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ABOUT CARIBOU

From "SCI Record Book of Trophy Animals" Ed. XI, Vol. 3, North American Field Edition, 2005, page 290-291, 299, 304, 311, 317

Caribou

"The caribou is a moderately large deer with the most antler growth in relation to its body size of any antlered animal. It is unique in the deer family in that both sexes commonly grow antlers, those of the female being spindly and roughly 25% smaller than the male's. In northern populations, nearly all females have antlers, but many females in Ontario, Quebec and Newfoundland don't. There is great diversity in antler shape. The main beams are usually long and sweeping, growing upward, backward and forward in the shape of the letter "C." The brow tine on one antler extends forward over the face as a vertical palm or "shovel." The brow tine on the other antler is usually a simple spike, although sometimes both antlers have palmate shovels ("double shovel"). The second, or bez, tine (pronounced bay) is also usually palmate, with the palmation more or less horizontal. Both brow and bez palms generally have points growing from their edges. The next tine, if present, is the back tine, normally a single point extending backward. The antler tops are usually palmate, and have a variety of long points growing upward.

Caribou have a broad muzzle, a throat mane and a short tail. A heavy undercoat protects against cold; this is covered by straight, tubular guard hairs containing air cells. Most individuals are dark brown in summer and gray-brown in winter, with the neck, belly, rump patch, tail and feet a lighter color that can range from gray to white. In late season, mature bulls will have a gleaming white neck and mane. The hoofs are wide, flat, and deeply cleft for walking on soft ground and snow. A walking caribou makes a clicking noise from a tendon slipping over a bone in the foot. Unlike most deer, caribou usually have upper canine teeth. Preorbital and tarsal glands are present; metatarsal glands are absent.

Caribou are mainly active during the day, when they are almost constantly on the move. Most herds shift their range seasonally to areas with more food and shelter. While southern populations may merely move to lower elevations in winter, northern herds often migrate long distances in spring and fall, journeying hundreds of miles between tundra summer range and forested winter range. Caribou are opportunistic feeders, eating whatever plants are available, including lichens. Eyesight is poor, hearing fair, sense of smell very good. Not particularly wary. Top speed is 30-35 mph for a short distance, but can maintain a lesser pace for many miles. A fast swimmer, its hollow hairs make it buoyant so that it floats high in the water. Caribou are extensively hunted by native people for meat and skins. The wolf is its other principal enemy, being the only predator that can run down an adult caribou in a long chase.

Most caribou live in arctic tundra and neighboring boreal coniferous forest. Some inhabit southern mountains.

Caribou are everyone's trophy animal, attainable by most kinds of hunters at moderate cost. They are hunted in wild and beautiful country that is remote from civilization. There are usually plentiful, and even a representative head from one of the gorgeous white-necked bulls makes a spectacular trophy. Caribou are not as difficult to hunt as other North American deer. They are normally out in the open where they can be seen and, once located, can usually be stalked successfully. But judging antlers in a group of bulls can be frustrating, as every set will differ and no individual rack will have it all: the one with a great shovel may have poor tops and no back points, another may have wonderful tops but poor bez palms, and so on.

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CLASSIFICATION

Alaska-Yukon barren ground caribou
 Central Canada barren ground caribou
 Mountain caribou *
 Quebec-Labrador caribou *
 Woodland caribou *

* all considered woodland caribou by scientists

Alaska-Yukon Barren Ground Caribou

Caribou from the main part of Alaska and the northern Yukon (Stone type) are large and dark colored. Those from the Alaska Peninsula (Grant type) are somewhat smaller and lighter in color, with the antler beams widely spread and curving sharply forward. Late season bulls have startlingly white necks and manes. Bulls weigh 400-500 pounds.

Habitat: tundra and adjacent forest.

Alaska-Yukon barren ground caribou are migratory, with historical migration routes that often cover hundreds of miles. Biologists have separated various populations into so-called herds based on these migration routes. A herd may contain more than 100,000 animals that will cover hundreds, even thousands, of square miles at any given time.

Named herds include: Adak, Alaska Peninsula, Beaver, Chisana, Delta, Fortymile, Kenai, Mentasta, Mt. McKinley, Mulchatna, Nelchina, Porcupine, and Western Arctic.

During summer months, the caribou will be scattered and fairly resident in a given region. As autumn approaches, they band together into increasingly larger groups and begin their migration to winter pastures. They are on the move constantly during migration, feeding as they go and generally heading into the prevailing wind. Wolf packs are part of the migration, following the herds and living off them.

This is the most widely hunted subspecies. Its migrations are awesome spectacles, but it can be frustrating at times to hunt because of the difficulty sorting out the trophy bulls from the great mass of animals. It also is no easy matter to match up antler with the right body as the herd goes by. One should wait for the animals at the back of the group, for this is where the larger bulls tend to be. It is possible to approach a moving herd quite closely; at times a man on horseback can almost ride into a herd.

Central Canada Barren Ground Caribou

Smaller and paler than the Alaska-Yukon subspecies, with long simple antlers.

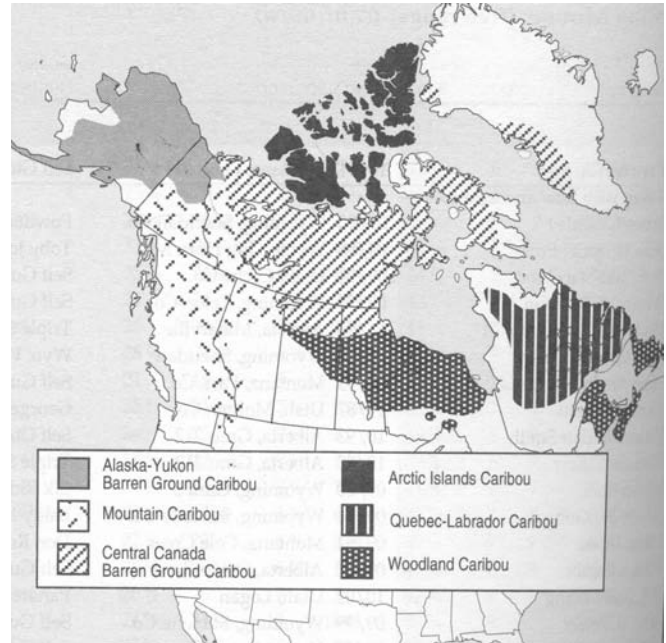
Habitat: tundra. Highly migratory.

Named herds include:

Baffin Island, Bathurst, Beverly, Bluenose, Coats Island, Kaminuriak, and Melville-Wager.

Arctic Island Caribou

Called Peary caribou in early editions of the Record Book. Named for U.S. Rear Admiral Robert E. Peary, who was then believed to be the leader of the first expedition to reach the North Pole.



The smallest caribou. Mature bulls generally weight 200-300 pounds. Has the lightest coloration of any caribou, with the winter coat nearly all white, and the summer coat a much lighter shade of brown than in other caribou. The antler velvet is of a gray shade rather than the usual brown. The muzzle and ears are shorter than in other races, and the antlers are smaller and less developed, being spindly and rather straight instead of the usual "C" shape.

Live in fairly small herds. Tends to be fairly residential, migrating within a given range, but covering relatively short distances. The Banks Island and Queen Elizabeth hers are the principal ones. Habitat: tundra.

Gunn, et al (1987) feel pure Peary caribou are probably found only north of the Parry Channel in the Parry Islands group of the Queen Elizabeth islands, where non-resident caribou hunting is not permitted. Others are thought to contain genes of the central Canada barren ground caribou, with varying degrees of hybridization.

Mountain Caribou

The mountain caribou is one of three regional caribou categories established for record-keeping by dividing the subspecies caribou into geographic groups based upon antler size and shape. These categories were established by the Boone & Crockett Club and have come to be accepted by hunters everywhere. (The two other regional categories are Quebec-Labrador caribou and woodland caribou. All three are classified as woodland caribou (*R. t. caribou*) by scientist.)

The largest-bodied caribou. Bulls stand 50-55 inches at the shoulder, and weigh as much as 600 pounds. The color is a fairly dark chocolate-brown, with a lighter-colored throat mane that turns almost white in late season. Mountain caribou grow the heaviest antlers of the species, but tend not to have very wide spreads.

Mountain caribou herds are not nearly as large as those of barren ground caribou, nor are their seasonal migrations as long, often being mainly changes in elevation. Mountain caribou go high in the mountains during the summer to avoid biting insects, then – as the season progresses – bunch up and move into lower valleys where there is less snow and more feed.

Habitat: mid-elevation mountains and valleys, of areas within the Yukon Territory, Northwestern Territories, British Columbia and Alberta.

Named herds include the Selkirk (endangered), Spatsizi, and Wells Gray.

Many sportsmen feel that mountain caribou have the most impressive antlers because of their mass, even though they lack the beam length of the barren ground types and the spread and shovels of the Quebec-Labrador. They may also be the most difficult to hunt because of the mountainous, timbered terrain they inhabit. Usually hunted from horseback, often in combination with other species such as moose, mountain goat or sheep.

Quebec-Labrador Caribou

The Quebec-Labrador caribou is one of three regional caribou categories established for record-keeping by dividing the subspecies caribou into geographic groups based upon antler size and shape. These categories were established by the Boone & Crockett Club and have come to be accepted by hunters everywhere. (The two other regional categories are mountain caribou and woodland caribou. All three are classified as woodland caribou (*R. t. caribou*) by scientist.)

A medium-sized caribou, with mature bulls averaging 350-450 pounds. Antlers are frequently spectacular; although not particularly heavy, they usually have very wide spreads and long, forward-curving beams. Brow and bez tines are usually well palmated, and there is a high proportion of double shovels. Overall color is pale brown, with contrasting white neck and mane. A very handsome animal.

Habitat: Tundra. Found in most of Quebec and Labrador.

Highly migratory, with regional herds following historical migration routes. The huge Ungava (George River) Herd is the principal one. Other named herds include the Waco and Mealy Mountain.

During the fall migration (which coincides with hunting season), Quebec-Labrador caribou are constantly on the move. The usual hunting technique is to travel the waterways by canoe and, when bulls are seen, to intercept them on foot. They should be intercepted rather than pursued, because they travel so rapidly that, once passed, they are almost impossible to overtake on foot. Most hunts are capably outfitted and guided by local Inuits, with success nearly universal. There are a few black bears in the area, but they are seldom seen or taken. The landscape is wildly beautiful, and fishing can be excellent.

Woodland Caribou

The woodland caribou is one of three regional caribou categories established for record-keeping by dividing the subspecies caribou into geographic groups based upon antler size and shape. These categories were established by the Boone & Crockett Club and have come to be accepted by hunters everywhere. (The two other regional categories are mountain caribou and Quebec-Labrador caribou. All three are classified as woodland caribou (*R. t. caribou*) by scientist.)

A medium-sized caribou, with mature bulls weighing 350-450 pounds. Has the smallest antlers of any caribou other than those from the arctic islands, but they can be very handsome. Antlers tend to be divergent, with many tines but without much length. Coloration is generally darker than the Quebec-Labradors, although the neck and mane are white.

Habitat: tundra and some forested regions.

Fairly resident within a given area, but may migrate from summer to winter pastures. Herds tend to be small. Distribution is only in Canada. Occurs sparingly in central Saskatchewan and Manitoba. There is a major herd in northern and central Ontario (Ontario Herd), ... There is a major herd (Interior Herd) on Newfoundland Island, plus the much smaller Avalon Peninsula Herd.

Best hunting is on Newfoundland Island. Hunting is on foot and can be strenuous. Caribou and moose can be combined in the same hunt with a high degree of success."

From "*Hinterland Who's Who - Caribou*"
www.hww.ca

Caribou in Canada

This animal is unusual among deer family members in that most females, as well as males, carry antlers will sometimes run for many kilometres during the summer to escape harassment by hordes of flying insects uses lichens as a primary winter food, which enables it to survive on harsh northern rangeland has probably derived its name from the Mi'kmaq word "xalibu," meaning "the one who paws."

The caribou *Rangifer tarandus* is a medium-sized member of the deer family, Cervidae, which includes four other species of deer native to Canada: moose, elk, white-tailed deer, and mule deer. All are ungulates, or cloven-hoofed cud-chewing animals. However, only in caribou do both males and females carry antlers. Caribou are similar to and belong to the same species as the wild and domesticated reindeer of Eurasia.

The caribou is well adapted to its environment. Its short, stocky body conserves heat, its long legs help it move through snow, and its long dense winter coat provides effective insulation, even during periods of low temperature and high wind. The muzzle and tail are short and well haired.



Woodland caribou
Photo: Shane P. Mahoney

Hooves

Large, concave hooves splay widely to support the animal in snow or muskeg, and function as efficient scoops when the caribou paws through snow to uncover lichens and other food plants. In fact, the name “caribou” may be linked to this ability—it may be a corruption of the Mi’kmaq name for the animal, “xalibu,” which means “the one who paws.”

The sharp edges give firm footing on ice or smooth rock. Caribou are excellent swimmers and their hooves function well as paddles. In winter, the hooves grow to a remarkable length, giving the animal firm footing on crusty snow. In summer, the hooves are worn away by travel over hard ground and rocks. The dewclaws, or small toes, are large, widely spaced, and set back on the foot, greatly increasing the weight-bearing area. Scent glands located at the base of the ankles are used when the caribou is in danger: the animal rears up on its hind legs and deposits a scent that alerts other caribou to the menace. (See Figure 1.)

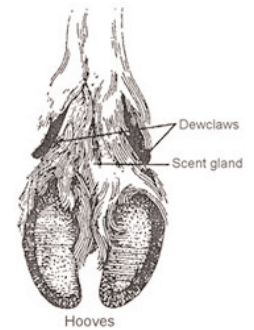


Figure 1: Base of caribou foot



Figure 2: Caribou antlers

Antlers

Caribou antlers In the autumn, the caribou male, or bull, is an imposing animal. It has a rich brown or grey and white coat, a fringe of white hair flowing from throat to chest, and a great rack of amber-coloured antlers. Antler growth starts each year in the spring and is typically complete by late August. Adult bulls generally shed their antlers in November or December, after they have mated. Adult females, or cows, and young animals carry their antlers much longer, often through the winter. The growing antlers have a fuzzy covering, called velvet, which contains blood vessels carrying nutrients for growth. (See Figure 2.)

Signs and sounds

Caribou are usually quiet, but they may give a loud snort. Herds of snorting caribou may sound like pigs. Especially vocal are the bands of cows and newborn calves, constantly communicating with each other.

Habitat and habits

There are more than 2.4 million caribou in Canada. Some dwell in forests, some in mountains, some migrate each year between the sparse forests and tundra of the far north, and others remain on the tundra all year.

Subspecies

Four subspecies of caribou occur in Canada: woodland (*Rangifer tarandus caribou*), Peary (*Rangifer tarandus pearyi*), barren-ground west of the Mackenzie River (*Rangifer tarandus granti*), also known as Grant’s caribou, and barren-ground east of the Mackenzie River (*Rangifer tarandus groenlandicus*). A fifth subspecies, Dawson’s or the Queen Charlotte Islands population of woodland caribou (*Rangifer tarandus dawsoni*), died out in the 1930s and was declared extinct in 1984.

Woodland Subspecies

The woodland caribou is the largest and darkest of the caribou subspecies. It is found throughout much of the boreal, or northern, forests from British Columbia and the Yukon Territory to Newfoundland and Labrador. In mountainous areas of western Canada, woodland caribou make seasonal movements from winter range on forested mountainsides to summer range on high, alpine tundra. Farther east, in the more level areas of boreal forest, many woodland caribou occupy mature forest and open bogs and fens, or low-lying wet areas. Some may move only a few kilometres seasonally, while others may wander extensively. A few herds differ from this pattern, making long seasonal movements between forested and tundra habitats.

The Leaf River and George River herds in Quebec and Labrador are the largest of these herds. They are also among the biggest caribou herds in North America, at about 600,000 and 400,000 individuals respectively.

Peary Subspecies

Peary caribou are small, light-coloured caribou found only in the islands of the Canadian arctic archipelago, where they number about 10,000. Peary caribou don't normally have significant migrations, although many move among islands, especially if hard icing conditions force them from their normal ranges.



Peary caribou, Photo: BT Aniskowicz-Fowler

Barren ground caribou Subspecies

About half of all caribou in Canada are barren-ground caribou. They are somewhat smaller and lighter coloured than woodland caribou. They spend much or all of the year on the tundra from Alaska to Baffin Island. Most, or about 1.2 million, of the barren-ground caribou in Canada live in eight large migratory herds, which migrate seasonally from the tundra to the taiga, sparsely treed coniferous forests south of the tundra. About 120,000 other barren-ground caribou live in smaller herds that spend the entire year on the tundra. Half of these are confined to Baffin Island.



Barren ground caribou
Photo: Canadian Wildlife Service

The herds, in order from Alaska to Hudson Bay:

Porcupine, Cape Bathurst, Bluenose West, Bluenose East, Bathurst, Ahik, Beverly, and Qamanirjuaq.



Distribution of caribou

In Canada, caribou are found from the United States - Canada boundary to northern Ellesmere Island, more than 4,000 km north, and from British Columbia and the Yukon Territory in the west to the island of Newfoundland in the east. The southern limit of caribou distribution has receded northward since European settlement and this recession continues today.

Feeding

Ground and tree lichens are the primary winter food of caribou, providing a highly digestible and energy-rich food source. The ability of caribou to use lichens as a primary winter food distinguishes them from all other large mammals and has enabled them to survive on harsh northern rangeland. Caribou use their excellent sense of smell to locate lichens under the snow, and they dig the lichens out with their wide hooves. In southern coniferous forests they are also able to forage on tree lichens.

Although lichens are a good source of energy, they are not a good source of protein (nitrogen). As soon as spring snow melts, caribou are eager to switch to fresh green vegetation, which is rich in nitrogen. Cows that have just given birth are especially in need of protein to replenish their protein reserves and produce high quality milk for their calves. At this time of year caribou focus on sedges and newly unfurling leaves of willow and other shrubs. Flowers, plentiful on the tundra, also attract a lot of attention. As summer progresses and the quality of the green vegetation declines, caribou once again turn to lichens, to fatten themselves up for the breeding season. Although not always available, mushrooms are highly sought after in August and September. Mushrooms provide a rich nitrogen source late in the summer.

Migration

Although all caribou move about for different functions over the course of a year, barren-ground caribou make the most dramatic treks. They are the most efficient walkers of all ungulates in North America, and they are good navigators, unerringly walking hundreds of kilometres from the taiga to their relatively small calving areas on the tundra in spring. They tend to follow frozen lakes and rivers, open snow-free uplands, and eskers, or long narrow hills of soil and rock dumped by glaciers. Caribou are able to keep a steady direction across frozen lakes so large the opposite shore cannot be seen.

Pregnant barren-ground caribou cows lead the spring migration, followed by juveniles, bulls, and non-pregnant cows, which tend to lag farther and farther behind. Barren-ground caribou cows head toward traditional calving grounds, where they gather to calve year after year, even from different wintering areas.

In contrast, to avoid predation smaller woodland herds generally calve in isolation either in rugged terrain or on islands in small lakes.

Breeding

Caribou cows are usually at least three years old before they can bear young, though 10 to 25 percent of two year old cows can also give birth. Cows produce one calf a year, and about 90% of adult cows give birth annually. Most of the calves are born during a 10-day period in May or early June. Calving time tends to be later the further east in North America the caribou are found.

The calves are well developed at birth and are able to travel within a few hours. They start to graze during their first weeks, but until they are about three weeks old, they can digest only milk. The cows and calves soon move to areas where fresh-growing feed is becoming abundant.

During summer barren-ground caribou are often harassed by hordes of mosquitoes, warble flies, caribou nostril flies and, in some areas, black flies. Sometimes the agitated animals will run for many kilometres, stopping to rest only when exhausted or when high winds temporarily disperse the insects. Running from insects places great energy demands on the caribou and may slow their rate of growth by temporarily reducing their search for food. In large herds, another strategy to reduce harassment of individual animals is to form large gatherings of caribou. These tight groups can number in the tens of thousands.

By late September the herds, fat and in good condition, arrive in pre-rutting (pre-mating) areas. The rut occurs from mid-September to early November depending on the region. Bulls spar a great deal and sometimes fight for possession of cows. Normally, during the rut, cows will wean their calves, encouraging them to eat food other than their mothers' milk. If the calf is too small, the cow will continue to supply milk into the winter, but this reduces her chances of getting pregnant that autumn.

In the deer family, antler size means dominance. By late winter when conditions are most severe, pregnant females are the dominant members of the herd, because they are the only ones to have retained their antlers. The large bulls lose their antlers after the autumn mating season, and the non-breeders lose theirs soon after that. The females' dominance allows them to defend their feeding craters from larger caribou and even displace larger caribou from favoured sites. This is important when conditions are harsh, as the pregnant cows need energy to develop the fetus. Most pregnant females will keep their antlers until after they give birth in June.

Conservation

Population status, 2006

Despite the large number of caribou in Canada, some subspecies or populations have been determined to be at risk by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC).

Dawson's or the Queen Charlotte Islands population of woodland caribou, found only on Graham Island, British Columbia, has been designated extinct. Little is known of this greyish-coloured subspecies or of the causes of its extinction, but while deterioration of habitat due to climate change may have been a factor, a more important cause was likely overhunting.

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Woodland caribou became extirpated from (no longer exist in) Prince Edward Island before 1873 and from New Brunswick and Nova Scotia by the 1920s. Today only a small, relic herd on the Gaspé Peninsula remains of the maritime woodland caribou population south and east of the St. Lawrence River. This Atlantic-Gaspésie population has been assessed as endangered by COSEWIC and is listed under the federal Species at Risk Act (SARA). A species is considered endangered when it is facing imminent disappearance from Canada or extinction.

The widespread Boreal population of woodland caribou, which occurs in the Northwest Territories, British Columbia, Alberta, Saskatchewan, Manitoba, Ontario, Quebec, and Newfoundland and Labrador, has been assessed as threatened by COSEWIC and is listed under SARA. The Southern Mountain population of woodland caribou, which occurs in British Columbia and Alberta, has also been assessed and listed as threatened. A threatened species is one that is likely to become endangered if nothing is done to reverse the factors limiting its survival in Canada.

COSEWIC has assessed the Northern Mountain population of woodland caribou, which occurs in the Yukon Territory, the Northwest Territories, and British Columbia, as being of special concern. It is also listed under SARA. A species of special concern is one that may become threatened or endangered because of a combination of biological characteristics and identified threats.

The Peary caribou has been assessed as endangered by COSEWIC. Consultations are underway to determine if Peary caribou should be listed under SARA. Numbers have declined by about 72 percent in the last 60 years, mostly because of severe icing episodes due to changing weather conditions, where ice has covered vegetation and led to caribou starvation.

One population of barren-ground caribou, the Dolphin and Union population in Nunavut, has also been assessed as a species of special concern by COSEWIC, and consultations are taking place to determine whether it should be listed under SARA. These caribou migrate between the mainland and Victoria Island; climate change and increased shipping may make this ice crossing more dangerous.

Recovery measures

There are national recovery teams, draft recovery plans, and coordinated recovery actions underway for the Peary caribou and the four populations of woodland caribou that are at risk: Atlantic-Gaspésie, Boreal, Southern Mountain, and Northern Mountain. Since the range of the Boreal population is so extensive, there are also regional recovery teams in place in each of the eight provinces and territories that have responsibility for "boreal caribou."

Caribou are susceptible to and recover slowly from population declines because of their low rate of reproduction. The main factors leading to caribou declines are habitat loss, degradation, and fragmentation, as well as predation. Loss of caribou habitat, which is permanent, occurs when forest is cleared for agriculture, for example. Habitat degradation means a reduction in the amount or quality of caribou habitat, as happens following such events as wildfires or timber harvesting, or through human disturbance. Habitat fragmentation is the breaking up of habitat areas by roads, timber harvest cut-blocks, pipelines, oil and gas well sites, geophysical exploration lines, and other developments.

Caribou in the boreal forest require large tracts of relatively undisturbed, older forest habitat in order to spread out so they are harder for predators and hunters to find, and to avoid the linear corridors that predators and hunters use to gain easier access to their prey. Older forests tend to be richer than younger forests in the lichens caribou depend on. They are also less favoured by moose and deer, which as prey species of the wolf, attract this primary predator of caribou.

A wolf eats a variety of prey but requires food equivalent to 11 to 14 caribou a year. Some wolf packs will follow migrating herds of caribou from summer to winter range and back. Other predators of caribou include grizzly and black bears, cougars, wolverines, lynx, coyotes, and golden eagles.

Partly as a result of habitat changes caused by humans, white-tailed deer have expanded into caribou areas from Manitoba to Quebec, transmitting meningeal brain worm, which is fatal to caribou, although it does not harm the deer. Insects such as warble flies, mosquitoes, and black flies also transmit disease to caribou, and internal parasites affect their health and condition.

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Recently there has also been a lot of concern about the potential impact of climate change on caribou, especially in the north. Deeper snow, faster spring melt, warmer summers, freezing rain, and the high annual variability of all these factors will have an impact on the ability of the species to thrive in its environment.

Cultural and economic importance of caribou

Humans have a long association with caribou. Archaeological work in the Yukon Territory suggests humans have been hunting caribou for more than 13,000 years. Many Aboriginal peoples and Inuit based their culture on the caribou, and could not have survived in the north without them.

Some tribes were nomadic, following the herds year-round; others lived on caribou for part of the year. Caribou provided food, clothing, and shelter: bones were made into needles and utensils, antlers into tools, and the sinew into thread; the fat provided fuel and light; the skin was made into light, warm clothing and tent material; and the flesh fed people and dogs. Wisely used, caribou will continue to be an important social and economic resource in the North.

Wildlife tourism is important in many parts of Canada occupied by caribou. Recreational hunting of forest-dwelling woodland caribou is of economic importance in the Yukon Territory, northern British Columbia, and Newfoundland and Labrador. In the north, vast herds of migrating caribou present a wildlife spectacle unequalled on this continent and, as an attraction to naturalists, photographers, and licensed hunters, could contribute to a tourist industry.

Resources

Online resources

Environment Canada, Species at Risk
A Human Role in Reindeer/Caribou Systems
Project Caribou

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