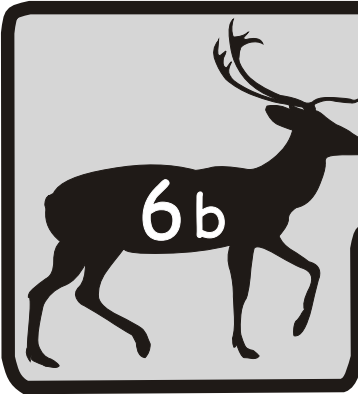


Maritime Barrens

Southeastern Barrens subregion



The 9,891.6 km² Southeastern Barrens subregion takes in most of the Burin Peninsula, as well as the southern and central portions of the Avalon Peninsula. It is one of four subregions making up the largest ecoregion on the island of Newfoundland: the Maritime Barrens. Like the rest of the ecoregion, the Southeastern Barrens is characterized by exposed bedrock and extensive **barrens** — especially on the northern half of the Burin Peninsula and the islands of Placentia Bay — with tree growth often limited to protected valleys and coves.

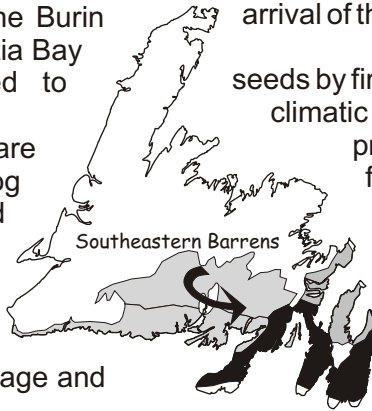
Summers in this subregion are typically cool — marked by frequent fog and strong southerly winds — and winters are relatively mild, considering the area's northern latitude. **Slope bogs, basin bogs, and fens** are scattered throughout the barrens, reflecting the poor drainage and wet climate of this ecoregion.

The topography of the Southeastern 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 (erratics), and hundreds of lakes and ponds created by glacial gouging of the earth's surface.

the heath family.

Bogs and fens: Two types of peatlands, which are wetlands characterized by poor drainage and a thick layer of peat. 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. 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. **Slope bogs**, one of

The landscape pattern that identifies this area — small stands of forests broken by large expanses of open barrens — is primarily the result of cutting and repeated, widespread fires. Until recent times, the Southeastern Barrens subregion was covered by forest, except on some high ridges and coastal headlands. Forest patches that escaped fire exist primarily in protected valleys and on some hilltops and steep slopes. Fires were caused by early European settlers, often deliberately in order to clear land. More disastrous fires came later with the arrival of the railway in the 19th century.



The general reduction of tree seeds by fire, the thinness of the soil layer, and climatic conditions (strong winds, lack of protective snow cover, and frequent fog) allowed time for competitive dwarf shrub species to invade and dominate the burnt-over areas. As a result, much of this subregion, and the Maritime Barrens ecoregion as a whole, is today characterized by barrens.

Forests are even scarcer in the Southeastern Barrens than in the two more northerly subregions of this ecoregion, due to more fog and the lower summer temperatures that come with prevailing winds off the ocean. A scattering of yellow birch, which favours moist woodlands, is found in the forested areas, which also helps set this subregion apart from its northern subregion counterparts.

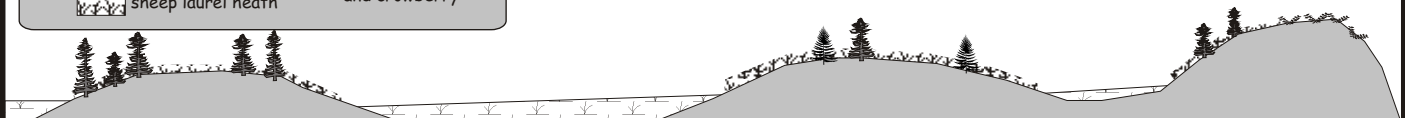
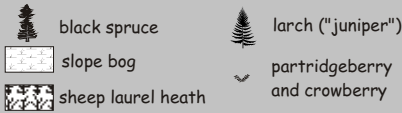
several types of bogs that occur throughout Newfoundland, are generally found on slopes in poorly drained areas and can sometimes contain a scattering of pools. **Basin bogs** are small, flat-surfaced bogs that occur in basins and depressions, though they do not often feature pools.

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.

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.

Barrens: Primarily treeless areas containing low-growing plants 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

Landscape Profile — Southeastern Barrens



200 m
Sea Level

Soils: Soils here are largely of two basic types. "Ferro humic podzols" occur along the eastern edge of Placentia Bay, the very tip of the Burin Peninsula, and around Trepassey Bay. These are dark soils with a high organic content that occur in more humid sites. "Humo ferric podzols" are found throughout much of the remainder. These are brown soils containing mostly inorganic material that occur in relatively dry sites.

Geology: Most of the rocks of this subregion were formed 570 million to one billion years ago, making them very old compared to other rocks on the Island. The Burin Peninsula is composed largely of ash and lava that date to almost one billion years ago. The southern Avalon from Chance Cove to St. Mary's Bay includes sandstones and shales that are slightly younger than the volcanics of the Burin Peninsula. Ash and lava deposits south of Placentia are younger still at about 600 million years. South of Whitbourne can be found sandstones, conglomerates, and shales that were deposited about 600 million years ago. Together, these rock groups form the principal components of the Avalon zone, which was once connected to land now found in Africa.


Vegetation Profile

Barrens occur extensively in this subregion. Here a plant community known as "dwarf shrub heath" is common. These are thickets 30-50 cm in height of plants belonging mostly to the heath family. Sheep laurel is the most common of these — particularly in protected valleys

where it forms a dense cover — but purple-flowering rhodora and low bush blueberry are also well represented, as are larch, dogberry, mountain holly, and stunted balsam fir.

On inland hills and coastal headlands, black crowberry and partridgeberry are likely to grow. On very exposed sites, pink crowberry becomes more common than black crowberry.

Forests here are limited to

isolated, protected pockets; where they do occur, balsam fir is the dominant tree. Mosses, such as broom moss and feathermoss, are abundant on the ground in these small forested areas. In both the Southeastern and Northeastern Barrens subregions, mountain alder forms dense thickets along the edges of brooks; these are replaced by speckled alder in the western subregions of the Maritime Barrens. 

Focus on Fires: Forest fires have played a major role in shaping the landscape of the Maritime Barrens. In 1904 in particular, fires were both numerous and widespread, sweeping through more than 2,000,000 acres of forest from coast to coast. Railway passengers travelling across the province in July of that year reported passing through a number of burning areas. Huge billows of smoke often engulfed the cars and the roar of the flames could be heard miles away. Occasionally, areas on either side of the track were on fire, causing intense heat inside the cars.



Photo: Parks and Natural Areas Division

Species in Focus: Black crowberry (*Empetrum nigrum*), a mat-like evergreen shrub well adapted to cold and wind, is the predominant plant on the most exposed coastal areas of the Southeastern Barrens.

Wildlife Profile

A number of seabird colonies occur on offshore islands in the Southeastern Barrens subregion.

Four of these (Gull, Great, Green, and Pee Pee Islands) make up the Witless Bay Ecological Reserve, located about 30 km south of St. John's. Together, these four islands host the second largest population of seabirds in eastern North America, including the continent's largest gathering of Atlantic puffin (more than 90,000 pairs) and the world's second largest colony of Leach's storm-petrel (780,000 pairs).

Witless Bay also features the continent's largest colony of black-legged kittiwake (30,000 pairs) and second largest colony of common murre (78,000 pairs), and provides breeding habitat for herring gull, great black-backed gull, razorbill, black guillemot, and northern fulmar. Another seabird, the common tern, nests in small pockets in coastal areas.

In the scattered forests of this subregion ruby-crowned kinglet, northern waterthrush, white-throated sparrow, hermit thrush, fox sparrow, and yellow-rumped warbler occur as migratory breeders (birds that breed here but migrate elsewhere for winter). Dark-eyed junco and pine grosbeak are both residents (present year-round) in this same habitat.

On the barrens, residents include willow ptarmigan (or "partridge"), while the savannah sparrow, American pipit, and horned lark occur as migratory breeders. Swamp sparrow, and shorebirds such as the common snipe, greater yellowlegs, and least sandpiper, are migratory breeders in wetland habitats.

Moose, mink, snowshoe hare, and red fox live in the forest

Species in Focus:

When Europeans first settled in Newfoundland, large numbers of caribou roamed throughout the island's barrens. Though we can never know for sure, the population in 1900 is estimated between 50 and 100 thousand. After a drastic decline in numbers a hunting ban was put in place from 1915-1935.

One can only imagine the dire situation that must have existed for a hunting ban to be put in place at that time. Hunting was allowed from 1935 onward though few animals were actually killed. Around 1960 the number of caribou began to see increases until recent years. In the early twenty-first century the province is again seeing declines in our herds as they struggle against habitat loss and illegal hunting.

During the summer, caribou feed on grasses, leaves, and flowering plants. In winter they feed on tree and ground lichens, which they expose by digging the snow with their large, spreading hooves.



Photo: Doyle Wells

and shrub habitats of this subregion, while beaver and muskrat can be found in the vicinity of ponds and streams. Other mammals include the red squirrel, little brown bat, meadow vole, masked shrew, and eastern chipmunk.

The Southeastern Barrens is home to the world's most southerly caribou herd — the Avalon herd — which lives in and near the 107,000 hectares protected by the Avalon Wilderness Reserve, on the southeastern portion of the Avalon Peninsula.


Fish in this region include Atlantic salmon, brook trout, brown trout, rainbow smelt, American eel, and three-spine and nine-spine sticklebacks. The banded killifish has been reported on the Burin Peninsula. This fish is considered designated as special concern meaning it is at risk because of low numbers. It inhabits quiet gravel areas of lakes and ponds where it spawns in weedy pools. There is one amphibian — low numbers of the green frog — and no reptiles in this ecoregion. 



Photo: Sandy Newton

Extensive barrens have replaced much of the Southeastern Barrens subregion's natural forest cover, following widespread fires.

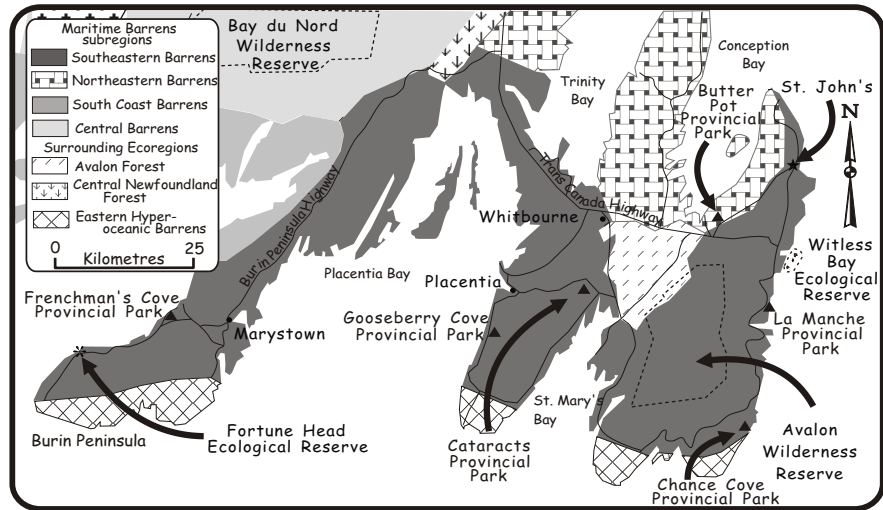
Protected Areas Profile

Located in the centre of the eastern section of the Avalon Peninsula, the Avalon Wilderness Reserve was created primarily to protect the Avalon caribou herd. Most of the essential features of this subregion are protected within the 1070 km² reserve. Here we find gently rolling barrens and peatlands dotted with gigantic boulders, pockets of balsam fir and black spruce, as well as a wide variety of mammals, birds, fish, and plants. Wilderness Reserves are areas set aside to preserve significant land formations, animals and their habitats, plant communities, and geological wonders.

Three ecological reserves, established to protect special features, occur in the Southeastern Barrens subregion. Witless Bay Ecological Reserve (31 km²), home to over two million breeding seabirds; Hawke Hills Ecological Reserve (1.3 km²), protecting a variety of arctic-alpine plants and North America's most easterly alpine barrens; and the Fortune Head Ecological Reserve (2.2 km²), located at the southwestern tip of the Burin Peninsula, which protects what is known as a global stratotype. In this case, the geological boundary between the Precambrian era and the Cambrian period, which began 530 million years ago, can be observed here.

There are also ten provincial parks in the subregion. Though too small to provide full subregion representation, they each offer unique experiences of nature, and contribute to the 11.3% of protected area for the subregion.

Cataracts, at 1.7 km², features an enormous variety of mosses, a deep river gorge, and two cascading waterfalls. La




Manche (14.4 km²) provides camping and hiking trails, views of lily ponds and a waterfall, and habitat for more than 50 recorded species of birds. Frenchman's Cove (0.5 km²) contains a variety of habitats, including a pebble beach, barachois, marsh, and stream. It also harbours a large number of migratory birds during the spring and fall.

Gooseberry Cove (0.03 km²) features a sandy beach on the shores of Placentia Bay. Chance Cove (20.7 km²), provides a trail to the ocean, where one can see whales, seabirds, and seals along this spectacular coast. Bellevue Beach (0.7 km²) protects a beach complex, saltmarsh and habitat for migrating shorebirds.



Butter Pot (28.3 km²) features bogs, barrens, coniferous forests, and huge boulders dropped by retreating glaciers. Hiking trails weave through forests and over barrens to a remarkable scenic view-point. Fitzgerald's Pond (1.6 km²) protects a population of globally rare lichen *Erioderma pendicellatum*. Jack's Pond (3.4 km²) also preserves an area of rare plants and high habitat diversity.

Marine Drive (6.2 km²) protects a small portion of the coastline characteristic of the subregion, as well as a mixture of forests, barrens and coastal highlands.

There is one Wildlife park in the province - in this subregion. Salmonier Nature Park takes in 14.6 km². Though its main purpose is public education, it also protects more than 80 species of birds, 15 species of mammals, and 170 species of vascular plants, making it an excellent venue for observing native flora and fauna. 

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 Association of Newfoundland and Labrador (PAA) gratefully acknowledges the following partners for their generous contributions to the Newfoundland and Labrador Ecoregion Brochures project:

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