

Now it's your turn- can you tell the ages of this sheep and goat? *Hint: only count the darker rings.*

Fun Fact!

The horns of goats and sheep will have one less ring than its age. In other words, the horn of a goat that is two years old will have one ring, a three-year-old will have two rings and so on.



Test Your Knowledge & Toot Your Horn



Wildlife Workers

To be a wildlife biologist you have to be in good physical shape, be a little daring, take good notes and know how to handle wild animals.

After watching the Fish and Game videos listed under "Dig Deeper", test your knowledge by answering these questions:

Animal Acrostics

Find facts about the animal species in this magazine using the list below. Use the letters of each animal in your fact to describe the animal! Start by filling in the examples below. Then try making your own on a separate piece of paper.

<u>S</u>	Males are <u>Bulls</u>
<u>W H</u> ite fur	<u>I</u>
<u>E</u> wes are females	Eat <u>S</u> edges
<u>E</u>	<u>O</u>
<u>P</u>	<u>N</u>

Muskox

Listen to the baby muskox. What animal does it sound similar to?

Wood Bison

Why were there no wood bison in Alaska after 1900?

How did the bison get to the community of Shageluk?

Dall's Sheep

Why are the ewes and lambs up so high in the mountains?

Listen closely, what were the biologist measuring on the lamb?

Horn Word Search!

S B J M H K Z G J N W C J C F
 Y S M S R T R T H I T Y K E L
 F S O A A E K A N N U L I R A
 X F N B L D E L L U B C B V C
 J M A T N N D V Q L G E V I K
 X S N Y O R Z L R M S P J D B
 G A K B W W O E E E H Q U L N
 H O S A S Y N H R Q Y X C F I
 T R B L V Q A B L E Q B N Q T
 C A M O U F L A G E W C W N A
 Q I U I V W D Z B B L E Q O R
 F J G D Q I V P V M P M Y I E
 C I O K Y W D T R C U O P K K
 C O W N E O H L M O T C Y I M
 K C G R P M H G G R P W R D T

- Annuli
- Antler
- Bone
- Bovid
- Bull
- Calf
- Camouflage
- Cervid
- Cow
- Ewe
- Hornboss
- Keratin
- Kid
- Lamb
- Saddle