

The Boreal Forest – A Global Legacy

What is the Boreal Forest?

The boreal region – the largest biome on Earth – is one of three global forest types (along with tropical and temperate). Encompassing 33% of the Earth's forests, the boreal covers 11% of its surface. Fifty per cent is located in Russia, 30% in Canada, and the balance is found primarily in Alaska and the Scandinavian countries.

Reflecting the fact that the boreal contains the world's most northern forests, it's natural that the origin of its name traces back to Boreas, the Greek god of the north wind.

Such a large forest ecosystem obviously contains a diverse range of habitats:

- The southern fringe includes the mixed forests of the southern boreal shield ecozone in the east and boreal transition parkland ecozone in the west.
- The heart of the boreal, a vast expanse stretching across Canada, is dominated by coniferous forest, peat-dominated wetlands and numerous lakes.
- The northern boreal region features the taiga, an ecological intersection where the forest meets the arctic tundra. The taiga contains a unique mix of boreal forests and peatlands, and open shrublands and meadows.

By far the most dominant tree species in the boreal forest is the conifer, which has adapted well to the cold harsh climate and the thin acidic soils. Characteristic conifers include black and white spruce, tamarack, jack pine and balsam fir. The most common deciduous species are aspen, balsam, poplar and white birch.

In this land of extremes, the total area affected by massive wildfires and other natural disturbances, such as insects and disease, is five times greater than those affected by timber harvesting. Instinctively, the boreal flora and fauna have adapted to the ravages and opportunities of nature.

Why is Canada's Boreal So Important?

Around the world, the boreal is highly valued for its sustainable economic benefits, extensive recreational opportunities and breathtaking natural beauty. In Canada alone, the boreal provides petroleum products, peat, hydro-electricity and tourism dollars, and sustains over 7000 forestry businesses and 400 000 jobs. Obviously, sustaining this valuable natural resource is a priority. Only 25% of Canada's forests, including the boreal, are managed for commercial use, and only one quarter of one percent is harvested annually. As mandated by law, all harvested areas are regenerated.

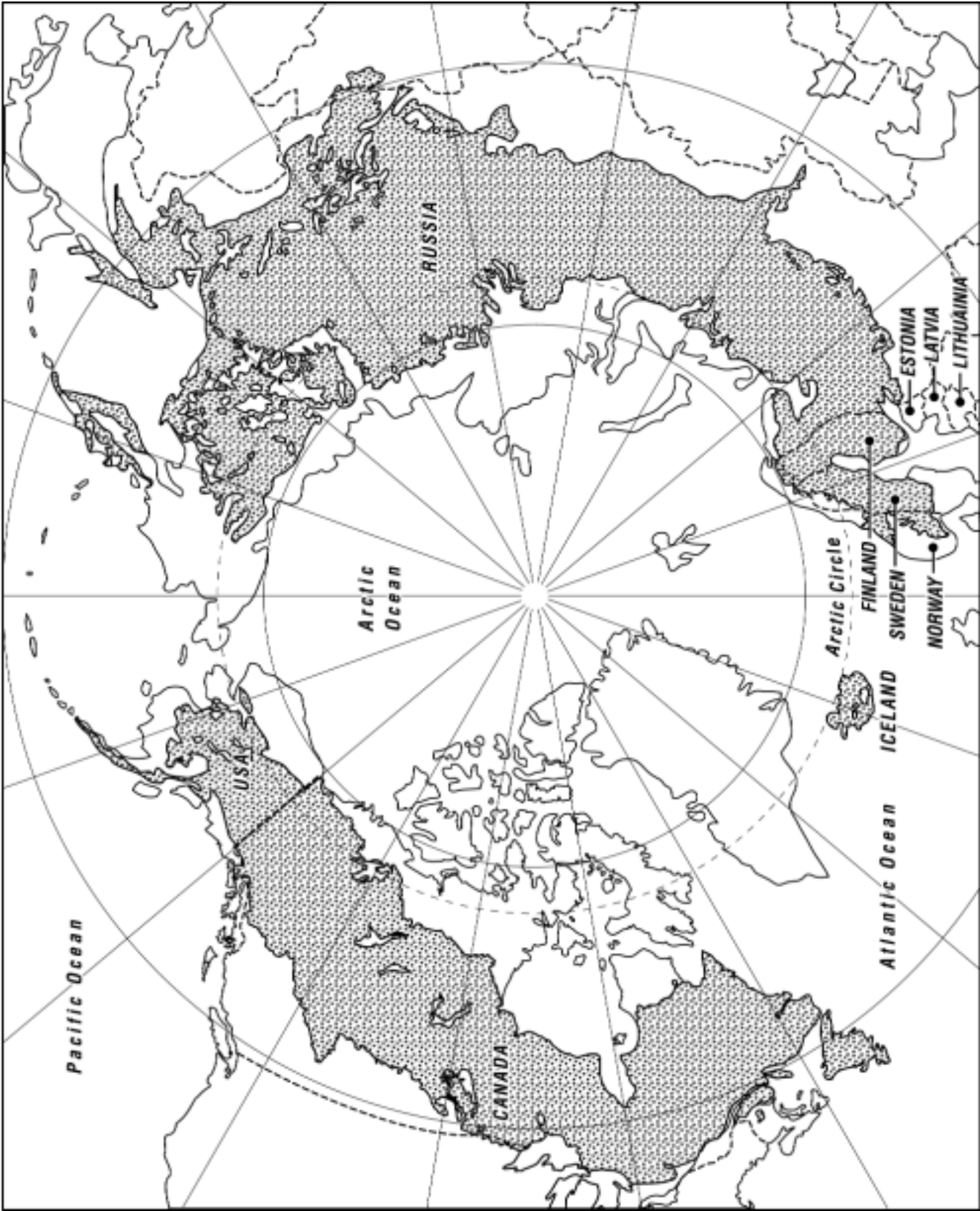
For centuries, people from all walks of life have lived in Canada's boreal communities, and as it did before the arrival of the Europeans, the natural wealth of this region helps sustain the traditional lifestyle of many of our Aboriginal people.

In terms of wildlife, the size, remoteness and variety of landscapes in Canada's boreal provide habitat to great numbers of some of the continent's largest species, including caribou, moose, bear and wolves, and billions of its smallest, such as migratory birds and butterflies. Since it holds more freshwater in its wetlands, lakes and rivers than any place else on Earth, the boreal also provides critical habitat for tens of millions of breeding waterfowl and shorebirds.

Up to three billion warblers, thrushes, sparrows, hawks and other land birds migrate to Canada's boreal region to nest each spring. As well, in dry years on the southern prairie breeding grounds, the boreal wetlands also act as a refugium for waterfowl populations displaced by drought.

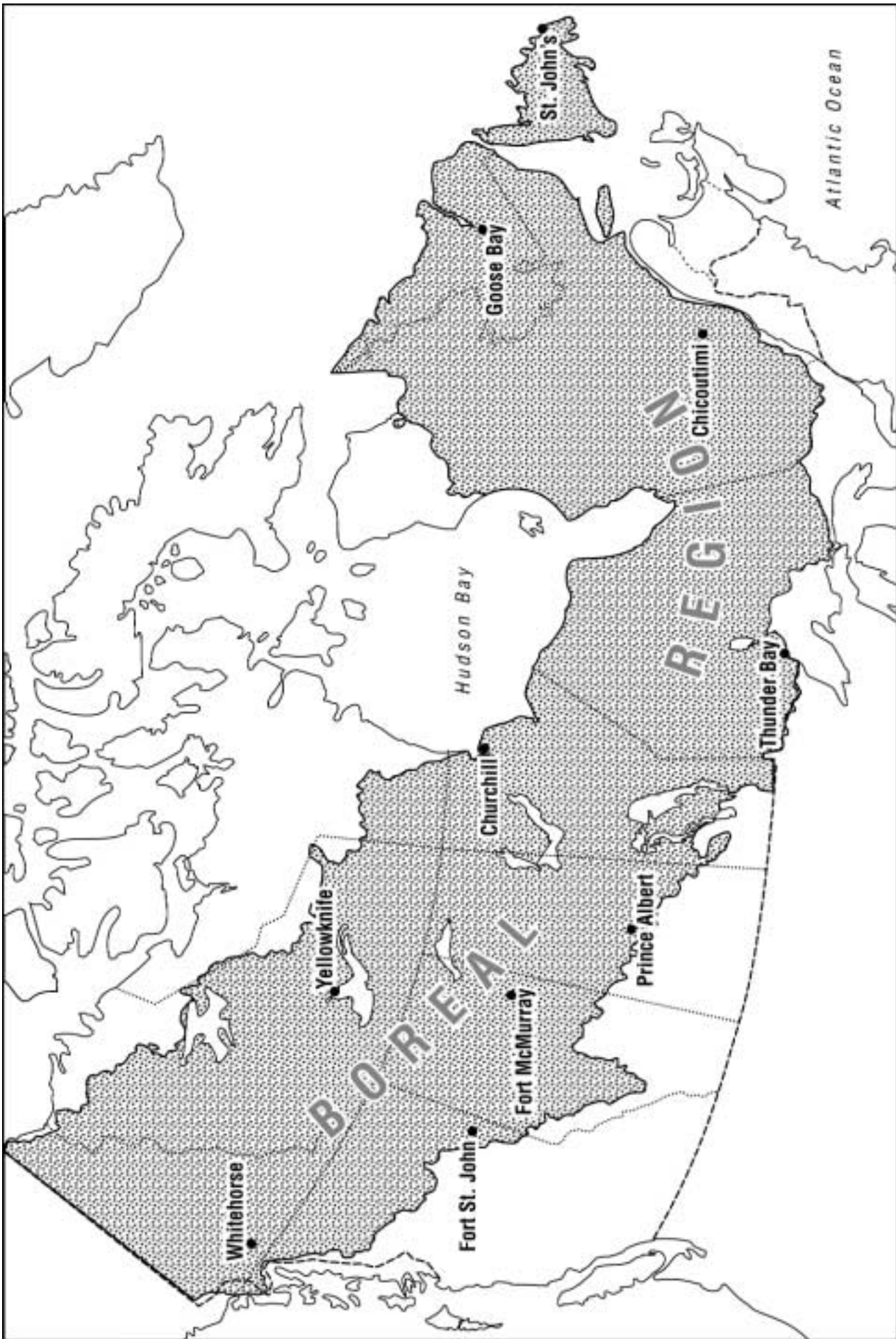
To the benefit of both wildlife and human populations, the boreal forest plays a vital role in the regeneration of natural resources. It filters millions of litres of water daily, stores carbon, produces oxygen, rebuilds soils and restores nutrients.

Boreal forests also play a vital role in mitigating the impact of climate change. They store massive amounts of carbon and comprise one of the planet's few intact natural areas capable of buffering the changes in habitat that will be experienced by many northern species.



The Global Boreal Forest





Canada's Boreal Forest



Why Should We Conserve the Boreal?

Who Cares for Canada's Boreal Forest?

Since over 90% of Canada's boreal is publicly owned, our governments are its primary caretakers. In the south, provincial legislators are responsible. In the Yukon and Northwest Territories, Aboriginal land-claim negotiations and consultations between federal and territorial governments are ongoing. Trends indicate that boreal land-use planning, industrial regulation and wildlife management will continue in this manner, while the role and influence of Aboriginal government is expected to grow.

This is a critical time for Canada's boreal. Increasingly, nationally and internationally, this forest is recognized as a rare example of management of a large-scale ecosystem to ensure sustainability. Mandating protected areas and implementing best forest land-use management practices will go a long way towards achieving this goal – and the work has already begun. In 2004 the International Union for the Conservation of Nature and Natural Resources (IUCN), more commonly known as the World Conservation Union, called for greater protection of the boreal while recognizing that governments, Aboriginal and local communities, and conservation organizations have already made significant contributions, such as:

- Canadian and International Model Forest Networks and national forestry programs;
- national and other sustainable forest-management policies;
- park expansions and protected area strategies developed with – and often prompted by – Aboriginal people; and
- the Boreal Forest Conservation Framework that aims to protect at least half of the region in large interconnected protected areas, and supports world-class sustainable development in remaining areas.

Over the next few years, strategic land-use planning by the boreal provinces and territories will determine Canada's success for generations to come. The collective wisdom of our people and government will establish sound long-term management plans based on successful forest regeneration policies of the past. Canadians are encouraged to exercise their democratic right by participating in the conservation of the economic, environmental and cultural aspects of this irreplaceable – and highly valuable – natural resource.

How Do Canadians Use the Boreal Forest Resources?

Centuries ago, voyageurs and European explorers plied the boreal's extensive waterways to explore new lands. Today, the boreal sustains a large part of the Canadian economy and fulfills many of our human needs.

Where the supply of natural resources dictates, oil and gas are extracted, peat is harvested, hydro-electricity is generated, and precious metals and minerals are mined. Timber is harvested for building supplies, paper production and numerous other by-products; trees are replanted on a continual basis. Of all the industrial sectors in the boreal region, forestry has made the most progress towards the

development, adoption and implementation of leading-edge standards for sustainability.

In the south, significant land and water resources are dedicated to agriculture and transportation. Across this vast landscape – and through four seasons – recreation amenities abound.

For Canada's Aboriginal people, the boreal holds particular cultural significance and provides the many plants that hold special dietary, medical, economic and spiritual value.

How Big is the Boreal?

Area covered by the global boreal: 6.0 million km²
(compared to the area of Australia: 7.6 million km²)

Number of trees planted in Canada's boreal in 2002: 609 million

Average age of trees in Canada's boreal: 100 years

Average forest-fire-return interval in Canada's boreal: 150 years

Portion of Canada covered by the boreal: 58%

Portion of boreal fibre available to support the Canadian forest sector (largest contributor to Canada's gross domestic product [GDP]): 75 %

Portion of Canada's annual wood harvest from the boreal: about 50%

Portion of Canada's boreal currently ecologically intact: 70%

Portion of Canada's boreal currently protected from development: 10%

Portion of Canada's boreal subject to existing and proposed land-use planning: 60%

Portion of Canada's boreal containing water or wetlands: 30%

Number of people living in Canada's boreal: 4 million+

Country with the most certified forests and most certified boreal forests: Canada

Certified forests meet sustainable management standards, and their products carry a designation.

The Boreal's Future

Challenges and Issues

Traditionally, due to their vast size and remote location, the boreal forests and associated wetlands have remained relatively intact and undisturbed by human activity. Resource development throughout much of the boreal ecosystem has been viewed as expensive and unnecessary. However, this trend is rapidly changing. Although 70% of Canada's boreal is not accessible by road, increasingly this undeveloped resource-rich wilderness is being tapped by industry.

The timber of the boreal – as in all forests – is a renewable resource. However, deforestation (permanent removal of forest) for agricultural use in some southern boreal locations is similar to the role of deforestation occurring in the Amazonian rainforest. Additionally, activities such as petroleum exploration, hydro-electricity generation, peat extraction, forestry and mining create disturbances (roads, pipelines, seismic lines, cut blocks) that result in cumulative impacts and permanent removal of parts of the forest. Such developments bisect various areas of the boreal, fragmenting and disturbing habitat and increasing the potential for conflict between wildlife needs and resource development interests.

Acid precipitation and climate change also continue to affect the integrity of the boreal. As well, residential development is on the increase, particularly throughout southern Ontario where, from the major urban centres of Toronto and Ottawa, the boreal can be accessed within a two-hour drive.

We Can Each Do Our Part

We can all help to conserve and protect Canada's boreal forest resources:

- Recognize the importance of forest communities and the people who live there; learn how they rely on the forest for income and the fulfillment of social, recreational and spiritual needs.
- Plant native tree species in the boreal.
- Protect riparian zones within the boreal.
- Do not litter or pollute, and make an effort to remove garbage when you see it.
- Travel by canoe, kayak and other people-powered watercraft, rather than motorized boats.
- Make known to elected representatives your wishes for boreal conservation and minimal fragmentation.
- Reduce, re-use and recycle to ensure our forest resources are utilized to their fullest.
- Support non-governmental and other organizations also working to conserve the boreal.

