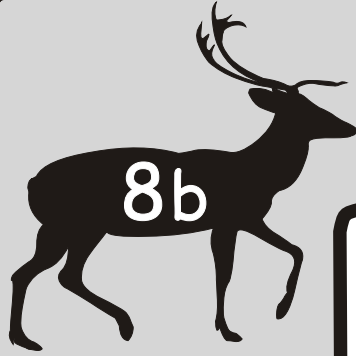




Long Range Barrens

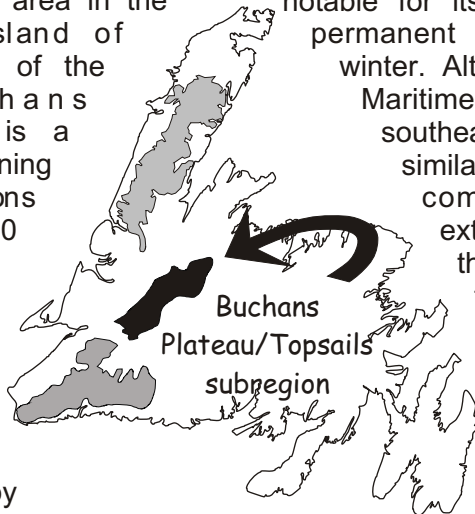
Buchans Plateau/Topsails subregion



One of three distinct subregions of the Long Range Mountains ecoregion, the

and **slope bogs** alternating with rock-filled pools are common and cover large areas, particularly on the Topsails in the northern portion of the subregion. In fact, this subregion contains some of the most extensive string fens found anywhere on the Island.

Buchans Plateau/Topsails subregion occurs just east of the Little Grand Lake area in the western portion of the island of Newfoundland. Like the rest of the ecoregion, the Buchans Plateau/Topsails subregion is a windswept, highland area containing widespread **barrens**. Elevations range from 200 to more than 650 metres above sea level. Although it lies between the two other subregions, it is the least arctic of the three and does not support **snow-bed communities**.



The climate of the entire ecoregion is notable for its short growing season and permanent snow-cover throughout the winter. Although exposed sites in the Maritime Barrens ecoregion to the southeast are clear of snow in winter, similar sites in this higher area are completely covered. In fact, extreme snow drifting is typical of this landscape. Winter visitors to the area encounter a stark, snow-covered world from which only a few branches of larch — also known in Newfoundland as "juniper" — emerge.

The three subregions are separated from each other by almost continuous forest. Except where small patches of forests occur in sheltered valleys within the subregions, trees are stunted, forming low, dense thickets of **tuckamore**. **String fens**

Soils: Soils here are almost entirely "ferro humic podzols." These are dark soils with a high organic content that usually occur in humid sites.

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 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.

Snow-bed communities: Groups of plants that grow where patches of snow continue into part of the growing season. The snow, as it melts, provides increased moisture to these plants, and adds protection against frost damage when night temperatures drop during spring and early summer.

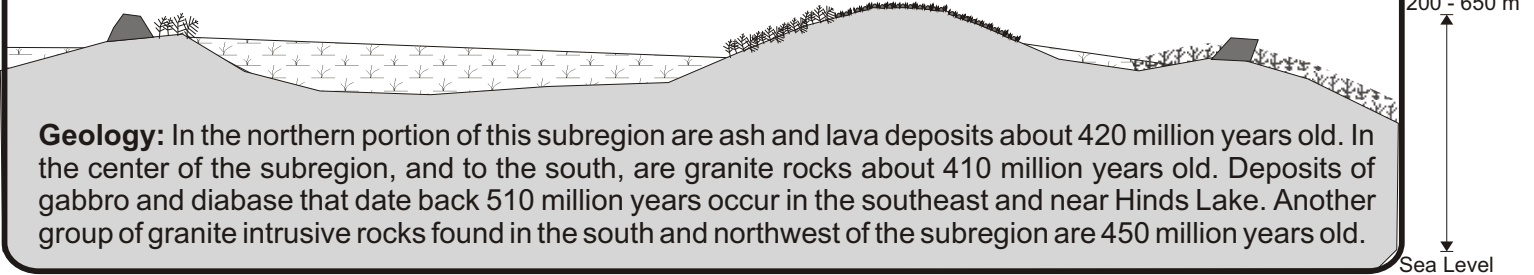
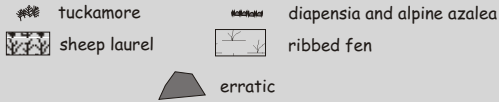
Tuckamore: Also known as "krumholz," tuckamore are areas where growth-limiting factors (such as exposure to harsh weather, or excess soil moisture) have resulted in dense thickets of stunted coniferous trees.

String fens: Narrow ridges or 'strings' of hummocky vegetation alternating with numerous pools. Also known as ribbed fens.

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.


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 — Buchans Plateau/Topsails



Geology: In the northern portion of this subregion are ash and lava deposits about 420 million years old. In the center of the subregion, and to the south, are granite rocks about 410 million years old. Deposits of gabbro and diabase that date back 510 million years occur in the southeast and near Hinds Lake. Another group of granite intrusive rocks found in the south and northwest of the subregion are 450 million years old.

Vegetation Profile

Dwarf shrub vegetation is widespread on the barrens in the Southern Long Range subregion. Sheep laurel and rhodora are the most common plants. Pink crowberry occurs abundantly on exposed sites that are subject to erosion, while diapensia and alpine azalea are common on all exposed, highland areas. Unlike the Southern Long Range and Northern Long Range barrens, snow-bed communities are absent from this subregion. 

Due to almost continuous exposure to strong winds, the flat-topped mountainous landscape of the Buchans Plateau/Topsails subregion is characterized by extensive areas of tuckamore. Fierce winds nip back the growing tips of branches, resulting in dense tangles of stunted trees that are usually less than a meter high, but have thick trunks that reflect their great age. These thickets are dominated by black spruce, and are widespread in valleys and on slopes. They are usually absent from hilltops, however, where winds are often too severe for any tree growth at all.

Only in the deep, sheltered valleys are there forests that have full-sized trees — mostly balsam fir. Larch is also common in these forests. It is, in fact, the only tree that grows taller than the winter snow level on exposed slopes. Sweet gale, a small shrub with greyish-green, spatula-shaped leaves, is found in most wet areas along brooks.



Photo: Parks and Natural Areas Division

Species in Focus: Typical of the Buchans Plateau/Topsails subregion is the regular occurrence of pink crowberry (*Empetrum nigrum*), a mat-forming evergreen shrub that grows on dry, exposed sites such as hill summits and rocky ledges. Crowberry leaves have rolled edges, giving them a needle-like appearance. Flowers are tiny and pink, while the fruit is a shiny red berry that occurs in late summer. Crowberry is slow-growing but long-lived — a small clump can be as much as 50 years old.

Wildlife Profile

The Gaff Topsails and Buchans caribou herds roam the upland barrens of this subregion. Moose, lynx, snowshoe hare, red squirrel, and little brown bat are mammals found in both forest and shrub habitats in the subregion. Black bear, red fox, mink, masked shrew, meadow vole, deer mouse (mostly near human habitation), and short-tailed weasel occur in an even wider variety of habitats. Beaver, muskrat, and otter are found in the aquatic habitats, while arctic hare is found in the higher elevations of the Long Range Barrens ecoregion.

Coyote can also occur here. This medium-sized member of the dog family experienced a range expansion during the 1980s, when individuals travelled to the Island on drifting ice pans, probably from Nova Scotia.

Both willow and rock ptarmigan occur year-round in the Buchans Plateau/Topsails subregion. While willow ptarmigan can be found throughout Newfoundland, the range of rock ptarmigan is more restricted: a common arctic breeder, its range extends southwards through the highlands of the entire Long Range Barrens ecoregion.

Blackpoll warbler and northern waterthrush are typical breeders in the forested areas in this subregion, while in wetland habitats swamp sparrow, Lincoln's sparrow, and common yellow-throat occur. The common redpoll can often be seen in areas of tuckamore, while savannah sparrow, horned lark, and American pipit breed on the open highlands.

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



Photo: Parks and Natural Areas Division

Species in Focus: The arctic hare is a characteristic mammal of the windy, inhospitable highlands of the Buchans Plateau/Topsails subregion. In fact, its range in Newfoundland is primarily restricted to the barrens of the Long Range Mountains and Buchans Plateau. Unlike the snowshoe hare, which was introduced to the Island around 1864, the arctic hare is native to the island of Newfoundland. Low numbers, however, make it one of the rarest mammals on the Island. Both red fox and coyote are known to prey on young arctic hares.

In summer, arctic hare have a grey-brown coat with a white underbelly. In winter, they turn pure white, except for their black-tipped ears. Arctic hare are known for their unusual habit of hopping upright on their hind feet, often for considerable distances.



Photo: Milton Crewe

The Gaff Topsails, like all of this subregion, is typified by extensive barrens broken by lakes and ponds, patches of stunted trees, and scattered boulders.

Protected Areas Profile

No protected areas are presently located in this subregion. However, a representative portion is included in the proposed Little Grand Lake Ecological Reserve, Little Grand Lake Wildlife Reserve and the Little Grand Lake Public Reserve.

Focus on Cold Weather Adaptations

All animals inhabiting northern regions face the problem of keeping warm during winter months.

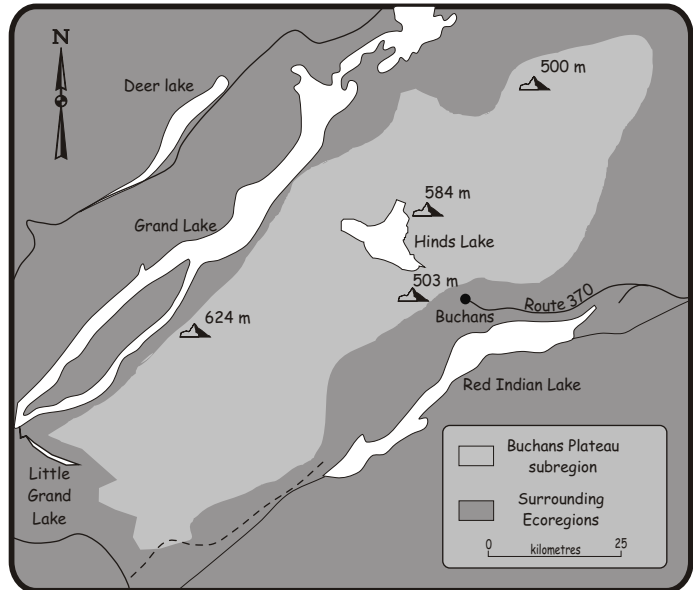
The most basic solution to getting through the winter is to migrate, generally southwards but sometimes simply to a lower elevation. The majority of birds in the Buchans Plateau/Topsails subregion, like bird species throughout the temperate zones of the world, leave in fall. Willow and rock ptarmigan, and the occasional raven, are exceptions, but even they frequently move to lower elevations during severe weather.


Some birds, like the ptarmigan, grow more feathers and become more densely insulated. Feathers are remarkably effective heat conservers. In addition, the legs, feet, and toes of ptarmigan are thickly covered with feathers. This adaptation helps reduce heat loss, which is especially important

because ptarmigan spend most of their time in snow. For birds with unfeathered legs, heat loss is reduced through the close proximity of arteries and veins in the lower legs. Heat is passed from the warm, outward-flowing blood to the colder blood returning to the body, thus saving precious heat energy.

Many mammals — caribou, for example — also migrate during spring and fall, but rarely over the great distances that birds travel. Growing thick, winter coats is an important way most mammals respond to cold.

However, the strategy most unique to mammals of northern regions is hibernation — the long period of deep sleep in which an animal's metabolic rate slows. This allows it to survive the long harsh winter when there is little available food. Some mammals inhabiting the Buchans Plateau/Topsails subregion, like the black bear, go into a state of only "partial dormancy." In such a state, black bears do not eat, and their body temperatures and heart rates drop. However, they can be easily aroused, and females can even give birth and nurse cubs during this time.



Most fish species do not hibernate, but among the residents of this subregion, the American eel regularly burrows into the protective mud bottom of streams and rivers where it safely passes the winter. 

Climate

This subregion experiences cool summers and cold winters. Snow cover is permanent during winter and can persist until June. The growing season is short. Winds, frequently quite strong, are primarily from the southwest and west.



Annual precipitation
>1300 - 1500 mm



Annual snowfall
3 - 4m



Mean daily temperatures
February -5°C to -8°C
July +13°C to +15°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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