

I N T E R P R E T A T I O N

PARC NATIONAL  
**KEJIMKUJIK**



# The Forests



Environment Canada  
Parks Service

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## Introduction

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The Mi'kmaq people inhabited this part of Nova Scotia for centuries but it wasn't until almost 1800 that Europeans moved inland from the coast. Loggers, seeking white pine for ships' masts and red oak for timbers, moved up the rivers as coastal forests were

depleted.

Huge hardwoods dominated the upland areas while softwoods covered the slopes and lowlands. The loggers found the white pine they sought—giants up to 2 meters in diameter and over 35 meters high.

## Changes

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Today, few tall trees remain. In this area, it takes from 200 to 400 years to produce a forest like the loggers found. The average age of Kejimikujik National Park's forests is less than 100 years. There have been many changes.

Logging has had the largest impact on our forests. Initially, only the tallest and straightest pines were cut. Once the area was settled, cutting for lumber increased. Since the turn of the century, some areas have been clear cut for pulp and paper.

Although there have been no major fires since 1928, almost all of the Park's forests show some evidence of past burning.

Insects and disease have attacked some tree species and hurricanes have caused major blowdowns in some stands of shallow-rooted softwoods.

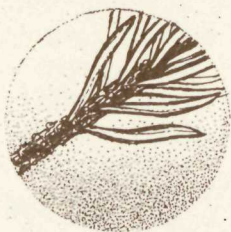
Young pine forests, reclaiming old fields, are reminders of land once cleared for farms and later abandoned.



## Softwood Forests

About one-fifth of Kejimikujik's forests are softwood. A few groves of towering eastern hemlock left in the Park have survived for over 300 years. Because of their shade tolerance and longevity, hemlock eventually dominate the well-drained slopes they share with pine and spruce.

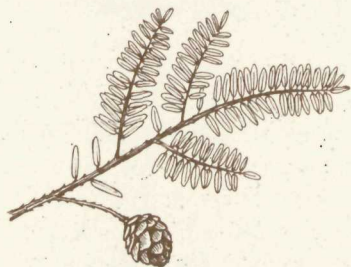
Very little sunlight penetrates the thick growth of hemlock needles overhead so few plants are found on the cool, shaded forest floor. Mosses, along with a few specialized plants that don't require sunlight for energy, make up the sparse ground cover.



red spruce

Apart from an occasional pile of droppings in the base of a hollow tree indicating a

porcupine den, there are few animal signs. You'll hear, rather than see, the small birds. They're in the treetops feeding on insects that are feeding on the vegetation. Barred owls and goshawks often build nests in hemlocks.

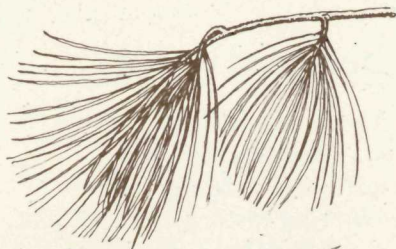


eastern hemlock

A walk among the giants on the **Hemlocks and Hardwoods Trail** is a must for any park visitor.

There are also small isolated stands of large white pines, particularly along lake shores and on islands. Usually, however, mature white pines are found scattered through, and towering over, younger forests of red spruce and balsam fir. The spruce was heavily cut for pulpwood, while the fir thrives in such forests because it is shade-tolerant and has seeds capable of penetrating the mosses and needles of the forest floor. Bracken ferns dominate the ground cover and hint at the past fires in

many stands. Blueberry, sheep laurel and bunchberry are also common in these forests. In older, more heavily-shaded stands, the vegetation is sparse, like under the hemlocks.



white pine



## Hardwood Forests

Drumlins, Kejimikujik's low hills, are glacial deposits with rich, well drained soil. They are favoured sites for hardwoods. Some were cleared for farming and others were cut for firewood. Few old growth hardwood stands remain. The best examples are found on Peale and Big Muisse Islands in Kejimikujik Lake, and along the Big Hardwood Carry near the fire tower.

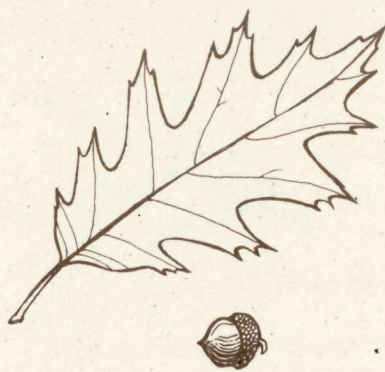
The canopy, or leaf cover, of these forests is often two-layered. Large old yellow

birches and sugar maples make up the upper canopy; younger trees of the same species form a lower one.

Ground cover under the hardwoods is lushier than under old growth softwoods because more light penetrates the canopy. Ground cover is dominated by ferns, especially in openings created by wind-falls. Sugar maple seedlings are scattered throughout, assuring perpetuation of the species. While yellow birch is shade tolerant, the roots of its seed-



sugar maple



red oak



lings are too weak to penetrate the leaf litter. This species is only able to take hold in the mineral soil exposed after a tree has blown down.

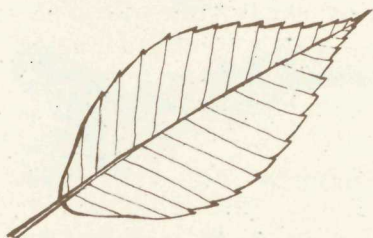
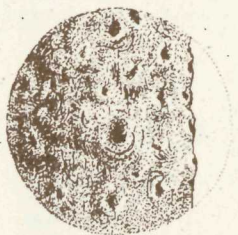
Bird life, especially small insect-eaters, abounds. Some species, like the northern parula and red-eyed vireo, frequent the upper canopy; others, like the least flycatcher, are restricted to the lower one. American redstarts, the most abundant species in the old hardwoods, use both strata of the canopy. The old stumps and deadwood attract woodpeckers, including the pileated who prefers these stands for nesting.

Old wood provides homes and food for other animals as well. Flying squirrels may nest in old woodpecker cavities. Salamanders make use of rotting logs. Black bears feed on the ants and grubs that inhabit the logs.

White-tailed deer are attracted by the abundant browse of the hardwoods. They spend clear winter days soaking up the sun in open, south-facing stands.

Mature hardwood forests have been hard-hit by disease. This is most evident in the beech forests. Because of beech bark disease, very few healthy old trees can be found in Nova Scotia today. Examples of diseased beeches can be seen along the **Beech Grove Trail**.

Younger hardwood forests, made up of different tree species, are widespread in Kejimikujik National Park. Red

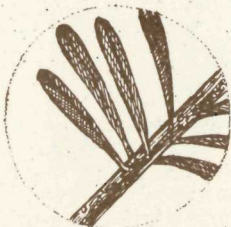


#### American beech.

maple, white birch and red oak develop quickly in openings created by logging or fire. In the shade of these forests, you'll find sugar maple and beech seedlings, indicating the eventual development of climax hardwood forests.

## Mixed Forests

About three-quarters of the Park's forests are mixed stands containing both softwoods and

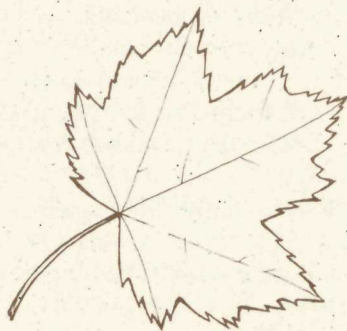


balsam fir

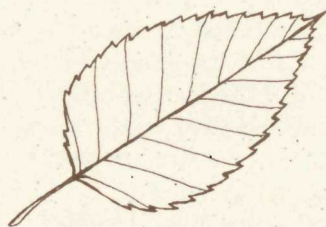
hardwoods. Most of these forests are the result of some kind of disturbance. Logging has opened up pure old-growth stands, allowing opportunistic species like white birch and balsam fir a foothold. Some hardwoods sprout vigorously after fire or cutting. Trees growing in clumps provide evidence of past disturbance. Often, large old softwoods which escaped fire and the axe are found towering over mixed forests.

Bracken ferns dominate the rich ground cover in mixed woods. Other common species include blueberry, bunchberry, sheep laurel and wild sarsaparilla. The variety of these forests

meets the habitat requirements of many species of animals. Studies have shown that, of all the Park's forests, mixed woods tend to have the greatest numbers of small mammals. It is not surprising that our most common summer bird, the magnolia warbler, is found mainly in mixed woods.



red maple



white birch





## Protecting and Managing Canada's Natural Heritage

The establishment of Kejimikujik National Park eliminated the human disturbances which so drastically changed the forests.

We've done inventories of forest resources to provide information to guide both the Park's management and the planning of development. Although all areas of Kejimikujik are protected, special status has been given to areas containing rare or significant resources. Monitoring programs continue to look at the forests and the factors that influence them.

In cooperation with the Smithsonian Institute, **Resource Conservation** staff have established two Biodiversity Monitoring plots at Kejimikujik. Trees in these plots have been carefully

measured and mapped and other biological components of the communities are being studied as well. By comparing this information with results from future study, long-term changes to the forest will be documented.

Trails are carefully planned so that people can experience our forests without damaging them. The Interpretation program gives visitors a chance to learn about the Park's forests.

As time passes, Kejimikujik may see the return of the magnificent forests those early loggers found. They'll be here to teach important lessons to the scientists who study them, provide recreation for visitors who travel through them, and inspire us all.

## Seasonal Treats

Each season offers special experiences for visitors who explore Kejimikujik's forests.

**Spring**—In late May and early June, before the leaves are out, woodland wildflowers are blooming. Most visitors don't get to see them. Try **Grafton Lake** or **Beech Grove Trail**.

When the beeches first leaf out, the **Beech Grove Trail** is bathed in green light.

**Summer**—Try an early morning walk to look for, and listen to, woodland birds. Any woodland trail will do. Trails in different forests will reveal different species of songbirds.

**Autumn**—Provides a procession of colours beginning with red maples by mid-September, followed by the yellow of birches and poplars and the oranges of sugar maples. The bronze and browns of beech and oak come later, and the display ends with the feathery gold of larches in early November.

**Winter**—Because of their secretive natures, it's difficult to see many of Kejimikujik's animals. In winter, nothing can move without leaving signs of its presence. Check our trails for animal tracks.



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