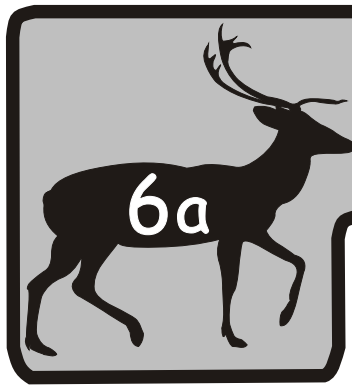


Maritime Barrens

Northeastern Barrens subregion



The Northeastern Barrens, which borders the Trinity and Conception

bays, can be easily recognized by its widespread **barrens** broken here and there by peatlands and forested areas. As one of four subregions in the Maritime Barrens ecoregion — the largest of the Island's ecoregions — it takes in 3,832.7 km², including the western half of the northeast Avalon Peninsula, most of the Bay de Verde Peninsula, and the eastern half of the Bonavista Peninsula.

As in the other subregions, the topography of the Northeastern Barrens dramatically reflects glacial activity that occurred here more than 10,000 years ago. Most of the area is covered by gently rolling **ground moraine**, but scattered throughout are gigantic boulders left by retreating glaciers, and hundreds of lakes and ponds created by glacial gouging of the earth's surface. The hummocky terrain of the slopes and valleys of this region is also the result of glacial activity — as glaciers melted small mounds of till were left behind.

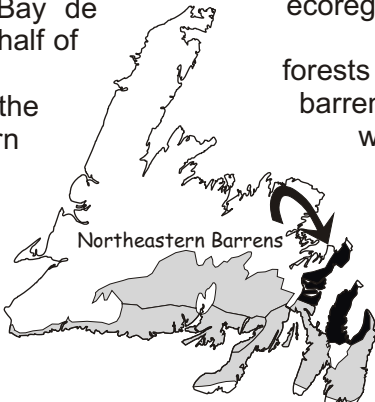
During summer, frequent fog and strong southerly winds make the Maritime Barrens one of the coldest ecoregions on the island of Newfoundland. However, because of its northerly

location within the ecoregion, the Northeastern Barrens subregion experiences less fog and wind, and warmer summer temperatures, than its southern counterparts.

This difference in climate has led to more extensive forest cover here than in the other three subregions of the Maritime Barrens. However, like the rest of the ecoregion, barrens are the most common landscape feature, and **slope bogs**, **basin bogs**, and **fens** occur regularly, reflecting the poor drainage and wet climate in the ecoregion.

This pattern — small stands of forests broken by huge expanses of open barrens — is the result of repeated, widespread fires. Until recent times, the Northeastern Barrens subregion was covered by forest, except on some high ridges and coastal headlands. But due to burning, first by European settlers and then from the more disastrous fires that came with the railway in the 19th century, forests were gradually destroyed.

Once areas had been burned, highly competitive dwarf shrub species were able to invade and dominate the landscape, resulting in the barrens so characteristic of this region. Patches of forest that escaped fire can be found primarily in protected valleys and on some hilltops and steep slopes.



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 Maritime Barrens is divided into four subregions.

Barrens: Primarily treeless areas containing low-growing plants that are well adapted to exposed conditions and soils

low in nutrients. Barrens are also known as "heath" or "heathlands," since much of the plant life found on them belongs to the heath family.

Ground moraine: The uniform deposit of till — sediment that has a range of particle sizes (sandstones and gravel, for example) — that is left when glacial ice recedes or melts. Ground moraine forms no recognizable topographical feature, so it is not always immediately identifiable.

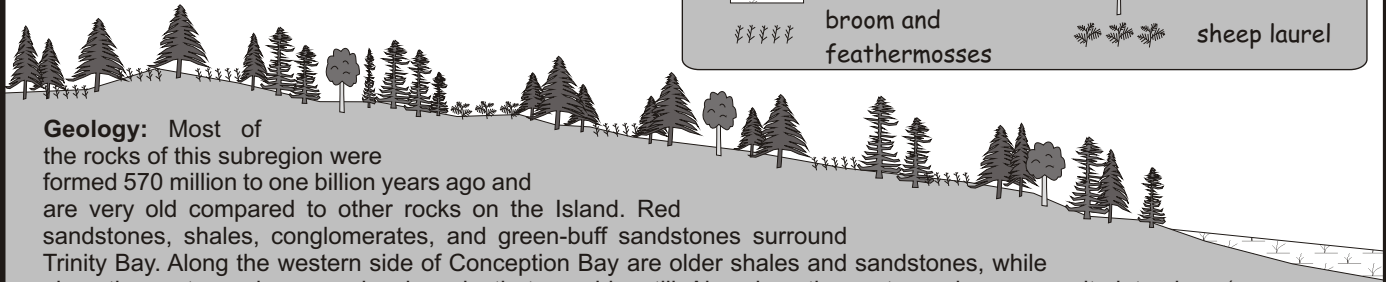
Bogs and fens: Two types of peatlands, which are wetlands characterized by poor drainage and a thick layer of peat — soil consisting of the remains of partly decomposed plants. Shrubs and mosses

are the common plants in peatlands — particularly sphagnum moss, which acts like a giant sponge as it soaks up large quantities of water, then slowly releases it. Not only does sphagnum moss prevent flooding and erosion, but it provides a platform on which other plants can take root and grow. Fens generally have more grasses and sedges than bogs, and so look more meadow-like. Because bogs receive most of their nutrients from rainfall, they are generally nutrient-poor. Water entering fens, on the other hand, seeps in from nearby soils and results in a more nutrient-rich habitat.

... 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.

Landscape Profile — Northeastern Barrens



Geology: Most of the rocks of this subregion were formed 570 million to one billion years ago and are very old compared to other rocks on the Island. Red sandstones, shales, conglomerates, and green-buff sandstones surround Trinity Bay. Along the western side of Conception Bay are older shales and sandstones, while along the eastern edge are volcanic rocks that are older still. Also along the eastern edge are granite intrusions (a place where molten rock seeped up) formed about 570 million years ago. Shales, limestones, and conglomerates about 550 million years old occur around Kelligrews. The youngest rocks in this subregion are the shale, limestone, and hematite deposits on Bell Island, which were created about 450 million years ago. Together, these rock groups form the principle components of the Avalon zone, which was once connected to land now found in Africa.

200 m
Sea Level

Vegetation Profile

Although barrens are the most common landscape feature of this subregion, forest cover is greater here than in the rest of the Maritime Barrens. Balsam fir dominates these forests, followed by black spruce and a scattering of white birch. On forest floors broom moss, feathermoss, and other mosses generally abound. In both this and the Southeastern Barrens subregion, mountain alder forms dense thickets along the edges of brooks and streams. These are replaced by speckled alder in the western subregions of the

Soil: Soils here are of two basic types. "Humo ferric podzols" are found on most of the Bonavista Peninsula, south of Carbonear, and most of the eastern edge of Conception Bay. These are brown soils containing mostly inorganic material that occur in relatively dry sites. "Ferro humic podzols" occur at the northern tips of the Avalon Peninsula and near Brigus at the southern end of Conception Bay. These are darker soils with a high organic content that occur in more humid sites.

Maritime Barrens. Yellow birch, which prefers rich, moist woodlands, is virtually absent in this subregion, although it can be found in the Avalon Forest and Southeastern Barrens just to the south.

On the open barrens of the Northeastern Barrens, "dwarf shrub heath" (where plants belonging to the heath family grow in dense thickets 30-50 cm in height) predominates. Sheep laurel is the most common of these,

although rhodora and low bush blueberry are well represented. Dogberry, larch, mountain holly, and small pockets of stunted balsam fir are also commonly found here.

On exposed sites such as interior uplands and coastal headlands, patridgeberry and black crowberry replace sheep laurel — though on the coldest and windiest of these sites, pink crowberry becomes more common than black crowberry.

Species in Focus: The pitcher plant (*Sarracenia purpurea*) is a carnivorous plant: besides the food it makes through photosynthesis, it also catches and "eats" small insects. Its joined leaves form a pitcher-shaped receptacle, which fills with rainwater and the plant's digestive juices. Insects, attracted to the plant by its nectar, slip from the smooth flaring lips of the leaves into the "pitcher." Downward-pointing hairs prevent them from crawling out, and once they're drowned the plant uses enzymes and bacteria to digest them.

The pitcher plant is found throughout Newfoundland in bogs and fens, and usually grows with or near sphagnum moss. The burgundy-coloured flowers bloom on stalks 20 to 60 cm tall in June and July. The pitcher plant is the floral emblem of Newfoundland and Labrador.



Photo: Parks and Natural Areas Division

Wildlife Profile

Most landbirds found in the forests of this subregion are migratory breeders — that is, they breed here but migrate elsewhere for the winter. These include the ruby-crowned kinglet, northern waterthrush, white-throated sparrow, hermit thrush, fox sparrow, and yellow-rumped warbler. Examples of forest residents — birds that are present year-round — are dark-eyed junco, boreal chickadee, and pine grosbeak.

On the barrens willow ptarmigan is resident while the savannah sparrow, horned lark, and American pipit occur as migratory breeders. In wetland habitats swamp sparrow, and shorebirds such as common snipe, greater yellowlegs, and least sandpiper, occur as migratory breeders.

Low numbers of waterfowl also nest in this area, including Canada goose, American black duck, green-winged teal, and ring-necked duck. Common goldeneye, which nests in natural tree cavities or large woodpecker holes, breeds near lakes and ponds in forested areas. This subregion is also notable for its large numbers of overwintering waterfowl (such as northern pintail, mallard, and American black duck), which gather in the freshwater habitats of urban areas.

Crows can be found year-round near any sign of human habitation. Raven, common throughout Newfoundland, are particularly abundant in coastal areas where they nest on cliff edges and feed on seabird eggs and young, although they will eat anything from garbage to wild berries.

Mammals found in the forest and shrub habitats are moose, mink, snowshoe hare, and red fox, while beaver and muskrat occur in the ponds and rivers. Other mammals



Photo: Parks and Natural Areas Division

Species in Focus: The horned lark breeds on exposed coastal and upland barrens in the subregion, where it builds a cup-shaped nest lined with plants and feathers. It can be recognized by its tinkling song, undulating flight, and black breast and face patches.

include the red squirrel, little brown bat, meadow vole, masked shrew, eastern chipmunk, and short-tailed weasel.

A small herd of about 100 caribou is located in the Bay de Verde area. They inhabit both barrens and woodland areas where they feed on lichens, shrubs, and grasses.

There is one amphibian but no reptiles in the Northeastern Barrens subregion. The green frog is an introduced species that inhabits quiet ponds and marshes of this and the Southeastern Barrens subregion. It is not widespread even in these subregions, however, and populations are small.

The region's many lakes, ponds, and rivers support a variety of fish. The most common are Atlantic salmon, brown trout, brook trout, American eel, rainbow smelt, and three-spine and nine-spine sticklebacks. 🐟

Two **seabird colonies** — containing 500 or more breeding pairs — exist in the Northeastern Barrens subregion: Maiden Point in Trinity Bay, where a small colony of black-legged kittiwake nest, and Little Bell Island in Conception Bay, where black guillemot, herring gull, and great black-backed gull breed in low numbers.



Photo: George Draskoy

Although there is more forest cover in this subregion than the rest of the Maritime Barrens, barrens occur commonly.

Climate

This subregion experiences cool summers with frequent fog. Winters are generally mild with little permanent snow cover.



Annual rainfall

1250 - 1300mm



Mean daily temperatures

February -3°C to -8°C

July +13°C to +16°C

Protected Areas Profile

There are three protected areas in this subregion. Butter Pot Provincial Park, Marine Drive Provincial Park Reserve and Lockston Path Provincial Park together protect 0.8% of the Northeastern Barrens subregion.

Butter Pot Provincial Park, covering 28.3 km² and located 11 km from Holyrood, includes bogs, barrens, coniferous forests, and erratics — huge boulders dropped by retreating glaciers.

Within these landscapes we find some of the characteristic features of the subregion — kalmia heath, black crowberry heath, and black spruce forests.

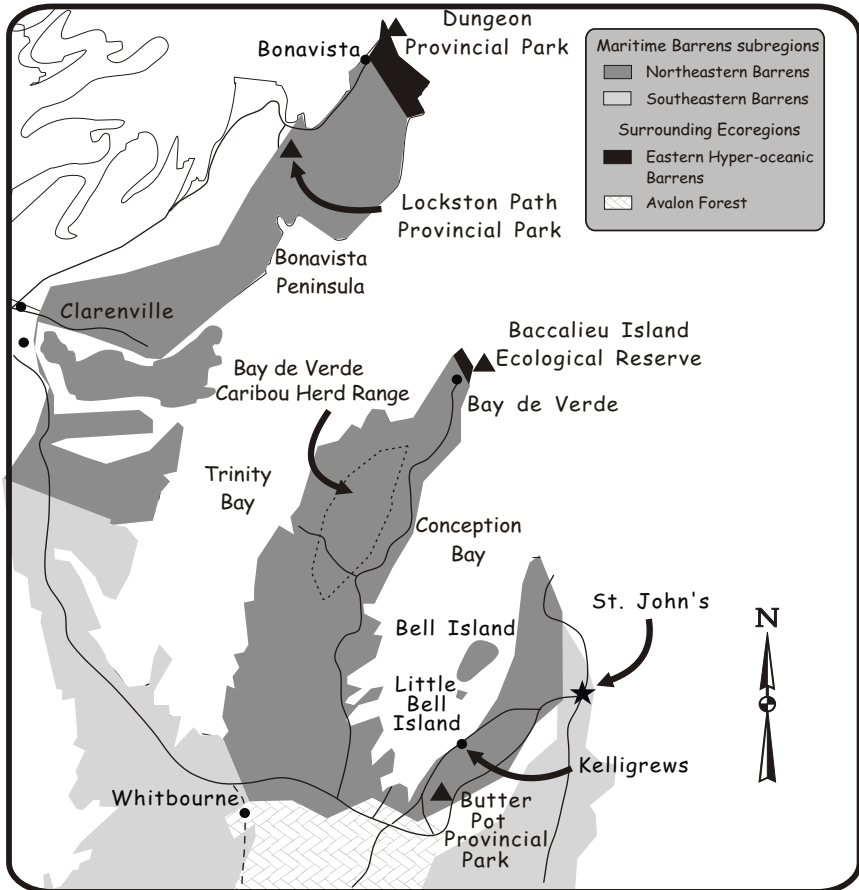
The park also has recreational facilities, including a 3.5 km trail to "The Lookout," seasonal

interpretation walks, a beach, and camping and picnicking sites.

Marine Drive Provincial Park Reserve takes in 6.2 km², and protects a small portion of the coastal features characteristic of the subregion.

Lockston Path, a park of 7.7 km² on the Bonavista Peninsula, has

a wide variety of habitats, including sheltered balsam fir forests, barrens, bogs, and a freshwater beach. Though components that are representative of the subregion can be found in each of these protected areas, their size and composition does not adequately represent the subregion as a whole.



Slope bogs: One of several types of bogs that occur throughout Newfoundland. They are generally found on slopes in poorly drained areas and can sometimes contain a scattering of pools.

Basin bogs: Small, flat-surfaced bogs confined to basins and depressions. They do not often feature pools. Basin bogs are commonly found in eastern and southern Newfoundland.



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