

# Western Newfoundland Forest Bay d'Espoir 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 Bay d'Espoir subregion is an outlier of this ecoregion — that is, it is separated from the rest of the Western Newfoundland Forest subregions. It is located at the north end of Bay d'Espoir in south-central Newfoundland and includes the protected valleys surrounding Bay d'Espoir and the Conne and Little rivers. It is a small area bordered by the Maritime Barrens and the Central Newfoundland Forest ecoregions.


The Bay d'Espoir subregion takes in 237 km<sup>2</sup> and is generally less than 200 metres above

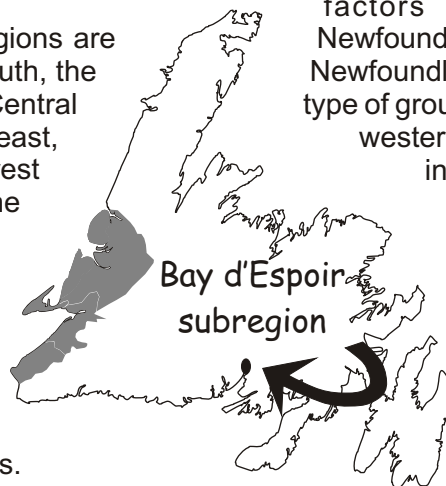
sea level. Its borders follow the contours of the large, sheltered valley along the northern part of Bay d'Espoir, which stretches far inland from the south coast of the Island.

This subregion is heavily forested and is dominated by balsam fir with an understory of wood ferns. In comparison, forests in the Central Newfoundland Forest outlier just to the north are dominated by balsam fir with a moss understory. One of the most important factors distinguishing the Western Newfoundland Forest from the Central Newfoundland Forest is this difference in the type of ground covering: primarily ferns in the western forests while primarily mosses in the central forests.

The presence of yellow birch in the Bay d'Espoir subregion also helps separate it from the Central Newfoundland Forest. While this subregion can be distinguished from the surrounding Maritime Barrens by more forest cover, it differs from other subregions

of the Western Newfoundland Forest by the absence of trembling aspen and mountain maple thickets.

The Western Newfoundland Forest's warm summers and cold winters are often considered the most climatically favourable on the Island. In the Bay d'Espoir subregion, however, winters are milder, summers cooler, and fog more frequent than in other parts of the ecoregion. 



ECOREGION  
Forest   
Barren   
Tundra   
Bog 



LAB

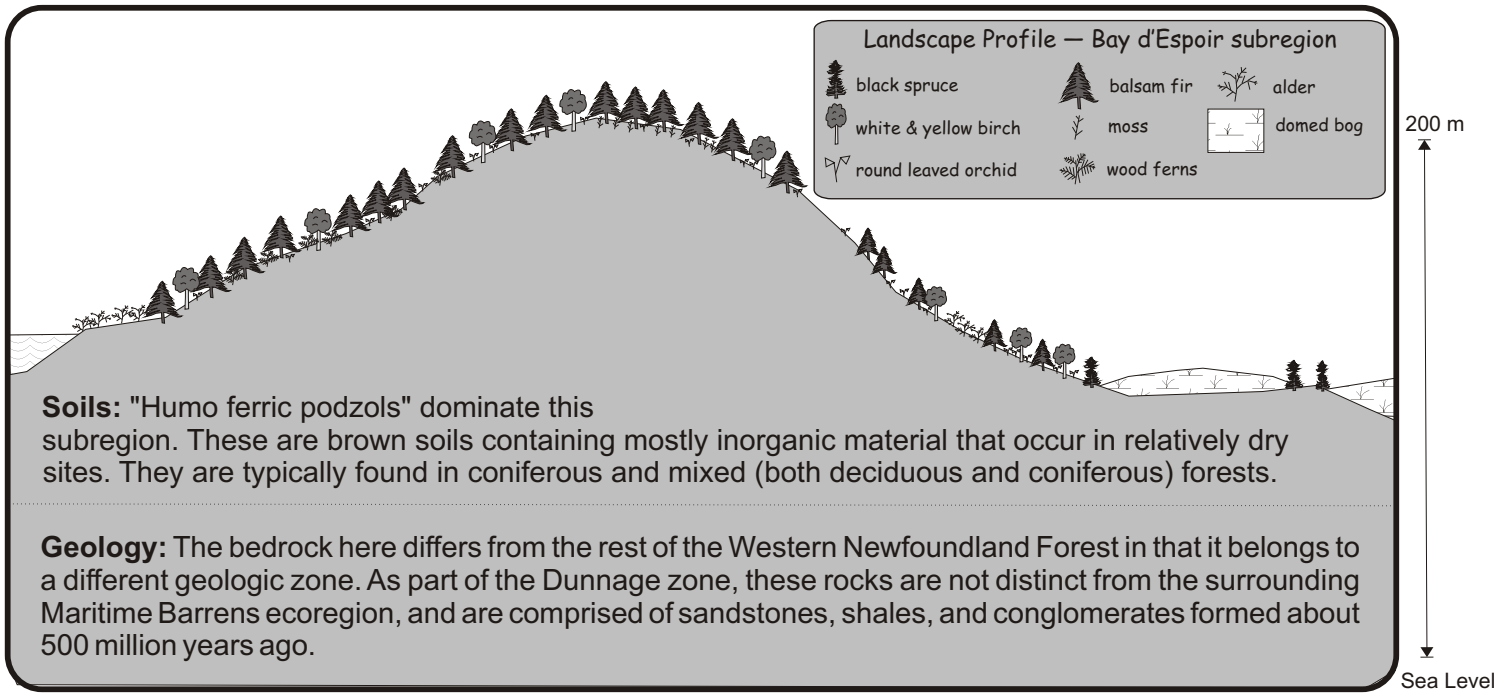


**Ecoregion:** An area that has distinctive and repeating patterns of vegetation and soil development, which are determined and controlled by regional climate. Ecoregions can be distinguished from each

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.

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.



## Vegetation Profile


Forests found in the Bay d'Espoir subregion consist mostly of balsam fir with a floor covering of wood ferns. 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. Like the rest of the ecoregion, forest fires are rare, with the result that fire stands (trees well adapted to colonizing burnt areas) of black spruce are not common.

Alder swamps occur here, but are less common than in the other subregions of the Western Newfoundland Forest. As elsewhere, they can be found in areas where the soil is water-logged or poorly drained, making them high in nutrients and giving them a rich layer of herbs. The maple stands that exist in similar habitats in the other Western Newfoundland Forest subregions rarely occur here, however.

Yellow birch is common

throughout the forest, separating it from the Central Newfoundland Forest outlier to the north. White pine and red maple are found here, as are mayflower, showy lady's slipper, and Carolina spring beauty. Trembling aspen, which occurs in the rest of the Western

Newfoundland Forest, is absent from this subregion.

An interesting distinction between the Bay d'Espoir subregion and the rest of the ecoregion is the presence of the delicate large round-leaved orchid, which grows in the forest's dense undergrowth. 

**Species in Focus:** The large round-leaved orchid (*Habenaria orbiculata*) is commonly found throughout this subregion. It gets its name from the shape and size of its leaves, which are about 8-10 inches in diameter and grow from the base of the plant. The tall stem can reach 2-3 feet in height and has small flowers located along its top half. These beautiful flowering plants thrive on the forest floor in shaded and semi-shaded areas.



Photo: Glen Ryan

## Wildlife Profile

Moose, mink, snowshoe hare, lynx, black bear, red fox, beaver, muskrat, and otter may occur in this subregion. Other mammals can be seen, as well, such as little brown bat, eastern chipmunk, masked shrew, and red squirrel.

This sheltered area provides an oasis of habitat rich in birdlife, particularly warblers such as magnolia, black-throated green, redstart, black-and-white, and Wilson's Tree swallow, pine siskin, yellow-bellied flycatcher, sharp-shinned hawk, and several species of woodpeckers can also occur.

In shrublands, marshes, bogs, and other open areas American bittern, song sparrow, swamp sparrow, Lincoln's sparrow, and mourning warbler can be found. Examples of aquatic birds found here include common snipe, red-breasted merganser, common merganser, green-winged teal, black duck, and common goldeneye.

The rivers and ponds of this subregion are home to three-spine stickleback, nine-spine stickleback, black-spotted stickleback, arctic char, Atlantic salmon, brook trout, rainbow smelt, and American eel. There are no reptiles or amphibians in this subregion. 🐾

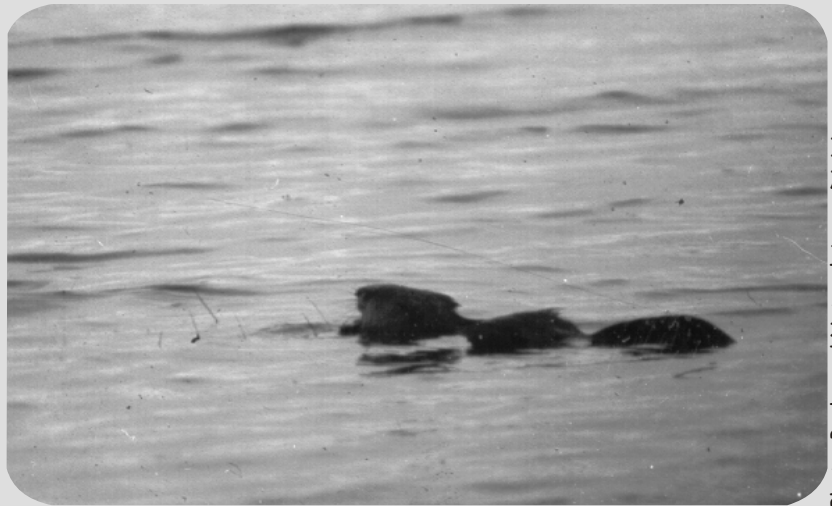


Photo: Parks and Natural Areas Division

**Species in Focus:** The muskrat spends most of its time in or near water, for which it is well adapted. It has waterproof fur, large webbed hind feet that act as propellers, and a long, scaly tail that acts as a rudder. Food consists of roots and stems of aquatic plants and some animal matter, such as freshwater clams and fish.



Photo: Glen Ryan

River valleys and deep bays on the south coast of the Island produce localized climates and plant life that are different from the surrounding lands. Here, protection from the harsh and persistent winds that blow in from the open Atlantic Ocean affect the climate locally and create changes in vegetation patterns. The Bay d'Espoir subregion and the neighbouring Twillick Steady subregion of the Central Newfoundland Forest are the best examples of this phenomenon. Others exist throughout the south coast, such as within the Bay du Nord River and La Poile Bay areas. These "pockets" significantly add to the habitat diversity of the south coast barrens.

## Protected Areas Profile

Jipujikuei Kuespem Provincial Park Reserve contains an area of 6.7 km<sup>2</sup>, covering a portion of this subregion and the neighbouring Central Newfoundland Forest. This unique area protects 1.7% of the subregion. Though representative of some of the qualities of the subregion, this protected area alone does not

meet representivity targets.

The private part of the park is operated as a camping and day-use area by the Mi'kmaq people. The adjacent area is protected as a provincial park reserve. Here you can find an unspoiled example of the south coast forests that make up this subregion. The park also protects a significant population of the rare arboreal lichen, *Erioderma pedicellatum*.

## Focus on Outliers

Outliers are small areas that are separated from the rest of an ecoregion, yet belong to it because of similar climate and plant life. Plant distribution is closely related to climate since plants need certain temperatures and moisture levels in order to survive. Changes in these conditions can result in the establishment of a whole new group of plants in an area. Even small changes can result in the disappearance of some species, and the introduction of others.

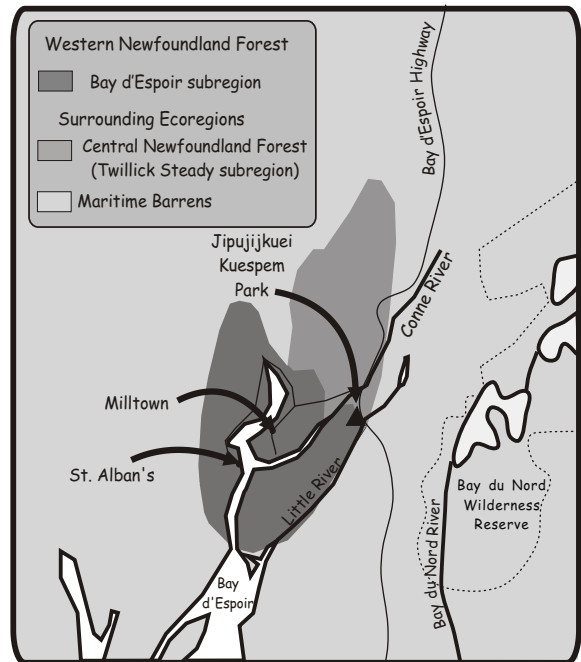
A portion of the Maritime Barrens ecoregion occurs along the south coast of Newfoundland. Here the climate and terrain have resulted in sheep laurel heath, scrub forests, and wetland vegetation well adapted to foggy, cool summers. Localized pockets, however, provide protection from the scouring effects of the wind, resulting in small — but important — changes in climate.

The Bay d'Espoir outlier of

the Western Newfoundland Forest and the Twillick Steady outlier of the Central Newfoundland Forest are two examples of outliers. Both are found in the northern portion of Bay d'Espoir near the Conne and Little rivers. Another example is located along the Bay du Nord River system. However, this area — and many others along river valleys and long extended bays — are too small to warrant the creation of a new subregion.

The bays and rivers that cut into the Bay d'Espoir and Twillick Steady subregions have created a pronounced valley system. Here vegetation is protected from storms and persistent winds. This has resulted in a warmer climate and longer growing season than in the surrounding, higher and more exposed terrain. As a result, plants here are different from those just a short distance away on the exposed

barrens. In the Bay d'Espoir area, for example, forests are similar to the Western Newfoundland Forest, with yellow birch and dense forests of balsam fir with an understory of primarily ferns. In the Twillick Steady area, forests are similar to the Central Newfoundland Forest farther north — yellow birch is absent and forest floors contain mostly moss. 🌲



## Climate

This subregion experiences less fog and longer, warmer summers than the surrounding Maritime Barrens. The growing season often lasts beyond 140 days.



Annual rainfall  
1600 mm



Annual snowfall  
3-3.5 cm



Mean daily temperatures  
February -4°C to -8°C  
July +15°C to +16°C



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