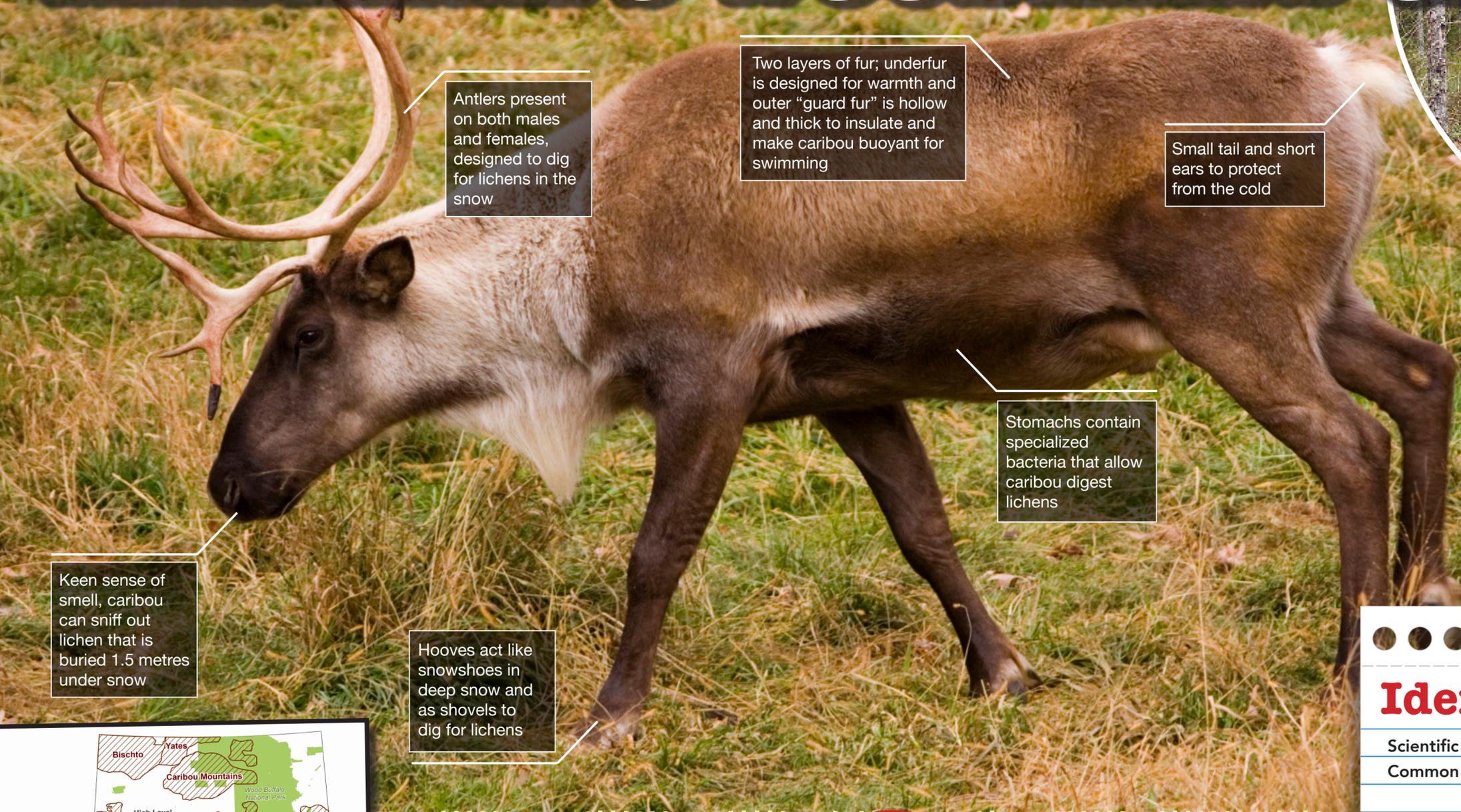


Species at Risk Education Program

ALBERTA'S WOODLAND CARIBOU



Antlers present on both males and females, designed to dig for lichens in the snow

Two layers of fur; underfur is designed for warmth and outer "guard fur" is hollow and thick to insulate and make caribou buoyant for swimming

Small tail and short ears to protect from the cold

Stomachs contain specialized bacteria that allow caribou digest lichens

Keen sense of smell, caribou can sniff out lichen that is buried 1.5 metres under snow

Hooves act like snowshoes in deep snow and as shovels to dig for lichens



Habitat Checklist

- ✓ Mature coniferous forests (80 - 150 years old)
- ✓ Large quantities of lichen
- ✓ Special types of wetland called peatlands
- ✓ Connected and undisturbed forests
- ✓ Forests dominated by black spruce, white spruce, tamarack/larch
- ✓ Large range



Lichen



Identification Card

Scientific Name:	Rangifer tarandus caribou
Common Name:	Woodland caribou (Boreal and Mountain Ecotypes)
Taxonomy Group:	Mammals
Family:	Cervids (Deer Family)
Height:	1.0 - 1.2m tall at shoulder
Weight:	110 - 210kg (average 180kg for males; 135kg for females)
Colour:	Brown (grey in winter). Neck, mane, shoulder stripe, underbelly, underside of tail, & patch above each hoof are white all year round
Reproductive age:	2.5 years old
Reproductive rate:	1 calf per year (avg. survival rate 30-50%)
Diet:	approximately 70% arboreal (tree) & terrestrial (ground) lichens



Range map courtesy of CPAWS - Northern Alberta
Caribou Ranges within Alberta
 Woodland Caribou Ranges
 Parks and Protected Areas

General Status: At Risk
Detailed Status: Threatened - populations declining, some at immediate risk of **extirpation**.

- Recovery Plan Checklist:**
- ✓ Increase protection of critical caribou habitat
 - ✓ Restore disturbed habitat in key areas
 - ✓ Manage wolf populations
 - ✓ Incorporate Indigenous **traditional ecological knowledge (TEK)** into management decisions
 - ✓ Develop localized range plans for each of Alberta's
 - ✓ 15 caribou ranges
 - ✓ Reclaim forest disturbances
 - ✓ Collaborate between all stakeholders
 - ✓ Caribou education (like this poster!)

Extirpation refers to the local extinction of a species from all, or part of its habitat.

TEK is an understanding of the natural world that has been developed over generations; it encompasses knowledge about cultural, environmental, economic, and spiritual inter-relationships.



You might be carrying a caribou in your pocket! Caribou are the Canadian icon represented on our quarter.

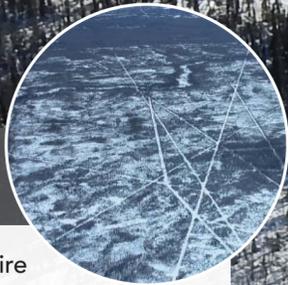
Caribou recovery efforts have other benefits as well including: increasing habitat for other species, helping conserve wetlands and reducing climate change impacts by increasing carbon storage in forests.

Roads and Human Disturbance



More roads mean less caribou habitat and easier access for caribou predators like wolves, cougars and bears. Roads through caribou habitat also increase the number of people that come into contact with caribou leading to increased access for hunting and poaching and wildlife-vehicle collisions.

Habitat Loss & Fragmentation



Woodland caribou require large ranges and connected spaces. Woodland caribou suffer when the old coniferous forests and peatlands in Alberta's boreal forest are lost and/or broken up into smaller pieces; this is known as habitat fragmentation. Habitat fragmentation may be caused by:

- Linear disturbances like roads, seismic lines, pipeline transmission lines, and trails
- Clearing land for development such as housing, forestry cutblocks, agriculture, recreation, mines, oil and gas wells & processing facilities
- Natural disturbances like forest fires
- Roads: also leads to increased access for hunting, poaching and wildlife-vehicle collisions

Small Population Size



Low birth rates & isolated herds leave caribou vulnerable. Unlike other ungulates who often have multiple offspring, caribou typically have just one calf per year. 30-50% of caribou calves die before reaching adulthood; this low survival rate is a significant factor in the decline of woodland caribou in Alberta.

Habitat Protection and Restoration

Ensuring caribou have the space and high quality habitat they need is essential to Woodland caribou recovery efforts.

Local Industries, municipalities, non-profit organizations and others are protecting areas from disturbance by limiting human access and restoring previously disturbed areas by planting trees and reclaiming unused roads/seismic lines.



Research to Better Understand Woodland Caribou

There is a wide variety of data that is analyzed to help us better understand caribou. Researchers use radio collars to track caribou; this means they can get GPS locations of where animals go to eat, sleep and reproduce. Other research includes using trail cameras, helicopter surveys, and wildlife tracking to study how caribou live and interact in the forest.



Managing Predation

Healthy predator-prey interactions are a sign of healthy ecosystems. Predation is a leading cause of caribou mortality therefore several tactics are being explored to reduce predation.

Fencing and Maternal Penning

One possible approach is to reduce predation by creating physical barriers to separate Woodland caribou and their primary predators - wolves. These temporary solutions can help caribou, especially calves, when they are most vulnerable.

Dog-legs and Log-piling

Oil and gas companies use a seismic technique called dog-legs that cut narrow and winding seismic lines rather than straight ones to interrupt predator sightlines. Companies can also restore cutlines by replanting and/or log-piling. A 'messy' pile of logs throughout an area where trees have been removed provides nutrients and habitat. Log piling also helps prevent recreational use of cutlines reducing human-caribou interactions.

Hunting, trapping and culls

A number of hunting and trapping licences are set annually by the provincial government based on population studies. Predator culling is a last resort when predator populations are beyond normal levels and when prey populations are near extirpation. With an understanding that habitat protection and restoration are key in the long term, managing wolf predation has been shown to temporarily assist some Woodland caribou populations in recovery.



Altered Predator-Prey Relationships

- There are more wolves in caribou ranges!

We know that the predator-prey relationship between wolves and Woodland caribou has shifted in recent years to favour the wolves.

As development and habitat fragmentation has increased, wolves have greater access to caribou. Disturbances, like roads & seismic lines allow wolves to see further and run faster, increasing their hunting efficiency.

With disturbances to the forest more "edge" habitat is created. Edge habitat refers to the boundary between different types of habitats, and in a forest this usually means more grasses and small shrubs that attract ungulates like deer and moose. Warmer winters have also altered the ranges of ungulates allowing them to move into new areas. As more deer and moose arrive, the wolf population increases meaning the caribou are at a greater risk of predation.



Education Programs

Increasing awareness of Woodland caribou's "at-risk" status and developing understanding how humans interact with caribou habitat is part of the solution. Caribou protection and recovery plans/policies along with education and awareness initiatives develop understanding of Woodland caribou and other species at risk so we can work together to protect them and their habitat.

Caribou Careers

Meet some of the people whose careers involve studying woodland caribou and their habitat in Alberta.

Biologist 1: Amit Saxena, Biologist and Land Use Specialist, Devon Canada

How did you decide to become a wildlife biologist?

"I have loved animals, wildlife and the natural world ever since I was a little kid. I started out in veterinary school, but soon switched to wildlife biology. I loved learning all about wildlife – their relationships with other species, with their environment, and with humans."

Why is your job - a biologist working in industry - important?

"As a biologist working in industry, my work contributes to understanding wildlife interactions with our developments, and develop ways to avoid, minimize or mitigate negative impacts on a number of species and habitats. I think my job is important because it allows me to affect change from within, and that's always the best solution – to avoid impacts in the first place, and before someone tells us to do it."



Biologist 2 - Laura Machial, Biologist, First Nations Technical Services Advisory Group

What are the top three things you enjoy about your career working on species at risk/ woodland caribou?

"There are so many things that I love about working on species at risk including woodland caribou. Top three are:

- I get to meet and work with people that have interesting and diverse life experiences; this means that I am always learning!
- I get to spend part of my time outdoors, seeing new places and breathing fresh air.
- I believe having high levels of biodiversity is integral to healthy ecosystems and a healthy world. My work allows me to work on something I am passionate about!"

What is the role of traditional ecological knowledge in developing our understanding of Woodland Caribou?

"TEK is integral in understanding how woodland caribou have interacted with their environment in the past, as well as how those interactions have changed to what they are today. TEK can provide insight into past, present and future caribou ecology."



What can you do?

Even though caribou are elusive it is important to remember that they are there, and the importance of their boreal forest and wetland habitat. Here are ways you can help protect them, their habitat and improve their at risk status:

- Be a responsible outdoors person** - this includes staying on designated trails, hunting responsibly and avoiding sensitive habitat.
- Take notice of what you see in the forest** - Woodland caribou are elusive, citizen scientists like you can help by sharing what you see when you are in caribou habitat.
- Consider a career** connected to species at risk and/or Alberta's boreal forest.
- Get involved** in conversations about caribou and other species at risk.
- Learn more about caribou and their habitat and share what you learn with others!**



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