

# Northern Peninsula Forest

## Northern Coastal subregion



**M**ore than 8,000 km<sup>2</sup> 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 Northern Coastal subregion is located along the northeastern edge of the peninsula, just east of the Beaver Brook Limestone subregion. The area is comprised of coastal headlands and an otherwise flat, generally low-lying landscape — elevations are less than 200 metres above sea level throughout. In sheltered valleys forest growth is poor and not as widespread as other subregions. Much of the subregion is covered by rocky dwarf shrub barrens, which grow primarily on slightly elevated sandstones and shales.

Portions of this subregion — the White Hills near St. Anthony and an area north of Hare Bay — is underlain by **serpentine rock**. These areas are covered by serpentine barrens similar to those in the Western Newfoundland Forest ecoregion.

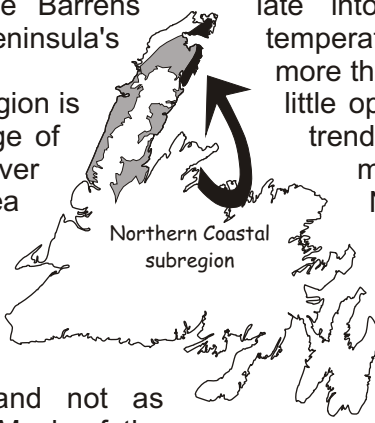
The Northern Peninsula Forest is one of

the coldest ecoregions on the Island. Its short cool summers and long cold winters give its subregions the shortest growing seasons on the Island — in fact, the shortest growing seasons of any forested ecoregion in the entire province. The growing season in the Northern Coastal subregion averages only 110 days.

These 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. In addition, ice floes carried southward can remain late into the spring, further reducing temperatures. No part of this 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. As a result, it doesn't suffer the moisture deficiencies that occur in the Central Newfoundland Forest.

This ecoregion marks an important, climate-related change in vegetation patterns on the Island: many species reach their northern limits just south of this ecoregion. This is mainly because cooler summers and a shorter growing season prevent the establishment of many species common in southern 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.

**Serpentine rock:** A greenish metamorphic mineral found in western Newfoundland that results in serpentine barrens

vegetation. It contains fibrous and flaky crystals, and has a soapy feel. Serpentine rock forms a basic substrate that many plants cannot tolerate. It was created in the deep sea as part of oceanic crust and mantle that were uplifted and pushed to the surface. Serpentine rock belongs to a group that also includes asbestos.

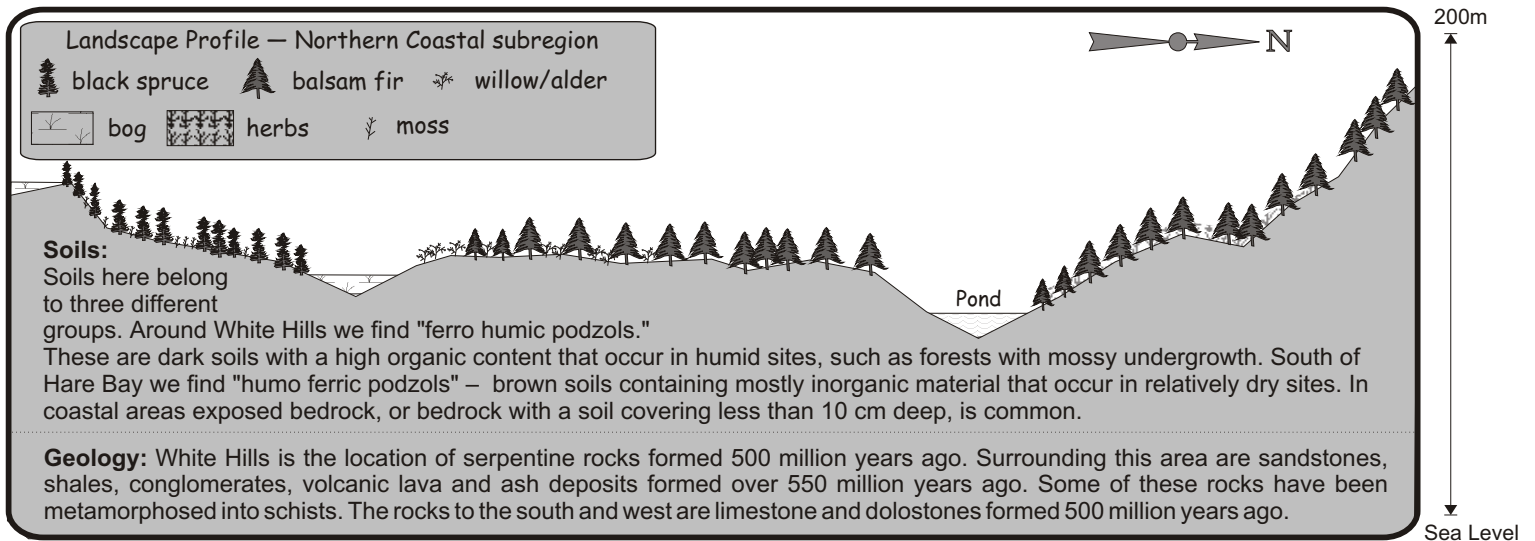
**Continental climate:** Climate resulting from a geographic location in the interior of a landmass, which lessens the modifying effects of the ocean. This leads to colder winters and warmer summers than areas

that have a similar latitude but are close to a large body of water.

**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 results from 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 basic.

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## Vegetation Profile

The Northern Coastal subregion has two typical kinds of plant communities. Where serpentine makes up the underlying bedrock, serpentine barrens occur, with plant communities adapted to this substrate. Elsewhere, shrub, barrens, and poorly developed forests are found.

The White Hills, in the northernmost part of the Northern Coastal subregion, are formed by underlying serpentine rocks. It is not easy for plants growing in the **basic soils** here to take up nutrients. Consequently, only a few serpentine-hardy plants manage to survive in this part of the subregion, and they form the unique serpentine heathland that covers much of the area. This sparse vegetation grows on exposed serpentine rocks, which have been eroded by frost action and form a boulder-strewn landscape.

Sandwort and alpine campion grow only in serpentine areas. But alpine bunchberry, alpine bilberry, Lapland rosebay, heath moss, thrift (*Armeria labradorica*), moss campion, butterwort, bluebells, and deer grass — all of which grow in these serpentine areas — can also be found on limestone barrens in the

neighbouring Beaver Brook Limestone subregion.

Compared to much of the rest of the Island, the subregion's forests have little forest-fire history. Balsam fir, which is the **climax species** here in the process of **succession**, is the dominant tree species. In other areas — such as the Central Newfoundland Forest where fires frequently occur — many other colonizing species, such as birch and aspen, make up significant portions of the forest. Since this subregion experiences few such disturbances, there is little opportunity for these species to establish themselves.

The forests of this ecoregion differ most notably from those in more southern regions, however, by

the absence of a number of species. The most dramatic changes in plant species distribution can be linked directly to changes in climate along the north/south gradient. 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 portion of this ecoregion. As well, the speckled alder swamps that are found in rich, wet soils farther south are replaced here by mountain alder and/or willow thickets.

Generally, the forests in the Northern Coastal subregion are poorly developed and degenerate into rocky dwarf shrub barrens, especially on more exposed sites. 🌲



Photo: Glen Ryan

**Species in Focus:** Tundra bilberry (*Vaccinium uliginosum*) is a member of the heath family, which also includes such common plants as blueberry, partridgeberry, and sheep laurel. This low, branching shrub has leathery leaves that are dull green above and pale below. Tundra bilberry can be found in wetlands, barrens, and open coniferous forests throughout Newfoundland and Labrador.

# Wildlife Profile

Mammals that live in the Northern Coastal subregion include moose, lynx, mink, snowshoe hare, black bear, red fox, beaver, muskrat, otter, and caribou. The caribou found in the subregion are usually members of the Northern Peninsula herd; they occur both here and throughout the Long Range Barrens ecoregion to the south. However, due to the limited forest cover in this subregion, many of these mammal species are not as common here as elsewhere in the Northern Peninsula Forest ecoregion.

A large number of bird species can occur in this subregion, primarily during spring and summer. Those inhabiting the forests include osprey, ruffed grouse, black-capped chickadee, boreal chickadee, ruby-crowned kinglet, white-winged crossbill, fox sparrow, white-throated sparrow, yellow-bellied flycatcher, American robin, hermit thrush, blackpoll warbler, Wilson's warbler, and northern waterthrush.

In the barrens and shrublands, willow ptarmigan, horned lark, American pipit, song sparrow, mourning warbler, and yellow warbler can occur. American bittern, swamp sparrow, and Lincoln's sparrow inhabit the low plateau bogs. Bald eagles are present primarily in coastal areas.

Short-eared owls (known in Newfoundland as "loppers") are commonly found nesting on the coastal barrens of the Great Northern Peninsula. They are less common elsewhere on the Island. Like all owls, numbers fluctuate with prey abundance. Newfoundland's short-eared owls make a relatively



Photo: Parks and Natural Areas Division

**Species in Focus:** A master of camouflage, the willow ptarmigan is at home on the barrens. Changing colours to match the seasons, it is nearly all white in winter, gradually becoming brown (in the female) and brown/white with a red head (in the male) in the spring and summer.

short migration in fall to the eastern United States where they spend the winter.

The rivers and lakes of this

subregion are home to three-spine stickleback, nine-spine stickleback, Atlantic salmon, brook trout, rainbow smelt, and American eel.



Photo: Paul Linegar

The highly exposed Northern Coastal subregion serves as a buffer zone between the cold North Atlantic Ocean and the more sheltered areas farther inland.



## Protected Areas Profile

There are no protected areas in this subregion.

### 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

## Focus on Geologic Zones

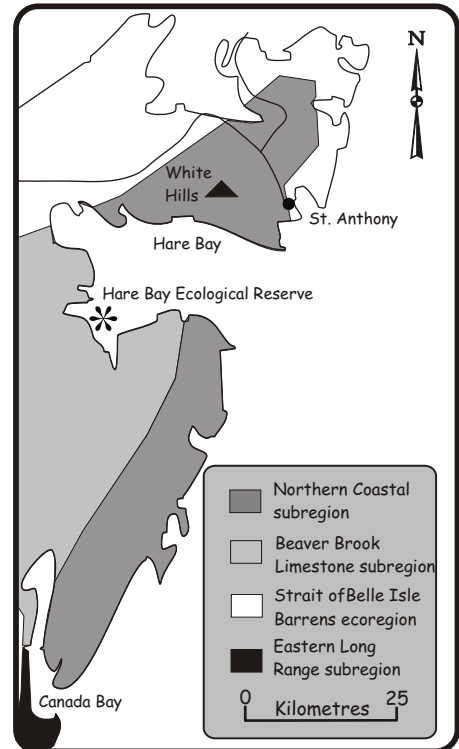
The island of Newfoundland has a rich geological history. In fact, the Island's three geological zones — the Western, Central, and Eastern zones — originated from different places, but were thrust

together to form one landmass.

Six hundred million years ago, much of the Western zone was part of a shallow sea that covered the continental shelf of a continent we call Laurentia. The Eastern zone belonged to a different continent, Gondwana. The two were separated by the Iapetus Ocean, which began to close about 550 million years ago as the continents shifted — a process known as plate tectonics.

By about 410 million years ago, the two landmasses had collided. What's now the Central zone of the island of Newfoundland was created through resulting uplifting and folding of the ocean bed of the Iapetus Ocean. Large portions of central Newfoundland were also created through volcanic activity accompanying this great event. Molten rock found its way up through the folding rock formations as igneous intrusions.

Later, about 200 million years ago, this new landmass itself began to break apart, but along slightly different lines. The rift occurred farther east where a small portion of Gondwana was torn away, moving westward with the remainder of present-day North America.



The Western and Eastern zones each have deposits of sediments from their ancient continental origins, which were metamorphosed during the continental collision. These metamorphic rocks are especially prevalent in the Western zone of the Island — as schists, marbles, and others — and they reveal the Island's violent geological past. 🌋

**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"



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Department of Environment and Conservation  
Parks & Natural Areas Division  
PO Box 8700, St. John's, NL A1B 4J6  
PH (709) 729-2664  
FAX (709) 729-6639  
Email: [parksinfo@gov.nl.ca](mailto:parksinfo@gov.nl.ca)  
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Terra Nova National Park  
General Delivery  
Glovertown, NL A0G 2L0  
PH (709) 533-2801/3154  
FAX (709) 533-2706  
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Gros Morne National Park  
P.O. Box 130  
Rocky Harbour, NL A0K 4N0  
PH (709) 458-2417  
FAX (709) 458-2059  
Email: [grosmorne.info@pc.gc.ca](mailto:grosmorne.info@pc.gc.ca)  
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For comments on this series, contact PAA: (709)726-2603 PAA@nf.aibn.com <http://www.paanl.org/>