

Central Newfoundland Forest North-central subregion

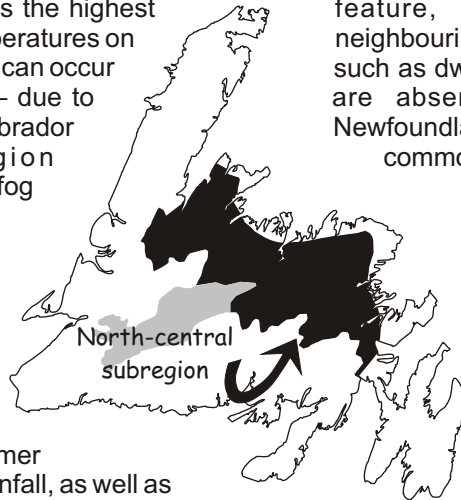


The Central Newfoundland Forest ecoregion covers about 28,000 km² of the central and northeastern third of the island of Newfoundland.

The second largest of the Island's nine ecoregions, its forests are the most typically **boreal**, and its climate the most **continental**. On average, this ecoregion has the highest summer and lowest winter temperatures on the Island. Although night frosts can occur occasionally during summer — due to cold northeast winds off the Labrador Current — this ecoregion experiences the least wind and fog on the Island.


Warm summer temperatures and a location east of the Long Range Mountains also make it one of the driest ecoregions on the Island. Of its four subregions, the North-central has the highest summer temperatures and the lowest rainfall, as well as occasional prolonged dry spells. Not surprisingly, this gives it the greatest number of forest fires. Extensive **fire stands** of black spruce and white birch result.

The North-central subregion is much more densely forested than areas to the east, north, and southeast. This is especially evident as you approach Clarenville on the Trans Canada Highway from the east. Here the barren landscape of the Maritime Barrens ecoregion quickly changes to thick forest. As you approach this subregion from the west, the fern-



dominated forests found near Deer Lake — and typical of the Western Newfoundland Forest — give way to the moss-dominated forests typical of this ecoregion.

The North-central subregion is the largest of the four subregions, **encompassing 23,107 km²**. Its terrain is gently rolling, with hills ranging from 150 metres above sea level in the northeast to 200 metres in the south and west. Bogs are a common landscape feature, but are different from those in neighbouring ecoregions because some plants, such as dwarf huckleberry and black huckleberry, are absent. As elsewhere in the Central Newfoundland Forest, **domed bogs** are the most common bog type.

The underlying rock formations of the North-central subregion belong to four geologic zones, giving it the most diverse geology in the province. Each of these four zones represents different parts of the Island's geological history. Changes to these zones have occurred since their creation. In particular, the North-central subregion was greatly affected by the last glaciation, which ended close to 10,000 years ago. 

Soils: Most of the soils found in this subregion are "humo ferric podzols." These are brown soils containing mostly inorganic material that occur in relatively dry sites. They are typically found in coniferous and mixed (both deciduous and coniferous) forests.

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. Subregions occur when distinctive variations within ecoregions are on a smaller scale than between ecoregions. The Central Newfoundland Forest is broken down into four subregions.

Boreal forest: The mainly coniferous forest found in northern latitudes, which extends in a band around the globe, covering large portions of the northern temperate zones of North America, Europe, and Asia.

Continental climate: Climate resulting from a geographic location in the interior of a landmass, which lessens the moderating effects of the ocean. This leads to colder winters and warmer summers than areas that have a similar latitude but are close to a large body of water.

Fire stands: Groups of trees well adapted to conditions following forest fire and as a result are the first to colonize burnt areas.

Domed bogs: Bogs with convex surfaces containing build-ups of sphagnum mosses that form mainly in forested valleys and basins.

Glacial outwash: Sediment carried by streams of meltwater travelling from stationary ice masses and deposited in broad, shallow channels near the edge of the ice. Outwash sands form well-drained upland plains.

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

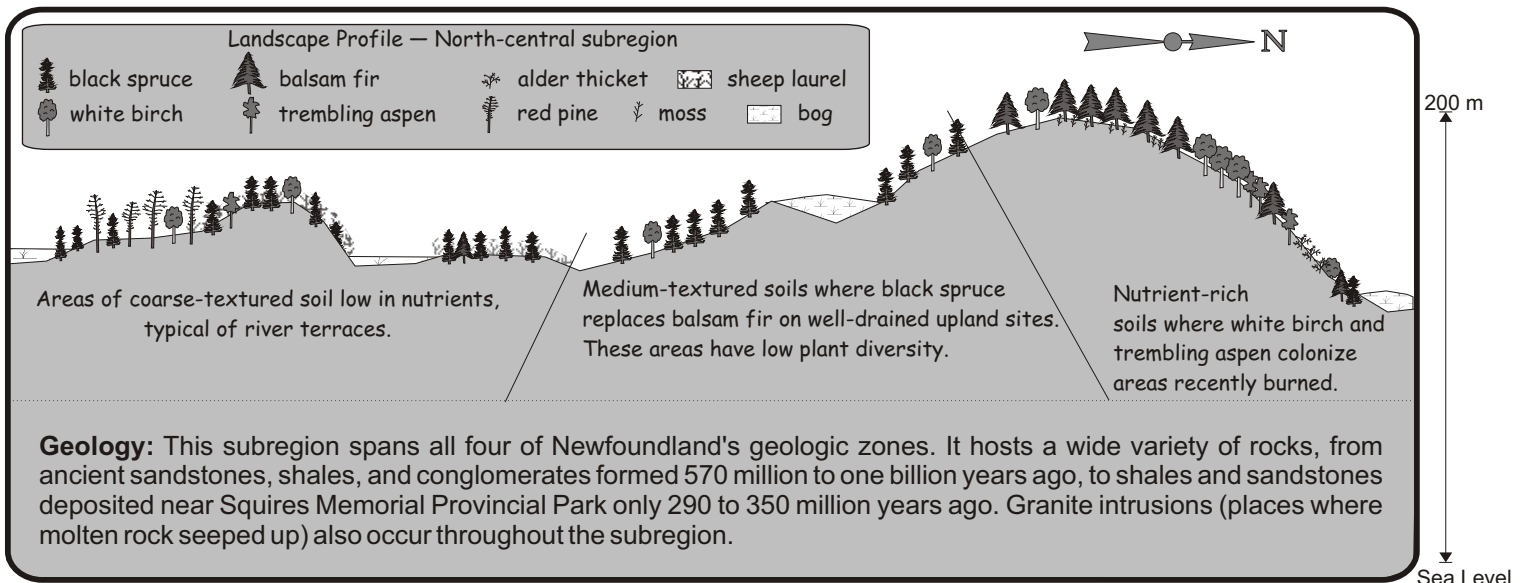
Forest 
Barren 
Tundra 
Bog 

NF



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Vegetation Profile

High forest fire frequency and warm summers exert major influences on vegetation in the North-central subregion.

In areas where fires have repeatedly occurred, and in other highly disturbed sites (such as cut-overs), a dwarf-shrub heath usually dominated by sheep laurel is common. Fire stands of black spruce, white spruce, and trembling aspen also occur in these areas. Where fires have not recently occurred, however, balsam fir with a feathermoss floor covering is most common. Other regularly found forest types are: balsam fir with a sheep laurel understory, and balsam fir with Schreber's moss ground cover.

A few distinctive plant-growth patterns occur in the Central Newfoundland Forest ecoregion. For example, this is the only area on the Island where, on well-drained hilly sites, black spruce replaces balsam fir after a fire. The soil in these locations contains some of the lowest levels of humus — or organic material — anywhere on the Island. Black spruce grows especially well in dry, nutrient-poor soils like these.

Another distinguishing combination of all Central Newfoundland Forest subregions occurs here: black spruce forests with an abundance of ground lichens grow on frequently flooded gravel and sandy areas, such as flood plains and

estuaries.

White birch occurs here in stands or as part of mixed forests. White birch will colonize areas that have been disturbed. As a result, it thrives in this ecoregion because of the high number of forest fires. White birch also prefers steep, well-drained slopes.

Red pine, the rarest conifer on the Island, grows only in the Central Newfoundland Forest. This tree once had a much larger distribution on the Island. Because it requires fire for seed dispersal, it is well adapted to the ecoregion. Red pine grows in sandy and gravelly soils that were formed by **glacial outwash** or as lake sediment. These soils are coarse and nutrient-poor. Generally, red pine occupies the

driest and most nutrient-poor sites in Newfoundland.

Trembling aspen, a tree found in many other areas of the Island, is most abundant in the Central Newfoundland Forest. In fact, this is the only ecoregion where it occurs in stands — probably because the warm summer temperatures allow root suckers to form, which let the plant take up nutrients from the soil more easily. This more efficient means of nutrient uptake enables the tree to quickly colonize new areas, including recent burn-overs. Because aspen form stands in burn-overs, they are more common in the North-central subregion than in any other subregion, or ecoregion, in Newfoundland. **17**

Species in Focus

Focus: Only a few small stands of the fire-resilient red pine (*Pinus resinosa*) exist today on the Island. Some of these trees are the oldest in North America; one is estimated to be over 460 years old. However, this species is in danger of being lost from the Island. Because it is at the northern limit of its North American range here, it is sensitive to environmental changes and regenerates slowly.



Photo: A Glen Ryan

Wildlife Profile

As is typical of boreal forests, many of the animal species inhabiting the North-central subregion are adapted to long, cold winters and short, warm summers. Moose, snowshoe hare, muskrat, otter, mink, black bear, beaver, and lynx — species that also live in similar habitat elsewhere on the Island — occur throughout this subregion.

Significantly, the eastern section of the North-central subregion — in the forests of Terra Nova National Park — is home to a small population of the threatened Newfoundland marten (locally known as pine marten). These animals are a remnant of what was once a much larger and more widespread population. Though their population is beginning to grow, it is still restricted to a few isolated pockets in mature boreal forests, with the main concentration around Little Grand Lake in the Portage Pond subregion of this ecoregion.

Caribou — primarily members of the Middle Ridge herd — are found in the North-central subregion. Normally ranging farther south in the Maritime Barrens, these caribou usually move only into the southern portions of this subregion, although individual animals do turn up throughout the area. Caribou from the Gaff Topsails herd can also be seen in the southwestern section of the subregion.

Birds that typically live in forest habitat occur here, including gray jay, ruffed grouse, spruce grouse, osprey, great horned owl, northern flicker, sharp-shinned hawk, pine siskin, chickadees (boreal and black-capped), fox sparrow, and white-winged crossbill. Common waterfowl are green-winged teal, ring-necked duck, American black duck, and Canada goose.

Many warbler species can be seen throughout this region — Wilson's, black-throated green, black-and-white, and yellow-rumped are just a few of the many that can occur here. The secretive thrushes, in particular the Swainson's and hermit thrushes, are also at home in the dense forests of this region.

Although they are generally



Photo: Parks and Natural Areas Division


Species in Focus: Moose, now a familiar part of provincial culture, is a relatively new species on the Island. From the first few animals released in 1878 and again in 1904, moose have spread throughout the Island and become an important game animal. This solitary animal is the world's largest living deer. It prefers coniferous forests containing ponds and lakes where it feeds on trees, shrubs, grasses, and aquatic vegetation.

associated with human environments, the common crow, American robin, and herring gull inhabit the forests. The herring gull is widely distributed in low numbers throughout the entire ecoregion, where single pairs nest on small islands — sometimes on only a small rock — and in adjacent peatlands or gravel areas.

There are few amphibians and no reptiles here. The green frog, an introduced species, inhabits quiet ponds and marshes. It is not widespread and its populations are

small.

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

The uncommon sea lamprey inhabits the Gander and Exploits Rivers. This unusual and primitive fish feeds on the body fluids of other fish. Using its mouth, the lamprey attaches itself to its prey, then makes a hole in the prey's skin with its piston-like tongue. 

The North-central Forest subregion is distinguished by the regular occurrence of black spruce and white birch fire stands. High summer temperatures and low moisture levels contribute to the high number of forest fires.



Photo: B. Pinsent

Protected Areas Profile

There are eight protected areas within the large North-central Forest subregion. Although these protected areas offer some protection of important subregion features, none includes undisturbed forests representative of this subregion, or northern coastal areas. However, they do protect an overall 1.5% of the subregion, as well as contribute to protection of the North Shore Forest ecoregion to the east.

Terra Nova National Park, which covers 400 km², contains the largest portion of the North-central Forest and provides the greatest protection of essential subregion features. However, the park is bisected by the Trans-Canada Highway and contains few areas of undisturbed forest. Much of the forests here are still recovering from extensive cutting that occurred before the park was established.

West Brook Ecological Reserve was established to protect the Island's largest remaining stand of red pine. The reserve protects one of only 22 red pine stands left on the Island, and most of these have only a small number of trees. The reserve's 10.7 km² contain about 3,000 individual trees located at the headwaters of West Brook.

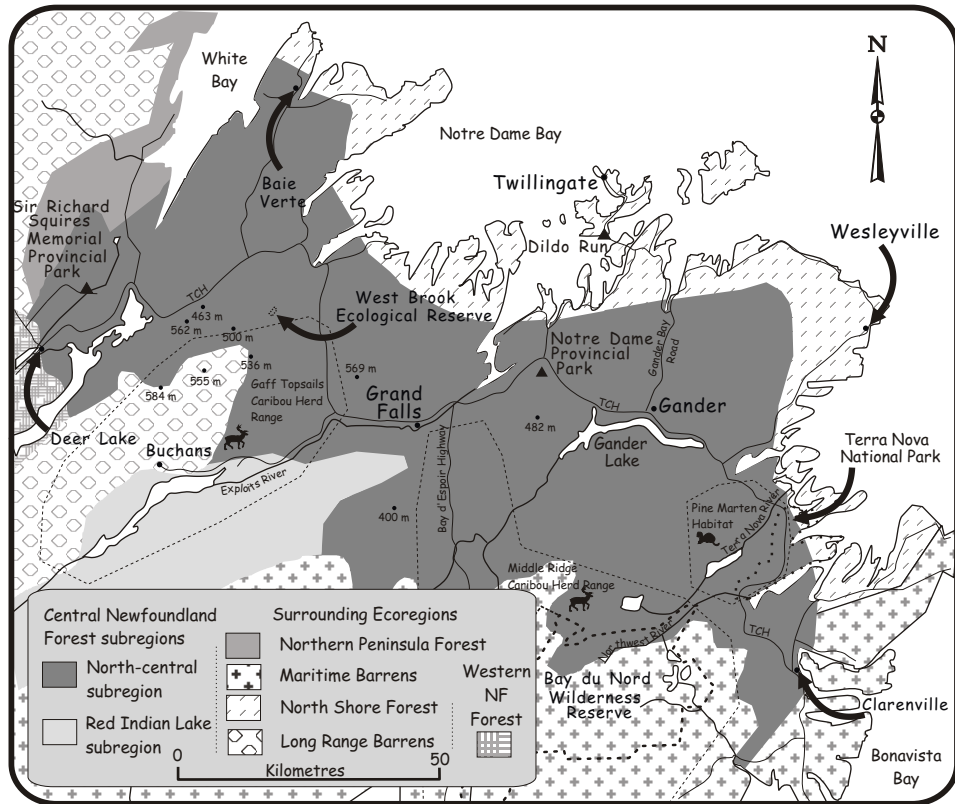
Notre Dame Provincial Park borders the waters of Junction Pond. This 1 km² park is filled with lush fir, spruce, birch and aspen forest. Sir Richard Squires Memorial Provincial Park protects a 15.7 km² area, containing a dense balsam fir forest,

hiking trails, and a portion of the Humber River. The salmon jumping at Big Falls in July and August are a popular attraction for anglers and other park visitors.

Jonathan's Pond Provincial Park Reserve is 3.4 km² and preserves a majestic stand of white birch, while the 0.9 km² Flatwater Provincial Park Reserve protects an excellent example of a delta and marsh complex.

The Middle Ridge Wildlife Reserve and the Bay Du Nord Wilderness Reserve both have small portions of their protected areas within this subregion as well. Bay Du Nord protects 2,895 km² and was

established to protect the natural habitat range of the Middle Ridge caribou. The Middle Ridge Wildlife Reserve is 618 km² and also provides protection for the herd.



Climate

This subregion experiences the most continental climate on the island of Newfoundland. The growing season ranges from 140 to 160 days, although night frosts can occur during summer.

Annual rainfall
1200 mm

Annual snowfall
3-3.5 cm

Mean daily temperatures

February -4°C to -8°C

July +15°C to +16°C



Protected Areas Association of Newfoundland and Labrador (PAA) gratefully acknowledges the following partners for their generous contributions to the Newfoundland and Labrador Ecoregion Brochures project:

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