



This strip of forest has been changed by man. The trees were removed to make a snowmobile track which has now been developed into an interpretive trail.

While people use McLean Creek areas for many reasons, such as snowmobiling and camping, cattle grazing and logging, a primary consideration is always kept in mind... protection of the watershed.

The watershed includes the trees, forest floor, soil and rivers. When all of these different things work together they act like a giant sponge and filtering system. A healthy watershed assures a clean, unpolluted supply of water.

Protection of the forest watershed is made possible by controlling land use and managing the forest's cycle of change. Foresters thin areas of the forest so that the pine are able to grow faster and larger. Logging operations are strictly controlled so that soil erosion and over-cutting do not take place.

Oil and gas exploration, cattle grazing, hunting and other recreational uses all place demands on the land. All these activities cause changes in the watershed. Multiple use management of the Elbow watershed allows a blending of activities, reduces conflicts between these activities and protects our most vital resource... water. ■



Now that you have walked the trail, you may wish to try this quiz.

Fill in the blanks by answering the questions.

1. F _____
2. ___ O _____
3. R _____
4. ___ E _____
5. S _____
6. ___ T _____
7. C _____
8. H _____
9. ___ A _____
10. ___ N _____
11. G _____
12. ___ E _____

1. Open wet areas gradually fill in and change into ___?
2. Good forest management protects the stream banks from ___?
3. Fires can cause ___? changes in the forest.
4. The kinds of ___? living in the forest can be used as clues to tell us about the forest.
5. Lodgepole pine need more ___? than spruce trees.
6. Watershed ___? is the primary reason for managing the McLean Creek and Elbow Recreation area.
7. Change occurs as a ___? in the forest: aspen to lodgepole to spruce to fire and back to aspen.
8. One of the many recreational uses of the Elbow is ___?.
9. The ___? cause changes in the forest by eating young trees, shrubs and grasses.
10. Fires release ___? stored in trees and other plants.
11. Oil and ___? exploration are allowed on a limited basis.
12. A historic use of this forest is ___? grazing.



Heritage Fund



Alberta
Recreation and Parks
Norm A. Weiss
Minister

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The
McLean Creek
Trail



Kananaskis Country

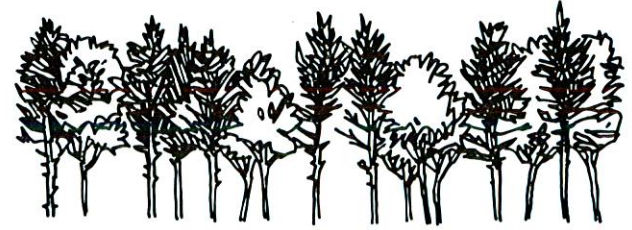
Fire Scar



In 1910 a fire swept through this area. The blackened stumps about you are mute evidence of that fire. Fire can change a forest in a matter of minutes. If you have ever seen a forest fire you will remember that it seems to be a disaster. However, fire can have positive effects as well. Fire renews the forest by releasing nutrients stored in trees and other plants. It also eliminates old tree stands that may be diseased or weakened by insects, fungi, viruses and parasites.

After a fire more sunlight reaches the ground. This allows seeds from grasses, flowers and trees, like the lodgepole pine, to grow. If the roots of the aspen poplar have not been destroyed they will send up new shoots that will grow into trees. In time, a new forest will grow in the ashes of the old forest.

For a closer look at a recent fire area, drive to Rainy Creek Summit near the Ford Creek Recreation Area 20 km west of here. ■



Aspen, Lodgepole Pine forest.



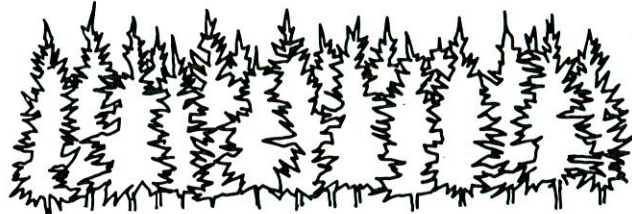
Lodgepole Pine shade out the Aspen. Young Spruce begin to grow in the shaded areas.



Aspen die-out. Spruce continue to grow.



White Spruce shade Lodgepole Pine.



Forest has changed to White Spruce.

Forest of Tomorrow



As you look around this area you can see numerous white spruce growing beneath the taller lodgepole pines. The presence of these spruce offers you a clue to the future of this forest.

White spruce are able to live in shaded areas, while lodgepole pine are not. White spruce also live longer than lodgepole pine. Given time, the spruce will grow taller and produce more ground shade and will prevent new lodgepole pine from growing. Over time the older lodgepole die off and the forest will become a white spruce forest.

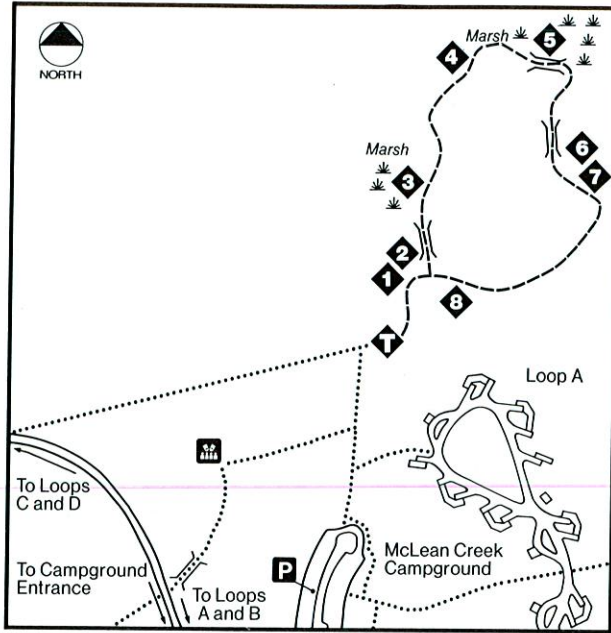
Forest floor plants that are unable to survive in the shade will be replaced with mosses and other plants that are able to live without direct sunlight.

If a fire or logging operation removed the spruce, then the cycle of change will begin again as a new lodgepole or aspen forest begins to grow. ■

McLean Creek Trail



Welcome to the McLean Creek Trail in Kananaskis Country. Take this guide with you to help you enjoy your walk. At each numbered stopping point along the trail open the booklet for interesting information about this foothills forest area. ■



McLEAN CREEK TRAIL
Kananaskis Country
Trail Length 1.1km (45 minutes)

--- Trail Trail Head Trail Stop
..... Other Trails Parking Amphitheatre

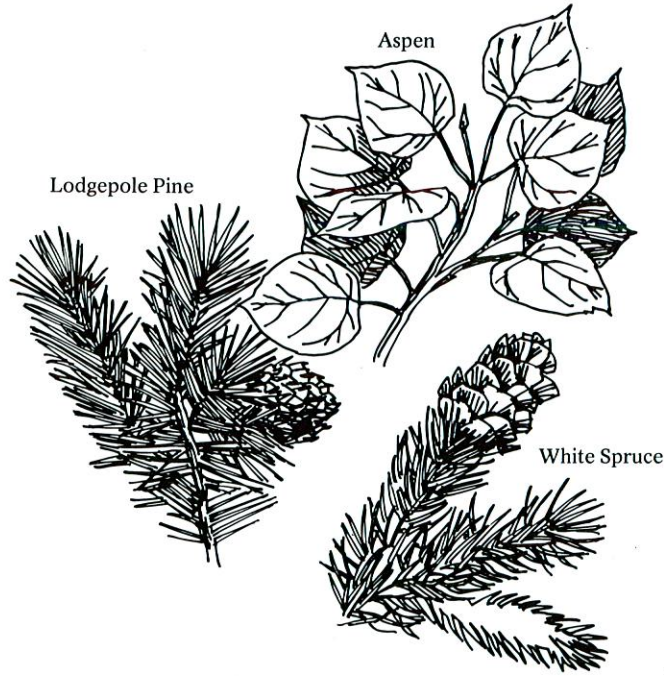
Change



In the short time it took you to reach this spot this forest has changed. Needles have fallen from the trees, insects have eaten leaves and sunlit areas have become shaded.

In the forest change may be predictable, slow and almost undetectable, or unexpected and dramatic.

On this half-hour walk through the forest your challenge is to keep a sharp eye open for change. ■



Indicators of Change



In order to understand the changes taking place in this forest you may need some clues.

First, find an evergreen tree that has needles 2.5 to 5 cm long. The living branches are well above the ground and the trunk is straight. Natives, such as the Stoneys, used these trees in the construction of their lodges, thus the name lodgepole pine.

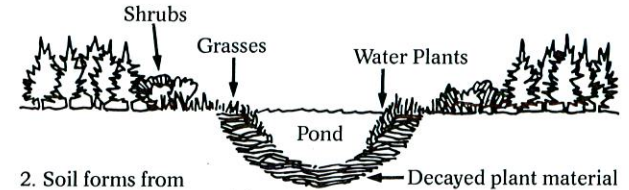
Now locate an evergreen that has a more Christmas tree shape. The branches will be growing closer to the ground. Its needles are less than 2.5 cm long, with four sides and sharp points. This is the white spruce.

Finally, find a tree with true leaves that constantly tremble in the wind. The thin bark of this tree produces a whitish powder that you can detect by rubbing your hand against the trunk. This is the aspen or trembling poplar.

The trees growing in this area can be good indicators of the past and even of the future.

On the trail ahead you will use these tree clues to discover something about the younger days in this forest's life story. ■

1. Pond succession to forest



2. Soil forms from decayed plant material



3. Wet marsh forms



4. Shrubs replace grasses



5. Forest replaces shrubs



At the Clearing



A new forest will appear at this very spot. Please don't wait, since it may not appear until after the year 2000! ■

People, animals and plants all live where the conditions for their growth are best met. The living things you now see in this clearing were not here a few hundred years ago. At that time this may have been a shallow pond. Over the years the pond gradually filled with the remains of dead plants. The decaying plant material provided a nutrient-rich soil allowing surrounding plants, such as the grasses and sedges, to grow in this low-lying area.

Shrubs such as the willows growing along the edge of this marsh add dead leaves and branches that further fill in the marsh. As the soil level increases, the clearing will become drier and trees like the lodgepole pine and aspen will begin to grow here. In time this clearing will change to resemble the forest which surrounds it today.

As you leave this area notice the temperature change between the clearing and the forest. ■

A Shade of Difference



Look up . . . to the top of the lodgepole pines. Bathed in sunlight, the green needles produce food necessary for their survival. Filtered by the upper branches little sunlight reaches the lower limbs causing the needles to drop off. Like the grasses found in the marsh, lodgepole pine require bright sunlight to grow.

Now look down at the forest floor. How many different types of plants do you see? Five, ten, more than ten? The variety of plants around you all need sunlight. If you look closely you will see that some areas receive more sun than other areas. Whereas sunny spots are covered with grasses, the more shaded areas harbor bunchberry and bearberry plants.

Touch the forest floor and find the cool, moist areas. Shaded by the forest canopy these places are ideal for mosses and other plants that require little sunlight.

Continue along the trail and watch for signs of other inhabitants of the forest community. ■

Bunchberry
Height 7 - 15 cm



Common Bearberry
Leaves 2.5 cm

Inhabitants of the Forest



Animals as well as plants are affected by changes in the forest. Also like plants, the animals are able to cause changes in the forest.

Clearings are important feeding areas for a variety of wildlife. Keeping close to the edge of a clearing, moose, elk and deer feed on the grasses and willows. Grazing cattle also use these clear areas, eating the same lush growth as the wildlife.

The shrubs and young trees the animals eat help keep the clearing as an open area in the forest. Thus, animals are responsible for reducing the speed at which the clearing becomes a forest. ■