

# Long Range Barrens

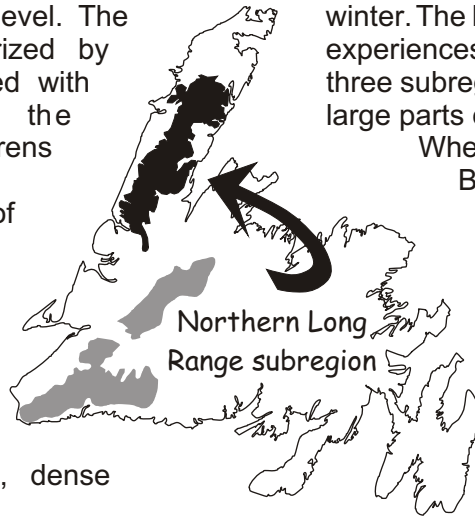
## Northern Long Range subregion



One of three distinct subregions of the Long Range Mountains ecoregion, the

Northern Long Range subregion is the most northerly. It extends almost the entire length of the Great Northern Peninsula and includes the Highlands of St. John's, the coldest area on the Island. Elevations range from 200 to more than 650 metres above sea level. The landscape here is characterized by windy, highland areas covered with extensive **barrens**. Unlike the Maritime Barrens, these barrens were never forested.

The three subregions of the Long Range Barrens are separated from each other by almost continuous forest. Within each subregion, forests are restricted to small patches in sheltered valleys, and to larger areas of stunted trees that form low, dense thickets of **tuckamore**.



Forest and shrub cover increases from west to east. This pattern corresponds directly with decreasing exposure to strong winds, which blow mainly from the west and southwest. Because there is less standing water in the Northern Long Range subregion than in the rest of the ecoregion, **bogs** and **fens** are not as extensive.

The climate of the entire ecoregion is notable for its short growing season and permanent snow cover throughout the winter. The Northern Long Range subregion experiences the lowest temperatures of the three subregions. Snow cover persists over large parts of the landscape until late June.

Where exposed sites in the Maritime Barrens to the southeast are clear of snow throughout winter, similar sites in this higher area are completely covered. In fact, extreme snow drifting is typical of this landscape. Winter visitors to the area encounter a barren, snow-covered world from which only a scattered few larch, or "juniper," branches emerge.

**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.

**Barrens:** Primarily treeless areas containing low-growing plants that are well adapted to exposed conditions and soils low in nutrients. Barrens are also known

as "heath" or "heathlands," since much of the plant life found on them belongs to the heath family.

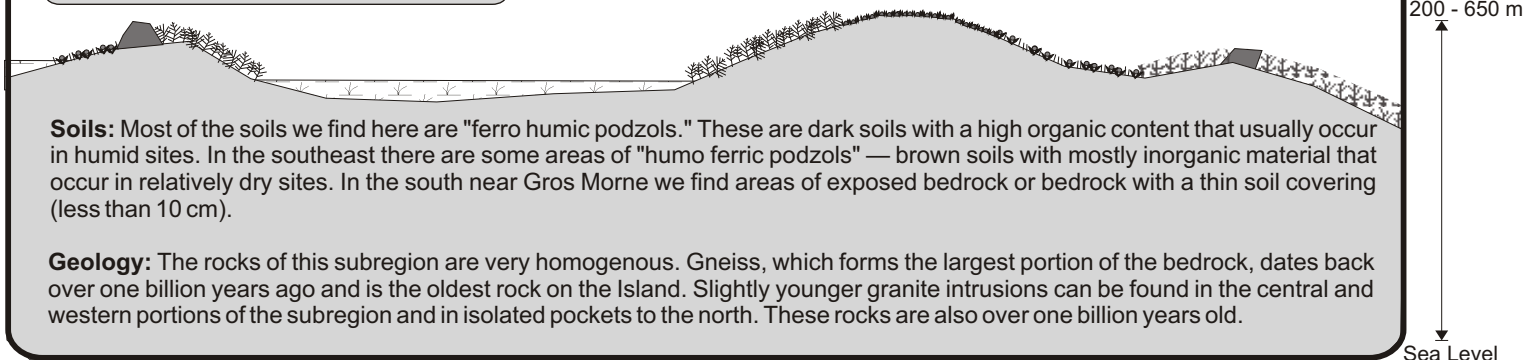
**Tuckamore:** Also known as "krummholz," tuckamore are areas where growth-limiting factors (such as exposure to harsh weather, or excess soil moisture) have resulted in dense thickets of stunted coniferous trees.

**Bogs and fens:** Two types of peatlands, which are wetlands characterized by poor drainage and a thick layer of peat — soil consisting of the remains of partly decomposed plants. Shrubs and mosses are the common plants in

peatlands — particularly sphagnum moss, which acts as a giant sponge as it soaks up large quantities of water, then slowly releases it. Not only does sphagnum moss prevent flooding and erosion, but it provides a platform on which other plants can take root and grow.

Fens generally have more grasses and sedges than bogs, and so look more meadow-like. Because bogs receive most of their nutrients from rainfall, they are generally nutrient-poor. Water entering fens, on the other hand, seeps in from nearby soils and results in a more nutrient-rich habitat.

### Landscape Profile — Northern Long Range



**Soils:** Most of the soils we find here are "ferro humic podzols." These are dark soils with a high organic content that usually occur in humid sites. In the southeast there are some areas of "humo ferric podzols" — brown soils with mostly inorganic material that occur in relatively dry sites. In the south near Gros Morne we find areas of exposed bedrock or bedrock with a thin soil covering (less than 10 cm).

**Geology:** The rocks of this subregion are very homogenous. Gneiss, which forms the largest portion of the bedrock, dates back over one billion years ago and is the oldest rock on the Island. Slightly younger granite intrusions can be found in the central and western portions of the subregion and in isolated pockets to the north. These rocks are also over one billion years old.

## Vegetation Profile

This subregion is the most arctic of the three subregions and contains the best developed "snow-bed communities." Snow-bed communities are groups of plants that occupy sites where patches of snow continue into part of the growing season. The snow, as it melts, provides increased moisture to these plants, and adds protection against frost damage when nighttime temperatures drop during spring and early summer (the air temperature can drop below that of the snow). Plants such as mountain heath, dwarf bilberry, and mountain sorrel grow only in the snow-bed communities of the Long Range Barrens, and in some similar sites in the Western Newfoundland Forest ecoregion.

Due to frequent exposure to strong winds, the flat-topped mountainous landscape of the Northern Long Range subregion is, like the rest of ecoregion, typified by extensive areas of tuckamore. Wind nips back the growing tips of branches, resulting in dense tangles of stunted trees (mostly black spruce) usually less than a meter

high, but with thick trunks that reflect their great age. Tuckamore is widespread in valleys and on slopes in this ecoregion, but doesn't grow on hilltops, where winds are too severe.

Like the Southern Long Range and Buchans Plateau/Topsails subregions to the south, forests in this subregion occur only in deep, sheltered valleys. However, the dense stands of balsam fir typical of the other two subregions are replaced in the Northern Long Range subregion by more open forests in which almost a third of the trees are black spruce.

Sweet gale grows in most of the wet sites along brooks. Mountain alder grows in wet and dry sites of deep valleys; its presence is more

characteristic of this subregion than of the other two Long Range Barrens subregions. On exposed slopes, larch is the only tree that grows taller than the winter snow level.

Dwarf shrub vegetation is widespread on the barrens in the Northern Long Range subregion. Sheep laurel is the most common plant. Pink crowberry occurs abundantly on exposed sites that are subject to erosion, while diapensia and alpine azalea are common on all exposed, highland areas. Rhodora, which is found regularly in the two more southerly subregions of the Long Range Barrens, is found only in a few locations in this subregion.

### Species in Focus:

Arctic-alpine plants, such as diapensia (*Diapensia lapponica*), can be found on all highlands and exposed sites in this subregion. Diapensia is a small evergreen shrub that forms clumps only 2.5 to 8 cm high. White, bell-shaped flowers arise singly on short stalks throughout summer.



Photo: A Glen Ryan

# Wildlife Profile

Two major caribou herds inhabit the Northern Long Range Barrens subregion: the Northern Peninsula herd lives here year-round, while the Humber herd migrates northward into the area during summer. Arctic hare, which are primarily restricted to the highlands of the Long Range Mountains and Buchans Plateau, also occur in this subregion.

Moose, lynx, snowshoe hare, red squirrel, and little brown bat are mammals found in both forest and shrub habitats in the subregion. Black bear, red fox, mink, masked shrew, meadow vole, deer mouse (mostly near human habitation), and short-tailed weasel occur in an even wider variety of habitats. Mammals occurring in aquatic habitats include beaver, muskrat, and otter.

Coyote can also be found here. This medium-sized member of the dog family is an example of a species that has experienced a recent range expansion: during the 1980s individuals travelled to the Island on drifting ice pans, probably from Nova Scotia.

The harlequin duck, whose eastern population is endangered, breeds in this subregion along the upper reaches of fast-flowing rivers. Although not all Newfoundland rivers have been surveyed, most harlequin ducks that have been found nesting on the Island are concentrated around the water systems of the southwestern portion of the Great Northern Peninsula. The current estimate of breeding harlequin ducks on the peninsula is about 70 individuals.

Blackpoll warbler and northern waterthrush are typical breeders in the forested areas in this

subregion, while in wetland habitats swamp sparrow, Lincoln's sparrow, white-crowned sparrow, and common yellow-throat occur.

The common redpoll can often be seen in areas of tuckamore, and the Savannah sparrow frequents the barrens. Unique to the Northern Long Range subregion is the tree sparrow, which reaches the

southern extent of its eastern North American range here. Both willow and rock ptarmigan occur year-round in this subregion.

The region's many lakes and rivers support a variety of fish, including Atlantic salmon, brook trout, rainbow smelt, American eel, and three-spine and nine-spine sticklebacks.



Photo: Parks and Natural Areas Division

**Species in Focus:** The black bear, one of the world's eight bear species, is widely distributed throughout most of the island of Newfoundland. It is a large, bulky animal with a short tail and, as its name implies, a black coat. In fact, some of the largest black bears have been recorded for the island of Newfoundland. When it walks upright, it does so like a human, with the entire sole of its hind feet flat on the ground.

Black bears require large areas of undisturbed land for healthy survival. Studies using radio-collared tracking in Gros Morne National Park have determined that the average home range of black bears in the park is about 42 km<sup>2</sup>, and that their movements are primarily influenced by the location of food. The study also revealed that black bears eat a wide variety of food, including grasses, leaves, dandelions, 32 types of berries, insects (especially ants and wasps), moose and caribou calves, and garbage.



Photo: Parks and Natural Areas Division

From Gros Morne National Park you can look towards the interior onto the barren highlands so characteristic of the Northern Long Range subregion.

## Protected Areas Profile

Established in 1973, Gros Morne National Park is the only protected area in the Long Range Barrens ecoregion. At 1,805 km<sup>2</sup>, it is also the largest national park in Atlantic Canada.

Like most of Canada's 36 national parks, Gros Morne was set aside as an example of a specific Canadian natural area. Slightly more than half of it lies within the Northern Long Range subregion, with the remainder within the Western Newfoundland Forest and Northern Peninsula Forest ecoregions. The park provides partial representation of the essential features of this subregion.


Gros Morne is home to a wide range of plant communities, from sphagnum moss bogs on the coastal plains to alpine heaths on the summits. In addition, there are fjords, deep glacial lakes, and scenic coastal cliffs.

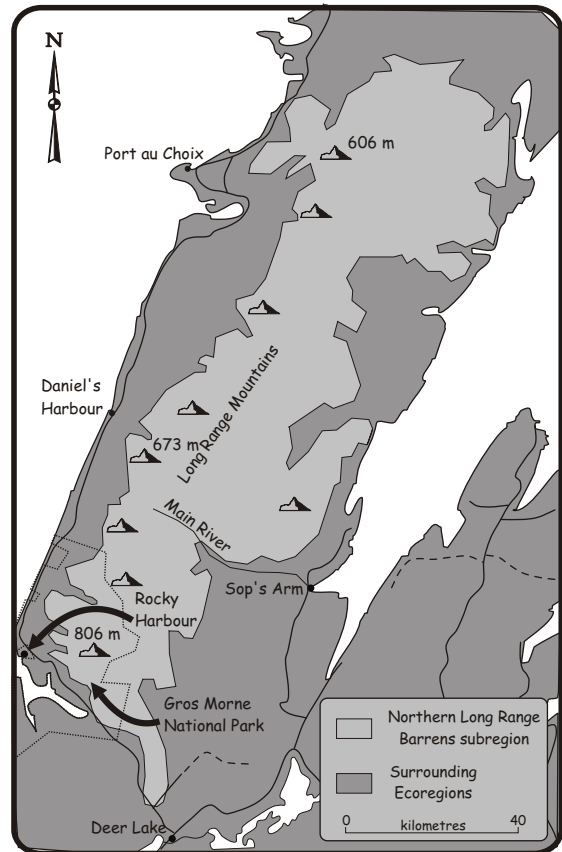
Caribou, red fox, black bear, and ptarmigan are among the many wildlife species protected within the park borders, providing visitors with unique opportunities to observe nature in the wild. The park is also important for the arctic

hare and harlequin duck habitats that it preserves.

Due to its significant geological formations, Gros Morne was designated a World Heritage Site in 1987 by UNESCO (United Nations Educational, Scientific, and Cultural Organization), joining a group of outstanding natural and cultural sites worldwide that includes the Great Barrier Reef of Australia and Ecuador's Galapagos Islands.

Gros Morne's spectacular geological formations provide information about an ancient ocean known as the Iapetus, which existed 570 to 490 million years ago. Bedrock formations also support the theory of plate tectonics, by revealing how the solid outermost layer of the earth "flows" over the underlying layer over millions of years. Plate tectonics explains how continents collide and drift apart, mountain ranges form, and oceans form and disappear.

Also present in this subregion is Main River, which has been nominated to the Canadian Heritage Rivers System. This system gives national recognition to key rivers in the country. 



### Climate

This subregion experiences cool summers and cold winters. Snow cover is permanent during winter and can persist until June. The growing season is short. Winds, frequently quite strong, are primarily from the southwest and west.



Annual precipitation  
>1300 - 1500 mm



Annual snowfall  
3 - 4m



Mean daily temperatures  
February -5°C to -8°C  
July +13°C to +15°C



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