

Understanding and Protecting our Natural Heritage

Newfoundland and Labrador: The physical setting

ECOREGION
 Forest 
 Barren 
 Tundra 
 Bog 

NF



LAB



Part island and part mainland, the province of Newfoundland and Labrador contains both the 16th-largest island in the world and the eastern portion of Canada's Ungava Peninsula. The province spans nearly 14 degrees of latitude, 15 degrees of longitude, and 8.4% of its 405,730 km² of land is covered in water.

The cold Labrador Current carries pack ice and icebergs southward to waters off our coasts. The meeting of this current with the warmer Gulf Stream waters over the Grand Banks has a strong effect on weather conditions. Fog is frequent and precipitation is often high. The sea, however, has a moderating influence on climate, giving coastal regions a milder, more maritime climate than the interior. In addition, continental air masses from North America often bring high winds.

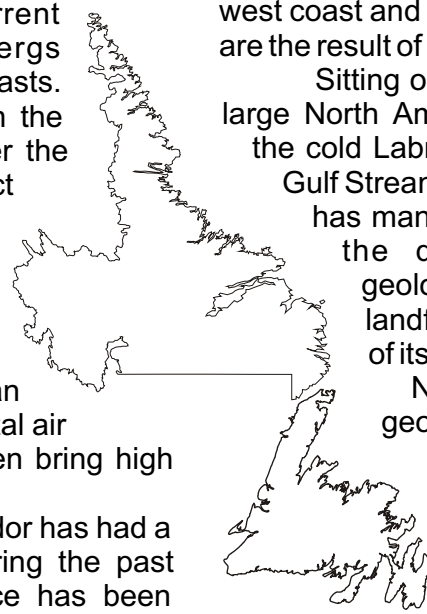
Newfoundland and Labrador has had a dramatic geological history. During the past 3,700 million years this province has been home to huge mountains, vast oceans, volcanoes, and ice sheets. Labrador is part of the easternmost extension of the Canadian Shield and contains mostly Precambrian rocks, some of which are the oldest on earth.

The island of Newfoundland is a relative newcomer: it was formed by two

different landmasses that were brought together 410 million years ago during the Paleozoic period of continental drift. During the last three million years, several major periods of glaciation left their mark on the landscape. Many of the characteristic landforms that we see today, such as the great fjords and U-shaped valleys of the island's west coast and Labrador's Torngat Mountains, are the result of glacial activity.

Sitting on the easternmost edge of the large North American land-mass, bathed by the cold Labrador Current and the warmer Gulf Stream, Newfoundland and Labrador has many unique landforms shaped in the distant past. Its location, geological history and variety of landforms contribute to the wealth of its natural heritage.

Newfoundland and Labrador's geological landscape now hosts diverse ecosystems that provide habitat for a wide variety of plant and animal species. Within the province there are 1,034 known native plants, 14 mammals native to the island and 35 to Labrador, and 160 species of birds which breed in the province. As of 2006, 24 of those plant and animal species have populations considered at risk of extinction if measures are not taken to protect them.



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.

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.

Why are Ecoregions Important?

Biodiversity is the broad variety of living things in the web of life. It includes the full range of flora and fauna with which we share this planet.

Every plant and animal has a unique set of ecological needs. When we classify the land into different natural areas where all plants and animals share the same basic living conditions, we can better understand the history of the land and the life upon it.

Terrestrial **ecoregions** are these natural areas. Each ecoregion has distinctive and repeating patterns of soil development, determined by factors such as climate, landforms and geology. These characteristics then in turn influence the kinds of plant and animals that can live within each ecoregion.

Newfoundland and Labrador is divided into 19 ecoregions: 9 on the island and 10 in Labrador. The island has been further subdivided into subregions for a total of 35 natural areas, providing 35 unique habitats for plants and animals.



Photo: Doyle Wells

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. Beginning around 1960 the number of caribou saw 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 can expose by digging the snow with their large, spreading hooves.

The Importance of Protected Areas

Each of our 35 natural regions is home to a unique group of plants and animals whose survival is closely linked to one another. All components within an ecoregion must be protected if the biodiversity of that ecoregion is to survive. Not surprisingly, habitat loss is the greatest factor causing plant and animal populations to become at risk.

Unfortunately, developments such as logging, mining, hydro flooding, agriculture, cabin developments and urban sprawl all cause habitat loss. These actions have far reaching impacts on our land, water and air. Often these impacts occur in ways that we cannot manage, predict or even understand.

To preserve our province's biodiversity we must establish a network of protected areas that includes a portion of each of our 35 natural regions. Protected areas are vital for numerous reasons. For example, they can:

ensure the survival of all our species in their habitats

support the healthy functioning of predator-prey relationships and other natural processes

allow the continued evolution of plants and animals through natural selection

preserve the genetic diversity of species by protecting their gene pools

create benchmarks and natural laboratories for scientific research

help reverse climate change by conserving the carbon sinks that are our untouched wetlands and forests

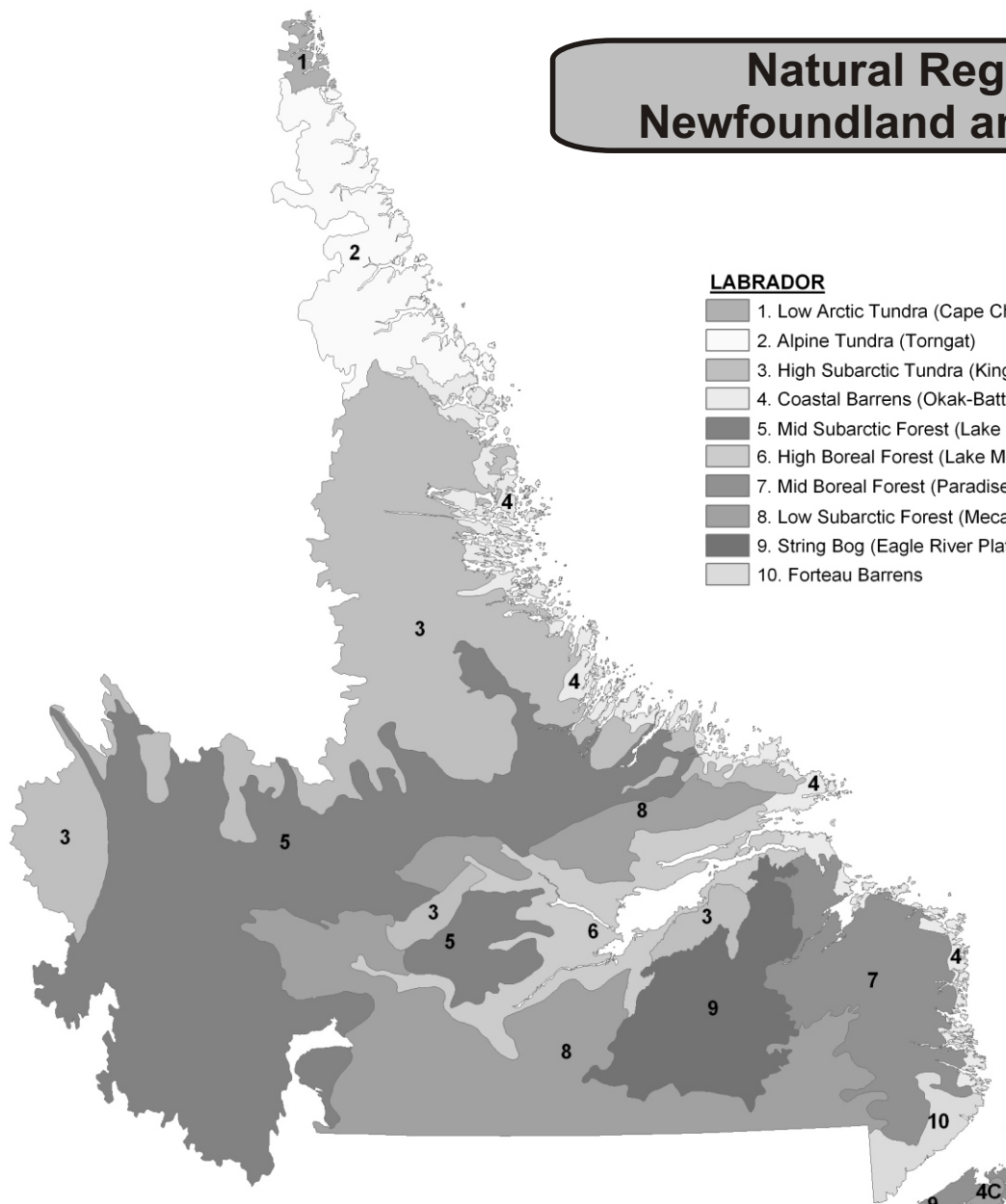
provide valuable nature-based tourism opportunities

encourage nature appreciation through direct contact with untouched wilderness

provide safe havens and sanctuaries for species

strengthen Newfoundland and Labrador's identity and heritage

Natural Regions of Newfoundland and Labrador

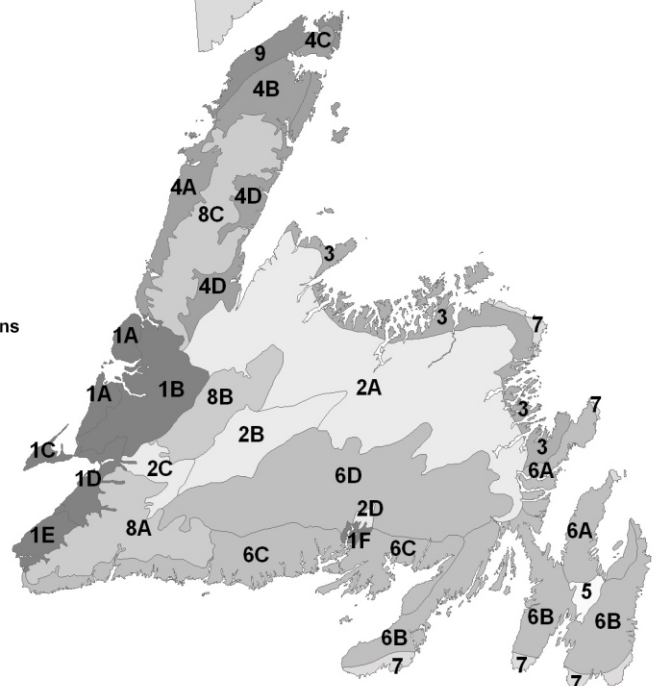


LABRADOR

- 1. Low Arctic Tundra (Cape Chidley)
- 2. Alpine Tundra (Torngat)
- 3. High Subarctic Tundra (Kingurutik-Fraser)
- 4. Coastal Barrens (Okak-Battle Harbour)
- 5. Mid Subarctic Forest (Lake Michikamau)
- 6. High Boreal Forest (Lake Melville)
- 7. Mid Boreal Forest (Paradise River)
- 8. Low Subarctic Forest (Mecatina River)
- 9. String Bog (Eagle River Plateau)
- 10. Forteau Barrens

NEWFOUNDLAND

- 1. Western Newfoundland Forest**
 - A. Serpentine Range Subregion
 - B. Corner Brook Subregion
 - C. Port au Port Subregion
 - D. St. George's Bay Subregion
 - E. Codroy Subregion
 - F. Bay d'Espoir Subregion
- 2. Central Newfoundland Forest**
 - A. Northcentral Subregion
 - B. Red Indian Subregion
 - C. Portage Pond Subregion
 - D. Twillick Steady Subregion
- 3. North Shore Forest**
- 4. Northern Peninsula Forest**
 - A. Coastal Plain Subregion
 - B. Beaver Brook Limestone Subregion
 - C. Northern Coastal Subregion
 - D. Eastern Long Range Subregion
- 5. Avalon Forest**
- 6. Maritime Barrens**
 - A. Northeastern Barrens Subregion
 - B. Southeastern Barrens Subregion
 - C. South Coast Barrens Subregion
 - D. Central Barrens Subregion
- 7. Eastern Hyper-Oceanic Barrens**
- 8. Long Range Barrens**
 - A. Southern Long Range Subregion
 - B. Buchans Plateau-Topsail Subregion
 - C. Northern Long Range Subregion
- 9. Strait of Belle Isle Barrens**



Types of Protected Areas

Wilderness reserves are large, undisturbed natural areas that preserve important wide-ranging wildlife populations and their ecosystems. They are protected from human activities such as forestry, mining, hydro flooding, new roads, cabins and transmission lines. These are places where people can enjoy abundant wildlife and pristine wilderness. In reserves such as Avalon and the Bay Du Nord Wilderness Reserves people can camp, hike, kayak, hunt and fish. Wilderness reserves support significant populations of plants and animals, so are best able to withstand regional catastrophes and protect the diversity of life within a region against external disturbances. Their forests and bogs are also valuable carbon sinks that absorb and hold carbon dioxide, a major culprit in climate change.

Ecological reserves are usually smaller and are established with the purpose of providing sanctuary for unique, rare, or endangered plants and animals, or protecting important fossil sites. The Mistaken Point Ecological Reserve protects a fossil site containing the oldest collection of multi-celled organisms in the world. The West Brook Ecological Reserve protects one of the last large stands of rare Red Pine. The small size and extra sensitivity of ecological reserves demand greater restrictions on human activity within their boundaries, and regular monitoring at their perimeter. Ecological reserves can also protect full ecosystems, with the goal of protecting representative portions of each of the unique natural regions in Newfoundland and Labrador. The first of such reserves is the Little Grand Lake provisional ecological reserve which will complete the protection of representative portions of three of

the province's natural regions.

National parks, such as Gros Morne, Terra Nova, Torngat and Mealy (proposed) Mountains, give opportunities for high-end eco-tourism industries and recreation such as camping, hiking, swimming, climbing, kayaking and boating, while protecting a variety of landscapes and providing access to spectacular scenic areas. Provincial parks, such as Butter Pot and Barchois Pond, serve a similar purpose but on a smaller scale.

Those are not the only ways to protect areas but they are the strongest. Other protected areas found in the province include: wildlife parks and reserves, public reserves, development control areas, national historic sites and migratory bird sanctuaries.

How to Use this Brochure Series

This ecoregion brochure series provides general information on the province's 35 ecoregions and subregions. Each brochure describes the location of one ecoregion or subregion, its climate, physical characteristics, geology, range of elevations and plant and animal life. Species at risk are highlighted, as are existing and proposed parks and reserves.

A complete Conservation Education Program, including activities that supplement these brochures, is now available in schools and libraries across the province, or by contacting the **Protected Areas Association**.

The PAA hopes that these publications will encourage you to become more involved in the protection of our province's natural heritage.



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- Department of Environment and Conservation
Parks and Natural Areas Division
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- The Samuel and Saidye Bronfman Family Foundation
- WWF Canada
- Western Newfoundland Model Forest
- Gros Morne Co-operating Association

To view this full brochure series visit <http://www.paanl.org> – To obtain additional copies contact PAA or any of the following:

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