

Northern Peninsula Forest

Beaver Brook Limestone subregion



More than 8,000 km² of the island of Newfoundland's Great Northern Peninsula belong to the Northern Peninsula Forest

ecoregion. Covering much of the peninsula's coastal areas, it is bordered by the Strait of Belle Isle Barrens ecoregion to the north, and the Western and Central Newfoundland Forest ecoregions to the south and east. As well, this ecoregion almost completely surrounds the northern part of the Long Range Barrens ecoregion, which is located on the peninsula's central highlands.

The Beaver Brook Limestone subregion, at 2,550.2 km², lies just north of the Long Range Barrens and south of Hare Bay. It is characterized by rich soils and productive forests sheltered by the Long Range Mountains to the south. Elevations range from sea level to 450 metres at the slopes of the Long Range Mountains. Forests in all of this ecoregion belong to the great **boreal forest** that covers much of North America, Europe, and Asia.

The Northern Peninsula Forest is one of the coldest ecoregions on the Island. Its short cool summers and long cold winters give it the shortest growing season on the Island — in fact, the shortest growing season of any forested ecoregion in the entire province. The growing season in the Beaver Brook Limestone subregion averages only 110 days.


These climatic conditions are the result of the ecoregion's northern location compared to other Island ecoregions, and to the area's exposure to the cooling influences of the Labrador current. No part of the ecoregion is more than 50

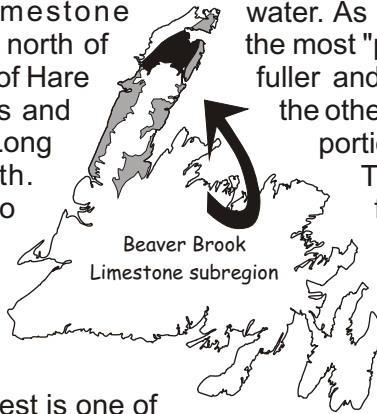
km from the sea, so there is little opportunity for **continental climate** trends — such as those that occur in the more inland areas of the Central Newfoundland Forest — to develop.

The Northern Peninsula Forest is generally drier than southern ecoregions because it has less precipitation than most. However, its cool summers also provide less chance for moisture to evaporate from the soil, so the moisture deficiencies that occur in the Central Newfoundland Forest do not occur here.

The Beaver Brook subregion is the most climatically favourable of all the Northern Peninsula Forest subregions because it is protected from the effects of the cold ocean water. As a result, its forests are considered the most "productive": that is, forests here are fuller and have larger individual trees than the other three subregions, except for some portions of the Coastal Plain subregion.

The forest vegetation also differs from others in the ecoregion because it grows over limestone bedrock, not the more acidic underlying rock of the other subregions. (In the Coastal Plain subregion to the southwest, forests grow on deposits of glacial till and on the slopes of the Long Range Mountains — the limestone bedrock there is covered mostly by bogs.)

The limestone bedrock in this subregion was formed beneath shallow seas when a build-up of marine sediments produced a material rich in calcium. Limestone barrens exist where this limestone is exposed — which occurs most often in the western part of this subregion. These barrens feature plants that are especially adapted to limestone soils. 

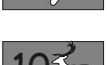


ECOREGION
Forest 
Barren 
Tundra 
Bog 

NF



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

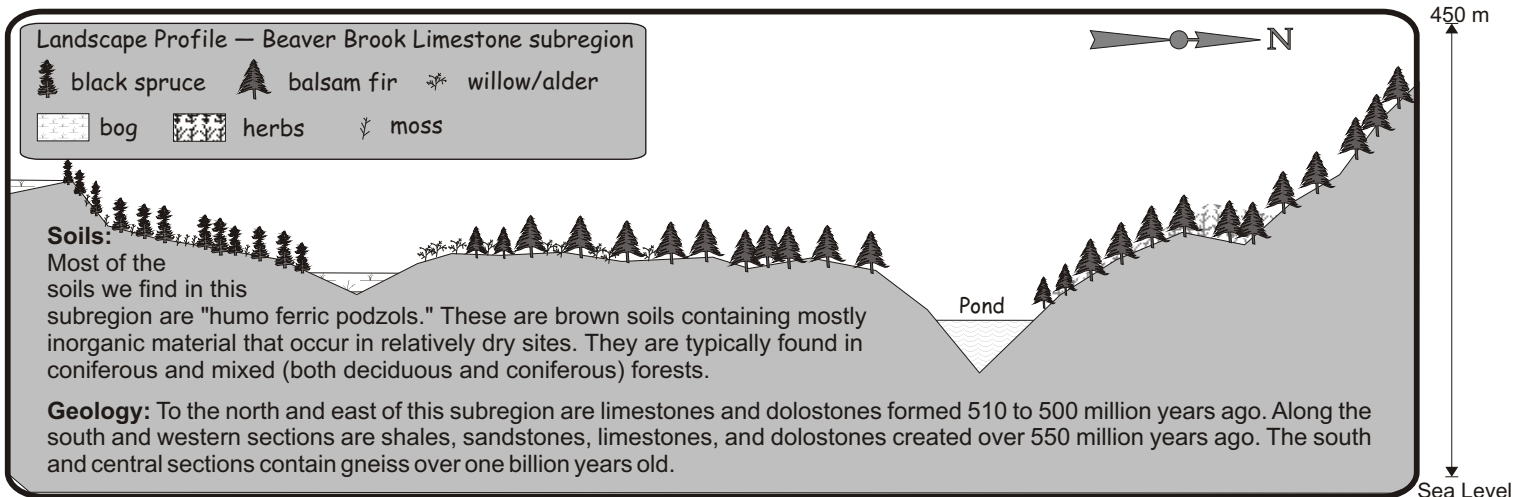
habitat within each ecoregion.

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 modifying 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.

... more on back

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

Extensive, low-lying **plateau bogs** cover much of the northwestern coastline areas of the Beaver Brook subregion. These plateau bogs differ from others on the Island because their pools are almost circular, and because they have well-developed drainage channels (elsewhere such pools are more irregular-shaped and scattered). Here, as well, large areas of the bogs' surfaces are covered by caribou lichen (*Cladonia*), a plant that is rare on plateau bogs in other locations in Newfoundland.

Heath moss (*Rhacomitrium lanuginosum*) is the dominant plant in these bogs, although sedges, alpine bilberry, and the moss *Dicranum elongatum* also appear.

Here, like most of Newfoundland, balsam fir is the **climax species** in the process of **succession**. In areas where fires frequently occur, colonizing species such as birch and aspen form significant portions of the forest. But the Beaver Brook Limestone subregion experiences few such disturbances, and these species are mainly absent.

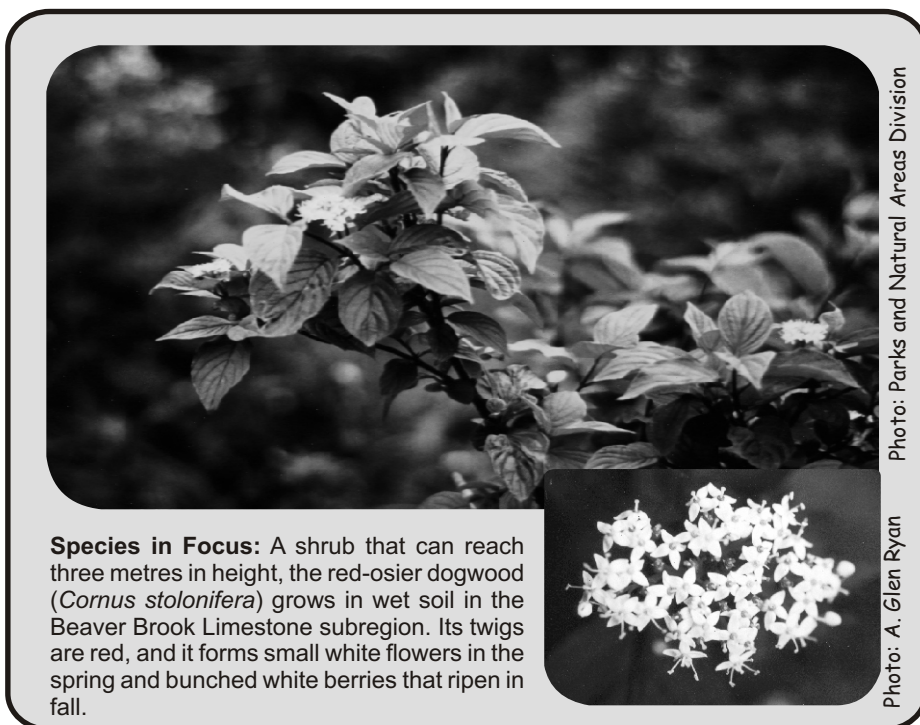
The forests in this ecoregion differ most notably from those in more southern areas by the absence of a number of species. These dramatic differences in plant

communities can be linked directly to the changes in climate that occur from south to north. For example, white pine, red maple, trembling aspen, rhodora, mountain holly, and about 100 other species of plants that are frequent in the Island's other forests can be found no farther north than the southern edges of the Northern Peninsula Forest ecoregion. As well, the speckled alder swamps found in rich wet soils farther south are replaced here by mountain alder and/or willow thickets.

Two common plant combinations occur in the forests of the Beaver Brook Limestone

subregion: dense red osier dogwood thickets on wet soils, and low willow thickets with tall white spruce on grown-over "marl ponds" (ponds with a sandy, clay bottom rich in limestone).

Many **calciphiles** — such as mountain avens, swamp birch, red bearberry, dwarf willow, purple saxifrage, sedges, Greenland primrose, northern green orchis, and liquorice root — grow here in the limestone-rich substrate. Oval-leaved bilberry, which in the Western Newfoundland Forest to the south grows only on limestone barrens, occurs throughout this subregion. **17**



Wildlife Profile

With a wide range of habitats — from forest to open barrens — most mammal species common throughout the island of Newfoundland are also found in the Beaver Brook Limestone subregion. Moose, lynx, mink, snowshoe hare, black bear, red fox, beaver, muskrat, otter, and caribou, for example, can all occur in the area. The caribou are usually members of the Northern Peninsula herd, which more frequently ranges throughout the Long Range Barrens to the south.

A large number of bird species can be found at different times in the forests of this subregion. Examples include ruffed grouse, black-capped chickadee, boreal chickadee, ruby-crowned kinglet, white-winged crossbill, fox sparrow, white-throated sparrow, yellow-bellied flycatcher, hermit thrush, blackpoll warbler, and northern waterthrush.

In the barrens and/or shrublands willow ptarmigan, horned lark, American pipit, song sparrow, mourning warbler, yellow warbler, and Wilson's warbler can occur. American bittern, short-eared owl (designated special concern), and Lincoln's sparrow frequent the plateau bogs.

Several seabird colonies occur on islands in Hare Bay, where Leach's storm petrel, black-legged kittiwake, black guillemot, arctic tern, common tern, and great black-backed gull all nest. Common eiders are also known to nest in Hare Bay.

The rivers and lakes of this subregion provide habitat for three-spine stickleback, nine-spine stickleback, Atlantic salmon, brook trout, rainbow smelt, and American eel, designated as special concern. 🐟



Photo: Parks and Natural Areas Division

Species in Focus: The common eider is a large sea duck — weighing up to 2.5 kg — that shows differential plumage between the sexes, as do many birds. The male is bright white with black wings, black head, and a greenish wash on the back of its head. The female is brown, which provides good camouflage when she sits on the nest. Eiders pluck their insulating inner feathers to line their nests and keep eggs and young hatchlings warm. In Iceland, and to a lesser extent in the St. Lawrence estuary in Canada, this rich down is taken from the nests and sold commercially.



Photo: R K Halfyard

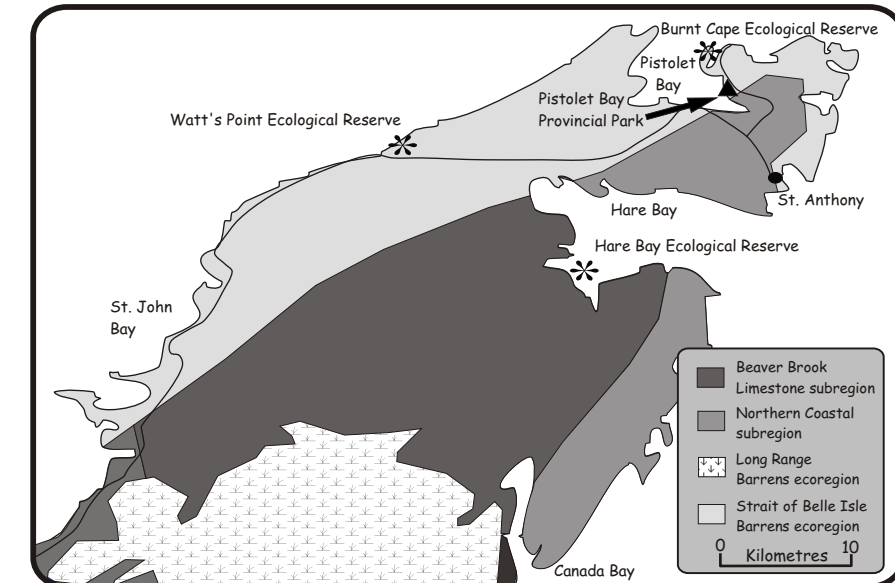
This subregion is known for its rich soils and productive forests. Balsam fir is the most common type of tree, especially at lower elevations near the coast.


Protected Areas Profile

The Hare Bay Ecological Reserve is located just off the Great Northern Peninsula's northeastern coast. Its 31 km² take in the offshore Brent, Spring, and Duck islands, and a series of smaller islands. Most of the protected area (26 km²) is a marine area under provincial jurisdiction.

Originally established as a Wildlife Reserve in 1964, the area received the additional protection of being designated an Ecological Reserve in 1983. The islands, which consist of bare rock with scattered shrub cover, provide nesting habitat for birds. Although the reserve protects the limestone bedrock characteristic of this subregion, other subregion features (productive forests, plateau bogs) are not represented. The Hare Bay Ecological Reserve is currently the only one in the subregion, protecting 0.1% of the subregion.

A 1996 survey of Hare Bay estimated about 230 nests of common eiders, with a few located within the Hare Bay Ecological Reserve. Two races of common eider occur in Newfoundland: a northern race, which winters in our waters and breeds in northern Labrador and the



arctic, and a southern race, which breeds here, in southern Labrador, and as far south as Maine. Around the turn of the century the southern race was nearly decimated, due to hunting for both eider meat and feathers. Since then, most populations have experienced a steady, if slow, increase in numbers. Because of their small clutch size (4 to 5 eggs) and the fact that adults don't always breed every year, the common eider is a species naturally slow to recover. The Newfoundland population — now estimated at about 3,000 pairs — has made a similar slow recovery. 

Climate

The Northern Peninsula Forest ecoregion experiences long cold winters and short cool summers, and its growing season (110 to 150 days) is the shortest of any forested ecoregion on the Island.



Annual rainfall
1300 mm
- 1500 mm



Annual snowfall
3-3.5 m



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

Plateau bogs: A type of bog that forms in coastal areas, where a build-up of sphagnum mosses 2 to 10 metres deep forms a plateau-like raised surface.

Climax species: A species that reaches a mature state and is abundant late in the process of succession (as forest cover returns after fire or logging, for example). In Newfoundland forests the climax tree species is usually balsam fir.

Succession: The natural changes in plant regrowth that occur when an area has been disturbed by forest fire or cutting. Over time, different combinations of plant species will recolonize the site in what appear to be "successive" stages.

Calciphiles: Plants adapted to calcium-rich (or "calcareous") soils, such as those found in limestone barrens.



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