High Subarctic Tundra

The widely scattered High Subarctic Tundra is primarily an inland ecoregion. It is marked by high plateaus and mountains dissected by the upper reaches of **fjords**, with elevations ranging from 630 to 1,200 metres above sea level.

The ecoregion's boundary extends from the northern tree limit at Napoktok Bay south to include the George River Plateau, then west along the border between Quebec and Labrador, encompassing pockets of land characterized by high elevations.

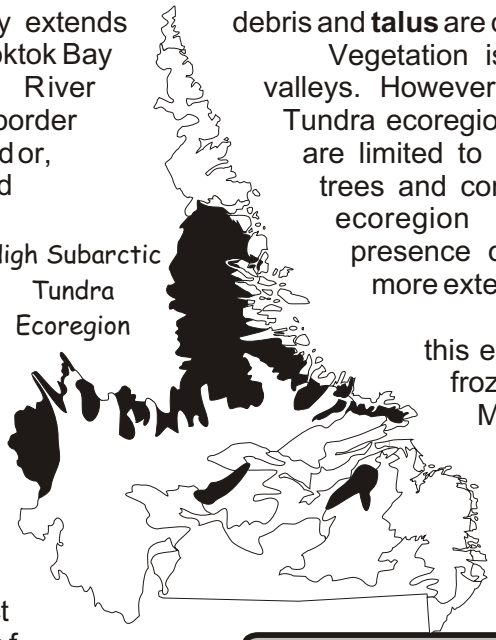
There are also several outliers located farther south, including areas on the McPhayden Plateau, Benedict Mountains, Red Wine Mountains, and Mealy Mountains.

The McPhayden Plateau is a rocky upland area located along the western edge of Labrador. The rounded Benedict Mountains occur north of Groswater Bay where they rise abruptly from the Labrador Sea, while the Red Wine Mountains are located in central Labrador. The Mealy Mountains, just south of Lake Melville, contain some of the highest mountains in Labrador, some of which remain snow-covered year-round.

This rugged, mountainous ecoregion is dominated by large areas of exposed bedrock, with some steep-walled valleys, such as at Harp Lake and the Fraser River valley. Scattered rock debris and **talus** are common.

Vegetation is limited, and greatest in valleys. However, compared to the Alpine Tundra ecoregion to the north, where trees are limited to small stands of deciduous trees and conifer trees are absent, this ecoregion is characterized by the presence of conifers and by slightly more extensive forest cover.

Due to the cold climate of this ecoregion, lakes can remain frozen as late as July. In the McPhayden Plateau area, lakes are often linear in shape, following fault lines in the bedrock.



Soil Profile: Rocklands dominate the land with pockets of orthic humo-ferric podzols and orthic dystric brunisols common throughout the ecoregion.

Ecoregion: An area that has distinctive and repeating patterns of vegetation and soil development, which are determined and controlled by regional climate. Ecoregions can be distinguished from each other by their plant communities, landscapes, geology, and other features. These characteristics, in turn, influence the kinds of wildlife that can find suitable habitat within each ecoregion.

Fjord: A deep U-shaped valley formed by a glacier and afterwards filled by sea water to form a long, narrow, steep-sided inlet.

Talus: The collection of rock and rubble that forms at the base of a slope as material erodes off the mountainside above. Commonly known as "scree."

Fens: Wetlands characterized by poor drainage and a thick layer of peat — soil consisting of partially decomposed plants. The dominant plants in fens are often sedges, grasses, shrubs, and mosses, particularly sphagnum moss.

Outwash terrace: A level sand or gravel surface partway up a slope that was laid down by a glacier-fed stream.

Check your public library for a full set (36) of these booklets: one introductory document and one for each of the 35 ecoregions and subregions in the province. For more information about the series see page 4.

ECOREGION
Forest
Barren
Tundra
Bog

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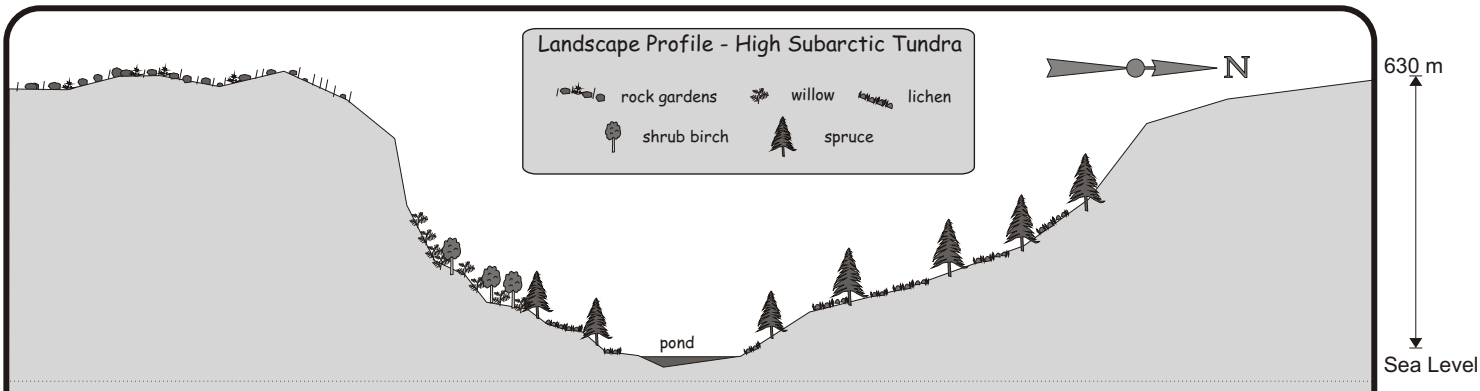


Geology: This ecoregion spans all four of the geologic provinces of Labrador. The majority of the ecoregion, however, falls within the Churchill Province, and is underlain by gneisses and other metamorphic rocks between 2.5 and 1.7 billion years old. Large bodies of granitic, gabbroic, and anorthositic rocks, dated at about 1.3 billion years, have intruded these metamorphic rocks; the intrusions host the Voisey's Bay nickel deposit. Gneisses of the Superior Province underlie the large outlier in the McPhayden River area in western Labrador. Other, smaller outliers occur to the south, generally over high ground underlain by some of the more resistant rocks of the Grenville Province.

Vegetation Profile

Upland areas in the High Subarctic Tundra ecoregion are much like those in the Alpine Tundra ecoregion to the north — the landscape is primarily tundra, with vegetation limited to patches of lichens, willows, sedges, mosses, and dwarf shrubs. For the most part, tundra occurs around the Arctic Circle above the treeline and is characterized by a very short growing season.

Bare rock accounts for more than 50 percent of the surface area of the plateaus in this ecoregion. A continuous cover of vegetation in high areas occurs only where snow accumulates, such as in depressions, which yield enough moisture to sustain plants throughout the growing season. These areas of plant growth are known as "snow-bed communities."

Shallow **fens**, containing various sedges, sphagnum mosses, and some bog laurel, also occur on plateaus where drainage is poor.

At lower elevations in the ecoregion, however, forests do grow, a characteristic that distinguishes the High Subarctic Tundra from the Alpine Tundra ecoregion. White birch and willow thickets (which can survive on the less-stable scree) often form a transition zone between the tundra above and the black spruce forests on the slopes below.

Larch, balsam fir, and white birch occasionally grow in association with black spruce in these forests. On the **outwash terraces** of valley floors, spruce forests are more open — that is, trees are more widely spaced. The lichen understory that occurs here can be extensive and thick. The main lichens are *Stereocaulon* species rather than the caribou lichens that dominate farther south.

Photo: *A. Glen Ryan*

Species in Focus: Larch (*Larix laricina*), which is also known as tamarack or juniper, is the only coniferous tree in Canada that is also deciduous. This means that, unlike other conifers such as spruce and fir, larch loses its needles each fall and produces new ones each spring. Found throughout Newfoundland and Labrador in bogs, barrens, and forests, larch is often the first tree species to colonize disturbed sites such as roadside embankments. In summer its needles are a feathery bluish-green. In fall, larch turns a vibrant yellow and stands out brightly against the surrounding spruce and fir.

Wildlife Profile

This is the most important region in Labrador for caribou. In the tundra portions of this ecoregion, caribou, arctic fox, Ungava lemming, red fox, northern bog lemming, and arctic hare can be found. Mammals found in the forest and shrub areas of the valley slopes include lynx, woodchuck, snowshoe hare, mink, heather vole, masked shrew, porcupine, and red squirrel.

Meadow voles live in wetland areas; mammals that live in a variety of habitats within the ecoregion are black bear, short-tailed weasel, wolf, and least weasel. Beaver, muskrat, and river otter are the main aquatic mammals.

The vast majority of bird species in the High Subarctic Tundra are present as breeders during the spring and summer, then migrate south for the winter. Exceptions are willow and rock ptarmigan and raven, all of which are year-round residents here.

Characteristic breeding birds of the barrens include rough-legged hawk, peregrine falcon, snow bunting, and Lapland longspur. Typical birds inhabiting forested areas are merlin, northern flicker, blackpoll warbler, pine grosbeak, American robin, and three-toed woodpecker. Tree sparrow, white-crowned sparrow, and northern shrike are found in shrub/thicket habitats. Lincoln's sparrow occurs in wetlands.

Waterfowl found breeding in the vicinity of freshwater include Canada goose, red-breasted merganser, and the harlequin duck, whose eastern population is endangered. Low densities of shorebirds, such as least sandpiper, red-necked phalarope, solitary sandpiper, and spotted sandpiper, nest in wetland areas.

Fish occurring in this ecoregion are arctic char, three-spine stickleback, nine-spine stickleback, brook trout, lake trout, northern pike, white sucker, and slimy sculpin. Atlantic salmon and rainbow smelt occur occasionally. No amphibians or reptiles occur in this ecoregion.

Photo: Parks and Natural Areas Division

Species in Focus: Members of a number of caribou herds appear seasonally in the High Subarctic Tundra ecoregion of Labrador. Part of the calving area for the George River caribou herd — the world's largest at about 700,000 animals — is in the northern portion of the ecoregion. Smaller herds, such as the MacPhayden, Benedict Mountain, Red Wine, and Mealy Mountain populations, are present in the ecoregion's outliers to the south and west.

The North American caribou is the same species as the reindeer of northern Europe and Asia. Compared to the island of Newfoundland, Labrador provides vast areas of good habitat for caribou, and due to the George River herd's size, current hunting pressure is minimal. Caribou's natural predators include lynx, bear, and wolf, which it detects almost entirely through its sense of smell. Young caribou are particularly vulnerable, although a two to three-day-old calf can outrun a lynx or bear.

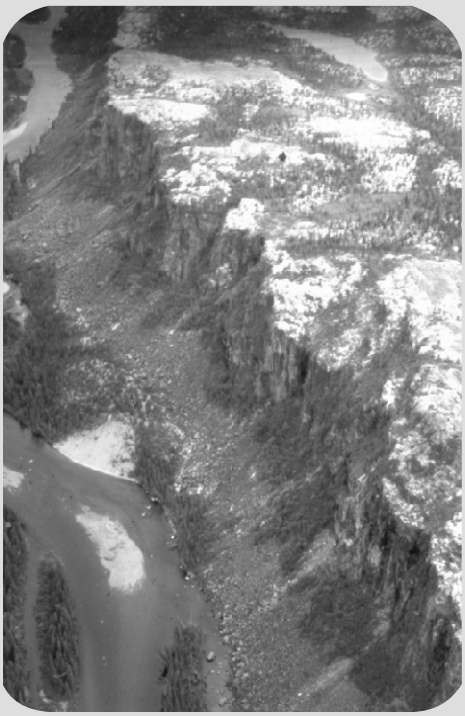


Photo: Paul Linegar

Ugjoktok Fjord, with its steep-sided valley walls reaching over 500 metres in height, is one of the many spectacular landscape features occurring in this ecoregion.

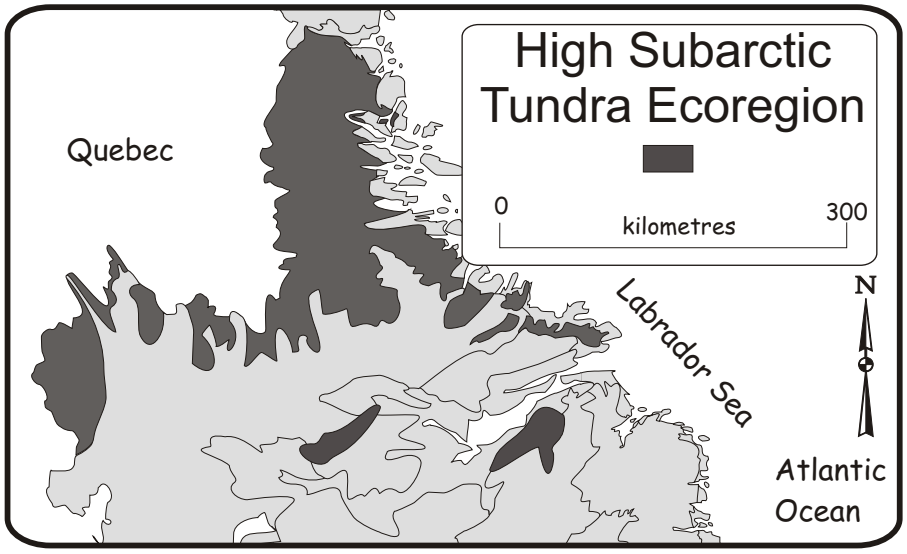
Climate

Summers are short and cool, and winters long, severe and very cold. The growing season is 80 to 100 days.

Annual rainfall
950 to 1000 mm

Annual snowfall
3 to 4 m

Mean daily temperatures
February -16 ℃ to -22 ℃
July +9 ℃ to +13 ℃



Protected Areas Profile

There are no protected areas currently located in this ecoregion.

Focus on The Wolf

The wolf, which occurs in this subregion, can usually be found throughout Labrador in any habitat near caribou herds. It is the largest member of the dog family (Canidae), which also includes coyotes, foxes, and domesticated dogs. The coat of the wolf can vary in colour from white to grey to black.

Other than humans, the wolf has one of the widest natural ranges of any living mammal. Although it may occasionally eat fruits and berries, it is primarily a meat-eating animal. Wolves are capable of consuming enormous amounts of food quickly and often, and then can go for several days without food.

The wolf became extinct on the island of Newfoundland around 1910. It is unlikely there were ever large numbers present before then, however, because of the limited food supply. An Act passed in 1839 hastened their end by encouraging the killing of wolves, which have unfortunately always been considered more of a nuisance — and more dangerous — than they deserve.

The wolf that inhabits Labrador today is closely related to the extinct Newfoundland wolf. Its diet consists primarily of caribou and moose, but it will also take ducks, grouse, voles, shrews, and other small mammals.

Wolves live in close family packs that can include parents, uncles, aunts, grandparents, and pups. Relatives "babysit" pups when parents are away hunting, and if a mother is killed while the pups are still nursing, another female may adopt the pups. There is a great deal of social interaction among wolves, and they show clear affection for each other. Wolves can voice different emotions through howls, barks, yelps, whines, and snarls.

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Department of Environment and Conservation
Parks & Natural Areas Division
PO Box 8700, St. John's, NL A1B 4J6
PH (709) 729-2664
FAX (709) 729-6639
Email: parksinfo@gov.nl.ca
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FAX (709) 533-2706
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Gros Morne National Park
P.O. Box 130
Rocky Harbour, NL A0K 4N0
PH (709) 458-2417
FAX (709) 458-2059
Email: grosmorne.info@pc.gc.ca
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For comments on this series, contact PAA: (709)726-2603 PAA@nf.aibn.com http://www.paanl.org/

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