

# Glacier National Park

British Columbia



Cover: Mount Macoun

## Introducing a park and an idea

Canada covers half a continent, fronts on three oceans, and stretches from the extreme Arctic more than halfway to the equator.

There is a great variety of land forms in this immense country, and Canada's National Parks have been created to preserve important examples for you and for generations to come.

The National Parks Act of 1930 specifies that National Parks are "dedicated to the people . . . for their benefit, education and enjoyment" and must remain "unimpaired for the enjoyment of future generations."

Glacier National Park encompasses a 521-square-mile area of the rugged Selkirk Mountain Range and, to a lesser extent, the Purcell Range of interior British Columbia. Noted for its sharp peaks, steep-sided valleys and swiftly flowing streams, Glacier Park was named for the more than 100 glaciers found within its borders. The park was originally established to preserve an area of 10 square miles at the summit of Rogers Pass.

## The park environment

Each National Park has its own character, its unique story as a living, outdoor museum. The Glacier story is one of historical, human accomplishment in a rugged mountain landscape accented by dense forest, numerous glaciers and snow-capped peaks. The avalanches too, have a story of their own. There are 144 avalanche zones which funnel onto the Trans-Canada Highway at 86 different places. During the winter months a specialized group of parks staff, assisted by an Army gun crew, run the largest direct avalanche control area in the world. As you drive through the park you will notice the stark scars of avalanche paths gouged in the mountain sides, silent witnesses to nature's winter activity.

## The mountains: an ancient landscape

Ages older than the Rocky Mountains, the Selkirks reflect a process of geological change spanning millions of years. Time and pressure have altered their rocks from parallel-bedded sediments like the Rockies to massive slates, hard quartzite, conglomerates (rock composed of material varying from small pebbles to large boulders), and angular material known as breccia.

The changes these rocks have undergone make it difficult to reconstruct the mountains' history. All traces of organisms (fossils) that may have lived in the seas that once covered the landscape have been obliterated.

While the rocks hide well the history of their origin, the effects of the great flowing sheets of ice that gave the park its name can be seen in the steep valley walls and sharp rugged peaks. The Illecillewaet Valley was at one time filled with glacial ice deep enough to carve the angular sides of Mount Sir Donald's 10,818-foot summit.

Indian paintbrush



Many of the glaciers in the park are at levels lower than found anywhere else in the interior of British Columbia. Two, the Illecillewaet and the Asulkan may be reached by trail. Although scientific observations have not been carried out regularly on every glacier in the Selkirks, it is probable that all are receding. When the Illecillewaet Glacier was first studied in 1887, its toe, or snout, was about 3,000 feet long. Today the toe is barely 1,000 feet long and receding at the rate of about 50 feet a year.

Within the Precambrian limestone of Cougar Valley are the Nakimu Caves, a series of subterranean passages which were formed by underground streams flowing through fractured, soluble rock. Over three miles of passages have been explored and mapped and, so far, this is one of the largest known systems in Canada. For reasons of public safety it is forbidden to enter these caves at present. Three miles east of Rogers Pass there is evidence of another underground system, the full extent of which has not yet been determined.

## The plants: a study in contrasts

Because of the heavy precipitation in the Selkirk Mountains, the forests are dense and luxuriant, and below timberline the underbrush is almost impenetrable.

In Glacier, as in other mountain environments, plant life reflects the wide range of local climatic conditions

Mount Sir Donald



found at different altitudes — the higher the elevation the more specialized the plants.

At both the east and west entrances to the park, western hemlock and western red cedar grow majestically, shading the forest floor where thimbleberry, alder and the sharp-spined devils-club make travel difficult. In the damp, shady areas, mosses and ferns carpet the ground.

At the summit of Rogers Pass, alpine fir and Engelmann's spruce are more plentiful than the hemlocks and cedar of lower elevations. Here the trees have narrow, spire-like tops, an adaptation to snowfall, which averages 30 feet.

As timberline is approached, the terrain becomes semi-open with scattered alpine fir and dwarfed mountain hemlock, and meadows dotted with colourful, fragile wildflowers.

Because of the heavy snowfall, timberline is lower in the Selkirks than in the adjacent Rockies, and the growing season is short. Here the glacier lily, alpine anemone, and heather must bloom and reproduce in the brief span of two months.

Above timberline, hardy plants grow close to the ground in mat-like formations as a protection against drying winds and deep snow. In this high country, there is a continuous carpet of colour as one flower after another blooms in alpine meadows.

## The animals: each seeks its own habitat

Like the plants, the number and variety of animals in Glacier National Park reflect the climate. Deep winter snowfall, which restricts movement and the availability of food, limits the number of species that can exist the year round.

Deer, elk, and caribou find it difficult to move around in the deep snow of winter, and seek out areas with less snow. The grizzly bear finds solitude in the remoteness of the high country. He may be seen searching for food on south-facing avalanche slopes in the spring, after his winter hibernation, or in the alpine meadows during the summer. All bears are unpredictable and should be avoided.

Agile mountain goats are often seen on the bluffs above the snow-sheds east of Rogers Pass. The rocky crags are their domain, while the rockslides are the home of the tiny rock rabbit, or pika. The pika may often be seen busily storing food for the following winter.

A shrill, piercing whistle is the trademark of the hoary marmot or whistler. Columbian and golden-mantled ground squirrels, chipmunks, and red squirrels are all common to the park.

The dark, shady forests and alpine regions of the park do not support a large or varied bird population. Only 65 species have been recorded thus far. However, as more spring observations are conducted, more species will



probably be added to the list. The pine siskin, Wilson's warbler, hermit thrush, chipping sparrow, and Oregon junco are a few species that can be called common.

Blue grouse and Franklin's grouse are common to the park. Although absent from the summit area, the ruffed grouse is seen in Beaver Valley. The white-tailed ptarmigan may be observed above timberline on most summits.

As in most glaciated areas, fishing is better in early spring or autumn rather than in summer, when the water is clouded by glacial silt. Many of the rivers and streams support a population of Dolly Varden, whitefish, cutthroat and eastern brook trout.

#### A brief history

Because of their difficult weather conditions, avalanches, dense undergrowth, lack of game and the superstitions connected with them, the Selkirks did not appeal to Indians. Since the Indians left no artifacts in Glacier, it is probable that they only crossed the mountains through Rogers Pass on occasional trips to better hunting grounds. The first white men to see the Selkirks were traders and explorers for the fur companies, who used the Columbia River to skirt this mountain barrier. In 1865, Walter Moberly partially penetrated the Selkirk Mountains by way of the Illecillewaet, searching for a low-level, direct route from Shuswap Lake to Kicking Horse Pass. Sixteen years later, Major A. B. Rogers discovered the first usable route through the mountains and the pass bears his name.

Glacier National Park was established in 1886 after the completion of the Canadian Pacific Railway over Rogers Pass. Shortly thereafter, Glacier House was constructed and for over 25 years this comfortable, lodge-like hotel welcomed some of the world's leading mountaineers, naturalists, and geographers. When the Canadian Pacific Railway moved its route from Rogers Pass through the Connaught Tunnel in 1916, the hotel was bypassed, and it was torn down in 1929.

For years Glacier National Park was all but forgotten, except by a few avid naturalists and mountaineers. In 1962 the completion of the Revelstoke-Golden section of the Trans-Canada Highway over Rogers Pass forged the final link in this transcontinental route. A roadside monument near the pass commemorates the achievement and today Glacier National Park is a popular stopping place for tourists travelling the Trans-Canada Highway.

#### How to reach the park

Situated about 36 miles west of Golden and 28 miles east of Revelstoke, Glacier National Park is easily accessible by car or scheduled bus service via the Trans-Canada Highway. The highway, which passes through the park, traversing Rogers Pass en route, takes motorists through some of the most attractive mountain scenery in the world. The C.P.R. also provides access to the park.



A park motor vehicle permit is required for all vehicles and it may be purchased at the park gates.

#### How to enjoy the park

*Season* — Although Glacier is open all year, most visitors come in the summer months, when hiking, mountaineering and fishing are popular. However, winter and spring skiing also attract many visitors. Illecillewaet Glacier is the most popular ski touring area.

*Fishing* — Fishing in the park is by permit, available from the park administration building or from the park wardens. Fishing regulations are available where permits are sold.

*Hiking* — Hiking is one of the best ways to explore the park. A fine network of trails leads to the Illecillewaet and Asulkan Glaciers. There are good viewpoints from the ridge of Mount Abbott. About a mile east of Rogers Pass, a trail leads upward toward Mt. Tupper and the Rogers group of peaks. Other trails lead up Connaught and Cougar Creeks to Cougar Valley, where the Nakimu Caves are located. The caves are closed to the public.

Most visitors take relatively short hikes on the trails, and it is not advisable to make longer, overnight trips into the park without careful preparations.

*Mountaineering* — Glacier is a famed mountain climbing area, and climbers have made the park their headquarters



for many years. Climbers and hikers travelling off park trails must register with a park warden before and after each trip. Several books on hiking in Canada's National Parks are available. Topographical maps of the park (at a nominal charge) and free trail guide folders may be obtained at the park administration office and the communication centre.

#### Some don't's

National Parks are selected areas set apart as nature sanctuaries and special care is taken to maintain them in their natural state. For this reason, all birds, wildlife, trees, and rocks are to remain undisturbed.

Even the wildflowers are not to be picked; they are to be left for others to enjoy. Feeding, touching or molesting wild animals is not permitted.

Please help to protect your park for future enjoyment. It is part of your heritage.

Dogs and cats may accompany visitors into the park, but dogs must be kept on leash. No permit or vaccination certificate is needed.

#### Where to stay

There are three campgrounds in the park, all with flush toilets, communal kitchen shelters, and free firewood. There are no electrical or individual sewage disposal con-

nections for trailers in Glacier, although the largest campground, at Mountain Creek, does have trailer sites with a central sewage disposal station. The two other camping areas, Illecillewaet and Loop Creek, are located just west of Rogers Pass.

There is a nominal daily camping fee and campgrounds are usually open from early June until mid-September. Accommodation is on a first-come, first-served basis, and the maximum allowable stay at a campground is two weeks.

Camping is restricted to established campgrounds, but hikers on overnight trips can camp en route, provided they report to the park wardens before and after each trip.

There are commercial accommodation, dining facilities and a garage at the summit of Rogers Pass.

#### Fires

Campfires may be lit only in fireplaces provided by the park, or in portable stoves. Barbecues may be used only in campgrounds or picnic areas, and all coals must be dumped in existing park fireplaces. Fire permits must be obtained from the district warden for any open fires other than those in a campground fireplace. Anyone who observes an unattended fire should try to extinguish it, or if it is beyond his control, report it to the nearest park employee.

#### How to get the most out of your visit

To help you understand and appreciate Glacier's complex natural environment, you are urged to take advantage of the free interpretive program, conducted by a trained park naturalist and his staff. It will provide you with an insight into how climate, land forms, plants, and animals are interrelated, and it will make your stay in Glacier more rewarding.

By day there are conducted hikes; in the evening there are slide and film presentations, and talks. A schedule of interpretive events may be obtained from park staff.

Self-guiding trails, roadside signs, exhibits, and viewpoints also explain the park's natural features, and free interpretive pamphlets on points of special interest are available.

The park naturalist will address organized groups if arrangements are made in advance. Schools and service clubs may also request the naturalist's services during the winter months.

#### Where to get information

Detailed information may be obtained from both the east and west park gateways, the information centre at the Rogers Pass monument site, campground kiosks, and uniformed personnel. Staff will answer questions, provide maps, outline travel routes, and refer visitors to various areas, events and facilities in the park. Park wardens and naturalists, though not primarily responsible for general information, will aid you whenever possible. They are particularly helpful in planning trips to isolated areas.

Additional information on Glacier is available from the Superintendent, Mount Revelstoke and Glacier National Parks, Revelstoke, British Columbia. For information on other National Parks, write the Director, National and Historic Parks Branch, Department of Indian Affairs and Northern Development, Ottawa, Ontario, K1A 0H4.



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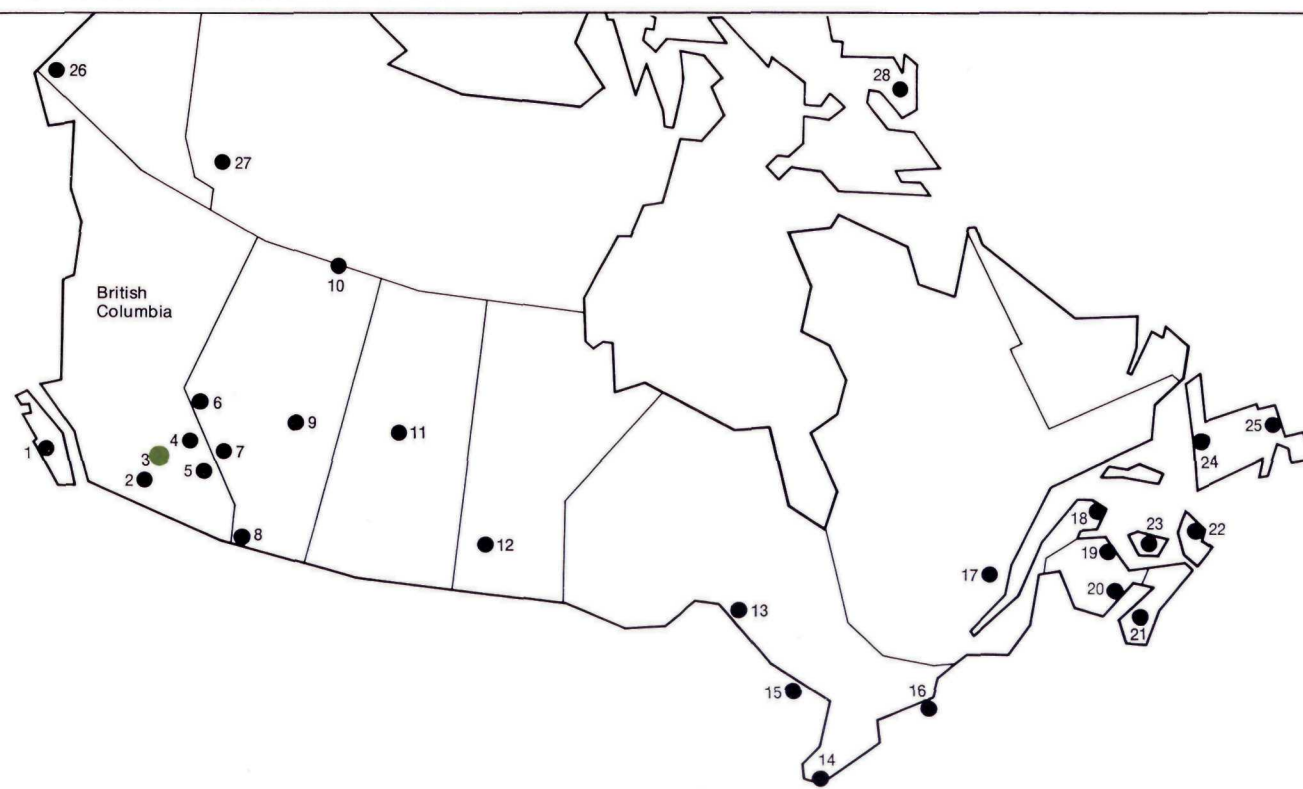




### Glacier National Park

Note: This is but a reference map, designed to give you a general idea of what you will find in this park. It is not a hiking or road map. If you intend to go hiking, please ask for the park's various trail guide folders at the communications centre.

- Legend**
- Trans-Canada Highway
  - Secondary Road
  - ..... Walking or Hiking Trail
  - + + + Railroad
  - Lake, River, Creek
  - Snowfield, Glacier
  - ▲ Mountain
  - Warden's Cabin
  - ▲ Accommodation
  - ▲ Campground



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