

With a drop of just a few degrees in our annual average temperature, these isolated snow deposits would grow larger each year from accumulating snow. The weight of the upper layers of snow would compress the lower layers into ice. Eventually, this ice would slowly flow down the mountain slopes, grinding and gouging its way to the prairies. This moving ice is called a glacier.

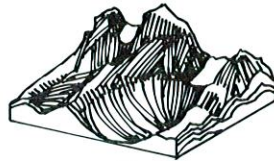
Throughout its lifetime, a glacier scours away at its mountain perch, leaving behind a bowl-shaped valley called a cirque. On the slopes above you, many small cirque valleys can be seen. Aretes, or narrow ridges, separate the neighboring cirques. The walls of Mount Black Prince also form a bowl around you and mark the gigantic boundaries of Black Prince Cirque. At one time the mountain face extended to where you now stand.

As the glaciers melted and receded, torrents of meltwater washed down to the valley floor, carrying with them large amounts of till, or rubble, gouged from the rock walls. As the water slowed in velocity, larger particles were deposited first. The rocks and gravel along the trail are examples of such meltwater deposits.

Today, spring runoff water collects to form a cirque-lake or "tarn" at the centre of Black Prince Cirque. With the warmth of summer, the water turns emerald green. A closer look will show that this color is due to an aquatic algae that grows on the submerged rocks. Insects like whirligig beetles and water boatmen also live in this water that arrives each spring and evaporates throughout the summer. ■



Glacier



Cirque

## The Master Sculptor



In Peter Lougheed Provincial Park, ice has been a master sculptor shaping all landforms, from the deep basins of the Kananaskis Lakes to the rugged wilderness of the back-

country. Graceful U-shaped valleys were formed by the chiselling action of the ice while massive piles of rubble are signs of the glaciers' retreat.

Because of their larger mass, the major glaciers gouged their valleys more deeply than the smaller tributary glaciers. Consequently, where the two glaciers met, the floor of the tributary valley was higher. With the retreat of the ice, the tributary valley was left "hanging" above the main valley. The thin white ribbon of falling water to the southwest flows from one of these hanging valleys.

As the glacier continued to melt, a pile of rocks called a moraine was formed at its base. One of these terminal moraines can be clearly seen high on the right face of Mount Black Prince.

Now that the ice is completely gone, you can see the effects of its artistic hand: a collection of cirques, aretes, hanging valleys and moraines. ■

## Wilderness Images



Here at Black Prince Cirque, grizzly bears often dig for roots on the avalanche slopes above the lake, and mountain goats paw through early snows to graze on the sparse grasses. Elk are common in the meadows of the cirque floor, while moose and deer prefer the abundant growth of shrubs along the major water courses. Although you are only a short distance from a major highway, you are in a wild land.

This wilderness was born from the desolate aftermath of an ice age. Battling the harsh climate, the plants and animals of the subalpine forest have gained a strong foothold. Now you are a part of this forest, a part that can appreciate its beauty and tenacity, or a part that can easily destroy its essential character.

Remember the forces that live within this forest. You are one, too. ■



Heritage Fund

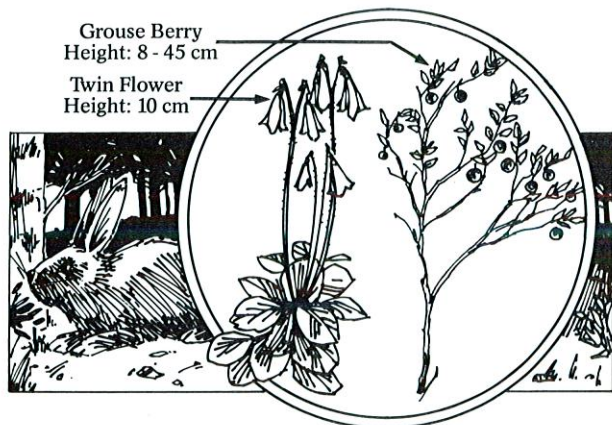


## Black Prince Cirque

# Trail



Kananaskis Country



suckle? Look above your head for the answer. The types and density of the trees determine which species of plants will be able to survive on the forest floor.

Where the trees are sparse, the ground is bathed in sunshine, encouraging the growth of a wide variety of plants. As the forest ages and the trees grow taller and thicker, less sunshine reaches the forest floor, and fewer species can survive in the shaded conditions.

The larger animals of the forest, deer, moose and elk, depend on a lush and varied undergrowth for food. Smaller animals, such as the snowshoe hare, need the cover of that undergrowth to avoid predators. A sparsely-treed forest can thus support a greater number and variety of wildlife.

The dense, mature forest may lack "appetite" appeal for the large animals, but it does have its compensations. During the long, cold months of winter, the dense forest canopy keeps deep snow from accumulating on the ground, making travel and foraging easier for its inhabitants.

Be on the lookout for some of those inhabitants as you walk to the next stop. ■

## Squirrels and Devil-Beasts



Mount Black Prince is home to a great variety of animals. Grizzly bears, secretive cougars and wolverines, the "devil-beasts" of native legends, have all been seen here. Even the

much-maligned wolf is a winter transient through this valley. These are among the most rare and reclusive animals in Alberta, however, and are certainly not likely to be seen by summertime hikers.

A sure bet for wildlife watchers is the red squirrel, as much at home here near treeline as it is around your campsite. Although it subsists mainly on spruce and pine cones, it is also a carnivore and will prey on almost anything that is not large enough to eat it first. Robins, mice, voles and young grouse are regularly included in its diet.

A resonant, rapid, rhythmic, rapping indicates the presence of a woodpecker nearby. Several species live here, probing for insects and grubs among the decaying trees of the slash areas. The familiar, loud drumming is actually a mating and territorial signal, much like a robin's song.

Listen also for the low, bee-like hum of the rufous hummingbird, which occasionally "buzzes" hikers in its constant search for nourishing flower nectar. Hummingbirds need a great deal of energy to fuel wings that beat 75 times in a second. Imagine eating twice your weight in food every day!

Whatever you spot today, remember that all wildlife deserves your respect; observe from a distance. For more information about bears and other wildlife, ask for the brochure "Safeguarding Wildlife and People" at the park visitor centre.

As plentiful as they are now, there was once a time when no animals were to be found here. No trees grew, not a flower bloomed. For a clue to that age, look at the gravel at your feet, and walk on. ■

## The Big Chill

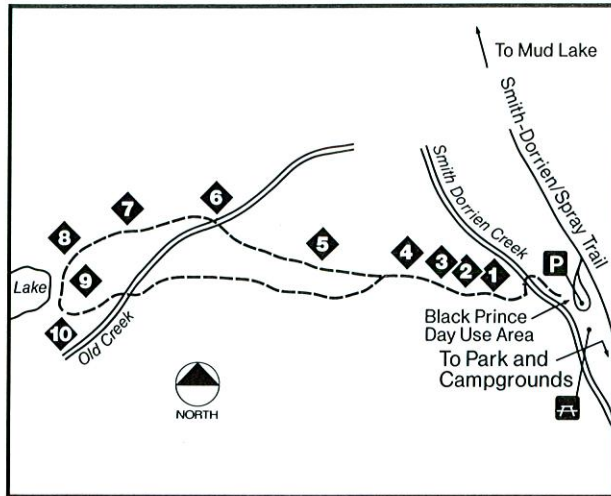


If you stood here 20,000 years ago, you would have been beneath 400m (1300 feet) of ice! For thousands of years, all but the highest peaks of this area were covered in a massive sheet of ice that extended across most of Canada. How can such a drastic change occur? The answer lies in the little fields of snow above you that remain year-round. From such humble beginnings, glaciers are born.

## Black Prince Cirque Trail



Welcome to the Black Prince Cirque trail. Take this brochure with you along the trail and consult it at each numbered stopping place for some exciting discoveries about the high country of Peter Lougheed Provincial Park. ■



### BLACK PRINCE CIRQUE TRAIL

Kananaskis Country  
Trail Length 5.6km return

- Trail
- ⬆ Trail Head
- ⬇ Trail Stop
- P Parking
- == River/Creek
- PA Picnic Area

### A Changing Environment

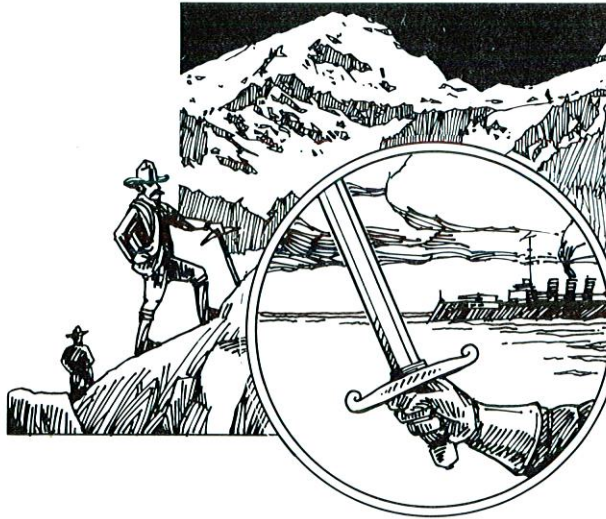


Stop for a moment. Take a deep breath, look around and listen.

These last few steps have taken you away from the picnic area, away from the sound of the highway and the familiarity of the pavement, roads signs and your own car.

As you cross this bridge, let those things fade behind you. Surround yourself in the sights, sounds and stories that this ever-changing mountain will yield to you.

If only for an afternoon, you have chosen to become part of the wilderness. Walk slowly and enjoy. ■



### Princes and Battleships



Mount Black Prince. An unusual name for a mountain, isn't it?

In 14th century England, there lived a prince named Edward, the father of King Richard the Second. His striking black armor and his legendary skill as a fierce warrior in battle ensured that his name would be passed down to us through history as the Black Prince.

The story of our mountain's name begins a little more recently than that, however. In the summer of 1916, Arthur O. Wheeler, of the Alpine Club of Canada, passed through this part of the Rockies. His task was to survey and name the great peaks which surround you. He found inspiration for his names in one of the more memorable events of his time: the Battle of Jutland which had taken place in May of that year, during World War I.

The Black Prince, named after the legendary Edward, was one of the ships engaged in that battle, and it is for that ship our mountain was named.

General Smith-Dorrien and Admirals Beatty and Jellicoe lent their names to other mountains nearby, as did the warships Indefatigable, Invincible, Warrior and others.

As you walk to the next stop, put yourself in Mr. Wheeler's shoes. What names might you have chosen for the majestic peaks of this area? ■

### Trenches and Trucks



The road on which you're walking shows that Mount Black Prince has hosted other visitors in its recent past, visitors who have left far more than names.

The value of this area's natural resources had been recognized as early as 1884, when the Smith-Dorrien Valley was identified as prime timber land. Although resource extraction has not been allowed here since the establishment of the provincial park in 1978, gypsum mining, coal exploration and logging have all taken place here.

This old road once carried the weight of heavily loaded logging trucks. Today hoofs, pads, skis and hiking boots are its only traffic. With the help of "diagonal trenches", like the one before you, this road is slowly being reclaimed. These trenches channel away water that flows down the road, reducing erosion and allowing grasses to secure a foothold. Judge for yourself the effectiveness of these trenches. As you climb the trail, compare the growth here with that farther up the road. ■

### Logging



A little out of breath? Stop and take in the view for a moment. Can you see the changes that man has made in the forest around you?

The forest on Mount Black Prince was not logged until 1972 due to the difficulty of gaining access to this steep, rugged terrain. Since then, as you can see, the reclamation process has been slow. Climate and elevation are the major causes of this slow regrowth. Once the snow melts in May, only about four months remain before the chilling frosts of

autumn end the growing season. That's not much time for young seedlings to grow. See how tall the young trees are now. How long has it taken for them to reach that height? How many more years will it take them to grow to harvestable size? (That's about 25 cm, or 10" in diameter.) Even with modern roads, logging is not economical at this high elevation because of the time it takes to produce a new crop of timber.

Regrowth of forest in this area is also slow because of the slash, or waste wood that was left behind by loggers. On this 6 acre (2.4 ha) plot of land, there is enough timber remaining from earlier logging operations to build 47 three-bedroom houses. With enough material for a small housing subdivision lying on the ground, it is difficult for plants to colonize the soil.

It is also a challenge for large animals to move and feed here. Imagine for a moment that you are a young, gangly-legged moose walking through the slash and you will appreciate some of the problems these animals encounter. ■

## Pines and Needles



Long before loggers came to this valley, the forest had been cleared of its trees many times. In nature, forest fires clean and renourish the forest floor, ensuring rapid and healthy regrowth.

After the last fire raged through here in 1904, the first trees to re-colonize the fire-scarred landscape were lodgepole pines. Since that time, most of the pines have been replaced by slower-growing Engelmann spruce and subalpine fir.

To distinguish between the two species, gently "shake hands" with a couple of nearby trees. The spruce has needles which are sharp to the touch, round in cross-section, and will roll easily between the fingers. The fir's needles are not sharp to the touch, appear flat, and will **not** roll easily between your fingers. Perhaps you might remember them this way: Spruce are sharp, and fir are "friendly".

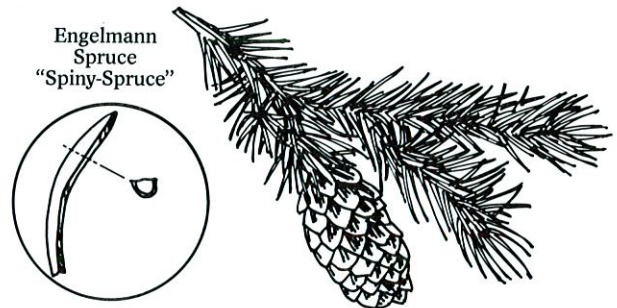
Both spruce and fir are well suited for growth in the moist, shady environment of this north-facing subalpine slope. Engelmann spruce, when well established, can live for more than 400 years.

Higher up in the forest zone, subalpine fir become more common. The fir have larger seeds than the spruce. These seeds hold more food for the new seedlings, giving them a better chance of survival in harsh conditions.

The trees of this subalpine forest affect many other living things along this trail. Keep an eye on the changes in the forest undergrowth as you walk to the next stop. ■



Subalpine Fir  
"Flat-Fir"



Engelmann  
Spruce  
"Spiny-Spruce"

## The Forest Floor



As you walked along the trail, you may have noticed that some areas of the forest floor looked different. What has caused some areas to have a thin carpet of twinflower and grouse-berry, while other places are covered with large shrubs like false huckleberry and bracted honey-