Wildlife Viewing

Yukon ungulates

Yukon


Alan Code

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Yukon.ca

Find us on social media at "Yukon Wildlife Viewing"

Much of the ungulate life history information came from David Shackleton's book *Hoofed Mammals of British Columbia* (UBC Press/Vancouver).

A guide to Yukon unglulates

Ungulates, or hoofed mammals, are among the most iconic and important wildlife species to Yukon people. Whether it's a small group of Thinhorn Sheep feeding peacefully on a mountainside, a lone Moose wading near a forested lakeshore, or thousands of caribou streaming across the tundra, these animals seem to be universally interesting to humans.

This booklet will introduce you to Yukon's nine wild species of ungulates. Several sub-species are also described. Yukon visitors and residents alike value our territory's wealth of wildlife diversity. We hope you enjoy learning about it as well.

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What is an ungulate?

An ungulate is a mammal with hooves. The term comes from the Latin word ungula, meaning hoof. Hooves are simply the outer covering of the last bone in the toe, and are made of keratinized skin (similar to a human fingernail).

While subject to intense scientific debate, the number of extant (living) species of ungulates may be as high as 450, worldwide. They are native to all continents except Antarctica and Australia. Some species have been transplanted around the globe, such as domesticated species (e.g., cattle, horses, pigs, sheep, and goats) and those introduced to create new hunting opportunities (e.g., Fallow Deer and Red Deer). The greatest diversity of native ungulates occurs in Africa. Eleven species of ungulates occur in Canada. All of these except Bighorn Sheep *(Ovis canadensis)* and Pronghorn *(Antilocapra americana)* occur in Yukon.

Globally, almost all ungulates are “obligate herbivores”, which means they have to eat plants to survive. Pigs and peccaries are the exception. While these animals eat mainly plants, they often have a more varied diet including bird eggs, insects, and scavenged animal carcasses.

Ungulates can be divided into two groups:

1) Artiodactyla
even number of toes

deer, bison, goats, sheep, pigs, camels, and others.

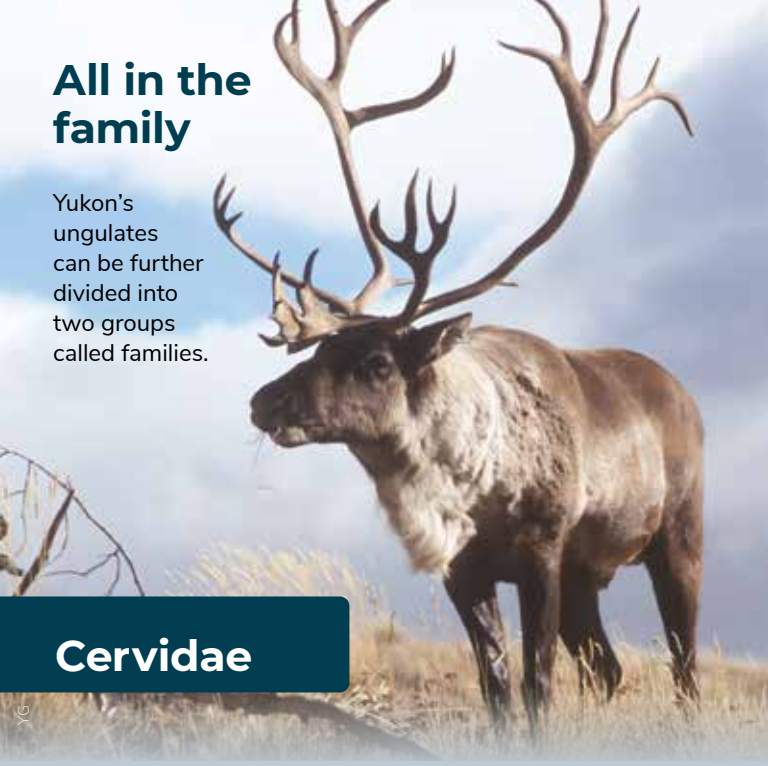
2) Perissodactyla
odd number of toes

horses, rhinoceroses, and tapirs.

istock.com/P Tessier

All in the family

Yukon's ungulates can be further divided into two groups called families.



Cervidae

YG

- **Moose** *Alces americanus*
- **Caribou** *Rangifer tarandus*
- **Elk** *Cervus canadensis*
- **Mule Deer** *Odocoileus hemionus*
- **White-tailed Deer** *Odocoileus virginianus*

Male members of the cervid (deer) family grow antlers: paired, bony structures attached to the head, which are shed each winter and regrow each spring. Uniquely, female caribou also grow and shed antlers each year, though they are much smaller than male caribou antlers.

Bovidae

- **American Bison** *Bison bison*
- **Mountain Goat** *Oreamnos americanus*
- **Muskox** *Ovibus moschatus*
- **Thinhorn Sheep** *Ovis dalli*

Bovid means “hollow-horned”. Both male and female bovids both grow permanent horns throughout their lives. Horns are almost always non-branching.

Staying alive: ungulate adaptations

Eyes and limbs

Unlike humans, monkeys and other primates, ungulates have eyes on the sides of the head. This provides a tremendous field of vision – almost 360 degrees. While these eyes do not pick up fine details well, they see movement over a large area. This adaption is very useful for spotting predators.

Most ungulate species have evolved for fast running. Over generations, legs became longer and lighter, feet became smaller, and specialized limb joints developed. Mule Deer, which evolved in southern, dry environments with hard-packed soil, are a good example of an ungulate that has evolved these features.

To group or not to group

Ungulates generally fall into two different groups based on their social behaviour. Some species, such as Mountain Goats, live in groups year-round, while other species, such as Moose, live alone (or with their young) for much of the year. Often, the habitat choices made by a species are linked to their social mode, with species living in open areas spending most of their lives in groups.

Living in groups provides more eyes to watch for danger, so group members can spend more time feeding and resting. On the other hand, solitary animals are more widely dispersed across the land than groups, and are more difficult for predators to detect.

The Barren-ground Caribou *(Rangifer tarandus grantii)* found in northern Yukon illustrate the value of group living. The Porcupine caribou herd is massive: since the early 1970s, the herd size has varied between 100,000 and 200,000 animals. The larger the herd, the lower the chance any particular individual will be killed by a predator. Once predators like wolves have eaten their fill, they are no longer a threat to the caribou – at least until their hunger returns.

Adult male and female ungulates do not mix often throughout the year. The two sexes tend to form separate groups and only come together during mating season. However, young males (sometimes up to three years old) stay with nursery groups – adult females and young. As these young males grow larger they eventually leave to join other groups of males.

YG

Food and eating

Plants are very hard to digest, but breaking them down into smaller pieces can aid in digestion. The ungulate tooth surface is highly folded with hard cutting edges for shearing food items. The jaw can move side-to-side as well, which helps with grinding food.

Perhaps the most impressive adaption is the ungulate digestive system. They have four-chambered stomachs, with the first three chambers or “false stomachs” pre-processing food before it reaches the true stomach. Within the first chamber, the rumen, micro-organisms and fermentation breaks down plant cellulose into usable nutrients.

All Yukon ungulates are also ruminants: they regurgitate food to chew and swallow again. This ensures the maximum nutritional value is extracted from food.

Different species prefer different types of plants. Grazers eat mainly grasses and sedges while browsers prefer leaves, buds and shoots of trees and shrubs. Since ungulates can and will eat both graze and browse, these food habits are best considered along a continuum, rather than as discreet categories.

Grazers

Browzers

Elk

Mule Deer

White-tailed Deer

Moose

Finding a mate: nothing else matters

The battle for love

Yukon ungulates breed once per year, between September and December, depending on the species. Newborns arrive late the following spring, when fresh plant growth begins.

All Yukon ungulates are polygynous: females will only mate with one male, but active males will pursue many females to maximize their individual chance of successful reproduction.

Mostly the large, strong, dominant males do the breeding. They will intimidate, chase, or fight off younger, smaller males attempting to mate.

The most visible features of ungulates – their horns and antlers – play a large role in mating behaviours and rituals. Along with teeth and hooves, antlers and horns can be considered weapons. Perhaps surprisingly, weapons are mostly used to fight other members of one's species (e.g., sheep vs. sheep), rather than to defend against predators (e.g., sheep vs. wolf).

Alan Code

Jake Paleczny

Antlers

Antlers are paired, branching, bony structures found on all species of cervids in Yukon.

Antlers grow under a layer of specialized skin called velvet, so named as it is covered in short, soft hairs. Velvet is loaded with nerve tissue and is therefore very sensitive when growing. Beneath the velvet, on the surface of the antler, lie blood vessels that supply most of the nutrients to the growing structure.

Antlers grow quickly during the short season – up to 22 mm in length per day – and harden around the end of summer when testosterone levels rise in the blood. Once hardening is complete the velvet dies and separates from the underlying antler. Cervids rub the velvet off on trees and shrubs, revealing the dead bone beneath.

Antlers of Elk and Moose can account for more than five per cent of total body weight. This is a tremendous investment of energy and nutrients. Antler shape seems to be controlled by genetics, while size is largely affected by nutrition.

During mating season confrontations, male cervids usually fight head-to-head, pushing and twisting against an opponent. When a foe is thrown off balance, he can be poked in the side or rump by his opponent's antlers.


Lisa Moore

Horns

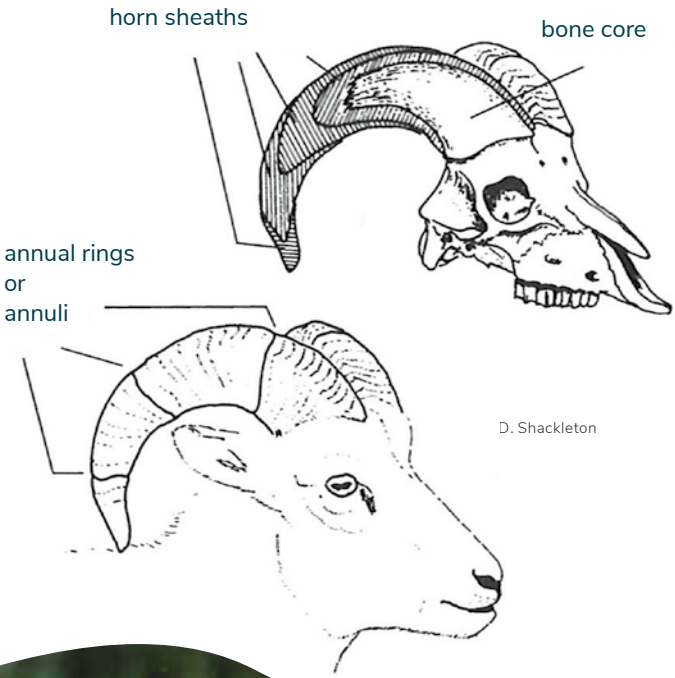
Globally, four families of ungulates have horns, including all Yukon bovids. These horns have two main parts: an inner bone core attached to the skull, and outer keratin sheaths. Horns do not branch like antlers and are permanently attached throughout the animal's life.

Horns stop growing in late fall or early winter, and then resume growing the following spring. In some species, notably sheep and goats, a distinct ring marks the boundary between these periods. An animal's age can often be estimated by counting these rings (annuli).

Both males and females of all Yukon bovids grow horns. Males usually have larger horns, which are much thicker at their base than those of females.

Horn shape and size dictate how they are used for fighting. The short, sharp horns of the Mountain Goat can penetrate deep into an opponent, causing lethal damage. Combatants often stand side by side, stabbing at the other's flanks. In contrast, Thinhorn Sheep are bashers – opponents engage in head-to-head collisions with tremendous force, often from a running start.

The bovid horn structure



D. Shackleton

Peter Mather

Offspring: the next generation

Young ungulates (calves) are raised entirely by their mothers. Like other mammals, newborns consume their mother's milk until they are ready for solid food. Calves are born with eyes open and can walk and run shortly after birth.

Mothers must maintain their own health by feeding properly while still protecting their young from harm. In order to accomplish both tasks, ungulates use one of two strategies: following or hiding. **Followers** stay close to their mothers during the day, going wherever mom goes. **Hiders** stay in a general area by themselves, often hiding under thick cover, while the mother leaves to feed, returning once or twice a day to nurse the calf. People sometimes find newborn deer alone and assume they were abandoned. This is rarely the case.

Follower	Hider
Barren-ground Caribou	Elk
Bison	Moose
Mountain Goat	Mule Deer
Muskox	White-tailed Deer
Thinhorn Sheep	Woodland Caribou

Chera Hunchuk

Common ungulate predators

Animal species that kill and eat other animals are called predators. Ungulates in Yukon must contend with multiple predators including:

- Wolves
- Bears
- Wolverines
- Canada Lynx
- Golden Eagles
- Humans

New-born ungulate calves are particularly vulnerable to predation, as are old and sick individuals.

Yukon ungulates, by the numbe

Common name	Height (Meters)	Weight male/female (Kg)	Average lifespan (Years)
Moose	1.87	505 / 375	8-10
Woodland Caribou	1-1.2	180 / 135	13-15
Barren-ground Caribou	1.1	125 / 89	10-13
Elk	1.3	353 / 245	20-24, F 12-14, M
Mule Deer	1.0	104 / 65	4-10
White-tailed Deer	1.0	88 / 62	8-10
Wood Bison	1.6-1.8	950 / 600	15-24
Muskox	1.2-1.5	380 / 230	12-20
Mountain Goat	0.899, F 0.988, M	100 / 70	11-13
Thinhorn Sheep	1.0	86 / 50	~15

rs

Yukon population estimate	Reproduction
70,000	Mates September to October; young born in June; weigh 11-16 kg; single births most common; hider.
25,000	Mates September to October; young born late May to early June; weigh 5-12 kg; almost always single birth; hider.
249,000	Mates in October; young born last week of May to first week of June; weigh 5-12 kg; almost always single birth; follower.
260	Mates September to October; young born late May to early June; weigh 10-15 kg; twins are rare; hider.
Not determined	Mates November to December; young born in June; weigh 2-4 kg; twins are common, triplets rare; hider.
Not determined	Mates November to December; young born in June; weigh 2-4 kg; twins are common, triplets rare; hider.
1,470	Mates July to September; young mostly born mid-May to mid-June, sometimes much later; newborn calves weigh 14-18 kg; single birth, twins very rare; follower.
100	Mates in August; young born April to June; twins very rare; follower.
1,400	Mates November to December; young born late May to early June; weigh 2-3 kg; usually single, sometimes twins; follower.
22,000	Mates late November to December; young born in May; weigh 3-4 kg; almost always single birth; follower.

Viewing tips and etiquette

Do:

- Use binoculars, spotting scopes and zoom lenses to get a closer look.
- Sit quietly and slowly scan your surroundings. Watch for movement, shapes, and colours.
- Learn about the habitat different species prefer and when they use it. Focus your attention on these times and places.
- Avoid calving habitat during May and June. Newborns are very vulnerable to disturbance and need this critical time to feed and grow.
- When in the alpine, stay lower on the mountain than wildlife such as sheep and goats. These species become stressed when other animals approach them from above.

YG/Ryan Agar

Safety:

- Never approach ungulates, especially during the fall/winter mating season when males can be aggressive, or during the breeding season in spring and early summer as mothers will defend their offspring.
- All of Yukon is bear country. Review bear safety information regularly: **yukon.ca**
- Most hunting seasons for Yukon ungulates open August 1 each year. Be respectful of hunters and wear highly visible clothing.

How you can help:

- Report wildlife safety concerns and any suspected illegal activity such as polluting, hunting out of season, etc. to the Yukon TIPP Line: 1-800-661-0525
- Learn more about Yukon's ungulates and share your knowledge with others.

Lindsay Caskenette

Jake Paleczny

Yukon's Ungulates

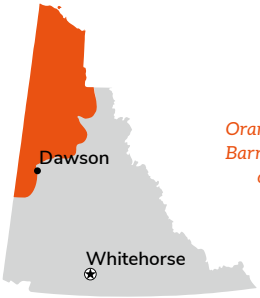
Barren-ground Caribou

Rangifer tarandus grantii

Barren-ground Caribou are herd animals and can be found in northwestern Yukon in the massive Porcupine herd (197,000). As a group, Barren-ground Caribou are slightly smaller than Woodland Caribou, but are otherwise similar in appearance.

The open tundra and sparse trees of the northern landscape allow Barren-ground Caribou to see predators from a great distance. Large groups of caribou will move together between calving grounds and summer feeding areas in Alaska, to wintering grounds in Yukon.

The Porcupine herd is often visible along the Dempster Highway in fall and winter. Lucky river travellers may see large numbers of Porcupine caribou crossing the Firth River in July or Porcupine River in September.

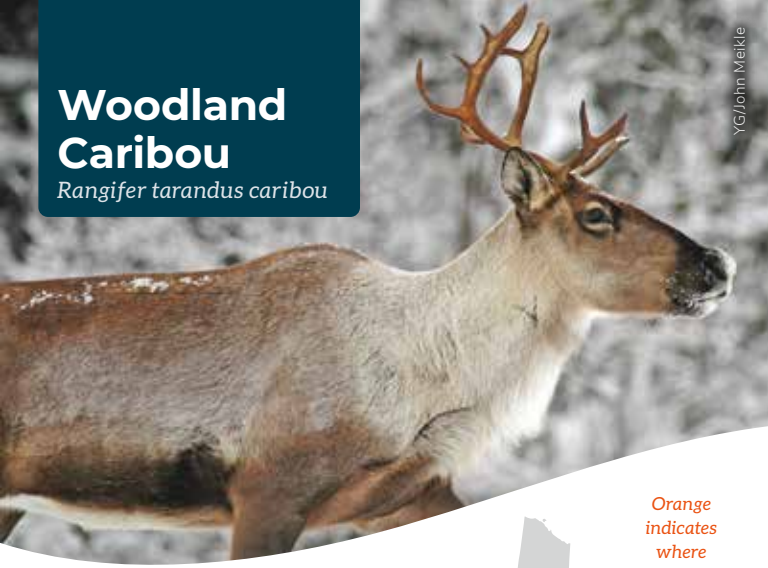


Orange indicates where Barren-ground Caribou occur in Yukon.

Peter Mather

Woodland Caribou

Rangifer tarandus caribou



YG/John Meikle

Orange indicates where Woodland Caribou occur in Yukon.

One of two caribou sub-species found in Yukon, the Woodland Caribou has brown fur fading to tan to off-white around the neck, with a white tail. The face is darker than rest of the body, usually with a white nose-tip. While both sexes sport antlers, adult males have larger and more elaborate structures, which are shed soon after mating season. Females, young males and calves may keep their antlers until the following spring.

Woodland Caribou generally roam in small herds moving from the boreal forest in winter, up into the alpine tundra in summer. Some herds also spend much of the winter on windswept, alpine slopes.

Highway viewing opportunities are best in winter; drive carefully and watch for animals crossing the road. The Little Rancheria and Carcross herds can be seen during winter on the Alaska Highway near Watson Lake and Whitehorse, respectively. The Hart River herd is often visible along the Dempster Highway in winter.

Moose *Alces americanus*

Found across Yukon, the Moose is the largest member of the deer family. Sometimes affectionately referred to as “swamp donkey”, Moose are darkly coloured with long legs and a long, large head. Both males and females have a hair-covered flap of skin hanging from the throat called a “bell”.

It is relatively difficult to spot a Moose from one of Yukon’s highways. Road travellers occasionally see Moose crossing the highways or feeding on the edges of nearby ponds or meadows.

You have a better chance of seeing Moose in their natural habitat by hiking or boating into the wilderness. Yukon rivers and lakes are a good place to find Moose in the spring and summer. During the fall mating season, Moose wander widely and can be encountered almost anywhere.

Elk

Cervus canadensis

Jake Paleczny

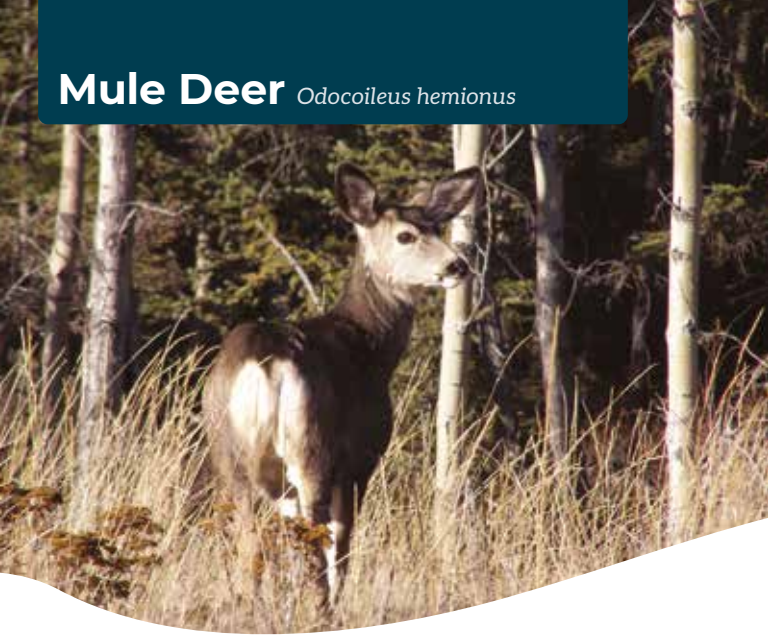
Elk are large animals with light brown fur. The head, neck and legs are darker brown than rest of body, and the rump is a prominent cream colour. Antlers are a long singular branch sweeping back, with tines (antler tips) at regular intervals.

Elk move onto south-facing slopes in the spring, following the retreating snows to feed on emerging green vegetation. As the snow accumulates in the fall they move into forested areas where they are protected from the wind and snow.

Naturally occurring Elk are occasionally seen in southeastern Yukon, however the best viewing opportunities are along the North Klondike Highway in the Braeburn Lake area and the Alaska Highway near Kusawa Lake Road. Elk sightings are possible anywhere in the Takhini River valley.

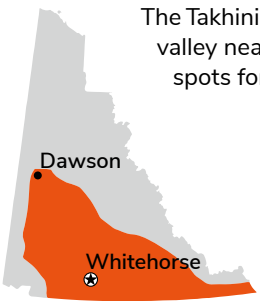
These Elk are descended from animals introduced to Yukon in the late 1940s and 1950s. Additional animals were released in 1989 and 1994. The introduction was intended to provide additional hunting opportunities, which would take pressure off native species like Moose and caribou.

Mule Deer *Odocoileus hemionus*



This medium-sized deer has tan fur and a white rump patch. The tail has a black tip and the antler tines are usually forked. Mule Deer have large ears (as do mules) that move independently. When threatened, Mule Deer will often flee using a bouncing movement called stotting.

The Mule Deer's slender legs are not well adapted to travelling through deep snow so they stay close to south-facing slopes and other wind-swept areas in winter.



The Takhini River valley and Yukon River valley near Whitehorse are viable spots for seeing Mule Deer.

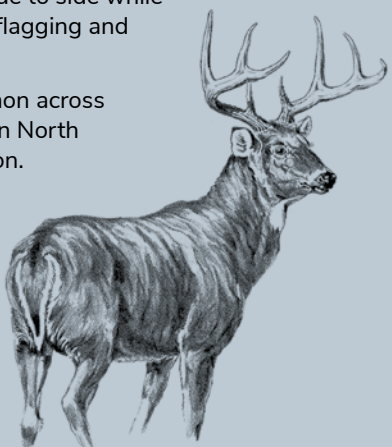
Orange indicates where Mule Deer occur in Yukon.

White-tailed Deer

Odocoileus virginianus

Similar in size to Mule Deer, this species has smaller ears, and no large, light rump patch. The tail is longer and white underneath. When alarmed, White-tailed Deer raise their tail and wave it side to side while moving away. This is called flagging and is unique to the species.

White-tailed Deer are common across much of central and southern North America, but are rare in Yukon.



White-tailed deer

- Single main antler beam
- Smaller ears
- Dark rump with white tail flash when tail is raised

Mule deer

- forked antlers
- larger ears
- white rump patch with black-tipped tail

Wood Bison

Bison bison athabascae

Orange indicates where Wood Bison occur in Yukon.

The Wood Bison is the largest land mammal in North America. Their massive size is accentuated by a large shoulder hump formed by long spines on the vertebrae, muscles, and ligaments. This hump enables bison to lift their huge heads when grazing on grasses and sedges.

In Yukon, Wood Bison are grouped into three distinct herds. Animals in the southeastern part of the territory belong to the smaller Nordquist or Nahanni herds. Most of our bison are part of the Aishihik herd, which centres on the Aishihik Lake area.

All herds of Wood Bison in Yukon are part of a large conservation effort aimed at restoring the species to portions of its former range in northwestern Canada. These herds were reintroduced during the 1980s and 1990s, more than one hundred years after their local extinction.

While most bison in other areas wander through lowlands, the Aishihik herd also uses alpine meadows in summer, possibly to escape biting insects and to facilitate large groupings of bison prior to breeding. Bison in the mountains are an unusual sight elsewhere in Canada, but not in Yukon.

Bison viewing is possible along the Aishihik Lake Road, particularly outside of hunting season, and along the Alaska Highway, east of Watson Lake.

Muskox

Ovibus moschatus

Orange indicates where Muskox occur in Yukon.

As an iconic arctic species, Muskox are restricted to the North Slope of Yukon, an area they share with Polar Bears and Arctic Fox. They have extremely long, shaggy, brown hair and short horns – both heat-retaining adaptations to an arctic climate.

The Inuit name for Muskox is "Oomingmak" (The Bearded One).

Muskox were once common on Yukon's North Slope; however, they were hunted to extinction there in the early 1900s to supply fresh meat to commercial whaling operations. They have returned to Yukon through natural colonization from animals reintroduced to the Arctic National Wildlife Refuge in adjacent northeastern Alaska.

Muskox wander the arctic tundra in small groups of about 12-25 animals. When they are threatened or disturbed, Muskox bunch together in a tight ring facing outwards, protecting the young in the centre – a defense formation unique to the species.

An interesting characteristic of adult male Muskox is that they roar – similar to African lions.

For the intrepid ungulate viewer, Ivvavik National Park, particularly the floodplains of the Firth and Malcolm rivers, are great for Muskox viewing, as is Herschel Island - Qikiqtaruk Territorial Park. Solitary males sometime range far south towards the Dempster Highway, where sightings are rare and exciting.

Dall's Sheep

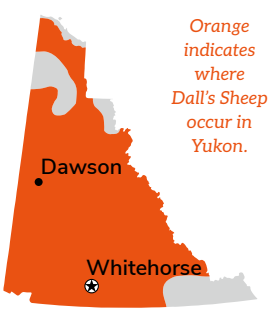
Ovis dalli dalli

YG/Kirby Meister

Thinhorn Sheep spend the summer grazing in alpine meadows across much of Yukon. In the fall the sheep move to nearby, winter range where the wind keeps the snow shallow and the sun warms south-facing slopes. They use the same migration routes for generations and return to the same protective cliffs to give birth to their lambs every year.

You can find three types of Thinhorn Sheep in Yukon. Though they have the same habits, they are found in different areas of the territory.

Dall's Sheep *(Ovis dalli dalli)* are the most common sheep in Yukon. They are typically all white and occur from the southern border to the North Slope.



Orange indicates where Dall's Sheep occur in Yukon.

Stone's Sheep *(Ovis dalli stonei)* are darker in colour from light grey to nearly black. The tail is black, contrasting with a light coloured rump. There are very few Stone's Sheep in Yukon, residing only on the Yukon/BC border.

Fannin's sheep

Fannin's sheep are a hybrid of Dall's and Stone's sheep. They have a wide range of colours from near-white to dark brown but usually have a pale face and a patterning that looks like a brown blanket has been draped over their backs.

Sheep Mountain in Kluane National Park and Reserve is a popular location for viewing Dall's Sheep. The town of Faro has viewing platforms, interpretive materials, and trails to help people spot Fannin's sheep.

Highway travellers can set up spotting scopes trained to south-facing slopes or alpine meadows for chance sheep sightings. Watch for small patches of "snow" on the mountainside that suddenly start to move.

YG/Matt Clarke

Stone's Sheep

Ovis dalli stonei

Mountain Goat

Oreamnos americanus

istock.com/J. Goulden

Orange indicates where Mountain Goats occur in Yukon.

A fascinating ungulate, the Mountain Goat is has an entirely off-white shaggy coat. Two black, stiletto-like horns extend up and away from its long, narrow face. The legs are relatively short compared to its body and a pronounced hump is visible over the shoulders.

Mountain Goats live on precipitously steep, rocky cliffs. They are extraordinary climbers, with rough textured pads on the bottom of the hoof. This increases friction allowing for safer, easier climbing. These ungulates make seasonal migrations up and down mountainsides, in response to snow depths and food availability.

Mountain Goats are not widespread in Yukon. However, sightings are relatively common in the Coast Mountains along the South Klondike Highway at the British Columbia/Yukon border. Another promising site is Mount White near the start of the Atlin Road. This is a re-introduced population.

More than half of Yukon's Mountain Goats live in Kluane National Park and the adjoining Kluane Wildlife Sanctuary.

To learn more

yukon.ca/wildlife

Porcupine Caribou Management Board
pcmb.ca

Hoofed Mammals of British Columbia
by David Shackleton

Life on the Rocks: A Portrait of the American Mountain Goat
by Bruce L. Smith

Yukon Thinhorn Sheep: Horn growth, genetics and climate change. Yukon government.

Ice Age Mammals of Yukon. Yukon government.

Department of Environment's mission statement:

We educate, manage, monitor, and reclaim in support of fish, wildlife, habitat, land, water, air, climate, and people.

For information on wildlife management programs and specific wildlife populations visit: **Yukon.ca**

Ancient ungulates

Yukon's fascinating glacial history gave rise to a wide variety of Ice Age ungulates. Bison, horses, and Saiga Antelope all roamed the cold, grassy landscape.

The Ice Age, or Pleistocene epoch, lasted from about 2.5 million years ago to 11,000 years ago. During most of this period, large glaciers covered present-day Canada. However, an ice-free area existed in Yukon, stretching across Alaska to Siberia. Low sea levels meant North America and Asia were connected by a "land bridge" across the Bering Strait. This entire ice-free area is known as Beringia.

The iconic caribou goes back a long way in Yukon. The oldest known caribou fossils in the world were found in central Yukon and date to 1.6 million years ago. The Woodland Caribou *(Rangifer tarandus caribou)* found in Yukon today is descendent from these Beringian caribou.

In contrast, Elk are relative newcomers, arriving from across the Bering land bridge as the Ice Age was ending. Most Elk fossils in Alaska and Yukon date to between 15,000 and 12,000 years ago.

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Yukon