

Western Newfoundland Forest Port au Port subregion



One of the largest ecoregions on the island of Newfoundland, the Western Newfoundland Forest covers more

than one million hectares in the western portion of the Island. It stretches from the Codroy Valley in the south to Bonne Bay in the north and extends from the west coast inland, including much of the Long Range Mountains.

Its neighbouring ecoregions are the Maritime Barrens to the south, the Long Range Barrens and Central Newfoundland Forest to the east, and the Northern Peninsula Forest and Long Range Barrens to the north.

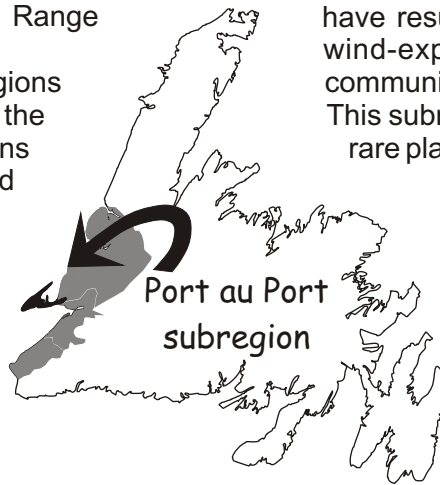
Local variation in the geology of the Western Newfoundland Forest ecoregion has affected its geography and biology, and has led to this ecoregion being divided into six subregions.

The Port au Port subregion includes the entire Port au Port Peninsula, which lies south of

the Serpentine subregion and west of the Stephenville area. This peninsula is influenced by the winds and storms from the Gulf of St. Lawrence, which have shaped many of its distinguishing characteristics.

The Port au Port subregion is not as mountainous as the other subregions in this ecoregion. Although limestone forms much of the underlying bedrock, soils are shallow and bedrock is more exposed. These conditions have resulted in reduced forest cover and wind-exposed limestone barren plant communities characterized by **basic soils**. This subregion is also home to a number of rare plants.

The Western Newfoundland Forest ecoregion is considered the most climatically favourable for plant growth on the Island, experiencing warm summers and cold winters. There are significant local variations in temperature, however. In the Port au Port subregion, the moderating effects of the ocean tend to make summers cooler and winters warmer than in the Corner Brook and St. George's Bay subregions.



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 Western Newfoundland Forest is broken down into six subregions.

Basic soils: Soil can be described in terms of its acidity, which is measured as a pH level. Most soils in Newfoundland are acidic, and have a low pH. Basic soils have a high pH — which is true of the calcium found in limestone, for example. A soil's acidity level affects a plant's ability to take up nutrients. Different

plant species adapt to specific pH ranges, and cannot survive if soil is too acidic or too basic.

Gulf of St. Lawrence endemics: Plant or animal species that grow in the Gulf of St. Lawrence area and nowhere else in the world.

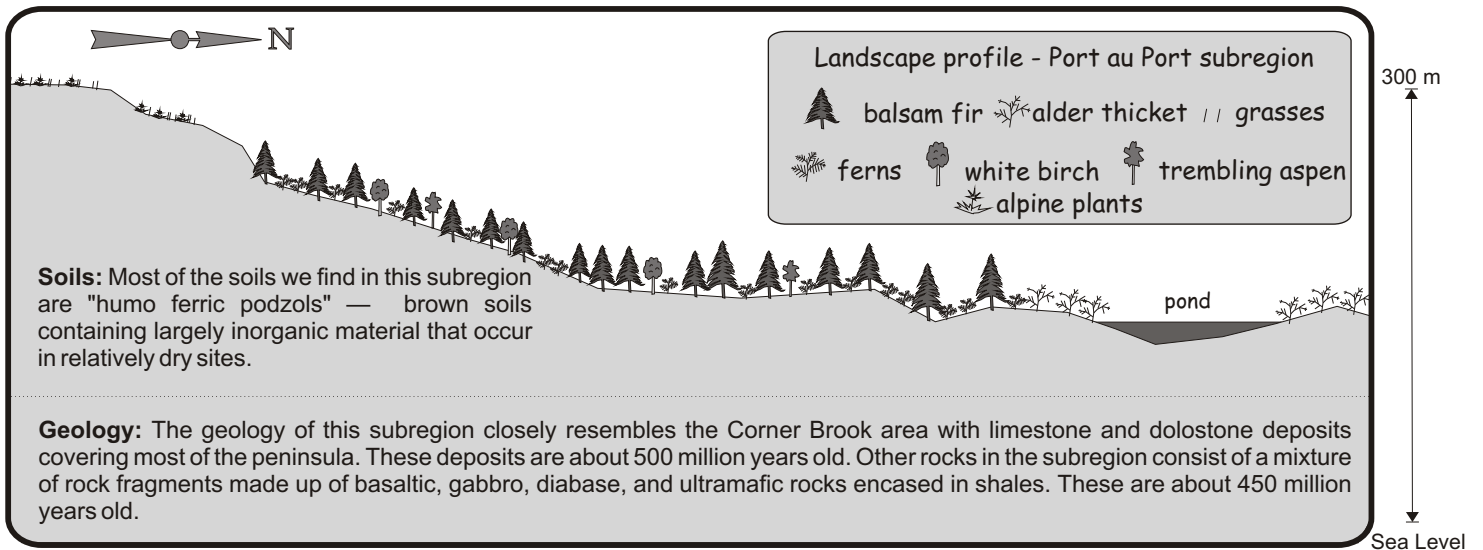
Cordilleran disjuncts: A plant or animal species that has its main distribution in western North America and a smaller distribution in eastern North America.

ECOREGION
Forest
Barren
Tundra
Bog



LAB





Vegetation Profile

Limestone barrens are common in the Port au Port subregion. Here the wind has removed much of the soil layer and in some places even exposed the bedrock underneath. Shrubs and herbs that have adapted specifically to windy, exposed conditions grow on these barrens. They include: mountain avens, swamp birch, red bearberry, dwarf willow, purple saxifrage, Greenland primrose, sedges, alpine bearberry, dwarf willow, butterwort, moss campion, and heath moss.

In addition, many of these plants are calciphiles (calcium tolerant plants), **Gulf of St. Lawrence endemics**, and **Cordilleran disjuncts**. The presence of these species makes this subregion a rare plant "hotspot," meaning there is a rich and diverse number of rare plants that occur here.

The limestone barrens found here have an interesting structure. A series of terraces extends inland from the shoreline. The lower terraces are dominated by shrubs such as dwarf willow and swamp birch. The upper terraces become more and more exposed until they are open bedrock with little soil cover. These upper exposed areas

are often called Dryas Rock Gardens because of their abundance of mountain avens (*Dryas integrifolia*).

Forests found in the Port au Port subregion consist mostly of balsam fir with a floor covering of wood ferns and some feathermoss. Balsam fir forests with just a feathermoss floor covering (common in central Newfoundland) are restricted to rocky slopes. Black spruce occurs mostly on poorly drained locations, or in areas with exposed bedrock. Since forest fires are rare, fire stands of black spruce are not common. Fire stands are groups of trees well adapted to colonizing burnt areas.

Yellow birch, common

throughout the Western Newfoundland Forest, reaches its northern limit in this ecoregion. The northern limit of white pine, red maple, and trembling aspen on the Island also occurs here.

Two types of alder swamps occur in this ecoregion and nowhere else on the Island: golden rod/alder and bracken fern/alder swamps. Both are found in areas where the soil is water-logged or poorly drained and so high in nutrients, with a rich herb layer.

As well, mayflower, showy lady's slipper, Carolina spring beauty, and stands of black ash are, for the most part, only found on the Island in the Western Newfoundland Forest ecoregion. 🌿



Photo: Todd Boland

Species in Focus: The mountain avens (*Dryas integrifolia*) is a trailing evergreen shrub that reaches a height of 5 - 12 cm. Creamy yellow, eight-petaled flowers bloom in early summer. Mountain avens is a hardy plant that thrives in the harsh conditions of the exposed, basic soils of this subregion. It is the main component of the Dryas Rock Gardens of the limestone barrens.

Wildlife Profile

Wildlife in the Western Newfoundland Forest ecoregion is among the most diverse on the Island. Moose, mink, snowshoe hare, lynx, black bear, red fox, beaver, muskrat, and otter can all occur here. Other mammals can be seen in the area, as well, such as the little brown bat, eastern chipmunk, masked shrew, and red squirrel.

In forested areas of this subregion blackpoll warbler, black-and-white warbler, yellow warbler, and northern waterthrush are examples of warbler species known to breed here. Other species occurring in the forests include alder flycatcher, northern flicker, and pine siskin. In shrublands, marshes, bogs, and other open areas song sparrow, mourning warbler, bobolink, Savannah sparrow, and Lincoln's sparrow can be found.

An abundance of sandy shoreline and mud flats in coastal areas are particularly attractive to shorebirds during fall migration, including ruddy turnstone, semipalmated plover, semipalmated sandpiper, and killdeer. In fact, large numbers of both shorebirds and songbirds use the Port au Port Peninsula as a stopover during their fall migration.

The rivers and ponds host nine-spine stickleback, three-spine stickleback, black-spotted stickleback, arctic char, Atlantic salmon, brook trout, rainbow smelt, American eel, mummichog, and banded killifish, which has been designated vulnerable in Newfoundland, meaning it is at risk due to low numbers.

There are few amphibians and no reptiles recorded for this subregion. The green frog, an introduced species, inhabits small quiet ponds and marshes, while the American toad — also introduced — inhabits moist to wet areas. 🐸

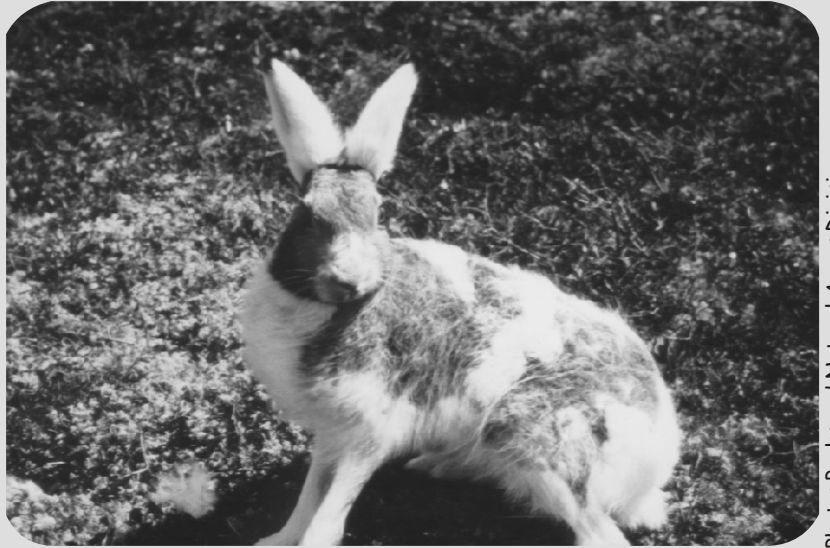


Photo: Parks and Natural Areas Division

Species in Focus: The snowshoe hare is common throughout the forests and shrublands of the Port au Port Peninsula. Changing colour to match the seasons, the snowshoe hare is white in winter and a combination of brown and white in summer. Thick paws allow it to move easily over the top layers of snow, which is important for evading predators.



Photos: Bernard Jackson



The Port au Port Peninsula is more exposed than the rest of the Western Newfoundland Forest. Greater exposure to wind has resulted in forests with stunted growth and more open barrens and shrublands.

Protected Areas Profile


There are no protected areas in this subregion.

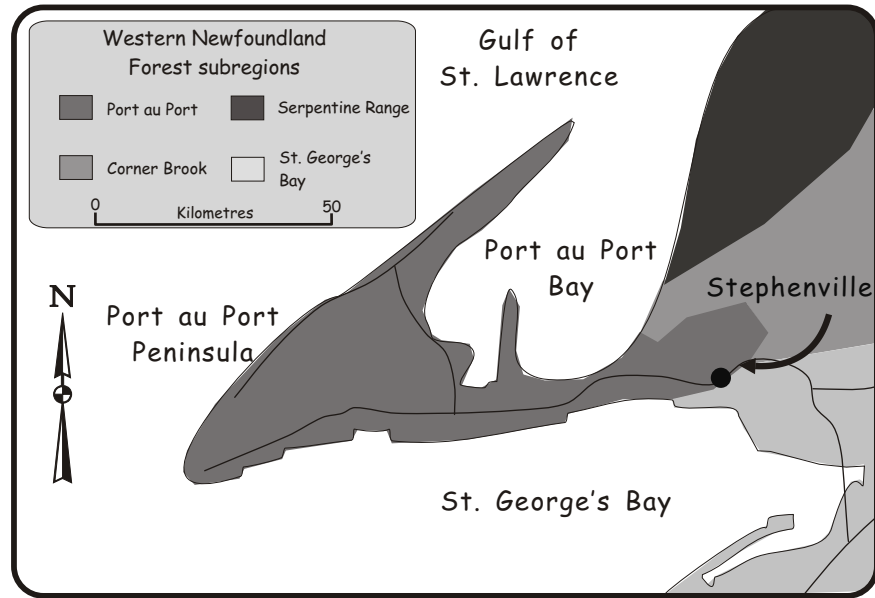
Focus on Plant Growth

Plants have different types of distributions depending on their evolutionary history. Because they can't uproot themselves and physically move if the climate becomes unfavourable, their only means of travel is through reproduction. Depending on its methods of seed dispersal, a species' survival can be seriously threatened during major climate changes.

Sometimes climate change is not the same over the entire range of a species. Climate may change at the heart of the plant's range, and less so towards the edges. This could result in the plant having a "disjunct distribution" — two distinct ranges separated by a central area where the plant can no longer survive. The most common cause of disjunct distributions is through glacial action, especially when the plant's original distribution was widespread. There are also different kinds of "disjuncts," such as Amphi-

Atlantic (plants existing on both sides of the Atlantic Ocean, but nowhere else) and Cordilleran (plants whose main distribution is in western North America, with a smaller distribution in eastern North America).

Many species that occur in the limestone and serpentine barrens of the west coast of Newfoundland have these unusual distributions. The location of these plants helps provide important clues to scientists studying the earth's ancient past. 



Climate

The Western Newfoundland Forest has the highest number of frost-free days on the Island, with warm summers and cold winters. However, in the Port au Port subregion, the moderating effect of the ocean on temperatures tends to make summers cooler and winters warmer than some of the other subregions.



Annual rainfall
1200 mm



Annual snowfall
2-4 m



Mean daily temperatures
February -5°C to -8°C
July +14°C to +16°C



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