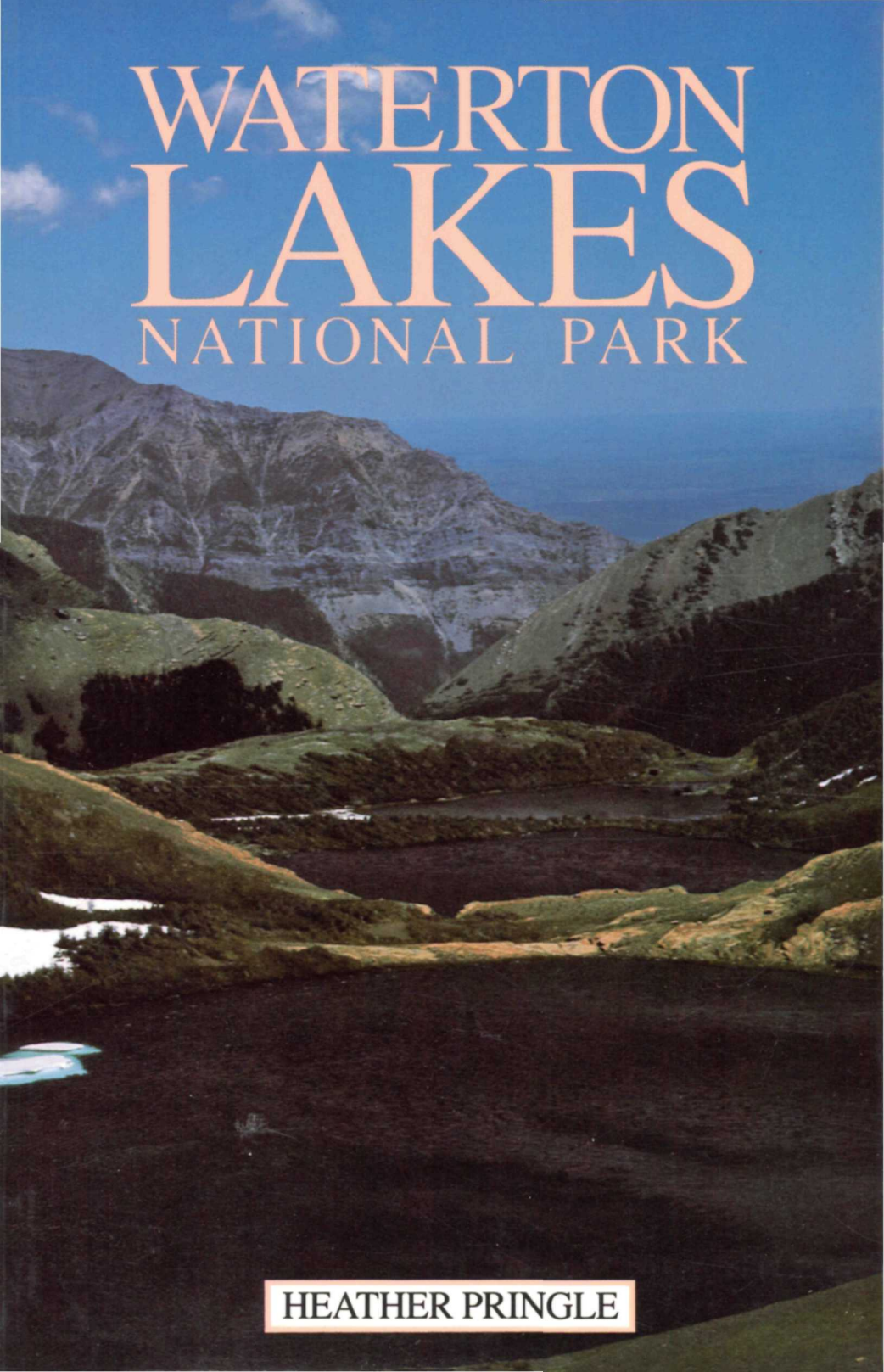
WATERTON LAKES NATIONAL PARK



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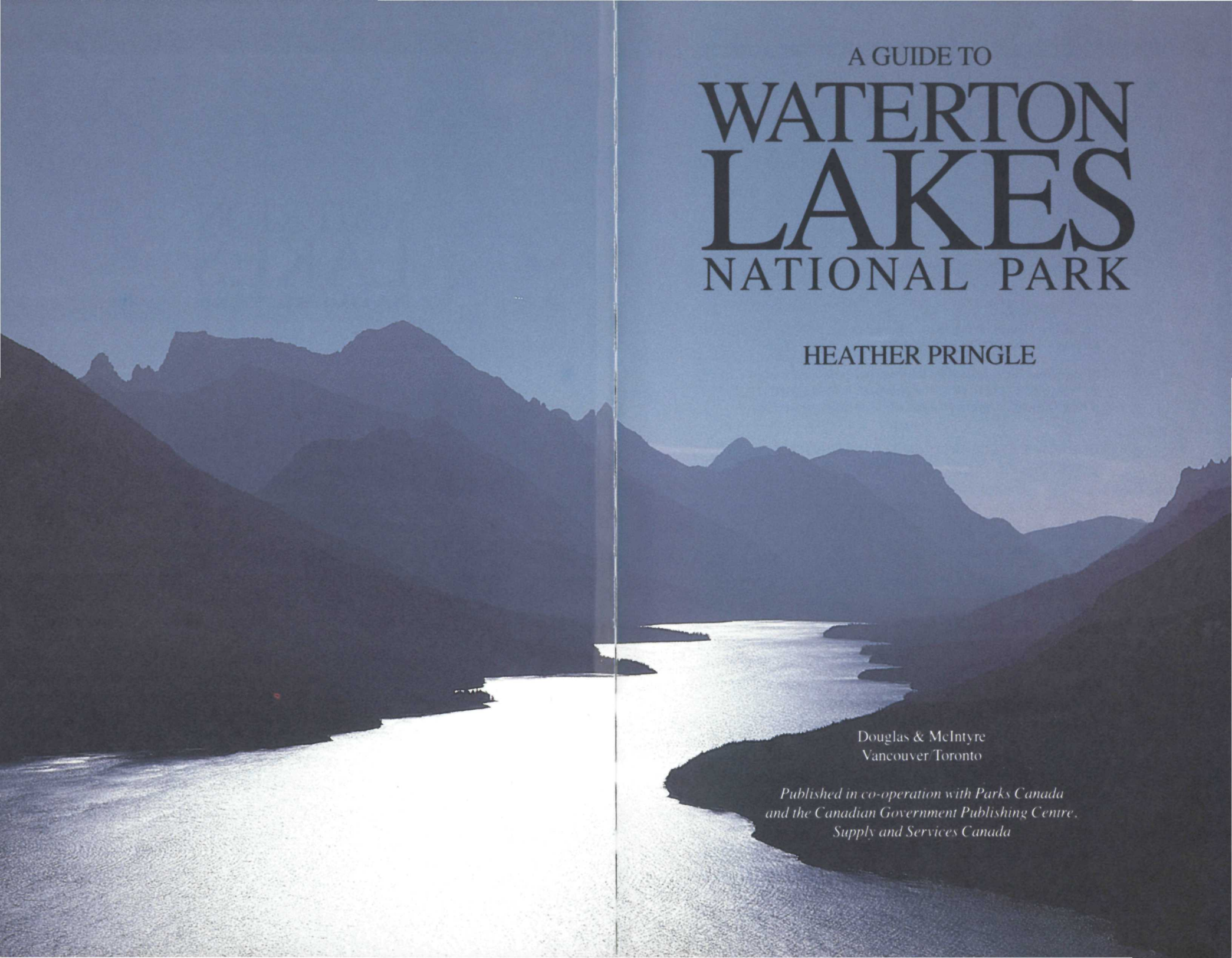

A GUIDE TO

WATERTON LAKES NATIONAL PARK

HEATHER PRINGLE

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WATERTON-GLACIER INTERNATIONAL PEACE PARK

Although an international boundary runs between Waterton Lakes National Park in Canada and Glacier National Park in the United States, the two parks share many of their greatest treasures—rugged mountain scenery, bright-blossoming wildflowers and wide-ranging wildlife. In recognition of these shared features and in honour of the mutual aspirations of people from both countries who supported these two parks, the Waterton-Glacier International Peace Park was created in 1932. Today it is a symbol of the friendship between Canada and the United States, and a reminder to all that nations with common boundaries can live together in peace and harmony.


EDMONTON
Jasper
National
Park
Jasper
ALBERTA
Banff
National
Park
Glacier
National
Park
Yoho
National
Park
Lake
Louise
Golden
Banff
CALGARY
Mount
Revelstoke
National
Park
Kootenay
National
Park
BRITISH COLUMBIA
Claresholm
to
Lethbridge
& Hwy 5
Fort Macleod
Cranbrook
Pincher
Creek
Cardston
WATERTON LAKES
NATIONAL PARK
Trail
CANADA
U.S.A.
Waterton-
Glacier
International
Peace
Park
Glacier
National
Park
IDAHO
WASHINGTON
MONTANA
Sand
Point
Kalispell

INTRODUCTION

Everyone who makes the journey to Waterton Lakes National Park does so by choice. It does not lie along the way to somewhere else, a station on a transcontinental rail line or a stopover on a major highway. All who come to this quiet corner of southern Alberta have made a special trip. If there can be such a thing as a backwater in the Canadian Rockies, then Waterton Lakes is one.

Being a backwater can be a good thing for a national park; it has been for Waterton Lakes. There are still places here where human feet have never stepped, and there are many places that give that appearance. The crystal-clear alpine lakes and brooks, even the age-old rock of the mountains, seem fresh and new and untouched. A hundred years of hikers and holidayers have left remarkably little trace. Much of the park remains wilderness.

Most of the year, the town of Waterton Park is a quiet place. In winter it resembles a village in a glass paperweight, the kind you turn upside down to create the illusion of snowfall. For a few months each summer, however, the town takes on a different character. Shutters are lifted off summer cottages, shop signs are touched up with paint, and a small but very busy summer resort emerges. Southern Albertans take great pride in this resort. Many of the cottages have been in Southern Alberta families for two or three generations.

It is safe to say that most people make the trip to Waterton Lakes National Park because of the commanding scenery. Here rolling golden prairie meets rugged mountains that rise to the sky. The effect is impressive: on one side of the park, balsamroot and prairie crocus bloom and kestrels soar in the air; on the other side, bear grass and mountain gentian blossom in alpine meadows, and golden eagles catch the summer thermals.

Certainly the landscape, with its dramatic transitions, has long been a source of pleasure for travellers. George Dawson, one of Canada's great mapmakers, marvelled as he stood on a Waterton summit 100 years ago. To the east, he noted, "the plain appears to differ only in colour from the sea. Looking westward, even where the view is most extensive, it is one of tumultuous peaks and ridges, pine-clad or bare and rocky, to the horizon."

Today, hikers exploring Waterton's mountains may share this sense of wonder. As a national park, the land here has been carefully preserved and protected. As a national park, it will continue to enjoy this protection, a natural heritage for all.

This guidebook has been designed to add to your enjoyment and appreciation of Waterton Lakes. The first section of the book is devoted to the natural and human history of the area; the second offers practical information and advice to those interested in visiting the park. It is sincerely hoped that everyone who makes the journey to this corner of the Rocky Mountains will have a memorable and rewarding trip.

THE LAND TRANSFORMED

Even in the highest reaches of mountain in Waterton, one can find memory of ancient seas. On a bright, cloudless summer morning, set off along the trails to Crypt or Carthew lakes and explore some of the rocky ridges along the way. Trace their weathered surfaces with your hand for the ebb and tide of long-ago waters. A ledge of bright red stone reveals the rhythmic pattern of ripple marks. A steep cliff of light grey limestone discloses fossil remains of marine algae. Elsewhere, a narrow ridge of grey-green rock displays the texture of mud cracks.

Enduring and changeless as the mountains of Waterton may seem, the landscape here has known many tranformations. Shallow seas have slowly flooded the land and just as slowly retreated. Irresistible forces have crumpled the earth's crust, heaving a range of towering mountains over its surface. Rivers of ice have flowed down the valleys, and clear alpine lakes have filled the scars left by these glaciers. Time and nature have shaped and reshaped the landscape many times. Still, some memory of the past remains; the rocks themselves bear witness. Imprinted and scored by ancient events, they serve today as enduring records of distant time.

BEGINNINGS

To delve into mysteries, to chart and plot the ancient processes that have shaped Waterton's landscape, one must begin by studying the present. The science of geology is based on this simple truth, and geologists have gleaned much of what they know about the distant past by observing natural processes today. A silty brown river weaves along its delta, laying down thick beds of sandy sediment, and from this geologists learn the origins of sedimentary rock. Or a volcano explodes into fire, showering its slopes with molten lava, and from this geologists discern the origins of igneous rock.

In the process of observing these events, moreover, scientists have come to recognize an ancient contest played by two monumental forces. On the one hand, while colossal pressures within the earth combine to lift up mountains and other highlands, pressures from without ceaselessly seek to level these heights. Quite literally, all that goes up must eventually come down. Even as a range of mountains is being created, the forces of water, wind and weather are already at work, tearing it down and washing it away.

This ancient contest traces its origins back some 3.5 billion years to a time when the earth's crust had just cooled and hardened. Certainly it was well underway about 1.5 billion years ago when Waterton's ancient rock was first pressed into existence.

Sedimentary in nature, this rock was created along the coastline of a primeval ocean. The Rocky Mountains had yet to be born, and the ocean extended its reach all the way into Alberta. Along the western edge of the province, it formed a broad, shallow bay. Life in these waters was at an early and primitive stage; thick mats of blue-green algae could have been seen flourishing in the intertidal zone near what is now Waterton. To the north and east of the ocean lay a sloping shelf of land, all that remained of an ancient mountain range. In all likelihood, this land would have been a bleak and forbidding place, for it was unbroken by even a patch of forest, grass or moss. Green, it seems, was still in the distant future.

Except for the whistling of wind and the rushing of water, the landscape would have seemed quite still and motionless. Great winding rivers flowed down the land from the east, carrying sand, pebbles and other rocky debris eroded from slopes and valleys. As they reached the ocean at last, the rivers began divesting themselves of their burdens, lining deltas and shorelines with thick beds of sediment. Heavy gravels would be deposited first, while sands, silts and other fine particles would be carried farther out to sea. Over time, however, changes in a river's course, in climate and in the shifting winds and tides affected this patterning. A layer of gravel topped one of fine pebbles; a layer of sand covered one of clay. Today the beds of sedimentary rock in Waterton preserve an intricate pattern of layers.

During the millions of years in which these sediments were slowly settling one on top of another, the coastal environment was subtly changing. Small volcanoes percolated quietly at the bottom of the bay some 1.3 billion years ago, spreading white-hot lava over the ocean floor. Pressures deep within the earth forced streams of flowing magma between layers of buried sediment. And the coastline itself advanced and retreated, compelling rivers to abandon old deltas and slowly reconstruct new ones. The sediment layers faithfully recorded these small changes. Today in Waterton, ripple marks and fossil remains of marine algae appear in beds once

GEOLOGIC TIME CHART

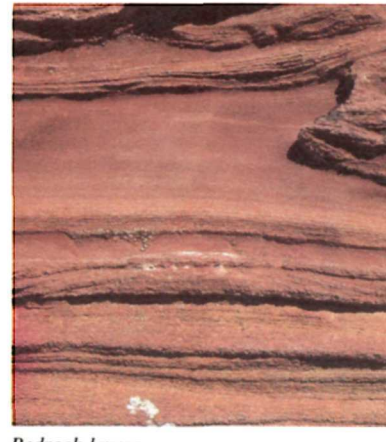
Millions of Years	EVENTS	LIFEFORMS
0	Present landscape revealed Last glacier retreated from Waterton	
1	First glacial advance began in Waterton	First *homo sapiens*
2		
10		
50	Lewis Overthrust is formed Rocky Mountains are formed	Dinosaurs became extinct. First primates
100		First birds
200		First dinosaurs and mammals First reptiles, insects and conifers
300		First terrestrial vertebrates
400		First land plants First vertebrates
500		First multicellular plants and animals
800	Sedimentary rock in Waterton is formed	
1500		
2000		First stromatolites First primitive cells
3500	Oldest dated rocks in world	
5000	Earth is formed	

PARKS CANADA

Ancient ripple marks

GREG HORNE

Mud cracks



SIMON LUNN

Bedrock layers

bathed in warm, shallow water. Mud cracks and raindrop marks appear in strata left temporarily high and dry by changing conditions. By reading these clues and others left in the rock, geologists are able to reconstruct the shifting features of the landscape of more than a billion years ago.

As each new layer of clay, mud, sand and gravel settled to the bottom of deltas and sea floors, the beds of sediment grew heavier. In time the earth's crust began sinking under this enormous burden, and the beds of sediment sank with it, while ocean water lapped above. In this way sedimentation continued with little interruption for the better part of 200 million years.

Interred beneath the ocean, the sediments began hardening into rock. Beds of clay were compressed into shale and layers of sand were compacted into sandstone. Lime muds were slowly pressed into limestone. Subjected to continued pressure and heat, some of this sedimentary rock underwent a slight metamorphosis, taking on new forms.

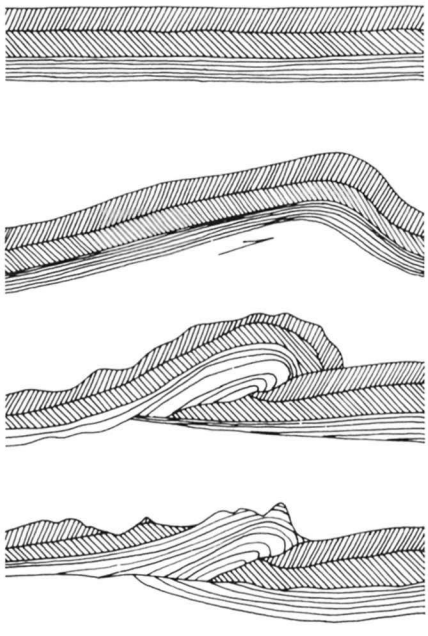
SIMON LUNN

Argillite beds, Red Rock Canyon

The massive beds of shale, for example, were transformed into argillite, one of the most colourful and distinctive rocks in the Waterton Lakes region. Red Rock Canyon derives its name from several thick beds of red argillite found there. Delicately tinted beds of green and grey argillite can also be found. According to geologists, the colourful stains in the rock result from the presence of iron-bearing particles. Oxidized iron shows red in argillite, while unoxidized iron shows green.

Under the pressure of burial, the massive beds of sandstone were cemented into green, grey and white quartzite, and at least part of the limestone beds was transformed into dolomite. Subtly coloured in shades of grey, tan and brown, dolomite and limestone can be readily identified in many of Waterton's steeper cliffs and slopes. Sturdy and strong, these rocks resist the forces of erosion well. At Cameron Falls, water cascades over 1.5-billion-year-old beds of dolomite and limestone.

Although nearly all of Waterton's rock has sedimentary origins, some igneous rock can also be found. The volcanic lava that spilled over the sea floor more than 1.3 billion years ago produced a black basalt speckled with white. And the streams of magma that squeezed between layers of buried lime mud eventually formed a pale violet or dark grey rock known as gabbro. A broad, horizontal band of gabbro, measuring some 30 m (100 feet) in thickness, may be seen near the peaks of Mount Cleveland, Mount Blakiston and Mount Anderson. Sandwiched between two thin white layers of marble, this dark coloured band is known today as the Purcell Sill.

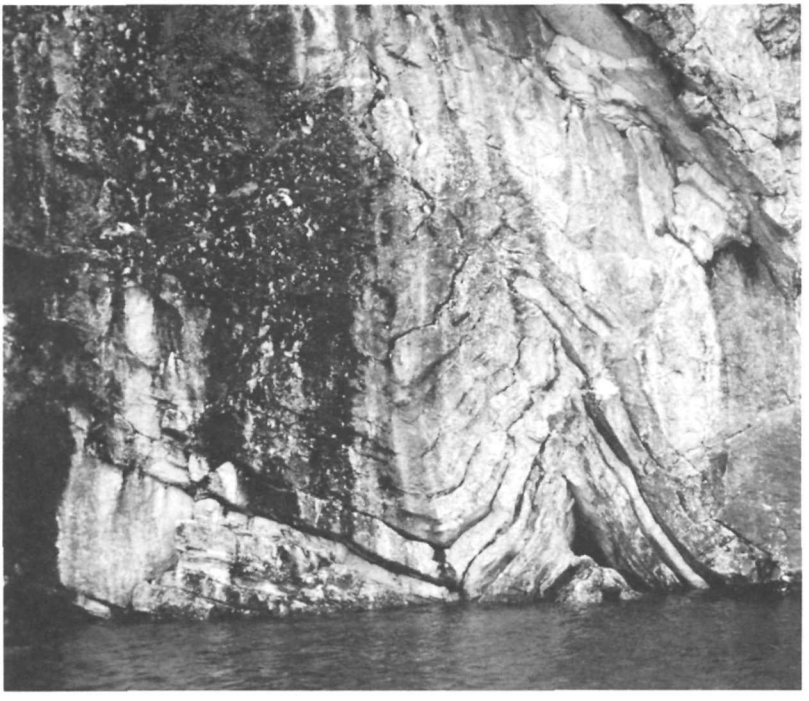


The making of the Lewis Overthrust

Until some 150 million years ago, these layers of igneous and sedimentary rock lay buried beneath the shifting coastline. Waves lapped over them; life evolved above them. As time passed, the reefs of blue-green algae gave way to more complex forms of sea life: sponges, seaworms, trilobites, snails, corals and finally the first fish. Green plants colonized the land, and in time luxuriant forests of club mosses, horsetails and ferns lent shade to growing populations of insects and reptiles. Coal-forming swamps flourished. By the time the Rocky Mountains saw the light of day, the age of dinosaurs was nearing its end.

MOUNTAINS

For reasons which are not entirely clear to scientists today, great subterranean forces began stirring around 140 million years ago. Deep within the earth's crust, surging pressures began exhuming the layers of rock that had accumulated slowly over millions of years. Beds of argillite, dolomite, limestone and quartzite were powerfully compressed and gradually forced upward, forming a mammoth arch of rock west of Waterton. All along the western side of North America, from the Arctic Ocean to the Gulf of Mexico, a series of rocky ramparts was raised over a period of 50 million years or more.



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Folded rock, Upper Waterton Lake

Not surprisingly, the powerful forces that uplifted these Rocky Mountains also created enormous strain within it. Sedimentary rock that had lain flat in layers, like sheets on a bed, became twisted, folded and buckled in the process of mountain building. Under this intense pressure, some layers separated along great fractures known as faults, and occasionally one sheet overrode another. This horizontal movement of one sheet on top of another is called an overthrust. All the mountains in Waterton were created from one such overriding slab. Known as the Lewis Overthrust, this giant sheet of rock stretches north from the Marias Pass in the United States to an area south of the Bow River in Banff National Park, a distance of 320 km (200 miles).

In their studies of the Lewis Overthrust, geologists have learned that this sheet once lay buried west of the Flathead Valley in British Columbia and Montana. During the process of mountain building, the rock was lifted up and transported 60 km (37 miles) over the land to its present location. Just how this mountainous wall was moved such a great distance remains a geological puzzle, although scientists continue to study and debate the matter. Early geologists, for example, speculated that the slab may have been heaved east by some great, unknown force. But such a force would have resulted in a distinctive pattern of folding in the rock, and the Lewis

Overthrust reveals no hint of this pattern. In view of this, some geologists today favour the theory of gravity sliding, suggesting that the massive overthrust slid into place under the pull of gravity. Attractive as this theory sounds, however, no record of downhill motion has been discovered.

While the question of transportation remains a fascinating puzzle, the effect of the Lewis Overthrust is clear: layers of billion-year-old rock finally came to rest directly on top of sixty-million-year-old rock. The ancient beds of argillite, quartzite, limestone and dolomite crown much younger beds of coral and shale, contrary to the usual scheme of things. As a rule, beds of sedimentary rock reveal a chronological order, with the oldest rock on the bottom and the youngest rock at the top. But in Waterton today this order is reversed, and for this reason its mountains have often been called upside down or rootless mountains.

As time passed, the forces of water and weather began to shape and chisel the young mountains. Frosts and cold weather pried pebbles and boulders loose; rain and gravity rolled them down the slopes. Swift-flowing mountain streams washed rocky debris into lakes and rivers. The jagged peaks of the young mountains were slowly eroded away and acquired a rounded, gentle look.

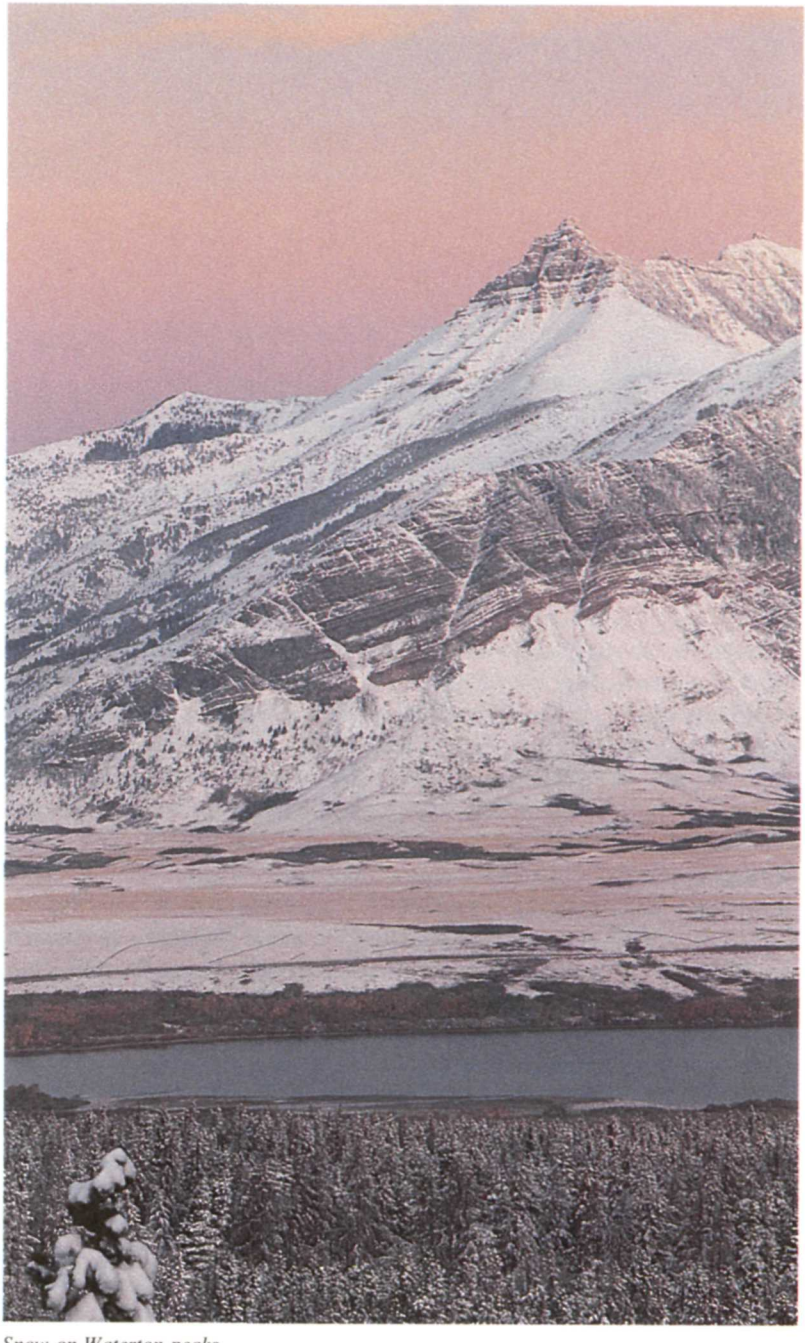
The dank swamplands and verdant tropical forests of the age of dinosaurs gave way to grasslands and a cooler, drier climate. Camels, elephants and a type of horse that later vanished from North America grazed on the rich grasslands of Alberta. A rhinoceros-like animal known as the brontotherium wandered the area near Cypress Hills. In time all this life disappeared before the slow march of glaciers.

GLACIERS

Much of Waterton's most beautiful scenery was modelled by powerful fingers of ice. The long, sweeping view up Waterton Valley into the heart of the mountains, the rush of water over Cameron Falls, the rocky amphitheatre rising above Cameron Lake—all were carved by glaciers. Scouring, rasping and gouging, they eroded the mountains and transformed Waterton utterly. In the process they added a new ruggedness to the landscape.

While it is common to speak of one long unremitting Ice Age, there were at least four different glacial periods when ice advanced and retreated over parts of North America. In the Waterton area, the first period began more than two million years ago, and its effect on the landscape was dramatic. A great dome of ice slowly gathered over Waterton Valley, engulfing all but the highest mountain peaks. Only the summits of Mount Crandell and Sofa Mountain could be seen above the surface of ice—small islands of rock in a great frozen sea.

The three glacial events that followed were probably much less spectacu-



SIMON LUNN

Snow on Waterton peaks

DUANE BARRUS

Glacial ice

lar. Not only did they leave lesser marks on the walls of Waterton Valley but they also seem to have ventured shorter distances out onto the prairie. In all likelihood, these later events followed one upon another, with ever decreasing effect, until the last major glacier withdrew from Waterton some 10 000 years ago.

Just what caused the ice to advance and retreat over the land in such stately rhythm is not clear. While present-day field tests have shown that glaciers begin accumulating when winter snowfall exceeds spring and summer melting, we are much less certain about the climatic conditions that trigger these events. It may be, as some scientists argue, that the climate cooled suddenly and dramatically, or it may be, as others contend, that relatively minor meteorological changes triggered glaciation. A series of wet, snowy winters and cool, cloudy summers may have been all that was required.

In any event, the glaciers in Waterton probably started as small snowpatches on high, sheltered slopes facing north or east. Protected there from the warm touch of sun in spring and summer, these patches grew slowly in size, until they began creating their own arctic-like microclimate. Snow accumulated more quickly then, and once the ice reached 30 m (100 feet) or more in thickness, glaciers began flowing down the upper mountain valleys.

As they crept along, the glaciers sculpted the land beneath them. Ice froze to the bedrock, tearing up pebbles and boulders and dragging them along on the slow march. Embedded in the moving frozen tongue, these

SIMON LUNN

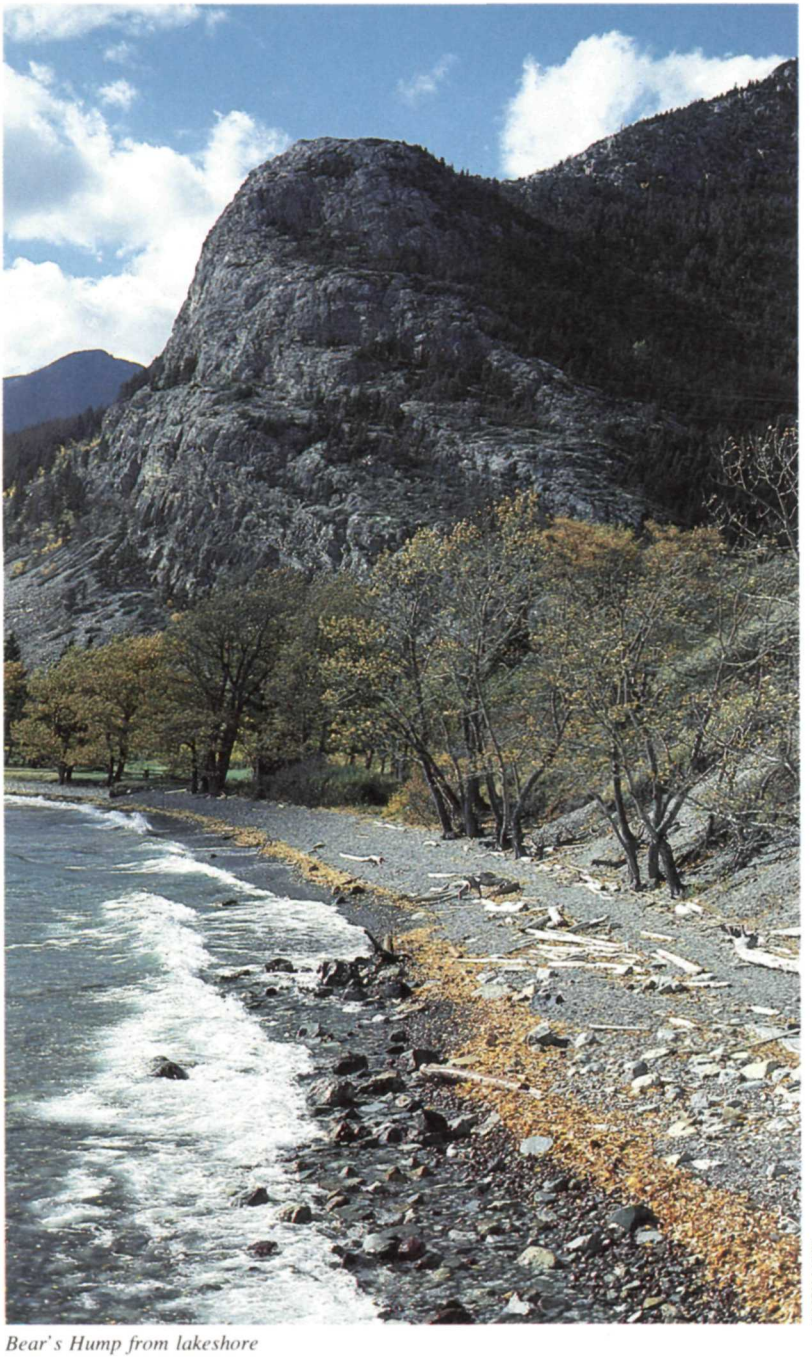
Hiker's view of high cirque and Lake Wurdeman

rocks began scouring and rasping the surface below, leaving deep scars upon the landscape. The high, protected slopes that gave birth to the glaciers were hollowed and quarried to produce cirques shaped like gigantic amphitheatres. Cameron Lake is cradled in one such cirque. Old V-shaped stream valleys were deepened and widened by the rivers of ice into U-shaped valleys; obstacles in the glaciers' paths were plucked out of the way. Today Upper Waterton Lake occupies such a valley.

Where a smaller tributary glacier joined forces with a larger one, a hanging valley was created. Cut on a smaller scale, the tributary valley seemed to hang above the main valley once the ice had melted. Today these valleys are frequently curtained by waterfalls: Cameron Falls is a small but postcard-perfect example.

Strengthened by tributary glaciers, the Waterton Valley glacier advanced northward until it encountered a massive stone barrier—a high ridge of rock running from Bear's Hump to Vimy Ridge. Unable to transcend this towering wall, the powerful glacier ground slowly to a halt. Deepening and thickening, it at last reached sufficient height to slip over the barricade. In the process, it scoured the ridge, leaving the rampart-shaped Bear's Hump and the narrow Bosporus channel. Interestingly enough, while the glacier was gathering height behind the barricade, it was also gouging and deepening the valley bottom. Upper Waterton Lake fills this basin now. Reaching depths of almost 150 m (500 feet) near the International Boundary, Upper Waterton is the deepest lake in the Canadian Rockies.

As the Waterton Valley glacier advanced farther north and east onto the



SIMON LUNN

Bear's Hump from lakeshore

SIMON LUNN

Rolling esker along Red Rock Canyon Parkway

SIMON LUNN

Talus slide at Alderson Lake

present-day prairie, it met with a warmer, drier climate. Melting increased, first halting the glacier's progress and then forcing its retreat. Unable to carry its heavy burden of boulders, pebbles and rock fragments, the glacier lightened its load. Piles of rocky debris were plastered and moulded into moraines along the glacial margins. Crushed rock in the form of sand, silt, clay or gravel was carried from the glacier by small meltwater streams. Much of the heavier materials proved too cumbersome for the streams and was quickly deposited in narrow, twisting ridges beneath the melting ice. These snakelike ridges, known as eskers, are clearly visible today in the bison paddocks and in the grasslands next to the Red Rock Canyon Parkway. Some of them rise 18 m (60 feet) in height and wind across the prairie for nearly 3 km (1.8 miles).

In its sluggish retreat up the valley, the vast Waterton glacier soon began to stagnate. One massive block of ice was abandoned as the glacier melted between Vimy Ridge and the Bear's Hump and receded farther into the mountains. In time, this ice block compressed the ground beneath it, creating a broad, shallow depression in the land. Middle Waterton Lake and Lower Waterton Lake occupy this basin today.

As the glaciers melted back into the mountains, life slowly returned to the valleys. Bright-coloured lichens dotted the barren rock faces, while dark green mosses took hold in the shallow pockets of dust that gathered in rock crevices. In due time, hardy varieties of sedges appeared, invading from unglaciated lands, and small, stunted juniper, limber pine and Douglas-fir soon followed. As soils grew richer, grasses and wildflowers spread over the prairie, and forests rose over the valley floors. Eventually, shades of green replaced sombre earth tones. Waterton assumed more recognizable form.

RECENT TOUCHES

The powerful mountain glaciers carved Waterton's landscape in grand style; other erosional agents have since added small refinements. Landslides have rolled boulders down the sides of Vimy Peak and Sofa Mountain. Freezing water has forced rock loose from high cliffs to form talus and scree slopes. Swift-flowing mountain streams have carried pebbles and silts to the Waterton Valley, laying down broad alluvial fans. The impressive fans formed by Blakiston Creek and Sofa Creek have come to divide Middle Waterton Lake from Lower Waterton Lake.

With each passing year, water, wind and weather add new refinements. More rock is swept from the mountain tops to the valleys; more silt is delivered to the alluvial fans. Even now, the landscape patiently transforms itself.

SIMON LUNN

Stromatolites in boulder

Ancient Marine Life

Those travelling to Carthew Lakes or along Red Rock Canyon should watch for fossil remains of one of the earth's most ancient lifeforms. Reefs of primitive algae, which thrived in warm shallow seas some 1.5 billion years ago, are well-preserved today in the rock. Dating back almost to the beginning of life on earth, these blue-green algae or cyanobacteria were neither animals nor plants, but members of a smaller kingdom called Protista. Like plants, however, these algae possessed the ability to manufacture their own food from carbon dioxide, water and sunlight. In the process of creating this food, the thick mats of mucous-covered algae became covered in a crust of calcium carbonate. Such a crust made photosynthesis impossible, so filaments of algae broke through it with upward growth. Over time these crusts formed the thick, laminated mounds we find in the rock today. Geologists call these mounds stromatolites. While stromatolites are abundant in rock exceeding 500 million years of age, they are uncommon in beds of younger rock. Scientists speculate that this later scarcity could have been caused by an ever-growing population of sea snails, which devoured the mats as quickly as they formed.

Fossils of all types serve as important clues to the distant past, and Waterton's ancient stromatolites are no exception. Embedded here in cliffs towering hundreds of metres above sea level, these fossils provide strong evidence of the rock's seabed origins. For instance, reefs of the same species of algae now grow in shallow sea environments off the coast of Australia. In Waterton, these fossils are protected, and visitors are asked not to deface or remove them from the rock.

WIND'S DOMAIN

Waterton has long held special appeal for those who study the small beauties of nature. During the 1940s, artist Annora Brown journeyed to Waterton each summer in a battered, travel-worn Ford packed with sketching materials and food boxes and topped with an ancient rowboat. She came to sketch and to paint wildflowers, and in her memoirs, *Sketches from Life,* Brown remembers one outstanding afternoon when she and a friend set off across Cameron Lake in their rowboat. Reaching the far shore, Brown decided to explore on her own a high plateau of greenery she had noticed earlier in the day. "Climbing up over the edge of the brown cliff, I stepped into heaven," she recalled forty years later. "Shoulder-high wildflowers of rainbow hues stretched to the foot of the glacier. Breasting my way through them, I came upon a tiny hidden lake on which floated icebergs the size of small buildings; the water was so clear that one could see their brown bases and then far down into the brown depths below. There is something so heady about the combination of flowers and snow—the whiteness, blueness and coldness of snow, and the warmth and colour, so much brighter in the clear mountain air, of the flowers—that time flowed over me, I could not even sketch."

Few places lend themselves so well to painters, photographers, admirers of wildflowers. In recent years, botanists have recorded some 900 different species growing in Waterton—more than half of all the species known in Alberta. Plants from the prairie mingle with those from the high alpine. Plants from west of the Continental Divide mix with those from the east. And plants that are not found anywhere else in Canada are found in the Waterton area. Surprises abound.

While botanists are hard pressed to account for all this botanical richness, they believe that at least part of it is due to Waterton's unique climate. Certainly, the park seems to receive a little more of everything—wind, chinooks, rain and snow—than other parts of Alberta.

CLIMATE

It seems only fitting that Waterton should have not one but six different species of anemone or windflower, for wind has a powerful presence in the park. In spring, breezes from the southeast ripple the surfaces of the lakes in the lower valleys and set groves of trembling aspen fluttering lime-green. In winter, strong gusts from the southwest regularly sweep patches of prairie free of snow, while powerful chinooks twist and stunt trees exposed on valley floors. Days without wind are unusual in Waterton, and on the average, breezes blow at a rate of 32 km/h (20 miles per hour). Each year, however, there are days when gales reach as high as 160 km/h (100 miles per hour); fall and winter months are the windiest.

South and southwesterly winds prevail in the park for most of the year, and it is these winds which bring Pacific weather to Waterton. Storms from the Pacific coast track east along a path that cuts over the park, endowing the area with a slightly maritime climate which seems to favour the growth of plants like false huckleberry and ninebark, more commonly found west of the Continental Divide.

Pacific fronts also endow the park with the famed chinook, a dry wind from the west which warms the land in winter. As Pacific air masses rise up the western slopes of the Rockies, they lose much of their moisture and some of their warmth. In their descent of the eastern slopes, however, they increase in temperature quickly, and the air becomes warmer than it was at the same altitude on the other side. Accompanied often by an arch of bright white cloud running parallel to the mountains, chinooks have a dramatic effect on the temperature. During one particularly powerful chinook in January 1966, temperatures rose 21°C (37°F) in just four minutes in nearby Pincher Creek, Alberta. As one might expect, such chinooks make short work of snow cover; in Waterton these warm winds often melt all trace of snow in the lower valleys.

Just as Waterton receives more chinooks than other areas of Alberta, it also receives somewhat more precipitation. Rain and snowfall tend to increase near the mountains, and even within Waterton there is a distinct gradient running from east to west. On the prairie near the park gate, for example, annual precipitation averages 76 cm (30 inches), while in the mountains near Cameron Lake, it actually doubles to 152 cm (60 inches). The closer one gets to the Continental Divide, the more precipitation there is. Moreover, on days when it is cloudy and overcast in the mountains or in the town of Waterton, it can be beautifully sunny and clear on the nearby prairie. At times you can even see the clouds dissolving as they pass east over Vimy Peak.

As a rule, Waterton's summers are warm and dry. In July and August, winds subside and the prairies gradually bleach to beige. The town of Waterton Park takes on a summer resort atmosphere, as families stroll the

sidewalks, ice cream cones in hand. Daily maximum temperatures in these months average 23°C (73°F), though the mercury occasionally soars as high as 35°C (94°F). Summer nights are generally comfortable, as cool air from the upper slopes drifts down the mountainsides and slips under sun-warmed layers to create a nighttime inversion. Humidity is also low, and those who know the park well say that most summers here are just about right—neither too hot nor too cold, and neither too damp nor too dry. If there is any regret about the summers, it is that they are all too short—the season generally lasts from mid-June until the end of August.

In fall, days of bright sunshine and warmth are broken by short spells of blustery wind and occasional falling snow. Brilliant yellows, reds, browns and greens spread over the valleys and then suddenly disappear as the aspens and willows shed their leaves. Morning frosts linger. Marshes and ponds begin to freeze over, the tops of the mountains become powdered in white, and one day, late in the season, snow in the valley finally stays.

Winters in Waterton are usually warmer than those encountered elsewhere in Alberta, for the park rarely experiences the lengthy polar fronts that sweep down across the province. Passing chinooks often break cold snaps, and winter temperatures can range from lows of –35°C (–31°F) to maximums of 10°F (50°F). As a rule January and February are the coldest months of the year, and they receive the lion's share of the 575 cm (226 inches) of snow that falls in an average year in town.

The strong winds that gust down Waterton Valley in winter have a curious effect on the upper lake. Ice takes its time forming; the lake does not generally freeze over until the first week of January—a good two months later than the smaller and more sheltered lakes. In mild years this ice cover may last only a few days. In more severe winters, however, it may remain until mid-April and occasionally, when conditions are just right, one can skate from the town all the way to the head of the lake, 6.4 km (4 miles) inside Montana.

Spring in Waterton is ushered in with the sound of water. Icicles drip a slow tattoo in the sunlight, snowbanks melt into small creeks, and swollen mountain streams rush down into the valleys. When spring finally arrives, it seems to be in a great hurry.

While all runs smoothly enough in most years, the combination of heavy June rains, warm spring temperatures and rapid melting has given rise to severe flooding on occasion in the past. In June of 1964 heavy rains fell on partially melted mountain snowpacks, raising the level of runoff dramatically. In three hours on 8 June, Upper Waterton Lake rose 1.2 m (4 feet), and Cameron Creek overflowed its banks, flooding much of the town. By evening, Waterton Avenue lay under 30 cm (1 foot) of water and the town had to be evacuated. That date's high water level is recorded on the asphalt driveway of the town's Texaco gas station.

SIMON LUNN

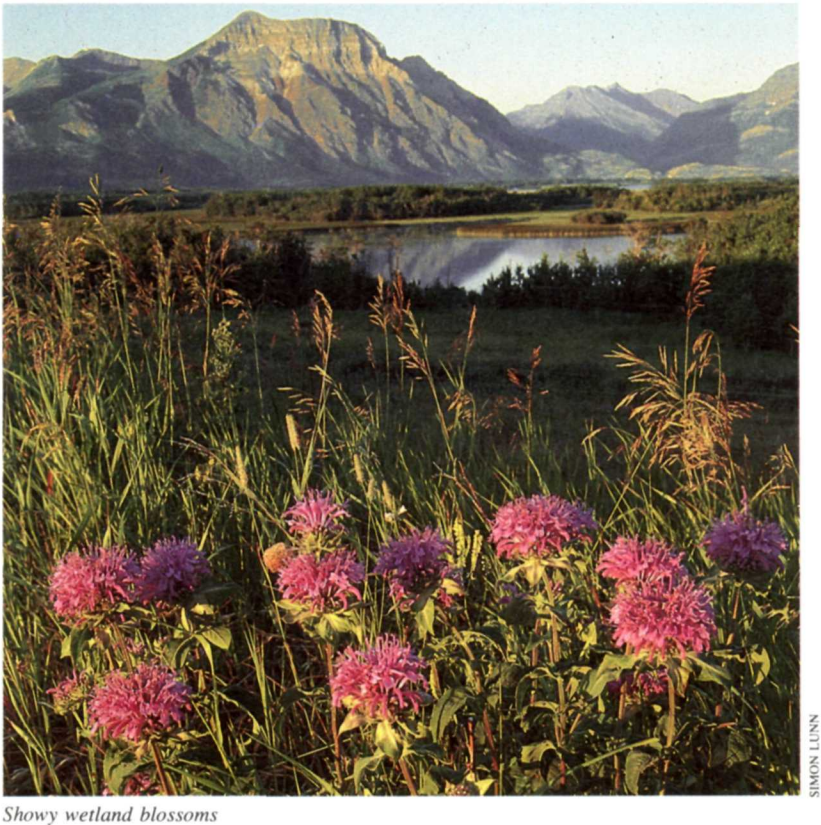
Prairie wildflowers in summer

A similar flood occurred in June 1975 when heavy rains mixed with a heavy snowpack. Close to 18 cm (7 inches) of rain fell in six days, and once again the town had to be evacuated. Since then park staff have tried to reduce the threat of flooding by straightening the course of Cameron Creek as it flows through town and by moving the lower bridge, but the possibility of flooding still exists.

LIFE ZONES

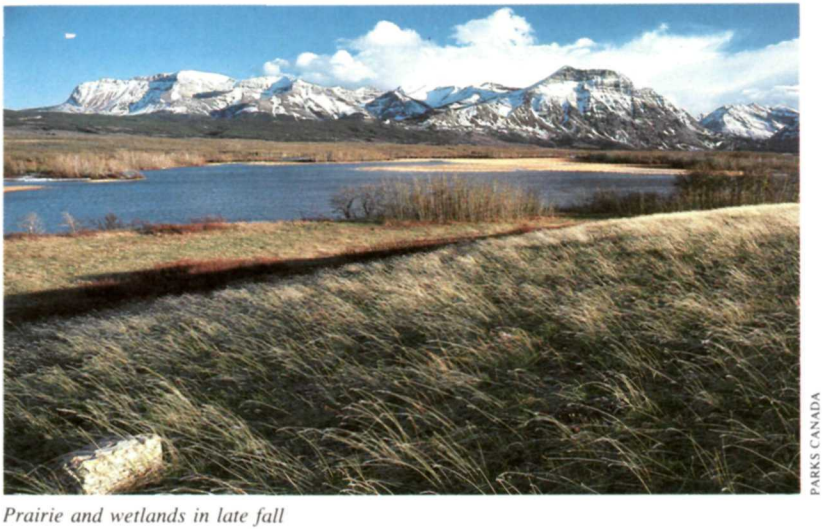
One of the pleasures of walking Waterton's trails in May, June and July is watching spring progress up the slopes. Each year, spring arrives first on the prairies, warming the ground, melting the snow and stirring prairie crocuses, yellow bells and glacier lilies into bloom. As the snow slowly recedes from the lower mountainsides, the crocuses and lilies follow, blossoming in the bare patches. By July, borders of deep blue are seen at last around the ice on alpine lakes, and patches of saxifrage and white mountain avens blend with mountain gentian and mountain fireweed in the high meadows.

Botanists have long known that differences in elevation can create differences in climate and vegetation. The higher one travels up a mountain, the shorter the growing season and the greater the amounts of precipitation. In the high alpine, winters are longer, colder and snowier than they are on the prairies below. Plants growing in the alpine have adapted to this harsh environment; plants growing on the prairie have adapted to a milder one.



SIMON LUNN

Showy wetland blossoms



PARKS CANADA

Prairie and wetlands in late fall

SIMON LUNN

Beaver pond in Blakiston Valley

In all, botanists have identified six major environments or bioclimatic lifezones in Waterton, ranging all the way from wetland to alpine. Each is characterized by certain plant, shrub and tree species, and each tends to be favoured by certain animals and birds.

The **wetland zone** is made up of lakes and ponds and all marshy areas where the ground is saturated with water. At higher elevations, this zone supports relatively little life, but in the lower valleys it hosts a vigorous flora. Aquatic plants such as pondweeds and mare's tail flourish in the water; marshland species such as sedges, cattails, water birch and beaked willow thrive in the shallows and along the water's edge. Such vegetation offers both cover and food for ducks, geese, beaver, muskrat and mink, characteristic inhabitants of the wetlands. Some of the best places to observe this zone are at Maskinonge Lake and by the Blakiston Creek beaver ponds.

Small in size, the **prairie zone** constitutes one of the most important habitats in the park. In Waterton, the great plains reach their western extent in Canada, and the rolling grasslands serve as a ready granary for many species of wildlife. Fescue and oatgrass preside over this landscape, but wildflowers such as lupine and shrubby cinquefoil add splashes of colour in spring and summer. Pocket gophers, ground squirrels, coyotes, bison and meadowlarks all take up residence in this zone, which may be seen in and around the bison paddocks and along Highway 5 entering the park.

The **parkland zone,** characterized by its groves of trembling aspen, is closely associated with the prairie. In some parts of the park, small pockets of parkland are surrounded by prairie, while in other areas large blankets of aspen spread over river valleys and creek beds. Where the trees rise in open thickets, bluebells, prickly rose, Oregon grape and snowberries prosper as undergrowth, and varying hares, black-capped chickadees and ruffed

SIMON LUNN

Alpine zone on Carthew Ridge

grouse find ample supplies of food. To observe this habitat, visit the Belly River campground area or hike along the beginning section of the Vimy Peak Trail from Chief Mountain International Highway.

Heavily forested, the **montane zone** carpets mountain valleys and rises up the lower mountain slopes. Lodgepole pine and Douglas-fir make up much of the forest canopy, while species such as Douglas maple, thimbleberry, buffaloberry, blue clematis, cow parsnip and queen cup mingle in the understory. This zone is a favourite of such animals as mule deer, black bear and cougar, and visitors wishing to experience the montane environment are advised to drive along the Chief Mountain International Highway or hike along the lower section of the Bertha Lake Trail.

The **subalpine zone** rises above the montane zone as far as timberline. Easily seen by Cameron Lake and along the Summit Lake Trail, the subalpine can be distinguished by its forests of alpine fir, Englemann spruce, alpine larch and whitebark pine, which thin appreciably as they near the farthest reaches of the zone. Flowering plants such as bear grass, globe flower, buttercup and gentian prosper here; animals including golden-mantled ground squirrel, grizzly bear, Steller's jay, Clark's nutcracker and varied thrush all make it their home.

The **alpine zone** crowns the tallest mountains in Waterton. Rising above timberline, this zone receives the harshest winds, the shortest summers and the longest winters of all. Trees are rare here, and those which manage to survive are usually deformed and stunted. Lichens cling to bare rock faces, and showy alpine wildflowers such as moss campion, sky pilot and saxifrage bloom where soils have formed. Mountain goats, hoary marmots, water pipits, gray-crowned rosy finches and white-tailed ptarmigan have all adapted specially to this zone, which may be seen overlooking Upper Rowe Lake on Carthew Ridge and around Crypt Lake.

SIMON LUNN

Wild rose

PARKS CANADA

Glacier lily

SIMON LUNN

Oregon grape

PARKS CANADA

Jones' columbine

In many places in Waterton Lakes, however, plants from one zone blend harmoniously with those from another. On some rugged mountainsides, for example, alpine species descend the slopes to join prairie species, creating pleasing combinations of colour and form. There are no hard and fast boundaries between these zones, and the blending of such diverse species adds to botanical interest.

PLANTS

Small as it is, Waterton comprises one of the richest botanical areas in Alberta. According to botanist Job Kuijt, whose guide to Waterton's flora runs to a hefty 684 pages, some 900 species are found in the park today, including 24 species from the lily family, 19 species of orchid, 15 species of buttercup and 13 species of cinquefoil.

SIMON LUNN

Child in a field of lupine

Much of this amazing botanical richness is due to Waterton's geographical location. Lying on the crossroads between grasslands and mountain, Waterton draws species from both. Prairie rose, golden aster and moss phlox grow within short distance of mountain avens, mountain fireweed and Indian paintbrush. Grassland species complement those of the alpine, enriching Waterton's flora. Neither Banff nor Jasper are as fortunate in this regard; Waterton possesses more wildflower species for its area than either of the two better known parks.

Waterton's location along a Pacific storm path also adds to its floristic bounty. The masses of warm, moist Pacific air passing over the park foster a number of intriguing species from the Pacific northwest—bear grass, trillium, ninebark and Oregon grape. Each has extended its range eastward to include Waterton, and collectively they endow the park with a west coast flavour. In fact, recent botanical studies show that Waterton's plant communities have more in common with those of coastal British Columbia and Washington State than with those of either Banff or Jasper.

To add to the interest, Waterton's mountains, valleys and prairies possess more than their share of unusual species. In all, 111 of Alberta's rarest flowering plants can be seen in the park, and 24 of these, including the mountain hollyhock and the slender bog orchid, have not been recorded anywhere else in the province.

Waterton's glacial history may account for the park's rarest and most distinctive group of species. Unrecorded outside the Waterton-Glacier region, plants such as Jones' columbine, Lyall's scorpion weed and the

alpine poppy are now thought to be indigenous species, which evolved in Waterton before the last glacial advance. Adapted to high mountain peaks, these species may have escaped the crushing flow of ice down lower slopes, thereby surviving to present times.

Fascinating as these rare species are, however, their populations are small and their presence in the park barely perceptible. Those who travel to Waterton in springtime are much more likely to notice meadows sprinkled with balsamroot, prairie crocus, glacier lily and shooting star. Those arriving in summer are more likely to glimpse lupine, vetch, harebell and brown-eyed Susan, if not the shoulder-high wildflowers of Annora Brown's memory.

Bladderwort

Floating in the still, shallow waters of Maskinonge Lake, the common bladderwort excites little curiosity. But like its better-known counterparts, the pitcher plant and the Venus flytrap, the bladderwort is a carnivore which feeds on insects.

Catching its prey is the trick, and it is ingeniously adapted to this strange pursuit. Its long leaves are divided into thread-like streamers, which trail small bladders in the water. Each of the hollow, translucent bladders is fitted with a trapdoor and sensitive trigger hairs. When an insect larva brushes past the hairs, the trap is sprung: the door suddenly opens, water floods in and the larva is swept inside, where it is speedily digested. Fifteen or twenty minutes later, the trap is ready for another victim.

As is the case with other carnivorous plants, the bladderwort feeds on insects to supplement its diet. Unable to obtain enough nitrogen from its environment, the plant extracts much-needed nitrogenous compounds from the small larvae it consumes.

Those interested in seeing this fascinating plant are best advised to look in Maskinonge Lake in June or July. At that time of year the bladderwort produces a tall spike of yellow flowers, resembling a snapdragon.

Bear Grass

No plant is more closely identified with Waterton Lakes than the graceful bear grass. Blanketing mountain slopes and open coniferous forests in the subalpine, bear grass is a common sight here. But its range in Canada is extremely limited, and Waterton is the only Canadian national park in which it occurs.

A member of the lily family, bear grass produces strikingly beautiful blossoms which have been likened to lighted torches. The flowering stalk

JUDY W. WIEDEMANN

Bladderwort seen underwater

SIMON LUNN

Bear Grass

itself rises more than 1 m (3 feet) in the air and is crowned with a showy cluster of creamy white flowers. Each plant blooms about every seven years.

In historic times, native peoples gathered the long leaves of the bear grass for trade. When American explorers Lewis and Clark journeyed through the Rocky Mountains in the early 1800s, they encountered a small group of natives travelling with bundles of bear grass leaves. In answer to the explorers' questions, the natives explained that the leaves would be traded to coastal tribes, who wove strong, watertight baskets with the long blades. In view of this information, bear grass was later given the scientific name of *Xerophyllum tenax*—"the dry leaf that holds fast."

One of the park's most beautiful plants, bear grass also serves as a source of food for wildlife. Elk are known to munch on its blossoms, whereas mountain goats seem to favour its leaves. Contrary to what one might expect, bears do not eat bear grass but are often seen dining on other plants in the moist meadows where it thrives.

IN WILD PLACES

There is nothing quite like watching a new day being born as you stand at the top of the Continental Divide, where it curves out close enough to the rim of the Prairies to command a view of the flat horizon between intervening peaks,'' observes naturalist and writer Andy Russell in *Alpine Canada*. ''Dawn comes early—an illumination of the rim of the world—a changing of colour from indigo to mauve to pink as the light strengthens. Then as the red sun lifts over the horizon, the tops of the mountains become all shaded with rose and gold until the surrounding ranges are a flood of colour, deepening to purple shadows in the canyons below.''

For much of his life, Russell lived only a few miles from the boundaries of Waterton Lakes. As a young man in the Depression, he tried his hand at trapping and guiding in the region, studying the different moods of the mountains and observing the habits and character of its animal inhabitants. In later years, when he turned to writing, he transformed this store of mountain lore into a series of highly acclaimed books and articles. Today thousands of readers who have never seen Waterton's mountains, much less glimpsed their most elusive inhabitants—mountain goat, cougar, grizzly—have been introduced to them through Russell's writing.

Certainly the Waterton Lakes region has given Russell much to write about. Prairie blends with mountain in this corner of southwest Alberta, creating a broad range of wildlife habitats; according to recent count, 234 species of birds, 57 species of mammals and 17 species of fish have been sighted here over the years.

For many of these species, moreover, Waterton serves as an important wildlife refuge. The landscape has been protected from the pressures of logging, mining, oil and gas exploration, and ranching. Here something of the old order remains.

Migrating elk herd SIMON LUNN

KEITH MCDOUGALL

Mule deer buck in velvet

MAMMALS LARGE AND SMALL

From the reports of early settlers and the evidence of archaeologists, biologists know that Waterton has long been a favoured spot for wildlife. The high winds and warm chinooks that pass over the area serve as saving graces for many larger mammals. Although January and February winds may provoke grumbles from human residents, these gusts blow large patches of prairie free of snow, and chinooks melt what remains. The grass bared in this way is an important source of food. In some winters it may be all that stands between survival and death for many animals.

Certainly the lowlands form an important range for large numbers of wapiti or elk. Each year in late fall, when the eerie bugling and dramatic jousting matches of rutting season are over, large herds of elk from Montana and parts of southern Alberta begin migrating to areas surrounding Lower Waterton Lake. By late November, from 600 to 800 of these stately animals roam the open flats and bunchgrass prairie in large herds, their brown-grey coats a contrast to the snowy whiteness. Throughout the cold months, they can be seen wandering this range, searching for patches of grass exposed by gusting winds. With the arrival of spring, the herds begin to scatter. Only 100 or so will stay in Waterton; the rest will return to their summer ranges north, west and south of the park.

The shifting seasons have a strong influence on Waterton's population of mule deer as well. In summertime, rising temperatures and troublesome flies drive some deer to higher elevations, though a few find shade lower down. Small numbers of deer gather in town and occasionally does give birth to their fawns there, seemingly oblivious to passers-by and traffic. As

DUANE BARRUS

Bull elk and cow

SIMON LUNN

Bighorn sheep ram

the weather begins to cool and the first snow falls, deer from the backcountry descend the slopes, and small herds collect in town and on open mountain slopes adjacent to park highways.

In the late fall, some of Waterton's bighorn sheep also begin migrating down the mountainsides. Occasionally, a few of the rams put in an appearance in town, displaying and posing for the benefit of the ewes. In more secluded settings, heads are noisily butted and rivals warned off before victors escort the ewes to breeding grounds in the Blakiston Valley and elsewhere. By late spring, the ragged herds are ready to return to the high country, following the blankets of green shoots rising up the mountainsides.

Mountain goats, by contrast, seldom leave the rugged peaks and ridges of the backcountry. With their shaggy white coats and skidproof footpads, these animals are perfectly adapted to alpine life, and even in winter they may be found on high, windswept ridges, grazing on lichens. Summer hikers may occasionally see nannies with their kids on the steep headwalls overlooking Goat, Crypt and Bertha lakes. Leaping nimbly up and down precipitous cliffs from one narrow ledge to another, these nannies give scarcely a backward glance to see if their young offspring follow.

Skittish white-tailed deer, their tails waving in warning as they disappear into the forest, may sometimes be spotted along the Chief Mountain International Highway, while solitary moose can be spied from time to time wading in the park's ponds. Plains bison wander the bunchgrass-covered hills of the bison paddock in summer; in winter they are driven to more sheltered aspen parkland. Descendants of a small herd of bison freighted to

the park in 1952, these bison are reminders of an earlier time when large herds frequented the area.

Predators range the length and breadth of Waterton, combing the prairies, forests and alpine meadows for game. Coyotes are among the most common predators here, and wakeful summer visitors may hear them at night in the parkland-prairie areas, or catch glimpses of them hunting for ground squirrels. In winter, when game is scarcer, coyotes may be seen patrolling the prairies and frozen lakes for deer or deer carcasses. On one occasion, park staff watched in fascination as a family of coyotes harried a solitary coyote who had intruded on their territory. Time and again, the family members charged the interloper, their paws kicking up puffs of snow in the air, until at last they backed it off a shelf of ice and into the lake.

Black bears are relatively common here as well, and park wardens estimate that some forty to fifty of these impressive animals make Waterton their home. For much of the year, black bears keep to the dense forests of the montane zone, but from time to time, they venture into other parts of the park. In early spring, for example, some bears travel from their dens in the backcountry to roadsides and lower streambeds where snow has already melted, while in fall individuals are sometimes seen feasting on saskatoon berries and chokecherries on the lower mountain slopes.

Grizzly bears are much less common and are seldom seen by casual visitors. Larger in size and more powerful than black bears, they can be distinguished by their flattened, dish-shaped faces, their large shoulder humps and their long front claws. Naturalists agree that grizzly bears are more aggressive and unpredictable than black bears, but neither species should ever be approached or surprised.

As omnivores, grizzlies eat a wide assortment of food and are quick to take advantage of seasonal supplies. In spring, some grizzlies prowl the sheep, elk and deer ranges in search of winter-killed animals, while others climb the high avalanche slopes to unearth tender vetch roots. Throughout the summer, grizzlies wander the backcountry, grubbing for roots and bulbs, preying on marmots and ground squirrels, and feeding on berries until it is time to retire to their dens for a fitful winter's sleep.

Waterton's rugged backcountry also offers prime habitat for one of Canada's most graceful predators, the mountain lion or cougar. Wary and secretive by nature, cougars reside along the edges of the montane forest, generally avoiding contact with man. Occasionally, however, solitary cougars have been known to slip into town at night in search of mule deer. On one memorable evening, a particularly curious cougar watched a park interpreter deliver an evening talk in the Crandell Campground Theatre, much to the nervous fascination of the audience.

While such chance encounters are always a possibility during summer

SIMON LUNN

Black bears range in colour from brown to black

months, park staff agree that fall is the best time of year to observe the large mammals. The stream of holiday traffic subsides to a trickle, and the generally pleasant fall weather encourages walks and hikes. In fall, moreover, the herds of elk, mule deer and bighorn sheep are beginning to pick their way down the mountainsides, and visitors carrying binoculars or spotting scopes will find much to hold their interest, particularly in the early morning or evening hours.

Not only are campers and hikers likely to see some of the large park

DUANE BARRUS

Golden-mantled ground squirrel

mammals in summer but also they can expect to come across an intriguing assortment of smaller mammals. In early morning and evening—the best times of day to look for wildlife—beaver emerge from small backwaters along the Belly River to fell aspen trees and strip the branches of bark and twigs. Muskrats nibble on bulrushes along the edges of Maskinonge Lake, alertly scanning the water for mink.

Golden-mantled ground squirrels search for grass shoots and seeds at Cameron Falls, while in the Emerald Bay picnic area Columbian ground squirrels stand at attention like troops on review. Beside the Bertha Lake Trail, least chipmunks scamper from log to log.

Although all of these squirrels are often mistaken for gophers, the shy northern pocket gopher is rarely spied above ground. By contrast, the noisy Columbian ground squirrel is a common sight in Waterton. Its mottled brown coat and chestnut-coloured nose set it apart from the other indigenous squirrels, both of which have striped coats. Whereas the tiny least chipmunk's stripes run up its back to its nose, those of the larger golden-mantled ground squirrel stop at its neck.

In the high country visitors are likely to see other signs of life. Hoary marmots sun themselves on rocky outcrops around Carthew Lakes, keeping at least one eye open for the sweeping shadow of a golden eagle. Small rabbit-like pika gather grass stems and stalks in alpine scree slopes, curing their small harvest in the sun for the long winter ahead.

BIRDS

Each fall when the mercury starts dropping and skiffs of ice form over prairie ponds, great flocks of waterfowl begin appearing on Waterton's lakes. Several thousand American coots are seen first, congregating together in islands of black on Lower Waterton Lake. Shortly after, sociable

SIMON LUNN

Beaver

flocks of mallards, ruddy ducks, golden eyes, buffleheads, widgeons, lesser scaup, Canada geese and grebes share the lakewaters. Tundra swans, a hundred or more, glide gracefully along the far shoreline, while off in the distance a bald eagle can be seen wheeling in the sky. All along the valley there is sound and motion and life.

The waterfowl are resting, regaining their strength before resuming their long journey southward. Waterton lies alongside two major migration routes—the Pacific Flyway and the Central Flyway—and each fall during the months of September, October and November, many thousands of waterfowl stop over for a short breather. Watching these flocks is a birdwatcher's delight, well worth the effort of donning an extra sweater.

Of the two flyways, the Pacific route seems by far the most popular. On a clear fall morning, one can see V-shaped flocks lifting up to the sky and ascending towards the pass at the south end of Upper Waterton Lake. From there they will head southwest over Lake McDonald in the United States and then on to the Pacific coast. If clouds are hanging low over the valley, the flocks may skirt the mountains in favour of the prairie route or circle in seemingly endless confusion. On days of strong winds, however, the birds may not be able to take off at all, thereby prolonging their sojourn in Waterton.

Spring migration is less dramatic, for smaller numbers of birds return north after the perils of migration. And in their rush to return to the breeding grounds, the flocks seem to have less time for rest and stopovers. Even so, spring migration is a much-awaited event in Waterton. Canada geese and tundra swans generally herald the arrival of spring, and smaller flocks of ducks and grebes in their bright breeding plumages soon follow.

SIMON LUNN

Osprey returning to nest with fish

Experienced birders say that the best places to observe migrating flocks are on Maskinonge and Lower Waterton lakes. It is not at all unusual to see twelve or thirteen species of waterfowl sharing the waters, so bring your bird guide along. Fall and spring migrations often provide some rare and unusual sightings. Trumpeter swans and European widgeons have both been recorded here on several occasions.

While spring and fall migrations present golden opportunities for birders, there is much to see in Waterton Lakes throughout the year. With its rich variety of habitats, Waterton supports a diverse population of birds, and one need not travel great distances to record many different species. Annual breeding bird surveys conducted by park interpreters along the highways from Cameron Lake to Belly River yield an average of eight-five different species.

Yellow warblers, red-winged blackbirds, yellow-headed blackbirds, marsh hawks, black terns, great blue herons, house wrens and various thrushes may all be observed around Maskinonge Lake in summer. Tree swallows dip and dive in the air there in search of insects, while cliff swallows nest under the Waterton River bridge. A pair of graceful ospreys, rare in southern Alberta, may be glimpsed diving for fish in Maskinonge

Lake or nesting on a wooden platform above a tall pole near the park gate. An interesting story accompanies that platform. For several years a pair of ospreys built their nest directly on top of a nearby power pole. But their choice of nesting site created some difficulties: a number of power blackouts were recorded in the town of Waterton. So the power company raised a special pole and platform for the birds, and the pair have been nesting there ever since.

Other habitats are equally rich in bird life. Kestrels, vesper sparrows, savannah sparrows, mountain bluebirds, western meadowlarks and other prairie species may be observed in areas such as the Blakiston Creek fan, while Townsend's warblers, varied thrushes, olive-sided flycatchers, pine grosbeaks and Clark's nutcrackers can be glimpsed in the forests above Cameron Lake or along the upper section of the Bertha Lake Trail. Dippers walk underwater along Rowe or Cameron creeks, while Steller's jays and gray jays greet all new arrivals in the picnic grounds at Cameron Lake.

One of the best ways to observe this avian life in summer is to hike trails, such as the Bertha Lake Trail, that wind through several different habitats.

AQUATIC LIFE

Although the underwater world of Waterton Lakes goes unexplored by most visitors, it richly repays even casual interest. Water tigers, whirligig beetles and backswimmers stalk their prey in the warm shallow waters of Maskinonge Lake, while lake trout, mountain whitefish and bull trout dart through the cold waters of Upper Waterton. Each of the four main lakes in the Waterton Valley presents a different aquatic environment and each gives rise to a different mix of aquatic life.

Upper Waterton Lake is by far the deepest and coldest of these lakes; sunlight warms only the top 6 m (20 feet) of its waters. Such a harsh environment rules out most species of aquatic plants and insects, but algae, zooplankton and an unusual species of crustacean known as the opossum shrimp all manage to survive here, providing a source of food for fish. In all, seventeen different fish species have been recorded, from lake, rainbow and cutthroat trout to deepwater sculpin, pygmy whitefish and white sucker.

Divers who have explored the lake say the best places to observe underwater life are by the mouth of Cameron Creek and around the sunken paddle-wheeler which lies in Emerald Bay. "The framework of the upper deck stands at attention for schools of suckers and whitefish while they glide past," writes diver and naturalist Judy Wiedemann. "Rust, silt and algae encrust the large old boiler, the pipes and equipment. The freshwater ling or burbot hide in the pipes or lie on the rotting deck. Long, brown and snakelike, this fish, with the barbels below its chin and protruding from its nostrils, will let you almost touch it. Then with a flip of its tail, it disap-

Opossum Shrimp

DAVE ROMANUCK

Something of a mystery surrounds the presence of the tiny opossum shrimp in Upper Waterton Lake. A freshwater species in what is otherwise a marine order, the shrimp seems to have originated in cold Arctic waters long ago. Just how it ended up in a freshwater lake so far from the Arctic coast is not clear, but scientists believe the small crustacean may have been swept into the area by flooding seas and later cut off from retreat by glacial ice. Certainly the shrimp is well adapted to life in cold and deep water. By day it feeds on detritus at the bottom of Upper Waterton Lake; by night it migrates all the way to the surface, where it dines on phytoplankton and zooplankton. In this way the shrimp avoids light, spending its life in inky darkness. Reproducing from October to May each year, the tiny shrimp has developed an unusual means of protecting its offspring. Females possess a small marsupial pouch to carry their young, and this may have given rise to the "opossum" in their common name. Surviving in waters too cold and deep for most aquatic plants and insects, the opossum shrimp plays an essential role in Upper Waterton Lake, supplying food for lake and rainbow and bull trout. So successful is the opossum shrimp in this role, in fact, that during the 1960s scientists transplanted large numbers of it into Lake Tahoe, Flathead Lake and other American waters. Today, the opossum shrimp serves as an important trout food in these lakes, much to the delight of American anglers.

pears in the distance. On a sunny day, the light streams through the blue of the water, spotlighting the whole scene."

The Bosporus channel joins Upper Waterton Lake to Middle Waterton Lake, and schools of fish may travel freely between the two. Even so, the lakes differ somewhat in their aquatic populations, for the shallower waters of Middle Waterton Lake discourage both the deepwater sculpin and pygmy whitefish.

Lower Waterton Lake is shallower and warmer still and such conditions favour a sprinkling of pondweeds and other aquatic plants. Freshwater snails, worms, dragonflies and caddisflies flourish here, attracting

shorebirds such as killdeers and spotted sandpipers. Northern pike find these waters a congenial habitat, as do large numbers of longnosed suckers and white suckers.

To the biologist's eye, however, Maskinonge Lake presents the richest tableau of aquatic life. Mare's tail, bladderwort, pondweeds and mats of algae thrive in the shallow, half-metre (1.6-foot)-deep waters, while cattails, horsetails, bulrushes and sedges guard the swampy fringes. In this marshy world, predaceous diving beetles and giant water bugs hunt tadpoles and minnows. Water striders skim with balletic grace over the water's surface; waterboatmen and leeches take cover in the submerged vegetation. Not surprisingly, the fish population is well fed here. Chub and burbot take their fill of insects, while northern pike weave through the waters in pursuit of frogs, minnows and suckers.

REPTILES AND AMPHIBIANS

Because of its long winters and its high elevation, Waterton extends little hospitality to animals that take on the temperature of their surroundings. For this reason, and the fact that the Rocky Mountains have acted as a barrier to certain species from the West, amphibians and reptiles are uncommon in the park. Visitors who wish to see herptiles will likely have to make a special effort.

In spring, the throaty music of chorus and leopard frogs rises from the shores of Maskinonge Lake and Blakiston Creek beaver ponds, announcing the beginning of breeding season after the torpor of winter. Soon after, clusters of eggs in translucent jelly envelopes can be seen floating on the surface of the water or attached to the leaves and stalks of aquatic plants. The tadpoles hatching from these eggs will become a favoured food for garter snakes, which patrol the water's edge.

Although a detailed study of Waterton's amphibians and reptiles has yet to be undertaken, park interpreters have recorded nine different species of herptiles—the western toad, northern chorus frog, spotted frog, northern leopard frog, tiger salamander, long-toed salamander, western terrestrial garter snake, common garter snake and gopher snake. None is poisonous, but visitors are asked to avoid handling them, as most are delicate by nature.

THE BUFFALO TRAIL

The woman fitted the last stones around the edge of the hearth and glanced up the valley. A coyote wheeled through the pale yellow grass in the distance, searching for prey. A golden eagle glided effortlessly above. The woman shivered and drew her worn robes a little closer. The sun had warmed her as she laid down the stones for the hearth, but now it had slipped behind a layer of grey cloud. The wind was rising, too. But she and the other women could build no fires yet; not until the hunt was over.

The band had journeyed to this valley two days ago from their winter camp by the lower lake. The land here seemed made for trapping bison. A creek stretched along one side of the valley; a sharp ridge rose along the other, forming a small channel. All day yesterday the men had built a corral of brush and wood, closing off one end of the channel. This morning a hunting party had set out in search of bison to drive into the valley. They had been gone a long time now. The woman thought of the bisons' warm hides. Maybe there would be a new robe after this hunt was over.

All at once one of the men in camp gave a loud shout. A small herd had appeared at the valley entrance, guided on each side by running hunters. The women quickly hid. The men took their places behind the corral and fitted their spears into their spearthrowers. The valley echoed with pounding hoofs and drivers' cries. As the bison reached the corral, they slowed in confusion, and the hunters snapped their spearthrowers forward. Spears flew through the air and thudded with practised accuracy into the panicking herd.

The shouts and excited cries of the drivers soon subsided, giving way to good-natured banter. The men retrieved their spears from the fallen animals. The women emerged from their hiding places and laid out their cutting tools on the grass. Some started fires in the stone hearths. Six bison had been killed, and all thoughts were of the feast ahead.

Hunters closing in on bison herd EVAN J. BAKER

A few days later the band moved on, leaving behind only a fragmentary record of their hunt. Broken speartips lay discarded in the long grass; worn choppers and scrapers lay abandoned beside cold hearths and charred bison bones. In time even this scant record was concealed from sight. Blakiston Creek flooded its banks, burying the campsite under layers of sand, silt and fine gravel. Grass and shrubs took root in the new soil.

It was not until the 1960s that a team of archaeologists discovered the Blakiston Valley campsite and began unearthing its ancient record. The flint, argillite and chalcedony tools were carefully collected and analyzed, yielding clues to prehistoric camplife; speculation and inference have rounded out the narrative. The bison bones were dated by means of radiocarbon tests, revealing that the hunt took place 1500 to 2600 years ago.

Similar excavations in other sites have greatly added to our store of knowledge. We now know that the prehistory of Waterton Lakes is a long and complex one. For 8500 years or more, native people camped in sheltered valleys and watched the change of seasons. They gathered food from the land and the lakes and travelled the steep mountain passes. To the trained eye of an archaeologist, they left an enduring record of their passing.

EARLY INHABITANTS

The ancestry of the first inhabitants of Waterton can be traced to the northeast corner of Asia, but we cannot be sure just when these people arrived here or what route they followed. A campsite dating back 8400 years has been discovered at Red Rock Canyon, but other, less conclusive evidence points to still earlier inhabitants. Stone speartips similar in design to those used by big-game hunters in the American Midwest 11 000 years ago have turned up in Waterton Lakes in isolated finds. But archaeologists are uncertain just when this technology was put to use here, for the speartips were not found in a dated site.

Ambiguous as the archaeological record is on the matter of man's arrival, we can guess what attracted the first nomadic bands to the area. Chinook winds warmed the long winter months, melting the snow that made travel and food gathering difficult. Moreover, the lakes in the main valley flashed with fish, and there was no lack of larger game. Where the prairies stretched long fingers into the mountains, herds of elk, deer and bison grazed the land.

Without doubt, bison were the greatest prize. Weighing as much as 1000 kg (2200 pounds), an adult bison could supply massive stores of food, and its thick hide and tough sinew could be sewn into warm robes, bedding and tent covers. In Waterton Lakes, bison seem to have been the prehistoric staple of life, for nearly 90 per cent of all animal bones recovered in archaeological sites here belonged to them.

GLENBOW MUSEUM

Kootenay woman with canoe. An Edward Curtis photograph

Certainly, members of early cultures were adept at hunting the wandering herds. Armed only with stone weapons, hunters were quick to seize any advantage over their massive prey. In the absence of steep vertical cliffs along the lower valleys there was little opportunity to drive herds over jumps, so they used the lay of the land in other ways. In winter months, hunting parties drove herds onto the thin ice of Lower Waterton Lake or stampeded them into deep snowdrifts, which slowed the animals down and handicapped them. At other times of the year, they trapped bison in swampy wetlands and in small, man-made corrals.

Shifting from one campsite to another, the bands travelled up and down the mountainsides in concert with the bison herds. The changing seasons governed the movements of both. At the onset of winter, when bison began collecting on the grasslands west of what is now the Dardanelles and Lower Waterton Lake, people set up large base camps in sheltered regions of the Waterton Valley. On days when the weather was good, hunters set out individually or in groups to stalk or trap bison. At one such camp, near the present-day Waterton River bridge, prehistoric inhabitants dined on more varied fare: bighorn sheep hunted on the lower slopes of nearby Bellevue Hill.

Prehistoric stone tools and weapons

As the snow began disappearing from the lower slopes, and yellow grass was revealed once again, the bison set off for higher ground. Hunters joined forces to trap herds in the Blakiston Valley before scattering in hunting parties to the alpine regions. All summer these parties ranged the upper valleys and mountain cirques in search of game. As the aspen and willow began turning bright yellow and scarlet, and the bison returned to the lowlands, the hunters staged a communal hunt in the Blakiston Valley.

The autumn spawning runs had begun in the Waterton Valley, and groups of people set up camps near prime fishing spots. As flocks of coots, geese and ducks looked on, the men built their weirs, weighting down nets in the water with stone sinkers. The trout and whitefish they netted must have been a welcome change from their diet of game, and the last days of Indian summer surely passed all too quickly. Soon fall frosts gave way to winter snow; the bison gathered on the prairie, and the bands joined together in winter base camp.

Highly nomadic by nature, the early bands did not confine their travels to

the Waterton Lakes region. In some years they crossed the Continental Divide to gather food and to acquire other necessities of life. Hard, high-quality stone for weapons and tools could not be found in Waterton Lakes, so small parties set out to obtain flint, basalt and obsidian by trade or through quarrying. Journeying over routes such as the Flathead Pass and the South Kootenay Pass, these groups picked up great knowledge of the mountain corridors. In time, travel over the Rocky Mountains assumed even greater importance.

THE KOOTENAY

For thousands of years, bands of native bison hunters wandered the Waterton Lakes region, wintering in large base camps along the eastern flanks of the mountains. But 1500 to 1000 years ago the pattern of life began changing. Archaeological evidence from Waterton shows that winter camps became smaller in size and more temporary in nature. For reasons which are still not clear, people started spending their winters on the western slopes of the Rocky Mountains. As time passed they made their homes there.

In all likelihood, the people who made this westward shift were the ancestors of the Kootenay Indians. At the time of the fur trade, the Kootenay were based on the Tobacco Plains of southern British Columbia and northern Montana—an area that took its name from the Kootenay's practice of growing a native tobacco—but their oral history traced their origins to a place near present-day Fort Macleod in Alberta. Just what caused these early people to move west will probably never be known, but there has been considerable speculation. It may be that hostile neighbours made life impossible on the eastern slopes for the Kootenay's ancestors, or that some catastrophe befell the early bands. One Kootenay legend tells of a great epidemic that decimated the Kootenay nation, save for a few fortunate survivors who fled to the western slopes.

Be that as it may, the Kootenay did not relinquish their eastern hunting grounds. Hunters continued to range the Waterton Lakes area, tracking the large herds of bison which could not be found west of the Continental Divide. The return journeys over the mountain passes must have been arduous for these parties packing heavy stores of meat and hides on foot, but by the early 1700s the Kootenay had acquired their first horses from southern neighbours. Travel became swifter, easier—with profound effect. Hunting parties became larger and grander, and by historic times the Kootenay set off three times a year across the mountains.

The first hunt took place in mid-June and was probably an event anticipated with some pleasure. Men, women and children set off together in a group of eighty lodges or more. The summer sun warmed them as they made their way east, and for several weeks they hunted the bison herds on horseback, feasting on bison meat and drying supplies for pemmican. At

last it was time to return west. The South Kootenay Pass, which the Kootenay knew as the Buffalo Trail, was a favourite route when the horses were heavily laden. Along the way up the valleys, women and children searched for saskatoon berries.

A second bison hunt was held in fall and a third followed in mid-winter, but the last of these would have brought little pleasure. Freezing winds whipped through the mountains and deep snow blanketed the passes, preventing travel by horseback. Undaunted, small groups set out on snowshoes. Travelling mainly in the early morning hours before the sun had melted the crust from the snow, the group members carried two or three packs each. Some of these packs weighed up to forty pounds, and not surprisingly, progress through the mountains was slow. Campsites were seldom more than ten miles apart.

Returning to the west by the end of January, the Kootenay bided their time until winter's end. As the days started to lengthen, and the land to green, the band members began fishing the western flowing rivers and harvesting edible bitter root and blue camas bulbs. One imagines, however, that their thoughts often turned to the land on the other side of the mountains and to the next bison hunt.

CONFLICT

Although horses greatly speeded travel, they also brought unexpected hardship to the Kootenay. As other native groups to the east began acquiring horses during the 1700s, they started travelling more extensively, and their territories swelled accordingly. The Blackfoot nation, which consisted of the Peigan, Blood and Blackfoot tribes, expanded west from the Battle River all the way into southwestern Alberta, until their journeys brought them to the foot of the Rocky Mountains, and to Waterton Lakes. Not surprisingly, conflict followed.

A people of the great plains, the Blackfoot were consummate bison hunters, and their entire economy depended on the great shaggy animals. To the Blackfoot, meat was *natapi waksin,* "real food," and they had little interest in gathering plants or fishing lakes. In a culture so reliant on bison, the horse represented a great leap forward, and the Blackfoot added to their stock at every opportunity. The Kootenay, the Flathead, the Nez Perce and other native tribes to the west were all better mounted, and horse raiding became an established practice. From the early eighteenth century on, the Blackfoot ventured into the mountains of Waterton and over the passes in pursuit of horses.

Further adding to antagonism was the advent of the fur trade in the Rocky Mountains. In their advance westward along the North Saskatchewan River, explorers and traders had established an uneasy peace with the Blackfoot, supplying them with trade goods and guns in return for pemmi-

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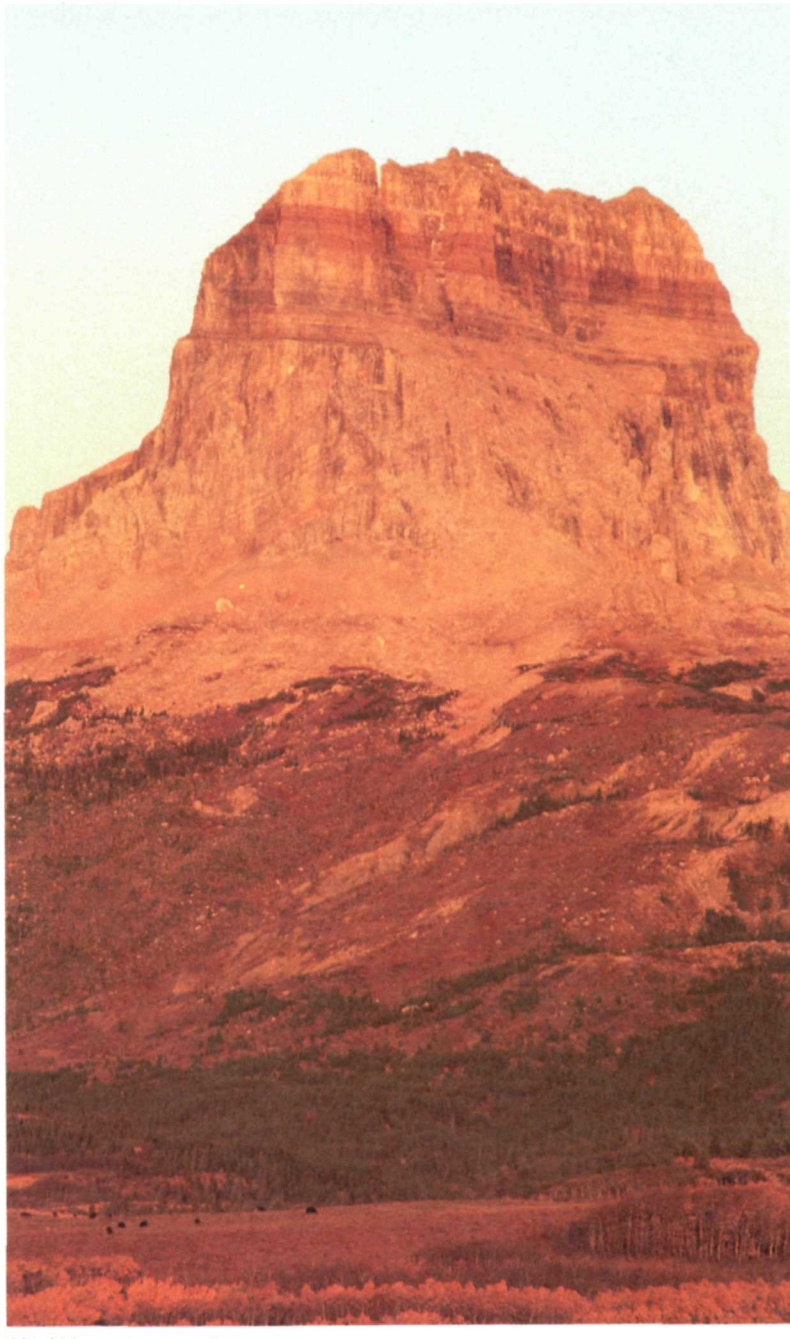
Hunting bison on horseback

can. The new weapons conferred great advantages, and the great Blackfoot nation did all it could to prevent neighbouring tribes, such as the Kootenay, from entering into similar trade. For more than fifty years, from 1800 until 1858, the Peigan patrolled the mountain passes, discouraging the Kootenay and other mountain tribes from travelling out onto the prairies to hunt bison and to trade.

From the accounts of American authorities, we know that the Kootenay fared poorly under the long years of raids and warfare. Even after they had obtained guns, they seemed little match for the Blackfoot nation, and in the 1850s the Kootenay and other mountain groups appealed for help to the governor of Washington Territory. In the negotiations that followed, the Kootenay finally agreed to give up all claims to the mountain passes and prairies.

Although the Blackfoot gained ascendancy over southwestern Alberta, their prosperity was short-lived. The bison that sustained them could not withstand the deadly combination of guns, horses and farm settlement. By 1880 the herds had disappeared entirely from the great plains, and the Blackfoot felt deserted, even by their creator, Old Man. As George Grinnell Bird wrote in 1890, the Blackfoot elders believed that Old Man "went away to the west, disappearing in the mountains. Before his departure he told them he would always take care of them, and some day would return. Even now, many of the old people believe that he spoke the truth, and that some day he will come back, will bring with him the buffalo, which they believe the white man has hidden."



SIMON LUNN

Chief Mountain at sunrise

JOHN DORMAAR

Vision quest site atop Sofa Mountain

VISION QUESTS

For most hikers, the small, inconspicuous stone walls situated on some of Waterton's higher mountains scarcely warrant a second glance. Roughly made from slabs of rock, they seem to serve little purpose. But these structures possess an intriguing history, built as they were long ago by travellers on solitary vision quests.

To the native people of this region, vision quests were a way of communing with the spirits and obtaining their protection and power. Individuals journeyed to lonely and sequestered spots and there often waited several days for a vision to appear. During this time, a low-lying stone wall might be built for protection.

Among the Kootenay, vision quests were undertaken by children of both sexes, usually between the ages of seven and nineteen. After receiving instruction from their parents and from the chief shaman, the children set off on their own to await the arrival of a guardian spirit. Usually this spirit appeared to the child in the form of an animal and occasionally it endowed the child with some special power, such as clairvoyance or control of the weather.

In the Waterton Lakes area most of the vision quest structures look out onto the commanding scenery of Chief Mountain. Long regarded as a sacred place by local native people, Chief Mountain still seems to retain its power. Brightly coloured pieces of cloth, the traditional offering of Blackfoot vision questers, are still tied to the branches of trees below the mountain by today's native suppliants.

DUANE BARRUS

Chokecherry spray

Medicinal Plants

In times past the Blackfoot often turned to nature for remedy for illness and injury. The roots, leaves, twigs and bark from a variety of plants, shrubs and trees served a medicinal purpose, and treatments for everything from cuts and burns to dysentery were derived from these natural ingredients. In the event of injury, for example, the gum secreted from the alpine fir was used as an antiseptic to clean wounds. The root of the star-flowered solomon's seal was powdered and applied to clot blood, and the root of the cow parsnip was used on bruises and swellings. A person suffering from a toothache was encouraged to chew the root of the liquorice plant and to hold the root against the offending tooth. Those with severe headaches were advised to inhale smoke from the burning seedhead of the cut-leaved anemone. Other aches and pains were treated in a wide variety of ways. The root of the yampah or squaw root was chewed to relieve a sore throat, the leaves of the snowberry were placed in hot water to produce an eyewash, and the roots of the glacier lily were crushed to serve as a poultice for boils. For more serious ailments the Blackfoot had other medicines. An extract was made from chokecherry bark, sweet cicely and valerian to treat dysentery. A liquid from the root of the Oregon grape was used to remedy kidney troubles and mountain fever.

Although all these plants grow in Waterton Lakes today, it is against the law to pick plants in the park. Moreover, as Alex Johnston, author of *Plants and the Blackfoot,* points out, "We do not recommend self-treatment, as we do not have medical verification of the medicinal properties attributed to most of these plants." Such verification may one day be forthcoming. Researchers studying the traditional medicine of the Micmacs of eastern Canada have discovered a number of plants with important curative properties.

PIECING TOGETHER THE PAST

Much of what we know about the prehistory of Waterton Lakes is due to research carried out in the late 1960s and early 1970s. More than 200 prehistoric sites were recorded in the park during this time by University of Calgary archaeologist Brian Reeves and his students, and a number of these sites were painstakingly excavated. While the artifacts recovered were modest enough—yellowed animal bones, worn and discarded stone tools, and pieces of ancient charcoal—they yielded an important record of prehistoric life.

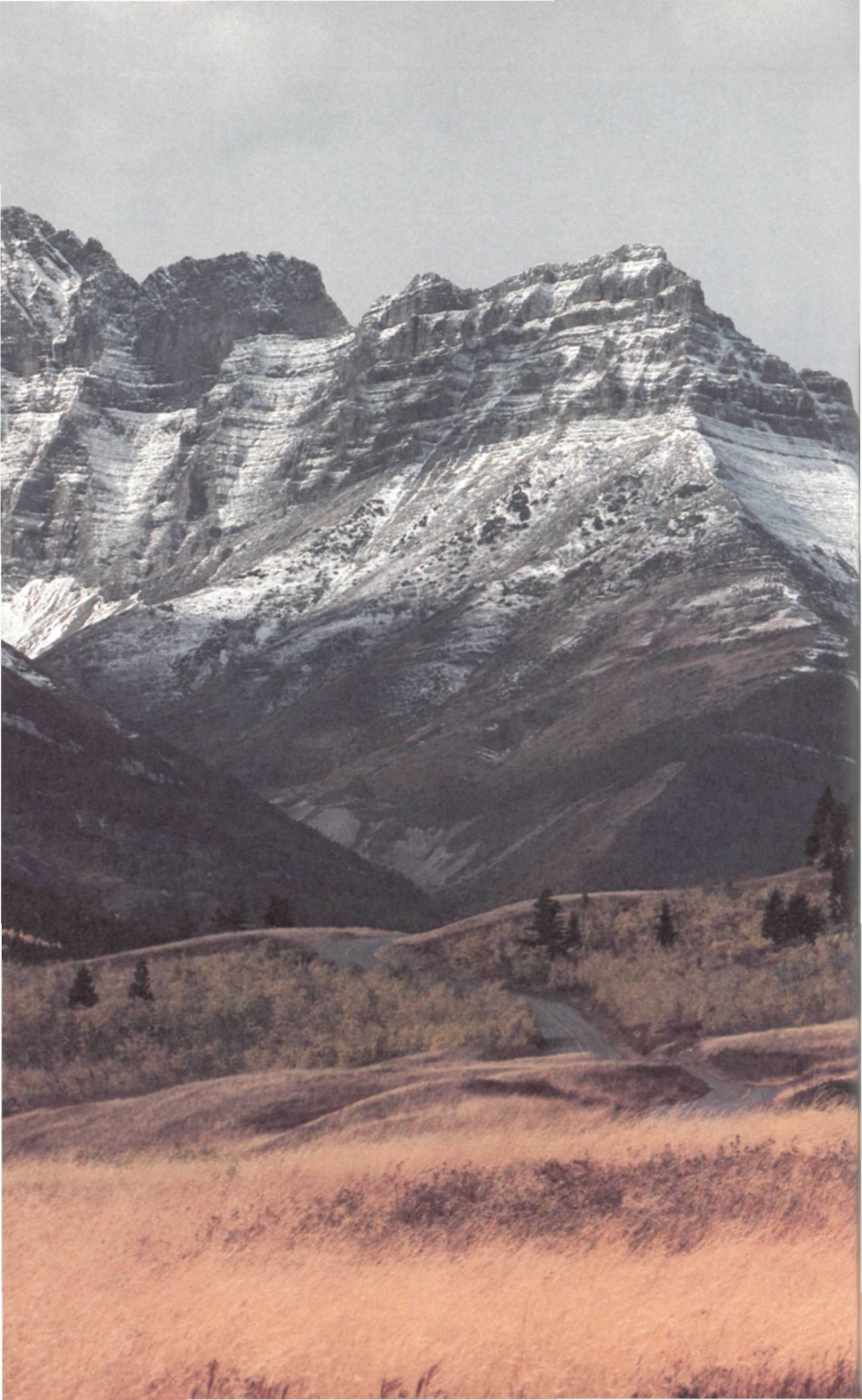
By analyzing the animal bones, Reeves and his crew amassed valuable information on the diet of early inhabitants. Pieces of bone were classified according to species, revealing the importance of bison as a source of food. In some sites, bone also offered significant clues to the season of occupation. The presence of fetal bison bone, for example, suggested that a bison cow had been hunted sometime between rutting season in July or August and calving season in spring.

Stone tools and weapons unearthed from the sites added further detail to the picture. Discovery of a number of netsinkers at a lakeshore site provided evidence of fishing, and the presence of scrapers and perforators near a kill site indicated hide processing.

The type of stone used to make these tools also proved highly significant. It soon became evident to Reeves and his team that little of this stone came from the Waterton Lakes area. By studying geological maps and records they managed to track down its origins: glossy black obsidian from Yellowstone, Wyoming, and fine-grained flint from quarries in Montana. It was clear that Waterton's early inhabitants had travelled or traded extensively with other groups to obtain materials for their tools.

Small pieces of charcoal were carefully collected for radiocarbon testing, an important method of dating. By testing charcoal from the Red Rock Canyon site, for example, Reeves learned that the camp there had been inhabited around 6000 B.C.

After comparing all this information with that obtained from geological and botancial records, Reeves began piecing together a broad picture of life in prehistoric Waterton Lakes. Although this picture is still far from complete, it answers many important questions about how early people adapted to Canada's Rocky Mountains.



GREAT EXPECTATIONS

On the 2nd of September I set out on my return journey across the mountains. The morning was clear and sharp, the thermometer being two degrees below freezing. After I had lost sight of the Kootanie camp, and was riding ahead of my party on a S.S.E. course over the undulating prairie, I felt satisfied that I had done all that came under the spirit of my instructions, and was happy to be able to recross the mountains by another unexplored route; my only regret was, that at this time it was not my fate to see the Pacific."

This disappointment aside, the journey east over the mountains in the late summer of 1858 must have been a memorable one for Lt. Thomas Blakiston. Setting out from the sunbleached Tobacco Plains, in northern Montana, Blakiston and his party of four followed a narrow trail to the Flathead River, which in turn led them to the entrance of the South Kootenay Pass. A sudden storm swept through the mountains, blanketing the upper slopes in deep snow, and Blakiston and his party had all they could do to keep their footing on the steep, narrow ridge of the pass.

The descent down the eastern slopes proved less of a trial, and Blakiston soon gave his attention over to the striking scenery. He puzzled over the curious shapes of white rocks topping the mountains, and admired the rugged cliffs and rushing waterfalls in the distance. Five days after setting out from the Tobacco Plains, Blakiston and his party reached the western fringes of the Great Plains. In doing so, the twenty-five-year-old lieutenant became the first recorded European to set eyes on the Waterton Lakes region.

Headstrong and restless by nature, Blakiston seemed well-suited to a life of exploration and travel. Born in Lymington, England, he received a military education, and in 1851 he was commissioned as an officer in the Royal Artillery. A stint in Nova Scotia was followed by distinguished service in the Crimean War, and in 1857, Blakiston volunteered to accom-

pany a British government expedition to the Canadian West.

The southern prairies stretching from the Red River to the Rocky Mountains were little known, and Britain was anxious to open up the region to settlement. Under the leadership of John Palliser, an Irish landowner, a small expedition was financed to explore the West and to gather geographical, geological, zoological, botanical and meteorological information along the way. It was, to say the least, an ambitious mission, and Blakiston was gladly taken on as an expedition officer, responsible for barometric and magnetic readings and other measurements.

Travelling with his delicate instruments by sea to Hudson Bay and then by river to the prairies, Blakiston joined the expedition in the winter of 1857. But almost from the first he seems to have aroused antagonism. A stickler for detail in his work as well as his personal life, Blakiston alienated most of the other party members, and by August 1858 he had resolved to part company with the expedition. Setting out with three Métis voyageurs, Thomas Sinclair, Amable Hogg and Charles Racette, and a Cree hunter, James, Blakiston decided to take explorations into his own hands.

Crossing the Rocky Mountains from the east by way of the steep North Kootenay Pass, Blakiston and his party rested for several days in a Kootenay camp. In conversations with his hosts, Blakiston learned of yet another mountain pass to the south—less precipitous than the one they had just crossed—and he determined to explore it on his return trip. It was this route that brought Blakiston to Waterton Lakes, which he named in honour of the British naturalist Charles Waterton.

Blakiston clearly enjoyed his sojourn in Waterton, sketching the mountains, fishing and hunting. "The scenery here is grand and picturesque, and I took care to make a sketch from the narrows between the upper or southernmost and second lake," he noted in his final report. "I remained camped at this pleasant spot two whole days for the sake of the horses, and in order to examine the nature of the country. Game was abundant, including grisly [sic] bears, and we obtained both fresh meat and fish. The trout and pike in the lakes were of large size."

Impressed as Blakiston was with the country, he could not afford to linger. He had amends to make to Palliser and the others, and his career to think about. No sooner had Blakiston submitted a final report on his explorations than he was dispatched to new adventures in China, where the Tai-Ping rebellion was sweeping the land.

MAPPING THE BOUNDARY

Even as Palliser, Blakiston and their party were setting out on their explorations, the British government was drawing up plans for further expeditions. The boundary between British North America and the United States was little more than a line of ink on a map, and both governments were anxious

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Members of the International Boundary Survey Commission

to mark its length. British and American boundary commissions were appointed to survey the stretch from the Pacific coast to the Continental Divide, and in 1860 the American party arrived in the Waterton Lakes region, camping out near Cameron Lake. The British commission followed a few months later, in 1861.

The boundary east of the Continental Divide still remained to be surveyed, however, and in 1870 British and American governments agreed to a joint commission. All seemed to go smoothly enough on the prairie, but commission members found work in Waterton's mountains considerably more challenging. To survey Upper Waterton Lake, American scientists built makeshift boats of wagon boxes and canvas, and gamely ventured out onto the water at night. "Once fairly out upon the lake," reported the Chief Astronomer, "the darkness appeared thicker than before, and land positions were totally unrecognizable." To make matters worse, the heavily loaded boats were difficult to row, and the slightest motion gave rise to fears of capsize. After three hours of exhausting effort, the crews travelled less than 2.4 km (1.5 miles) along the lake. In all, the commission managed to set up only two boundary markers in the mountain region: one along the Belly River and another at Boundary Bay on Upper Waterton Lake.

Charles Waterton

Explorer, naturalist and notable English eccentric, Charles Waterton was one of the most colourful figures to grace Victorian scientific circles. Although it is not known whether Lieutenant Blakiston ever actually met Waterton, it seems certain that he knew of him by reputation, if not by Waterton's most famous book, *Wanderings in South America*.

Born in 1782 to the English aristocracy, Waterton soon proved too restless and inquiring to remain on his family's quiet Yorkshire estate. At the age of twenty-three he sailed for British Guiana, and seven years later he embarked on the first of four adventure-filled journeys through the rainforests of South America. Convinced that true knowledge could only be acquired by personal observation, Waterton had little patience for those he called closet naturalists. He preferred testing everything by personal experience, even the tales he heard about blood-sucking vampire bats. "Many a night have I slept with my foot out of the hammock to tempt the winged surgeon, expecting that he would be there, and I could never account for his not doing so," he wrote a little wistfully.

Waterton gave up his travels after his marriage in 1829 and returned to Walton Hall, his childhood home in England. Although his days of observing snapping alligators and venomous fer de lance snakes were over, he never lost his passionate interest in nature. The estate of Walton Hall was transformed into a spacious bird sanctuary—the first ever built in England—and Waterton spent the remaining forty years of his life there, studying the avian life around him.

A confirmed eccentric, Waterton had a number of well-publicized quirks. He rarely wore shoes, except when he was indoors, and he refused to sleep in a bed, preferring to lie on bare wooden boards. He was also notoriously fond of climbing things, and on one visit to Rome he clambered to the top of St. Peter's, leaving his glove on the lightning rod.

Waterton never travelled to Alberta to see the lakes named after him, but it seems certain that he would have been fascinated by the wildlife there. As Theodore Roosevelt once observed, Waterton was the first field naturalist to write of "the magic and interest, the terror and beauty of the far-off wilds."

PARKS CANADA

Charles Waterton, naturalist and amateur taxidermist

KOOTENAI BROWN

Sometime in the late summer or early fall of 1865, a young man with a military bearing and an eloquent manner of speech arrived in Waterton Lakes. Travelling with four companions from the goldfields of British Columbia, John George Brown looked down over the shimmering lakes, the pine-clad mountains and golden prairie and recognized the valley as the land of his dreams. Then he slapped the reins against his horse and continued east. Fourteen years would pass before he returned permanently.

Twenty-six years old, Brown had already known a lifetime's worth of adventure and drama. Born in County Clare, Ireland, during the potato famine, Brown was orphaned as a child, but his astute grandmother managed to obtain an army commission for her charge. Dispatched to Calcutta as an ensign during the Indian Mutiny, Brown served in the Far East for twenty months, but the British Army proved little to his taste. In 1861 he resigned his commission and set sail for North America.

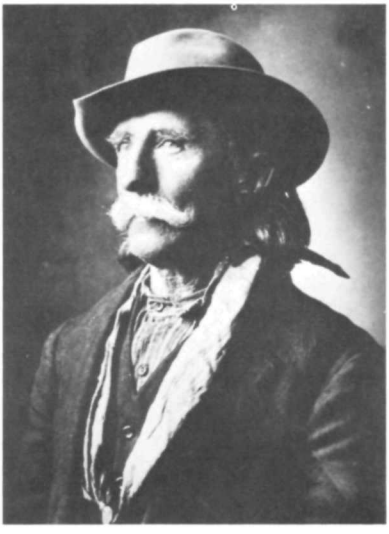
It was a time of gold rushes and great expectations, and Brown headed off to the legendary goldfields of Barkerville in British Columbia. In the carnival atmosphere of the Cariboo town, Brown quickly accumulated a small fortune by mining and trapping—and just as quickly lost it. A stint as constable in the freewheeling gold rush town of Wild Horse Creek followed, but in 1865, Brown was ready to try his luck in the East.

Passing through Waterton Lakes and crossing Blackfoot territory, Brown had an eventful journey. Near Seven Persons Creek, Alberta, he was wounded in the back in a skirmish with a Blackfoot party, and story has it that Brown pulled the arrow out himself and doctored the wound with turpentine. Reaching Fort Garry at last, he signed on with a private firm and later with the American army as pony express rider, an occupation rife with hazards. At one point, Brown was captured by Sitting Bull and a band of Sioux, and he narrowly avoided death by escaping and hiding among the cattails of a swampy lake.

Despite these dangers—or perhaps because of them—life on the frontier seemed to agree with Brown, and in 1869 he married Olive Lyonnais, a young Métis woman. For a time Brown joined a band of Métis buffalo hunters based in the Milk River region, but by 1877, the great herds had all but disappeared. Settlement was catching up with Brown, and he knew that the Old West was passing.

He turned to wolf hunting, but it proved a difficult and unhappy life. In the spring of 1877 Brown was accused of killing a fur trader in Fort Benton, Montana. He was eventually acquitted, but the experience crystallized a resolve in his mind. After the trial was over, he crossed the border with his family to settle in the Waterton Lakes area.

For a time Brown ran a small trading post for the Fort Macleod businessman, Fred Kanouse. It was a short-lived proposition, however,



Kootenai Brown

PARKS CANADA

Brown and Blue Flash of Lightning

and Brown soon found other work in Waterton Lakes to make ends meet—hunting, ranching, serving as a guide to travellers passing through the region and catching whitefish to sell in Fort Macleod. The work must have suited Brown, for in 1879 he and his wife built a sturdy log cabin, becoming the first permanent residents of Waterton Lakes.

In his journeys to Fort Macleod, Brown never lost an opportunity to extol the beauties of the lakes and the excellent fishing and hunting to be found there. In the fall of 1882 the Fort Macleod *Gazette* enthusiastically described the charms of the Kootenay Lakes, as they were then called, and went on to praise the skills of their chief resident. "There is a boat on the lake and horses can be procured from the guide, Mr. Brown," noted the reporter. "For trolling and flyfishing there is abundant tackle and all the necessary requisites, and parties visiting his place are always sure of their fish as Mr. Brown can catch them where all others fail." Brown's reputation was clearly growing, and people in Fort Macleod had begun calling him Kootenai Brown, perhaps in honour of his home near the Kootenay Lakes or his trading associations with the Kootenay Indians.

Despite these tributes, a difficult time lay ahead. Olive Brown's health was failing, and by 1885 she had died, leaving her husband with sole care of their three young children. Unrest was also beginning to sweep the land. Louis Riel was organizing the Métis in Saskatchewan for confrontation with the federal government, and in southern Alberta there were fears that the Blackfoot might join the uprising. Brown lost little time enlisting in the Rocky Mountain Rangers, a cavalry raised to keep the peace, and for three months he patrolled with the troops until quiet was restored. While on duty

in Medicine Hat, Brown is believed to have met his second wife, Blue Flash of Lightning, a Cree woman who had been recently widowed.

She joined him in Waterton Lakes, and the two settled into a life of hunting, fishing and guiding. It was a quiet time, although visitors were becoming more frequent at their log cabin. Prospectors arrived to comb the mountains for some trace of the motherlode; North-West Mounted Police officers dropped by to check on police mounts pastured near the Belly River. All around, the country was changing. Immigrants from Britain, Europe and the United States were raising cattle on sprawling ranches; Mormon settlers from the American Midwest were ploughing lands and planting crops. Fences were springing up, and soon farm and ranch houses dotted the land. In four years, between 1891 and 1895, the non-native population of southern Alberta rose from 18 322 to 28 783, an increase of 57 percent.

Brown wandered the mountain trails, looking down on the valley of shimmering lakes, and wondered if its serene beauty could withstand encroaching settlement. Those who dropped by for an evening in his log cabin left wondering too, and in 1893, rancher F. W. Godsal wrote to the federal government requesting that Waterton Lakes be reserved as a dominion park. "The Crows Nest Pass and Waterton Lakes have been for years a common resort for the surrounding neighborhood for camping and holiday making and there being but few such places in the country, I think they should be reserved forever for the use of the public," he wrote.

Two years later, in 1895, federal officials took a cautious first step, setting aside 54 square miles of land as the Kootenay Lakes Forest Park. From now on, settlers would have to obtain a permit before removing timber from the park. But there was no provision for recreational development and no prohibition of mineral exploration. Sharp-sighted prospectors continued to scour Waterton's mountains for some hint of wealth.

Joe Cosley

One of the most frequent visitors to Kootenai Brown's log cabin was the renowned trapper Joe Cosley. A man of great physical strength and endurance, Cosley was said to have known more about the mountains of Waterton than anyone else before or since. Born in 1870 to a French trapper and an Indian mother on the Seven Nations reserve in Ontario, Cosley headed west as a young man. At the outset of the First World War, he joined the army as a sharpshooter, and was later decorated for bravery. At the war's end he returned to the Rocky Mountains, becoming a United States park ranger in the Belly River region. A romantic at heart, Cosley became despondent when his proposal of marriage to a Cardston woman was refused in 1924. One story has it that he later hid the diamond engagement ring in a heart-shaped hole in a tree near Belly River. By grafting bark over

PARKS CANADA

Mountain man Joe Cosley

the hole, Cosley kept it well-concealed and some believe the ring remains there to this day.

But most of the stories told about Cosley today concern his astonishing strength and mountain lore. "He could set out across trailless, timbered wilderness and cover forty miles a day on foot," recalled one writer, who went on to illustrate his point with the following story. During the late 1920s, Cosley left the ranger service and turned to trapping—illegally—in the very area he had once patrolled. For months he evaded capture, but in the spring of 1929 his former colleagues discovered his camp. Unable to turn up more impressive evidence, the rangers seized a piece of beaver meat smoking on the fire. Cosley was hustled off to Belton, Montana, where he was convicted of poaching and fined $100. But Cosley was determined to have the last laugh. Snowshoeing over the difficult Ahern Pass in heavy spring snow in an evening, Cosley retrieved his hidden cache of furs and effaced all signs of his camp. When the rangers appeared next morning to search the camp more carefully, they could not find even a trace of it. "All tracks had been carefully erased and everything had completely disappeared," remembered ranger Joseph Heimes.

The episode ended an important chapter in Cosley's life, however, for he never returned to the area. For a time he tried trapping in northern Alberta, but it was unfamiliar country to the mountain man, and in 1944 Cosley died of scurvy alone in a northern cabin.

PARKS CANADA

Oil City during the short-lived boom

OIL CITY

Although the search for gold, silver and other precious metals proved disappointing, exploration for oil offered brighter prospects. Wandering Indian bands had told early settlers of discovering oil seepages in the region, and in more recent years Kootenai Brown and an associate, William Aldridge of Cardston, had noticed fine beads of oil floating on Cameron Creek. In time Aldridge devised a way of siphoning the oil slicks into trenches, and bottling the substance for sale in Cardston hotels.

This modest success was bound to attract attention. In 1900 a dominion land surveyor, Allan Patrick, convinced five partners to form the Rocky Mountain Development Co. Limited, with the goal of drilling for oil near Cameron Creek. Shares were sold, mainly to local investors, and Patrick and his partners launched the enterprise with high hopes. A drilling rig was ordered at considerable expense from Petrolia, Ontario, and a rough road was cut from Blakiston Creek to Cameron Creek via Crandell Lake in order to cart equipment to the site.

By November 1901 workers had the rig in operation, and the sound of machinery echoed along the valley. Despite the early optimism, however, trouble lay ahead. The men had little experience with drilling rigs, and the equipment was continually breaking down. It must have given Patrick many a sleepless night, but on 21 September 1901 the company struck oil at 311 m (1020 feet). Original Discovery No. 1 became the first producing oil well in western Canada, the second in all of Canada.

Almost overnight high hopes blossomed into elaborate building plans. A townsite named Oil City was cleared near the bank of Cameron Creek, and streets were meticulously surveyed. A bunkhouse, dining hall and cabins

soon crowded around the well, and the foundations for a small hotel could be seen a short distance off. All was ready for the expected boom. Announced the company's prospectus: "The climate is grand, the best in sunny Alberta, out of the wind and lying in and controlling the only pass in the Mountains for a long distance north and south. *They can't get round it: railroads must build through it.*"

Despite all this razzle dazzle, the boom never materialized. Drilling tools became stuck in Original Discovery No. 1, and the flow of oil came to a halt. Repairs to the well dragged on for nearly three years, with disappointing results. When pumping finally resumed, the well produced only a trickle of oil. Other test holes nearby gave no promise of success.

For a time, the search for oil shifted to other parts of Waterton Lakes. A rival firm, Western Oil and Coal Company of Vancouver, started drilling near Cameron Falls along what is now Evergreen Avenue. The crew struck oil in the fall of 1905, but the first flush of success soon faded. The well caved in, and workers were eventually forced to case it off. Only small pockets of oil could be located after that.

Other small exploration companies took up the search in later years, but no one ever struck it rich in Waterton Lakes. In all likelihood, the early drilling rigs only probed small pockets of oil near the surface that had been squeezed up between layers of bedrock, and were unable to plumb the necessary depths for a real strike. Today, oil wells to the east and north of Waterton Lakes descend some 5000 m.

Even so, Original Discovery No. 1 marked an important turning point in the search for oil in Alberta, spurring on further exploration in areas such as Turner Valley. The site of the well is preserved and marked along the Akamina Parkway.

PRESERVATION

While an aura of excitement enveloped the search for oil, not everyone was in favour of drilling in Waterton Lakes. The quiet of the valleys was broken by creaking machinery; the scenic beauty of Cameron Falls was cluttered by drilling equipment. And there was always the fear of fire. As early as the fall of 1905, F. W. Godsal was again writing to the federal government, requesting that the park reserve be enlarged and that its beauty be safeguarded.

The fledgling conservation movement was growing, stirring new interest in wilderness and wildlife. In May 1910 the United States government created Glacier National Park to the south. It was the Canadian government's turn.

WATERTON LAKES NATIONAL PARK

On 8 June 1911 Waterton Lakes Dominion Park was created by the stroke of a pen in Ottawa. It was the fourth national park in Canada, and the decision set the seal on the area's future. From now on game would be protected by law, and all commercial fishing of the lakes would be halted. While small mining and drilling outfits would be permitted to continue operations in Waterton for another two decades, public opinion was shifting in favour of conservation and recreation values.

At seventy-one years of age, Kootenai Brown became the park's first superintendent. The small man with the long white handlebar mustache and the colourful turn of phrase was unmistakable as he went about his daily rounds. Already he was becoming something of a legend in southern Alberta. His eloquence and education seemed at odds with his buckskins and sombrero, and rumours circulated about his past. Some told of Brown growing up in the royal household at Balmoral Castle, a favourite of Queen Victoria. Others described how he had once worked as deckhand on a Mississippi stern-wheeler and served for a time under General Custer.

If Brown did little to dispel these rumours, perhaps it was because he was too busy with the work at hand. More and more people seemed to be taking the dusty, pothole-ridden road to Waterton Lakes, and a small town was growing up on the Cameron Creek delta. A waterfront lot there could be obtained on a leasehold basis for $15 per year; a backlot could be leased for $10 per year. Construction was well underway on a livery stable and hotel.

On Brown's earnest recommendation, federal officials extended park boundaries in 1914. From a modest 35 km² (13.5 square miles), the park expanded overnight to a grand 1095 km² (423 square miles). The entire Waterton Valley and part of the Belly River were now protected, much to Brown's delight.

It was one of Brown's great moments, but it must have been tinged with

Town of Waterton Park in early fall PARKS CANADA

a little regret. A larger park meant ever greater piles of paperwork and more patrolling—in short, a younger man. In September 1914 Brown was replaced as park superintendent. Over the next two years he carried on as a park ranger, but his health slowly declined. In July 1916 he died. His friends buried him along the shores of Lower Waterton Lake, where his grave can be seen today between those of his two wives.

DEVELOPMENT

By the early 1920s the town of Waterton Park was assuming an identity. Log cabins and fieldstone and shingle-sided cottages looked out over the lake; cars chugged past cyclists and strollers. The town seemed to be thriving, and inhabitants and visitors lacked few amenities. "There are Government Buildings, Post Office, Local and long-distance telephone, Hotel, Furnished cottages for rent, Restaurant, Rooming House and Garage, Dance-hall, 2 General Stores, R.C.M. Police station, modern playgrounds for children," reported the park superintendent with a note of pride in 1921.

Even so, the town's future looked uncertain. In 1919 an engineering crew from the provincial government had recommended the construction of a dam between Middle and Upper Waterton lakes. After three years of drought, water was in short supply in southern Alberta, and farmers were suffering. Such a dam could supply enough water to irrigate 30 300 ha (75,000 acres) of parched farmland. In doing so, however, it would flood the town and destroy much of the Waterton Valley's scenic beauty.

Controversy followed. Editors of local newspapers took up both sides of the argument. Fortunately, heavy rainfall in 1923 eased the most pressing worries. Officials soon realized that a dam on the international waters of Upper Waterton Lake would require approval from American authorities. Such approval was not forthcoming. In the end, the project was abandoned, and a dam was built east of the park on the Waterton River. Park residents breathed a sigh of relief.

Although the town's reputation as a summer resort was growing in southern Alberta, it had yet to reach much farther afield. Unlike Banff or Jasper, Waterton lay a considerable distance from the nearest rail line, and travel to the park was difficult. By the mid-1920s, few travellers from eastern Canada, the United States or Europe had seen or heard of Waterton Lakes.

To the south, Great Northern Railway president Louis J. Hill hit upon the idea of running bus tours from Glacier National Park to Jasper. Waterton Lakes would be an obvious stopover, and to accommodate the anticipated throng of visitors, the Great Northern Railway with the approval of the federal government set to work in Waterton building a luxury hotel.

Hill selected the site for the hotel himself and commissioned a Swiss architect to draw up the plans. Construction began in the winter of 1926,

STANLEY A. STEVENS

Prince of Wales Hotel

but almost from the first there were problems. Gusting chinook winds blew the framework off-centre, much to the dismay of carpenters, and Hill continually changed his mind about the design. Still, when it opened its doors in 1927, the seven-storey Prince of Wales Hotel must have seemed worth all the trouble. Poised on the hill overlooking Upper Waterton Lake, the Bosporus and Middle Waterton Lake, the edifice quickly became a well-known landmark.

Visitors could soon look forward to boat cruises, too. While the Prince of Wales Hotel was under construction, the Great Northern Railway began drawing up plans for a 22-m-long (72-foot-long) passenger boat. Christened the MV *International,* the ship took its maiden voyage down Upper Waterton Lake in 1927, and since that time it has become a summertime institution.

By the end of the 1920s people travelled more easily between Waterton Lakes and Glacier National Park. Passengers aboard the *International* sunned themselves on the upper deck as they crossed the International Boundary; travellers in tour buses and cars ambled over the mountain roads. Closer ties were forming between the two parks. In the early 1930s, Rotary clubs in Alberta and Montana called for the establishment of an international park to commemorate the bonds of friendship and goodwill

between the two countries. In 1932 the Canadian and American governments agreed, creating the Waterton-Glacier International Peace Park—the first park of its kind in the world. The construction in 1935 of the Chief Mountain International Highway between the two parks further cemented this bond. Each summer, Rotarians of both countries meet to celebrate this international amity.

The close working relationship between the two parks has brought important advantages over the years. Canadian and American park managers have been able to observe each other's systems at close quarters. Visitors can travel down Upper Waterton Lake and across the International Boundary without passing through customs. They can also take part in international hikes and other events conducted jointly by park interpreters from both parks. New ideas on conservation, such as bear management, have been shared, and staff have been exchanged to the benefit of all. Today, the International Peace Park Pavilion in the town of Waterton is dedicated to this continuing commitment to international friendship.

CONSERVATION

Over the last seventy years the concept of conservation in Canada's national parks has changed markedly. Understanding of complex ecosystems has grown, and conservation policies and practices have evolved accordingly. In the early part of the century, park officials attempted to protect certain game species by hunting predators. Wolves, coyotes, cougars and even hawks and owls were shot and poisoned in great numbers in Waterton before the program was finally abandoned in the 1950s. Today the importance of carnivores in the food chain is widely recognized, and the ideals of conservation are applied equally to predator and prey.

Man's impact on the environment is now kept to a minimum in Waterton, and nature is allowed to take its course. Every effort is made to protect both wildlife and landscape from human disturbance, and today much of Waterton remains wilderness.

The relationship between man and the natural environment continues to be a central concern, however, and to foster a better understanding of this relationship Waterton Lakes National Park has become a biosphere reserve. More than 225 of these reserves have been established by UNESCO in 120 countries around the world; each reserve represents one of the earth's biogeographical provinces. Waterton Lakes is the first national park in Canada to take part in the program.

A core of parkland together with the surrounding developed land form the Waterton Biosphere Reserve. Resource management concerns such as soil conditions and elk management are studied and compared in both park and non-park lands. Park staff, local ranchers, industry and government agencies on all levels are involved in this program of study. In these ways

the Waterton Biosphere Reserve brings people together to determine problems and identify their solutions based on the premise that the future health of the environment must be addressed through its sustainable and wise use.

Mountain Pine Beetle

It's a familiar sight all along the Rocky Mountains, as far south as Mexico—patches of red or grey-tinted trees standing out from the canopy of rich green in the montane forest. A closer look reveals the trees to be lodgepole pine: rust-red needles hang sparsely from the branches and small holes mottle the tree trunks.

In Waterton Lakes, as elsewhere, the agent of this disease is the innocuous-looking mountain pine beetle. Each year during the hottest days of summer adult beetles set out in search of suitable pines in which to mate and lay their eggs. Aging trees weakened by disease, lightning or other injury are especially susceptible, and the young beetles quickly bore into their bark. In the vital cambium layer—the area in which new bark and wood are formed—the insects begin mining out tunnels and laying their eggs. During a heavy infestation, the cambium layer is soon girdled by tunnels bored by adult beetles and their larvae. Moreover, blue-stain fungus introduced by the insects slowly kills cambium cells, further cutting off the tree's life-sustaining flow of sap. The following summer the cycle begins anew. Overwintering larvae hatch into adults ready to take flight in search of other vulnerable lodgepole pine.

Healthy trees can fight off these invaders by drowning them in sap, but old or weakened trees or those with heavy infestation have little defence. In areas like Waterton where fires have not raged for many years, a pine beetle infestation is nature's way of clearing out old and diseased trees.

In some areas, foresters have resorted to clear-cutting trees as a means of controlling the infestation, but such a solution creates more disturbance than the disease itself. In view of this, park managers have decided to let nature run its course in all but the most heavily used areas of the park.

Interestingly enough, not all red-coloured pines are the result of mountain pine beetles. A condition known as red belt, caused by the drying influence of winter chinooks, has a similar effect.

VISITOR GUIDE

Waterton Lakes National Park lies in the extreme southwest corner of Alberta, 266 km (165 miles) south of Calgary. On the west side, the park is bounded by the Continental Divide, the border between Alberta and British Columbia; on the south side, the park is bounded by the forty-ninth parallel, the border between Canada and the United States. In all, the park occupies 526 km (203 square miles) of land.

The park is accessible by three main highways: Highway 5 approaches the park from the east from Lethbridge via Cardston; Highway 6 approaches the park from the north from Pincher Creek; and Montana State Highway 17, which becomes the Chief Mountain International Highway, approaches the park from the south. Visitors should note that the International Highway and its Canadian Customs and Immigration Station is closed each year from the middle of September until the middle of May.

Regular Greyhound bus service extends to Waterton Lakes National Park from approximately the end of June until Labour Day. Connections to eastbound or westbound buses can be made at either Pincher Creek or Fort Macleod. For further information, contact a Greyhound bus agent.

The nearest commercial airport to the park is at Lethbridge, Alberta, 138 km (86 miles) away. Cars may be rented at the airport or in downtown Lethbridge.

The nearest Via Rail stop to the park is Calgary. In the United States, the nearest Amtrak stops are at East Glacier, Montana, and Belton, Montana.

Waterton Lakes National Park is open year-round to the public, but most town facilities are open only during summer, from the middle of May until September. The two closest towns to the park, Pincher Creek and Cardston, are each approximately 55 km (34 miles) away.

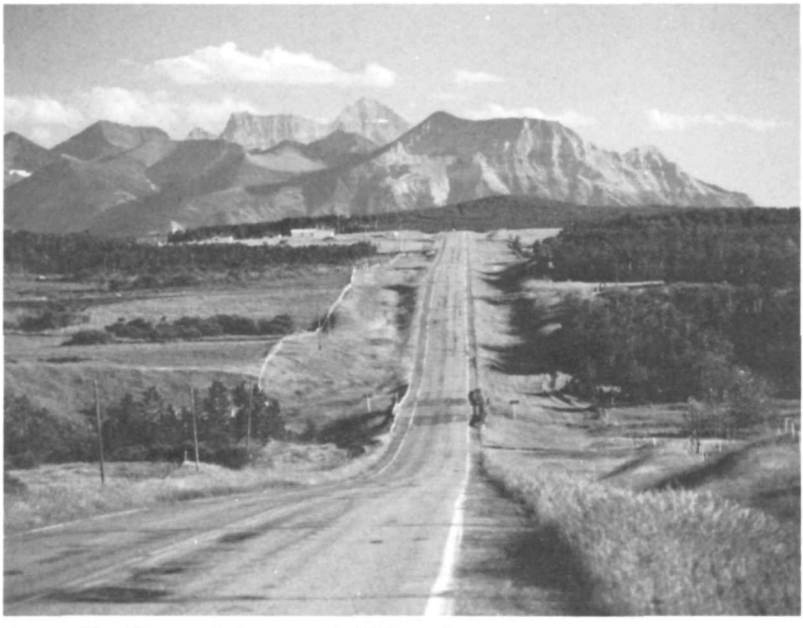
Maps, guides and other tourist information to help you plan your trip to Waterton Lakes National Park can be obtained from the following offices and agencies:

Superintendent
Waterton Lakes National Park
Waterton Park, Alberta
T0K 2M0

Chinook Country Tourist Association
2805 Scenic Drive
Lethbridge, Alberta
T1K 5B7

Travel Alberta
Capitol Square
10065 – Jasper Avenue
Edmonton, Alberta
T5J 0H4

Parks Canada
Information Services
10 Wellington Street
Hull, Quebec
K1A 1G2



SIMON LUNN

Approaching Waterton Lakes on scenic Highway 6

Canadian Government Office of Tourism
235 Queens Street
Ottawa, Ontario
K1A 0H6

A complete list of park publications may also be obtained from the Waterton Natural History Association, Box 145, Waterton Park, Alberta T0K 2M0. Among its many valuable undertakings, the association publishes and distributes materials relating to the park.

ARRIVING IN THE PARK

One of the best places to obtain information on your arrival is at the park information centre. Situated along the west side of the main park road, opposite the Prince of Wales Hotel road, the centre is open daily throughout the summer.

Information can also be obtained year-round from the park administration office and from the warden-interpretive workshop. The administration office is situated on Mount View Road in town and is open weekdays from 8:00 A.M. to 4:00 P.M. The warden-interpretive workshop is located in the government compound area along the main park road.

Visitors will also find information posted on park bulletin boards and published in a park newspaper, available at the park gate or the information bureau.


WATERTON LAKES NATIONAL PARK
WATERTON–GLACIER INTERNATIONAL PEACE PARK
GLACIER NAT'L PARK
BRITISH COLUMBIA
MONTANA
LEGEND
Highway
Secondary road
Accommodation
Campground
Group camping
Backcountry campground
Picnic area
Self-guiding trail
Hiking trail
Route (not maintained trail)
Riding stable
Warden station
Warden patrol cabin
Mountain
Glacier
On-site exhibit
Park boundary
Information
MILES
0 1 2 3
0 1 2 3 4 5
KILOMETRES
Newman Pk
Avion Ridge
Mt Glendowan
Goat Lk
Lost Lk
Bauerman Ck
Sage Pass
Twin Lks
Mt Bauerman
Lost Mt
Anderson Pk
Mt Dungarvon
Red Rock Canyon
Mt Galwey
Kishinena Pk
South Kootenay Pass
Lone Mt
Lone Lk
Mt Hawkins
Mt Blakiston
Blakiston Ck
Red Rock Canyon Parkway
Bellevue Hill
Crandell Lk
Mt Crandell
Golf Course
Lonesome Lk
Waterton Townsite
Bear's Hump
Discovery Well
Ruby Ridge
Cameron Ck
Lineham Lks
Mt Lineham
Lineham Ck
Akamina Ck
Akamina Parkway
Rowe Lks
Mt Rowe
Buchanan Pk
Carthew Ck
Bertha Pk
Mt Carthew
Alderson Lk
Carthew Lks
Mt Alderson
Bertha Lk
Akamina Pass
Cameron Lk
Summit Lk
Forum Pk
Mt Richards
Upper Waterton Lk
Boundary Ck
Buffalo Paddocks
Park Entrance
Hwy 6
to Pincher Ck
Waterton R
Hwy 5
to Cardston
Maskinonge Lk
Lower Waterton Lk
Middle Waterton Lk
Dardenelles
Chief Mountain Internat'l Hwy
Lookout Butte
Blood Indian Timber Reserve
Vimy Pk
Vimy Ridge
Sofa Mt
Mt Boswell
Crypt Lk
North Fork Belly R
Belly R
Canada Customs
U.S. Customs

INTERPRETIVE PROGRAMS

A full calendar of interpretive events designed to shed light on both the natural and human history of the park is offered in the park during the summer. Evening interpretive programs consisting of slide talks, exhibits or movies are presented by park interpreters regularly at two park locations: the Falls Theatre, situated across from Cameron Falls in town, and the Crandell Campground Theatre. The slide talks cover an intriguing range of subjects, from early native history to Oil City, from alpine plants to underwater wildlife. In addition, a wide variety of outdoor programs, including guided walks and hikes, and many special events, such as nature photography sessions and canyon crawls, may be offered. Children's programs are also available. Information on all these events can be obtained from the information centre and from the park newspaper or bulletin boards.

Displays on interesting aspects of the park's natural and human history can be found in exhibit centres in various areas of the park, including Cameron Lake, Red Rock Canyon and in town.

SELF-GUIDING TRAILS

A variety of self-guiding trails serve as scenic introductions to the park's natural and human history. The popular Red Rock Canyon Loop follows an easy course along the edge of the canyon, and the Bison Viewpoint Trail takes a short amble over the fescue prairie. The Lower Bertha Falls Trail climbs quickly from town to the falls, cutting through pine forests coloured with lilies, violets and yellow arnicas. The Summit Lake Trail is more strenuous, beginning at the Cameron Lake exhibit centre and winding up the slopes through a 500-year-old forest of Englemann spruce and past bear grass meadows. For disabled visitors, there is a paved and shady loop trail winding around Linnet Lake. Each of these self-guiding trails is posted with interpretive signs or is co-ordinated to a descriptive interpretive pamphlet.

HIKING AND BACKPACKING

Small as it is in size, Waterton Lakes National Park offers a number of great escapes for hikers. Most of the trails can be hiked in a day or less, and timberline can be reached in relatively short order. The view from the trail summits can be dazzling on clear days—a seemingly endless range of mountains to the west and a sea of prairie to the east.

There are forty-eight different trails to choose from, representing a good range of difficulties and lengths. For example, the Crandell Lake Trail or the Cameron Lakeshore Trail are short hikes popular with families, while the Tamarack Tour is a challenging hike for experienced backpackers. Some of Waterton's trails connect with those in Glacier National Park, Montana, so hikers may extend their trips if they wish.

PARKS CANADA

Interpretive guided walk

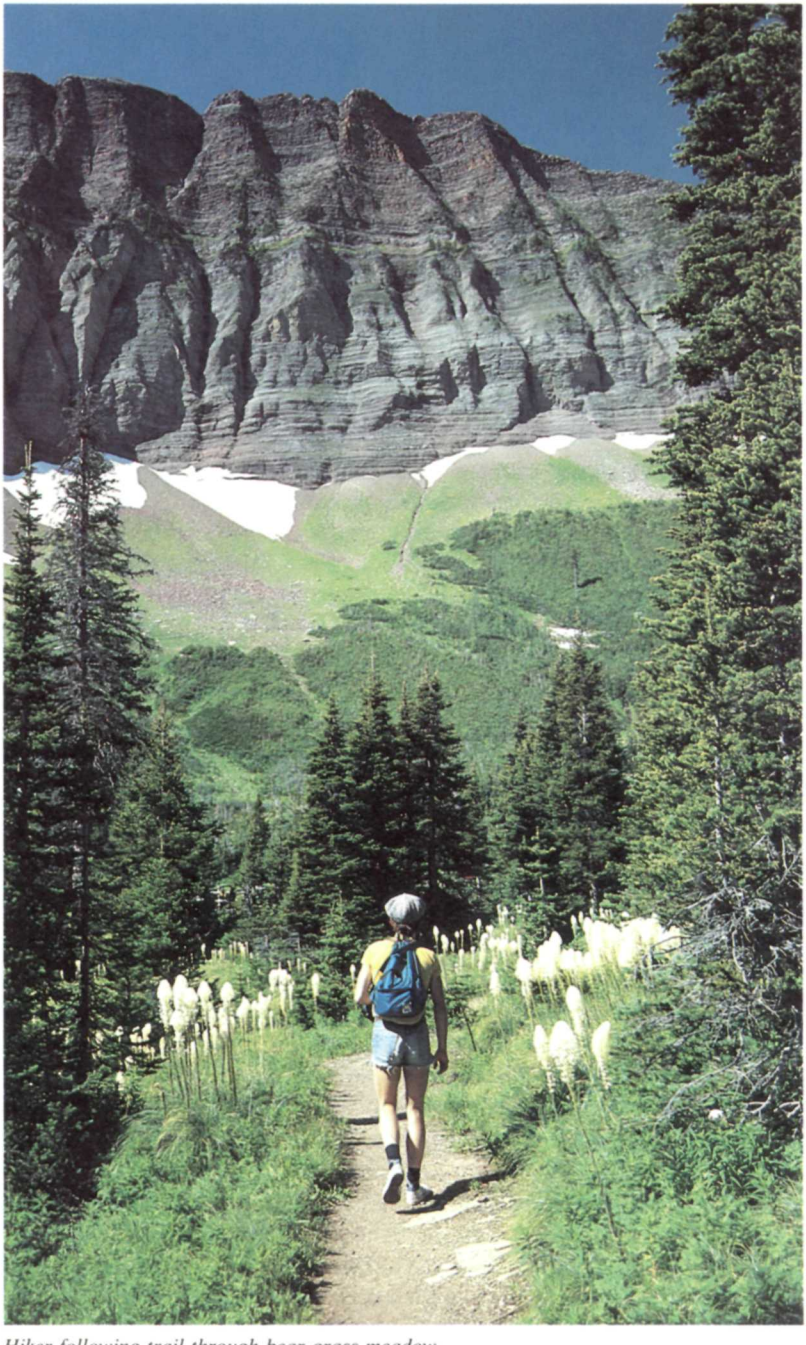
Those planning to camp overnight in the backcountry in either park must obtain a permit through the information centre, park administration office or from park wardens. The permit system is designed to help managers assess the use of backcountry campsites, to protect Waterton's backcountry from wear and tear, and to provide campers with a measure of solitude. Permits for the fifteen backcountry camping areas are issued free of charge on a first-come, first-served basis. To be sure of current regulations, though, it is worth contacting the park information centre.

Rock and ice climbers and those taking part in other hazardous activities must also obtain a permit from the information centre, administration office or from a park warden. This procedure allows the warden service to check up on overdue registrations.

Those planning a backcountry hike should consult both the Waterton Lakes National Park topographical map and *Waterton and Northern Glacier Trails for Hikers and Riders* (published by the Waterton Natural History Association) for detailed information on the trails.

Hikers will find that many park trails climb rapidly, and weather conditions in the mountains can change quickly and dramatically. A hike that begins in sunshine may well pass through rain or snow, so to keep warm and avoid hypothermia, hikers are advised to bring rain gear and extra clothing. In the interests of safety and protection of the environment, hikers are also asked to remain on marked trails, to avoid shortcuts and to observe posted trail signs.

Below are some of Waterton's hiking highlights. The walking difficulty noted for each trail refers to the amount of uphill travel. Easy trails are reasonably flat; moderately easy trails require some uphill travel. Moderately difficult trails gain more elevation and may require travel over exposed scree or talus slopes. Difficult trails involve mountain-climbing. For very fit hikers, the one-way walking times given are generous.



SIMON LUNN

Hiker following trail through bear grass meadow

ANNE BULL

View from Bear's Hump Trail

FROM THE TOWN OF WATERTON PARK

Bear's Hump Trail

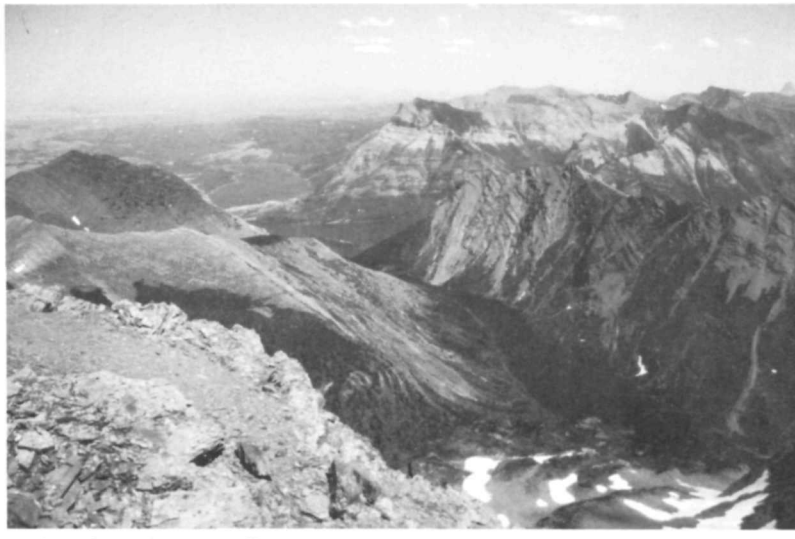
Trailhead:	Information Centre
Destination:	Bear's Hump viewpoint
One-way distance:	1.2 km (0.7 miles)
One-way walking time:	40 minutes
Walking difficulty:	Moderately difficult

This short, steep trail takes hikers to a high ridge overlooking the townsite and Upper and Middle Waterton lakes. Along the way, hikers may glimpse or hear red squirrels, least chipmunks, warblers, kinglets, western tanagers, chipping sparrows, red-breasted nuthatches and even a blue grouse. The view at the top is stunning, and the hike constitutes one of the best introductions to the park. But watch your children and hold on to them when it's windy.

Prince of Wales Trail

Trailhead:	Emerald Bay picnic area
Destination:	A loop that returns to Emerald Bay
Distance:	2 km (1.5 miles)
Walking time:	45 minutes
Walking difficulty:	Easy

This short stroll introduces hikers to impressive lake and mountain scenery.



SIMON LUNN

Bertha Lake and Bertha Valley

Townsite Trail

Trailheads:	Cameron Falls, Falls Theatre, International Peace Park Pavilion, Emerald Bay marina or Emerald Bay picnic area
Destination:	A loop around the town of Waterton
Distance:	3.2 km (2 miles)
Walking time:	1 hour
Walking difficulty:	Easy

A relaxing way to view the town's main attractions, this stroll is popular with visitors and residents alike. Points of interest along the route include Cameron Falls, Upper Waterton Lake, the International Peace Park Pavilion and Emerald Bay. Those who take this walk in early evening are likely to notice the striking colours of the bedrock in Vimy Peak. Whereas grey predominates on the slopes of mountains farther north, Waterton's peaks are tinted in delicate shades of red, green, brown, violet and tan.

Linnet Lake Trail

(Self-guiding trail)

Trailhead:	Linnet Lake
Destination:	Short loop around the lake
Distance:	1.0 km (0.6 miles)
Walking time:	30 minutes
Walking difficulty:	Easy

This paved trail is accessible and graded for handicapped use.

Bertha Lake Trail

Trailhead:	South of Cameron Falls
Destination:	Bertha Lake
One-way distance:	5.7 km (3.5 miles)
One-way walking time:	3 hours
Walking difficulty:	Moderately difficult
Campsite location:	Bertha Lake

Winding from valley forests of pine and Douglas-fir to subalpine forests of larch, alpine fir and Englemann spruce, the Bertha Lake Trail is especially appealing to photographers. Botanist Job Kuijt picks this trail as one of his favourites in the park, for in early summer hikers are treated to a rich splash of colour: yellow columbine, meadow rue, star-flowered solomon's seal, false solomon's seal, yellow angelica, queen cup, mountain lady's slipper, false huckleberry, red osier dogwood and hedysarum. Lower Bertha Falls is a shorter, moderately easy destination forming the first portion of this trail.

Cradled by a high mountain cirque, Bertha Lake seems well deserving of its old name, Spirit Lake. In more recent years, however, it was renamed after Bertha Ekelund, a colourful early resident of the area.

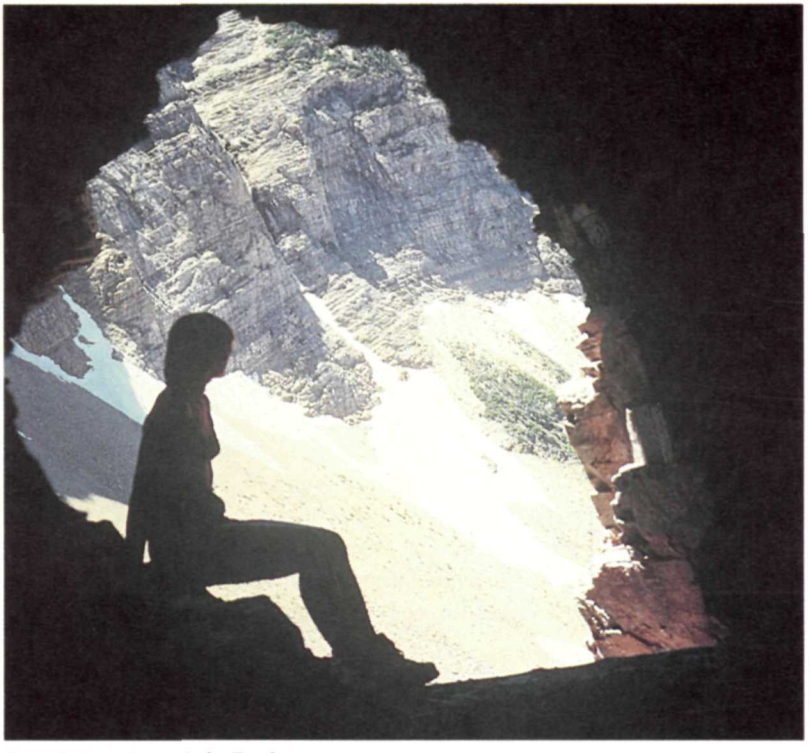
Lakeshore Trail

Trailhead:	South of Cameron Falls
Destination:	Goat Haunt Ranger Station in Glacier National Park
One-way distance:	11 km (6.6 miles)
One-way walking time:	3 – 4 hours
Walking difficulty:	Moderately easy
Campsite locations:	Bertha Bay, Boundary Bay and Goat Haunt

Following alongside the shore of Upper Waterton Lake, this pleasant trail leads hikers across the International Boundary and into the heart of the Waterton Valley. In summertime park interpreters from Waterton Lakes and Glacier National Park conduct weekly international hikes along this trail. Hikers wishing to proceed farther along Glacier trails are asked to check in at the ranger station.

Crypt Lake Trail

Trailhead:	Crypt Landing
Destination:	Crypt Lake
One-way distance:	8.6 km (5.4 miles)
One-way walking time:	3 – 4 hours
Walking difficulty:	Moderately difficult. A short section following the tunnel is difficult.



SIMON LUNN

Tunnel along Crypt Lake Trail

Campsite locations: Crypt Landing and at a site 0.8 km (0.5 miles) before reaching Crypt Lake

To reach the trailhead, most hikers cross Upper Waterton Lake by cruise boat. The trail itself leads past a series of beautiful mountain waterfalls—Twin Falls, Burnt Rock Falls, Crypt Falls—and through a natural, though now enlarged, tunnel to a high mountain cirque. The remoteness of this alpine lake and the unique approach combine to make this trail a favourite among hikers in the region. But the Crypt Lake trail is not to everyone's taste; those concerned about heights or enclosed spaces should not attempt it.

FROM THE CHIEF MOUNTAIN INTERNATIONAL HIGHWAY

Vimy Peak Trail

Trailhead: Chief Mountain International Highway (The trail starts at 0.5 km/0.3 mi along the highway from its junction with Highway 5.)

Destination: Eastern slope of Vimy Peak

One-way distance: 14 km (8.7 miles)

SIMON LUNN

View of Bosporus from Vimy Ridge

One-way walking time:	5 – 6 hours
Walking difficulty:	Easy to moderately difficult

Cutting through a variety of habitats, from deciduous forest to grasslands to coniferous forest, this trail offers the observant hiker much evidence of wildlife. In spring or fall hikers may want to bring along a pair of binoculars to observe migrating flocks of waterfowl on Lower Waterton Lake. Binoculars and a camera will also come in handy for those carrying on to Vimy Peak, a forty-five-minute uphill scramble from trail's end.

FROM THE AKAMINA PARKWAY

Rowe Lakes Trail

Trailhead:	Akamina Parkway (The trail starts at 10.3 km/6.1 mi from the parkway junction with Highway 5.)
Destination:	Upper Rowe Lakes
One-way distance:	6.3 km (4 miles)
One-way walking time:	2–3 hours
Walking difficulty:	Moderately easy to Rowe Meadow. Moderately difficult to the upper lakes
Campsite location:	Rowe Meadow

From a lower valley of lodgepole pine, this trail winds its way up to a high mountain basin, where alpine lakes are ringed with alpine larch. Along the way the trail passes by small mountain streams and through spectacular Rowe Meadow, where the campsite is located. Those hiking to the upper lakes in fall will enjoy the golden larch and, with luck, the sight and sound of clashing bighorn sheep.

ANNE BULL

Subalpine forests above Cameron Lake

Tamarack Tour

Trailhead:	Akamina Parkway (The trail starts at 10.3 km/6.1 mi from the parkway junction with Highway 5.)
Destination:	Red Rock Canyon
One-way distance:	31 km (19.3 miles)
One-way walking time:	2 full days
Walking difficulty:	Moderately difficult
Campsite locations:	Rowe Meadow, Lone Lake and Twin Lakes

Hikers taking the Tamarack Tour will climb the highest trail summit in the park (2560 m), gaining spectacular views of Glacier National Park, the Continental Divide and Lineham Basin. Adequate preparation is required before setting out on this strenuous alpine tour, however, and hikers should consult park staff for detailed information.

Akamina Pass Trail

Trailhead:	Akamina Parkway (The trail starts at a pullout 14.4 km/8.6 mi from the parkway junction with Highway 5.)
Destination:	Alberta-British Columbia border
One-way distance:	1.6 km (1 mile)
One-way walking time:	1 hour
Walking difficulty:	Moderately easy

Although this wooded trail has little in the way of views, it does provide surprisingly easy access to British Columbia. During winter it serves as a favourite cross-country ski route when the Akamina Parkway is open.

PARKS CANADA

Hiker on Carthew Ridge

Cameron Lakeshore Trail

Trailhead:	North end of Cameron Lake
Destination:	Lower edge of the avalanche slope beneath Mount Forum and Mount Custer
One-way distance:	1.6 km (1 mile)
One-way walking time:	1 hour
Walking difficulty:	Easy

This pleasant short walk leads hikers along the west shore of Cameron Lake, past scenic views of Mount Custer and Mount Forum. The subalpine forest here is a good place to see and hear Steller's jays, gray jays, varied thrushes, pine grosbeaks and various woodpeckers. But hikers are cautioned not to travel beyond the end of the trail; grizzly bears are frequently spotted on the avalanche slopes.

Carthew-Alderson Trail

Trailhead:	Cameron Lake
Destination:	Town of Waterton via Cameron Falls
One-way distance:	19 km (12 miles)
One-way walking time:	6 – 8 hours
Walking difficulty:	Moderately difficult
Campsite location:	Alderson Lake

The Summit Lake Trail forms the first portion of this full-day trip. On a clear summer day, magnificent views greet hikers on Carthew Ridge. To the northeast lie Carthew Lakes and a hint of prairie in the distance. From the ridge it is downhill past emerald-coloured Alderson Lake and the impressive headwalls of Mount Alderson. Weather can change very quickly on Carthew Ridge, and hikers should always take additional warm clothing along on this hike.

Mountain goat

Lineham Creek Trail

Trailhead:	Akamina Parkway (The trail starts 9.0 km/5.4 mi from the parkway junction with Highway 5, and is unmarked.)
Destination:	0.5 km southeast of the base of Lineham Cliff
One-way distance:	4.2 km (2.6 miles)
One-way walking time:	1 – 2 hours
Walking difficulty:	Moderately easy

A beautiful mountain waterfall and a chance of glimpsing mountain goats and bighorn sheep are the rewards which await hikers at the end of this trail. Experienced climbers may wish to proceed into the Lineham Lakes Basin by traversing the 100-m (328-ft)-high Lineham Cliff, but they *must* obtain a hazardous activity permit from a park warden before setting out. The route up Lineham Cliff should not be undertaken lightly; it is difficult to negotiate and treacherous in wet weather or fog.

FROM RED ROCK CANYON PARKWAY

Crandell Lake

Trailheads:	Red Rock Canyon Parkway—turn onto Church Camp road 6 km (3.7 miles) from parkway junction with Highway 5; parking lot located 0.4 km (¼ mi) along Canyon Church Camp road; drive across bridge and keep to the right. The trailhead is in the parking lot. Akamina Parkway—a sign marks the beginning

PARKS CANADA

Red Rock Canyon

	of the trail. Park car in pullout 6.6 km (4 mi) from town of Waterton
Destination:	Crandell Lake
One-way distance:	2.2 km (1.3 miles) from Canyon Church Camp Road; 1.6 km (1 mile) from Akamina Parkway
One-way walking time:	1 hour from Red Rock Canyon Parkway; 45 minutes from Akamina Parkway
Walking difficulty:	Moderately easy
Campsite location:	Crandell Lake

These are short hikes, popular with families. The trail follows an old wagon road, part of the historic route to Oil City. At the turn of the century, crews carted oil drilling equipment and supplies over this trail to Cameron Creek.

Red Rock Canyon Loop Trail

(Self-guiding Trail)

Trailhead:	Red Rock Canyon Exhibit Area
Destination:	Short loop around canyon
Distance:	0.7 km (0.4 miles)
Walking time:	20 minutes
Walking difficulty:	Easy

This popular paved trail leads visitors through the colourful canyon. Interpretive signs explain how the canyon was formed.

Blakiston Falls/Blakiston Valley Trail

Trailhead:	Red Rock Canyon
Destination:	Blakiston Falls/Blakiston Valley junction
One-way distance:	1 km (0.6 miles) to Blakiston Falls; 10.1 km (6.3 miles) to Blakiston Valley junction
One-way walking time:	30 minutes to Blakiston Falls; 2 – 3 hours to Blakiston Valley junction
Walking difficulty:	Easy to Blakiston Falls; Moderately easy to Blakiston Valley junction

After a short walk through fragrant pine forests and a rest at Blakiston Falls, hikers may return by the same route or continue west along Blakiston and Lone creeks until they reach Blakiston Valley junction. From here hikers can proceed up to South Kootenay Pass, take a sidetrip to Twin Lakes or return to Red Rock Canyon.

Snowshoe Trail

Trailhead:	Red Rock Canyon
Destination:	Snowshoe Cabin
One-way distance:	8.2 km (5 miles)
One-way walking time:	2 – 3 hours
Walking difficulty:	Easy
Campsite location:	Snowshoe Cabin

The trail serves primarily as an access route to the following trails: Goat Lake, Twin Lakes, Tamarack Tour, Castle River Divide and the Avion Ridge Route. In winter it is groomed for cross-country skiing.

Goat Lake Trail

Trailhead:	Snowshoe Trail (At 3.8 km/2.3 mi along Snowshoe Trail, a sign marks the beginning of Goat Lake Trail on the right.)
Destination:	Goat Lake
One-way distance:	2.5 km (1.5 miles)
One-way walking time:	1½ – 2 hours
Walking difficulty:	Moderately difficult
Campsite location:	Goat Lake

Goat Lake comes by its name honestly, for mountain goats are frequently spotted on the towering headwall above the lake. Hikers are well advised to bring their binoculars.

PARKS CANADA

Fishing at Goat Lake

Twin Lakes Trail

Trailheads:	Snowshoe Cabin (the Twin Lakes Trail crosses the footbridge and rises to the southwest) or Blakiston Valley junction
Destination:	Twin Lakes Basin
One-way distance:	3 km (2 miles)
One-way walking time:	1 – 1½ hours
Walking difficulty:	Moderately easy
Campsite location:	Upper Twin Lake

Nestled against the Continental Divide, both lakes are set amid spectacular alpine scenery.

Avion Ridge Route

This route is not maintained and can be difficult to follow, even for experienced backcountry hikers. The views along Avion Ridge are absolutely stunning, however, and the route would be of great interest to photographers and wilderness buffs. Those considering this hike should check with park staff for further information.

Trailhead:	Snowshoe Cabin via a turn right (east) at Castle River Divide
Destination:	Goat Lake Basin or Yarrow Basin
One-way distance:	11 km (6.8 miles) to Goat Lake; 16 km (10 miles) to Yarrow Basin

SIMON LUNN

Bison paddock

SIMON LUNN

Trail riding along Avion Ridge

One-way walking time:	5 – 6 hours to Goat Lake; 8 – 9 hours to Yarrow Basin
Walking difficulty:	Moderately difficult
Campsite location:	Goat Lake

FROM HIGHWAY 6

Horseshoe Basin Trail

Trailhead:	Bison Paddocks
Destination:	Oil Basin or Yarrow Creek
One-way distance:	10.6 km (6.6 miles) to Oil Basin; 15.7 km (9.8 miles) to Yarrow Creek
One-way walking time:	3 – 4 hours to Oil Basin; 5 – 7 hours to Yarrow Creek
Walking difficulty:	Moderately difficult

Starting in the rolling prairie and climbing the saddle between Lakeview Ridge and Mount Galwey, this trail is rich in variety. Hikers should check with park staff on bear conditions in the area before setting out on this seldom-travelled and poorly marked route.

HORSEBACK RIDING

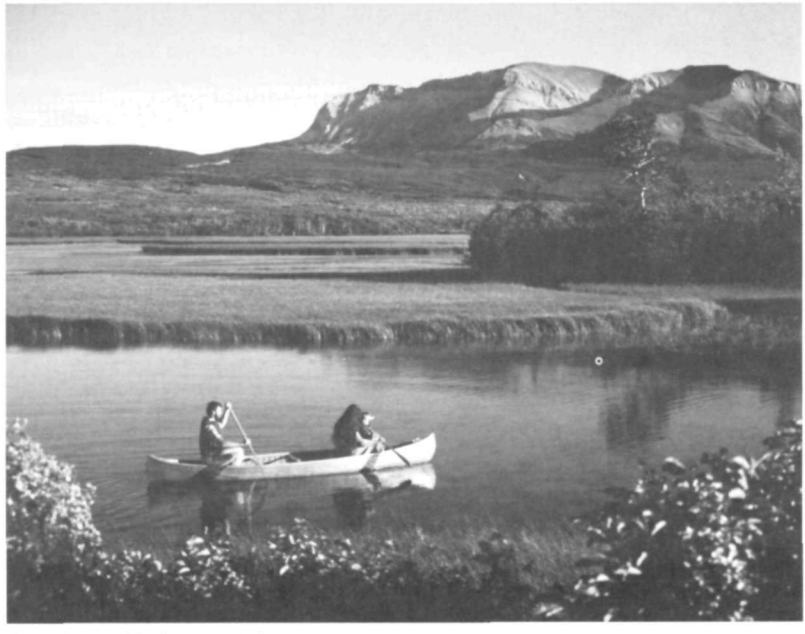
Trail riding has long been a popular pastime in the Rocky Mountains—particularly in Waterton's scenic backcountry. Today horses can be rented from private stables in the park on an hourly or daily basis, and overnight tours can be arranged. Visitors owning horses can board them at the stables during their visit.

Corrals for horses have been constructed along some of the favourite horseback trails at Alderson Lake, Snowshoe Cabin, Lone Lake, Rowe Meadow and Crypt Landing.

FISHING

In the summer of 1920 Mrs. Calvin Hunter pulled a huge lake trout from the Bosporus which tipped the scales at 23 kg (51 pounds). Ever since that time anglers have been casting their lines into the local waters, trying for their own records. The lakes, ponds and rivers in Waterton present anglers with a variety of challenges. Rainbow and cutthroat trout, brook, lake and bull trout all thrive here, as do northern pike and Rocky Mountain whitefish. Information on the distribution of species in Waterton Lakes can be found on the park's topographical map or obtained from the information centre staff.

Anglers interested in trying their luck will need a National Parks Fishing Licence, which can be obtained for a fee from the information centre, the



SIMON LUNN

Canoeing on Maskinonge Lake

administration office, a park warden or in town. Fishing supplies can be purchased in town and at Cameron Lake.

BOATING AND CANOEING

On calm summer days, small boats, canoes, waterskiers and wind surfers sprinkle the waters of Upper and Middle Waterton lakes. The warm weather and low winds invite boating, and many people head for the water.

Small boats and canoes can be rented in the town's marina area and at Cameron Lake. Launching ramps are found in town and at Middle Waterton Lake, and boat stalls can be obtained through the park administration office. Motor boats are allowed only on Upper and Middle Waterton lakes; they are not permitted on Cameron Lake.

The water in these lakes is cold, even during summer, and boaters should take care against capsizing. The main lakes can become rough on occasion, so park wardens recommend that inexperienced boaters stay close to shore. Canoeists and kayakers should contact park staff for information about lake and river waters.

BOAT CRUISES

One of the most relaxing ways to take in the mountain scenery is to hop aboard a cruise boat. Two companies run regularly scheduled cruises up Upper Waterton Lake, into the heart of the mountains. The trip from the

SIMON LUNN

Summer cruise boat

town of Waterton to Goat Haunt Visitor Centre in Montana takes approximately 45 minutes each way, and passengers can picnic, hike or take in the visitor centre exhibits before catching a ride aboard one of the later return cruises. Tickets can be purchased at the marina's concession booth.

A water taxi shuttle service is available to the trailhead at Crypt Landing.

SKIN DIVING

Each year skin divers from across the prairie provinces travel to Waterton Lakes to dive in Emerald Bay. A sunken ship, something of a rarity this far from the ocean, lies at the bottom of the bay and divers enjoy exploring its decks.

Built in the summer of 1907, the steamer first saw service hauling logs to a sawmill on the Waterton River. In later years the boat fell into disrepair; then for a time it served as a tearoom while moored by the shore of Emerald Bay. By 1918 it had outlived its usefulness, and the boat's owners were asked to scuttle it in the bay waters where it now rests.

OTHER SUMMER ACTIVITIES

The warm days of summer can be enjoyed in a number of other ways, too. Golfers can polish their games on an eighteen-hole golf course located just north of town; tennis players can practise their backhand at the public courts on Cameron Falls Drive. In town, families can rent a variety of

SIMON LUNN

Wind surfing on Upper Waterton Lake

bicycles, including tandem and four-wheel models.

While some hardy souls will enjoy a swim in the cool waters of Emerald Bay or Crandell Lake, most visitors will probably prefer the heated waters of the town's outdoor swimming pool. Towels and swimsuits can be rented there.

For those who enjoy dining al fresco, some fifteen different picnic areas are open spring, summer and fall, including large areas at Red Rock Canyon, Maskinonge Lake, Emerald Bay, Blakiston Creek (Pass Creek) and the town area.

WINTER ACTIVITIES

Winter is a quiet but inviting time of the year in Waterton Lakes. The town takes on a sleepy air and there is little traffic on the park roads. The few cars belong to winter residents, cross-country skiers, the odd sightseer and occasional camper.

Generally speaking, cross-country skiers are likely to find suitable snow conditions in the park from late December to early March. A few designated trails are open each winter, and skiers can obtain information about them from the administration office, a park warden or a park interpreter.

SIMON LUNN

Cross-country skiing

While the trails vary in both length and difficulty, they all run through prime wildlife habitat. Many large mammals are active during winter months in Waterton Lakes, and skiers may well catch glimpses of elk, moose, deer or coyote.

For those interested in snowshoeing, the following trails are recommended: Linnet Lake, Red Rock Canyon, Crandell Lake and Blakiston Falls.

Winter camping is usually available at the Blakiston (Pass) Creek Bridge picnic area, where visitors will find an enclosed kitchen shelter and space for about six camper trucks or tents. Enclosed kitchen shelters with stoves are also available at Emerald Bay and in the townsite.

While the high annual snowfall does much to encourage winter recreation, high winds can result in varying snowpacks and in difficult driving conditions. Before setting out to Waterton Lakes, call (403) 859-2262 on weekdays from 8:00 A.M. to 4:00 P.M., or (403) 859-2445 on weekends for up-to-date information on roads, weather and trail conditions.

CAMPGROUNDS

Visitors will find a variety of campground facilities in the park, from fully serviced sites to walk-in ones.

The Townsite Campground, situated at the south end of the town of Waterton, has both serviced and semi-serviced sites with kitchen shelters, water taps, picnic tables, flush toilets and pay showers. A smaller, walk-in area with flush toilets and tables is located within the campground. Open fires are not allowed in either area.

Sheltered in a grove of lodgepole pine along the Red Rock Canyon Parkway, the Crandell Campground provides semi-serviced sites. Campers will also find kitchen shelters, water taps, picnic tables, individual fireplaces, firewood and flush toilets.

The Belly River Campground is the quietest of the three main areas. Nestled against the Belly River, just off the Chief Mountain International Highway, this campground provides unserviced campsites in a beautiful setting. Kitchen shelters, firewood, water taps, picnic tables and fireplaces are supplied. A large group tenting area is situated next to this campground, and parties interested in using this facility should contact Visitor Services, Waterton Lakes National Park at (403) 859-2262 several months in advance for reservations or further information.

A camping fee is charged at each of these campgrounds, and campers may stay up to two weeks. Since reservations cannot be taken, except for the group tenting area, camping sites are available on a first-come, first-served basis. During the peak midsummer period, campgrounds fill up early.

Alternatively, visitors may wish to try one of the nearby private or provincial campgrounds. A privately owned campground is located 3 km (2 miles) north of the park gate on Highway 6 and another approximately 5 km (3 miles) east of the park gate along Highway 5. Crooked Creek provincial campsite is also situated on Highway 5 about 5 km (3 miles) east of the park entrance. Other nearby campgrounds include Police Outpost Provincial Park and Yarrow Creek Provincial Park in Alberta and St. Mary Campground and Rising Sun Campground in Glacier National Park, Montana. Privately owned campgrounds are also available near the St. Mary entrance to Glacier National Park.

OTHER ACCOMMODATION

A number of hotels, motels and lodges are open in the town of Waterton during summer months. Some accommodation and restaurant services may also be available in winter. Before setting out for the park, winter visitors are advised to contact Visitor Services, Waterton Lakes National Park at (403) 859-2262 for further information.

OTHER TOWN SERVICES

Summer visitors will find restaurants, snack bars, grocery stores, ice-cream parlours, confectionary stores, gas stations, gift shops, clothing shops, a sporting and camping goods store, liquor store, lounge, pub, laundromat, cinema, pharmacy and convention centre, post office and banking services in the town of Waterton. For information on scenic bus tours, taxi service and hiker shuttle, contact the Tamarack Mall. An RCMP detachment is open in town from May until October.

PARKS CANADA

Kootenai Brown's cabin

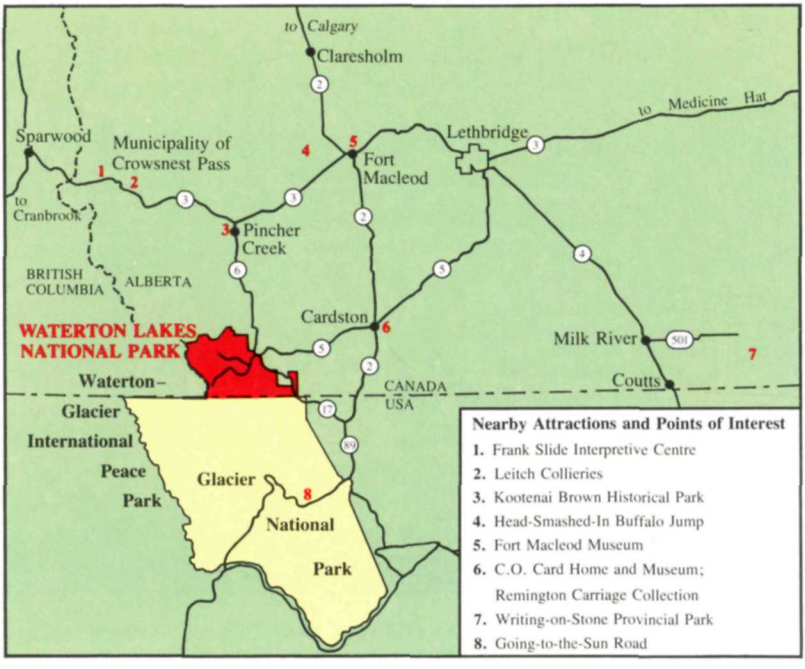
On Sundays, services are held at churches of four different denominations: Roman Catholic, Anglican, United Church and Latter Day Saints. The times of the services are generally posted near the church door or listed in the park newspaper.

NEARBY ATTRACTIONS

A number of popular attractions and points of interest can be found within a short drive of Waterton Lakes. In Pincher Creek, the Kootenai Brown Historical Park preserves several historic log cabins, including one owned by Kootenai Brown. In Cardston, visitors can see the C.O. Card Home and Museum, a provincial historic site commemorating the arrival of the first Mormon settlers in southern Alberta. Cardston also hosts the Remington Carriage Collection, one of the largest restored collections of horse-drawn carriages in North America.

Those travelling to Fort Macleod may wish to stop at Head-Smashed-In Buffalo Jump, a prehistoric bison jump recently designated as a UNESCO world heritage site. Located 16 km (10 miles) west of Highway 2 along the Spring Point Road, this site can be toured during summer months. In addition, visitors are welcome at the North West Mounted Police Fort and Museum in Fort Macleod.

The Crowsnest Pass along Highway 3 features the Frank Slide Interpretive Centre and Leitch Collieries, both significant provincial sites that interpret the fascinating and often tragic story of the search for coal. Any-



one travelling south into Glacier National Park in Montana from late spring to early fall should experience the Going-to-the-Sun Highway. It was built during the 1930s and introduces travellers to the dramatic mountain peaks, waterfalls, ice and high alpine meadows of Logan Pass.

BEARS

As all experienced hikers and backpackers know, bear encounters are to be avoided. While grizzly bears and black bears are retiring by nature, they can behave unpredictably when suddenly confronted by a human being. A bear that feels threatened may well attack. Or it may escape harmlessly into the forest. One can never tell exactly what will happen.

Only a very small number of people who come to Waterton lakes each year will encounter a bear. And this is as it should be. The park wardens do their best to keep bears and humans amicably separated, without eliminating either from the landscape. To this end, they offer the following suggestions:

—Hikers in the backcountry should remain alert at all time for the possibility of bears. Hikers should know the signs of bears and watch for them.

—Families should stay together on the trail. Small children should not be allowed to wander ahead on their own.

TERRY HAMMELL

Grizzly bear

—Hikers should let bears know of their presence by making noise on the trail.

—Hikers should leave their dogs behind when travelling in the backcountry, for they may provoke confrontations with bears.

—Visitors should never feed bears. Bears that develop a taste for human food are especially dangerous.

—Campers should make every effort to keep their campsites clean. Bears are natural scavengers.

—Study the pamphlet "You Are In Bear Country." Visitors can obtain a copy at the park information centre. Additional information on bears may be obtained at park interpretive programs or by talking to a park warden.

—Report any bear sightings or encounters to a park warden or the information centre staff.

PRESERVATION

The warden service has been set up to conserve and manage park resources, to ensure public safety and to enforce park regulations. To protect the park and its wildlife, visitors are asked to observe the following rules:

Please do not pick flowers or gather antlers or other natural souvenirs in the park: such activities are against the law. Please keep dogs on a leash at all times. In forested areas, be especially careful with matches and cigarettes. Be aware that open fires are allowed only in designated areas. Last, but not least, please do not feed any of the park's wildlife. Many animals become dependent on human food, forgetting how to fend for themselves. Moreover, animals accustomed to feeding from cars are more likely to become highway statistics.

Place Names

Some of Waterton's most colourful history may be read in the names on its map. As each new wave of travellers and settlers arrived in the remote Rockies, they endowed the mountains, lakes, rivers and valleys with names of their own choosing.

Although the names of the earliest prehistoric inhabitants have long been lost from memory, fortunately a few of the more recent native names have been preserved. According to tradition, Akamina Pass takes its name from a Kootenay word meaning valley or benchland, while Kishinena Creek owes its origin to the Kootenay word for balsam or white fir. Blackfoot travellers seem to have been even more imaginative in their choice of names—Mokowan Butte comes from a Blackfoot word meaning the digestive stomach of a bison.

The arrival of the first Europeans in Waterton Lakes brought new perceptions and new ways of naming the landscape. Lt. Thomas Blakiston gave his own name to the highest peak in the park in 1858 and then bestowed the name of fellow scientist Charles Waterton on the main lake chain. Other surveyors and scientists followed Blakiston's suit. Mounts Galwey, Richards, Bauerman and Custer and Anderson Peak were all named for boundary commission members.

The discovery of oil sparked considerable excitement in Waterton Lakes, and in due time this event was recorded on the map by names such as Oil City and Oil Basin. Two of the principle investors in the Rocky Mountain Development Co. Limited, John Lineham and Edward Crandell, are also remembered today by the mountains named after them.

With the outbreak of the First World War, many of Waterton's residents enlisted for overseas service, and a spirit of patriotism prevailed. Mount Alderson was named for Gen. E. A. H. Alderson, commander of the Canadian Expeditionary Forces, and Mount Carthew was named after a young surveyor killed in France in 1916. Two other prominent features of the landscape were named after famous military engagements: Vimy Peak was named for the battle of Vimy Ridge in 1917 and the Dardanelles for a disastrous military and naval campaign launched in Turkey in 1915. Soldiers returning from Turkey at the end of the war may have named the Bosporus after the famous passageway between the Aegean and the Black seas.

As more people took up residence in the new national park, a host of highly descriptive names gained currency such as Sofa Mountain, Ruby Ridge and Horseshoe Basin. Bear's Hump was most likely given its name not because bears were common there but because the ridge resembles a hump on Mount Crandell, once called Bear Mountain.

GLENBOW MUSEUM

Taking in the mountain scenery. Today all roads are paved.

WATERTON LAKES NATIONAL PARK BY CAR

The small network of parkways and roads in Waterton Lakes has been carefully planned for sightseeing. Each of the four main roads leads to a different quadrant of the park, giving motorists glimpses of the four corners. The roadsides are alive with wildflowers, birds and many other animals and there is always something to see along the highway's edge, especially in early morning or evening hours. Below you will find a series of road logs pointing out the most interesting features of Waterton's main roads.

Chief Mountain International Highway

Chief Mountain International Highway crosses the eastern side of the park, from the International Boundary to Highway 5. Before it was completed in 1935, visitors from the south had to take a circuitous route to Waterton Lakes by way of Cardston. Those travelling the Chief Mountain International Highway today in clear weather will enjoy the views of Chief Mountain and the Waterton Valley.

START. The International Boundary between Canada and the United States is the longest undefended border in the world today. It is marked here by a cement cairn and by a 9-m-wide (30-foot-wide) strip cut through the forest.

Just ahead is Chief Mountain Canadian Customs and Immigration Station. The station is open from the middle of May until the middle of September.

↓ 1.5 km (0.9 miles)

A viewpoint. The lofty peaks of Gable Mountain, Mount Wilbur, Cosley Ridge, Bear Mountain and Sentinel Mountain in the United States rise to the southwest.

↓ 2.5 km (1.6 miles)

Turnoff to the left for the Belly River Campground.

↓ 0.6 km (0.4 miles)

The road leaves the park here, to enter the Blood Indian Timber Reserve. A viewpoint with roadside sign explains the origin of the reserve.

↓ 1.3 km (0.8 miles)

Belly River and the south border of the Blood Indian Timber Reserve. The Belly River flows north through Alberta, receiving water from the Waterton River and later joining the South Saskatchewan River. No one is really sure how the Belly River got its name. Some believe that the Blackfoot named it after the nearby buttes, which were shaped like the twisted stomach of a buffalo. Others believe that the river took its name from later inhabitants of the region, the Gros Ventres—"big bellies."

If you look upstream as you cross the river, you will get a good view of the northern Montana mountains.

↓ 5 km (3 miles)

Northern border of the Blood Indian Timber Reserve. You are now back in the park.

↓ 0.7 km (0.4 miles)

Turnoff for Lookout Butte picnic area on the right and an interpretive sign on the Canadian national park system on the left.

↓ 1.5 km (1 mile)

A roadside sign explaining a significant geological feature of the park, the Lewis Overthrust. If you walk just beyond this viewpoint, you will have a good view of Chief Mountain and two smaller peaks, Ninaki and Papoose. Majestic in outline, Chief Mountain has long been an important landmark in the region, for it is visible for a hundred miles or more in three directions. To geologists, Chief Mountain represents a classic example of an outlier, a tower of rock separated from the main mountain

GREG HORNE

Mount Galwey

range by erosion. To many of the native people in these parts, however, Chief Mountain is a power mountain, a sacred place favoured by the spirits.

↓ 2.4 km (1.5 miles)

A viewpoint and roadside sign orienting visitors to the theme of Waterton Lakes National Park—"where the mountains meet the prairies." The view of the Waterton Valley and the colourful Border Ranges from here is superb. Visible peaks include Sofa Mountain, Vimy Peak, Mount Crandell, Mount Blakiston, Mount Galwey, Bellevue Hill and Lakeview Ridge. This is an excellent vantage point for photographers.

↓ 2 km (1.2 miles)

Cross-country skiing trailhead in winter. White-tailed deer and elk are occasionally spotted during summer along the next 4 km (2.4 mi).

↓ 4.4 km (2.7 miles)

END. The Chief Mountain International Highway intersects with Highway 5 from Cardston and Lethbridge.

SIMON LUNN

Rock formation on Vimy Peak

Main Park Road, from Intersection of Highway 5 and Highway 6 to Waterton Park Townsite.

This road travels along the west side of the Waterton Valley, providing some fine views of the main lakes.

START. The intersection of Highway 5 and Highway 6.

↓ 0.4 km (0.3 miles)

Osprey nest. For several years now, a pair of ospreys has nested on the wooden platform above the pole in the pond on your right.

As you drive along the next 2 km (1.2 miles) of road, keep your eyes open for wildlife. Mule deer browse along the roadside in summer, and elk cross along this stretch of road in winter. Drive carefully, especially at night.

↓ 1.0 km (0.6 miles)

Turnoff to the left for Knight's Lake picnic area.

↓ 1.3 km (0.8 miles)

A viewpoint and a roadside sign explaining the origins of Lower and Middle Waterton lakes. Vimy Peak looms in the background.

↓ 0.3 km (0.2 miles)

A viewpoint and a trail leading down to Kootenai Brown's grave.

British army officer, Cariboo prospector, pony express rider, United States army scout and first superintendent of Waterton Lakes National Park, Kootenai Brown is buried here between his two wives.

During late fall and winter, large herds of elk can be spotted on the far side of the lake and on both sides of the Dardanelles from this viewpoint.

↓ 1.3 km (0.8 miles)

Turnoff to the left for the Dardanelles picnic area.

↓ 0.7 km (0.4 miles)

Junction with Red Rock Parkway. The bridge ahead crosses Blakiston Creek, named by Lt. Thomas Blakiston. Today many residents call it Pass Creek, for it flows from the headwaters of the South Kootenay Pass area.

↓ 0.2 km (0.1 miles)

Turnoff to the right for the Pass Creek Bridge picnic area. This spot is used as a winter campground from November to April.

↓ 0.5 km (0.3 miles)

Turnoff to the right for Waterton Lakes 18-hole golf course.

↓ 0.3 km (0.2 miles)

Access road to the left for Alpine Stables, Camp Columbus and the Marquis Hole picnic and fishing area.

↓ 0.8 km (0.5 miles)

Turnoff to the left for the Driftwood Beach picnic area. From the main road, you will have a fine view of Middle Waterton Lake, the Bosporus, the Prince of Wales Hotel and the Upper Waterton Valley. The sawtooth ridge in the distance is Citadel Peaks in Glacier National Park.

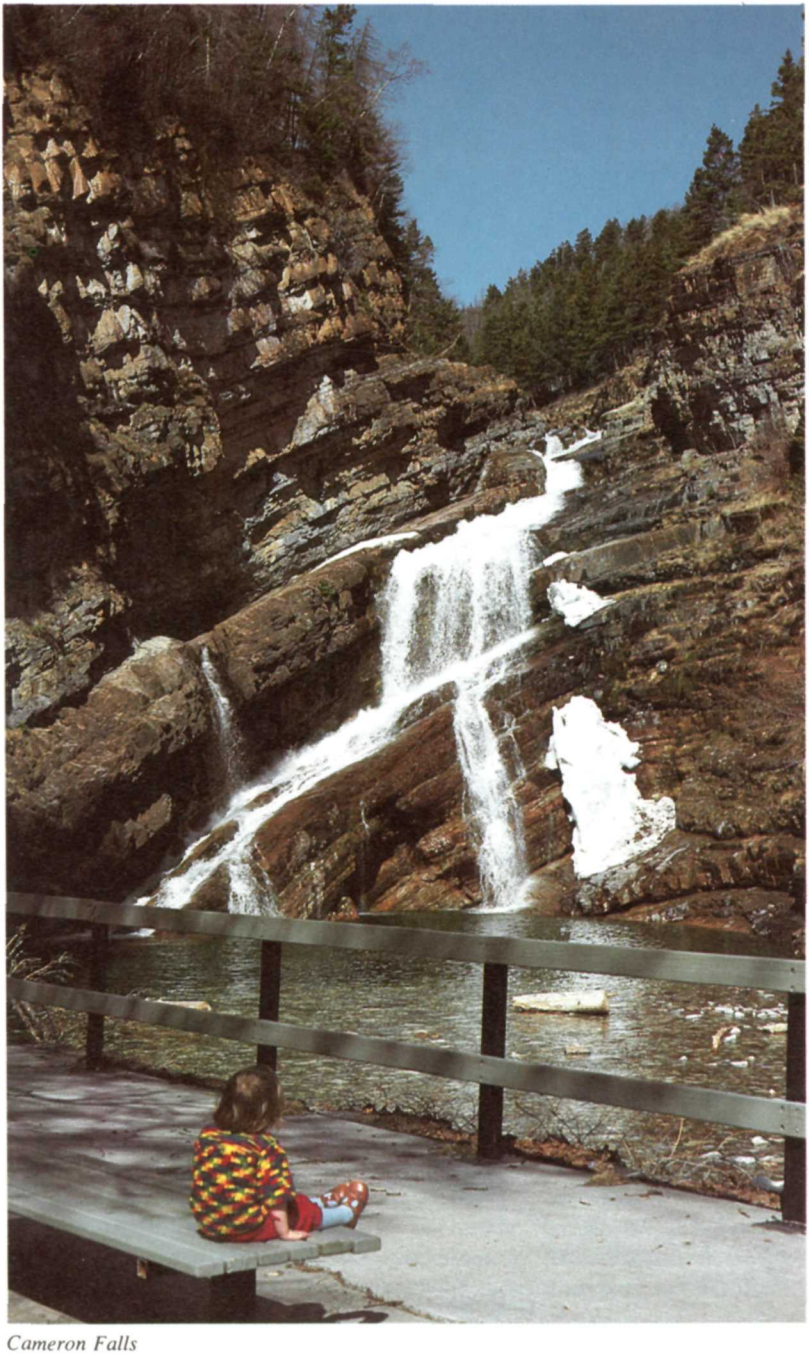
↓ 0.5 km (0.3 miles)

Turnoff to the right for the warden-interpretive workshop and the government compound. Bighorn sheep and mule deer are often sighted on the slopes to the right.

↓ 0.5 km (0.3 miles)

Park information centre, open from May to September. Turnoff to the left for the historic Prince of Wales Hotel.

↓ 0.3 km (0.2 miles)



SIMON LUNN

Cameron Falls

SIMON LUNN

Autumn lakeshore

Junction with Akamina Parkway on the right. Turnoff to the left for the Emerald Bay picnic area. Mid-summer swimming in the shoreline waters of Emerald Bay is for rugged souls only.

↓ 0.3 km (0.2 miles)

END. The town of Waterton Park is home to nearly 100 year-round residents. If you turn left here, along Mount View Road, you will reach the park administration office and the main street of town, where a complete range of services can be found. If you proceed straight ahead, along Evergreen Avenue, and turn right at the stop sign, you will reach Cameron Falls. Here Cameron Creek rushes over some of the oldest bedrock in the Canadian Rockies. An interpretive sign describes the falls.

Red Rock Canyon Parkway

Skirting the side of Blakiston Creek, the Red Rock Canyon Parkway follows an ancient route into the mountains. Those travelling the parkway today will enjoy the striking contrasts between prairie and mountain landscapes.

START. The parkway begins just north of the Blakiston Creek Bridge, at the junction on the main park road. Behind you, Blakiston Creek has laid down an impressive alluvial fan. With each passing year, this fan grows slightly larger and one day in the distant future sediments from the creek may completely fill in Middle and Lower Waterton lakes.

↓ 0.4 km (0.3 miles)

A roadside pulloff and a trail leading to an interpretive sign and peak-finder. The sign explains the origins of an alluvial fan, while the peak-finder orients visitors to the Blakiston Valley. To the right is Waterton's rolling fescue and oatgrass prairie.

↓ 0.9 km (0.6 miles)

Viewpoint and roadside sign explaining the origins of this prairie landscape. To the left, across Blakiston Creek, you will see a rolling hill which appears to have been sliced in half. This is a textbook-perfect example of a medial moraine, a long arm of rocky debris left behind where two glaciers met.

↓ 0.8 km (0.5 miles)

A viewpoint and a roadside sign describing the Blakiston beaver ponds. In early morning or evening you may spot a moose here, wading among the sedges. Trout inhabit these waters and a pair of Barrow's goldeneye ducks often make this pond their summer home.

↓ 0.9 km (0.6 miles)

A viewpoint. Straight ahead stands Mount Blakiston, highest peak in the park at 2940 m (9645 feet) and guardian of a valley used as a major travel route by prehistoric peoples.

↓ 2 km (1.2 miles)

Roadside pulloff and a trail to a significant interpretive exhibit on bison hunts.

↓ 1.4 km (0.9 miles)

A roadside sign outlining the contribution of Lt. Thomas Blakiston. From here you can see how prairie reaches up dry, south-facing valley slopes, while montane forest grows on sheltered, northeast-facing slopes which hold moisture later in the year.

↓ 0.3 km (0.2 miles)

Turnoff to the left for Crandell Mountain Campground.

↓ 1 km (0.6 miles)

Turnoff to the right for the Coppermine Creek picnic area. The creek takes its name from an old copper mine, which was located about 1 km (0.6 miles) up the creek. Nels Ekelund, an early homesteader in the area, dug the small shaft and mined a low grade of copper ore. In the end, the mine was dynamited shut, and scant evidence remains of the workings today.

R. DORE

Columbian ground squirrel

↓ 0.2 km (0.1 miles)

Access to the left for Canyon Church Camp.

↓ 3.7 km (2.3 miles)

Turnoff to the right for the Lost Horse picnic area.

↓ 2 km (1.2 miles)

Turnoff to the left for the Red Rock Canyon picnic area.

↓ 0.4 km (0.3 miles)

END. As one park interpreter has written, Red Rock Canyon is a "colourful reminder of the power of water." Over thousands of years, Red Rock Creek, a small mountain brook from the northeast, has carved a canyon from soft red argillite. The effect today is much admired and photographed by those who stop here. By following the self-guided trail along the edge, you can take a closer look at the canyon. Fine examples of ripple marks and mudcracks in the stone are pointed out along the way.

Columbian and golden-mantled ground squirrels scamper along the ground here, and are among the most visible animal residents. Small herds of mule deer and bighorn sheep can also be frequently observed in the area.

SIMON LUNN

Bear's Hump in winter

Akamina Parkway

Akamina comes from a Kootenay word meaning "valley or benchland," and it seems an apt name for this parkway. It follows the Cameron Creek Valley all the way to Cameron Lake.

START. The parkway begins just north of the town of Waterton Park, at the junction on the main park road.

↓ 0.6 km (0.4 miles)

Viewpoint overlooking the Waterton Valley. *Do not stop here,* but continue a short distance to the roadside pulloff and walk back. From this vantage point you have an excellent view of the entire townsite. A favourite campsite for turn-of-the-century holidayers, this area buzzed with activity in 1904. The Western Oil and Coal Company of Vancouver began drilling near Cameron Falls, and in 1905 the crew struck oil. The well itself produced little more than a trickle, but the excitement resulted in the construction of a number of buildings.

In 1910 town lots were offered for lease to the public, and construction began in earnest. Roads to the fledgling town were poor so most residents built their homes of local materials—logs and fieldstone. Some of these early homes still stand today.

Looking straight ahead from the viewpoint you will get a clear view of the Bear's Hump. At one time a high ridge of rock joined the Bear's Hump to Vimy Ridge, located across the lake. Thousands of years ago, however, a massive glacier flowed down the Waterton Valley, scouring

and grinding down the ridge to produce the landscape we see today.

↓ 1.5 km (0.9 miles)

Roadside pulloff on the left providing an excellent view of the gorge cut by Cameron Creek. Winter visitors are advised to drive carefully over the next 3 km (1.8 mi), as the sharp turns can be slippery.

↓ 1.3 km (0.8 miles)

Winter visitors will enjoy the view of the ice fall on the right. Ice climbers call it "Expert's Choice."

↓ 2.5 km (1.6 miles)

Turnoff to the left for McNealy's picnic area. In July, look for the showy white blossoms of bear grass in the shaded forest along the rest of the route.

↓ 0.5 km (0.3 miles)

From this point on you will see a change in the valley's character. When the last major glacier advanced down the valley, not all the ice could make the sharp turn here, so much of it flowed over the bench-like ridge to the north. As a result, the lower Cameron Valley is rather V-shaped, while the upper valley is U-shaped from heavy glacial gouging.

↓ 1.2 km (0.7 miles)

Original Oil Discovery Site No. 1. Native bands were the first to discover oil seepages in the area, and they passed this information on to European settlers. In 1901 the Rocky Mountain Development Company carted a drilling rig from Blakiston Valley via Crandell Lake and set up operations nearby. After ten months of drilling they struck oil, and Oil City was born just up the road. The main street of town was surveyed with great precision along the Fifth Meridian, and construction began on cabins, a dining hall and a small ten-room hotel.

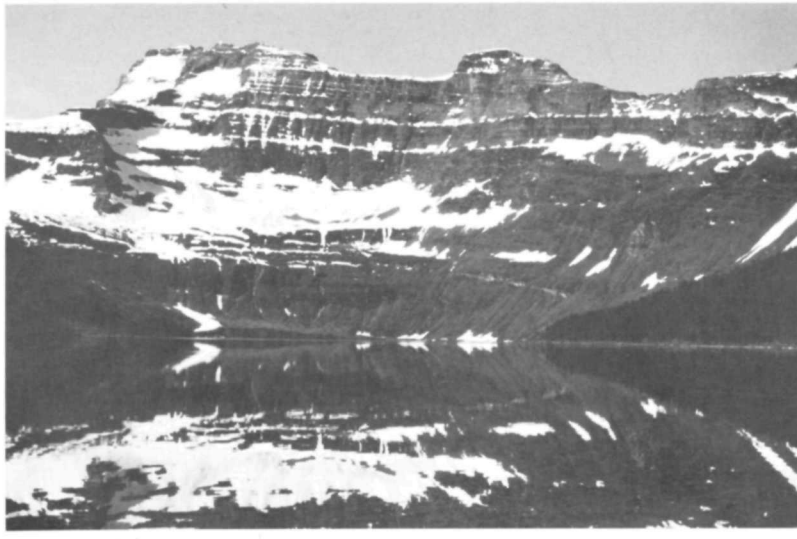
But the well's early promise failed to hold true, and a series of mishaps closed operations. In later years, other companies tried to reopen the well, but nothing ever came of their efforts.

↓ 1.3 km (0.8 miles)

Roadside sign outlining the history of Oil City. A short trail leads visitors around a corner foundation of the forgotten hotel.

↓ 2.4 km (1.5 miles)

A major avalanche slope. In the late winter of 1982 road crews discovered a wall of snow 4.5 m (15 feet) high on the road here. Evidence of



SIMON LUNN

Cameron Lake

avalanche activity may be seen even in summer in the bent shapes of the aspens and alders.

↓ 1.3 km (0.8 miles)

Turnoff to the left for the Little Prairie picnic area. In winter, road clearing crews do not generally proceed farther than this point. From here on you must use your cross-country skis.

↓ 0.6 km (0.4 miles)

A roadside pulloff to the left. Straight ahead from this point you can see a cutline marking the provincial boundary line between Alberta and British Columbia. On Mount Forum, the peak above the line, there is a small cairn which marks the spot where the forty-ninth parallel crosses the Continental Divide. At this cairn, the boundaries of Alberta, British Columbia and Montana all meet.

↓ 2 km (1.2 miles)

END. Cameron Lake lies in a magnificent, bowl-shaped cirque, carved from the mountainside by a powerful glacier. Mount Custer at the south end of the lake is just inside Montana, and its lush avalanche slopes are prime grizzly bear habitat. Snow lingers on this mountain well into summer and helps feed Cameron Lake, keeping it cold.

Small boats and canoes may be rented from a lakeside concessionaire. Anglers recommend Cameron Lake as a good fishing spot, so you may want to bring fishing tackle along.

EMERGENCY

In the event of an emergency in the park, call the park warden service at 859-2352 or 859-2477, or the RCMP at 859-2244 or Zenith 50000. In the case of fire, call 859-2222.

If emergency medical attention is required, call 859-2636. Most park vehicles carry first-aid kits, and both park warden and swimming pool staffs are trained in first-aid procedures.

OPENING AND CLOSING DATES

The following dates are approximate and will vary from year to year. There are usually some food, accommodation, gasoline and other services available in the off-season. For further information, please write or contact the Superintendent, Waterton Lakes National Park, Waterton Park, Alberta, T0K 2M0.

Service/Facility	**Opens**	**Closes**
Greyhound bus service to Waterton Park	end of June	Labour Day
Park Information Centre	middle of May	middle of September
Interpretive Programs	late June	Labour Day
Summer campground facilities	end of May	end of September
Most town businesses	middle of May	end of September
Most hotels, lodges & motels	middle of May	end of September
RCMP detachment in Waterton	May	end of September
Chief Mountain International Highway	middle of May	middle of September

The park administration office is open year-round on weekdays (859-2262); the warden-interpretive workshop is open year-round on weekdays and weekends (859-2477; 859-2275).

READING LIST

Many fine books have been written about the human and natural history of the area. Listed below are selected titles, which may be found in local libraries or bookstores.

Alt, David D. and Hyndman, Donald W. *Rocks, Ice and Water: The Geology of Waterton-Glacier Park*. Missoula, Montana: Mountain Press Publishing Company, 1973.

Beaty, Chester B. *The Landscapes of Southern Alberta: A Regional Geomorphology*. Lethbridge, Alberta: University of Lethbridge, 1975.

Brown, Annora. *Old Man's Garden*. Sidney, British Columbia: Gray's Publishing Ltd., 1970.

Butler, James R. and Maw, Rolland R. *Fishing Canada's Mountain Parks*. Edmonton, Alberta: Lone Pine Publishing, 1985.

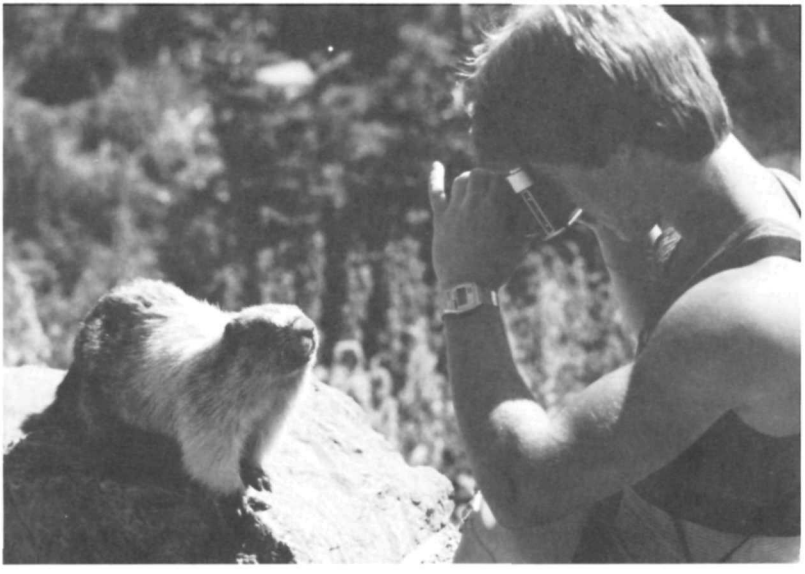
Ewes, John C. *The Blackfeet: Raiders on the Northwest Plains*. Norman, Oklahoma: University of Oklahoma Press, 1958.

Hardy, W. G., ed. *Alberta: A Natural History*. Edmonton, Alberta: Hurtig Publishers Ltd., 1967.

Kuijt, Job. *A Flora of Waterton Lakes National Park*. Edmonton, Alberta: The University of Alberta Press, 1982.

Lunn, S., ed. *Wildflowers of Waterton Lakes National Park*. Parks Canada, 1982.

Moore, T. A., ed. *Alberta Archaeology: Prospect and Retrospect*. Lethbridge, Alberta: University of Lethbridge, 1981.



SIMON LUNN

Nature photographer with co-operative marmot

Rodney, William. *Kootenai Brown: His Life and Times*. Sidney, British Columbia: Gray's Publishing Ltd., 1969.

Russell, Andy. *Alpine Canada*. Edmonton, Alberta: Hurtig Publishers, 1979.

———. *The Rockies*. Edmonton, Alberta: Hurtig Publishers, 1975.

Russell, Beth and Haig-Brown, Valerie. *Waterton and Northern Glacier Trails for Hikers and Riders*. Waterton, Alberta: Waterton Natural History Association, 1984.

Shaw, Richard J. and On, Danny. *Plants of Waterton–Glacier National Parks*. Missoula, Montana: Mountain Press Publishing Company, 1979.

Spry, Irene M. *The Palliser Expedition: An Account of John Palliser's British North American Exploring Expedition 1857–1860*. Toronto, Ontario: The Macmillan Company of Canada, 1963.

INDEX

To protect for all time those places which are significant examples of Canada's natural and cultural heritage and also to encourage public understanding, appreciation and enjoyment of this heritage in ways which leave it unimpaired for future generations.
Parks Canada mandate

Some of Canada's most beautiful landscapes are protected today in its system of national parks. The high alpine of the Continental Divide. The mist-shrouded beaches of the Atlantic. The rolling grasslands of the Great Plains and the icy expanse of the high Arctic. Each of these landscapes invites exploration, discovery and contemplation; each is represented today in the national park system, part of our collective Canadian heritage. To date, thirty-one national parks have been created by Canadian Parliament, at least one in every province and territory in the country.

The struggles and achievements of those who settled this land are remembered in Canada's system of national historic parks and sites. More than 1000 years of Canadian history are commemorated in seventy-one parks across the country, from the ancient remains of a Viking settlement in L'Anse aux Meadows, Newfoundland, to the reconstruction of a Klondike gold rush town in Dawson City, Yukon, and from the French fortress of Louisbourg in Nova Scotia to the Hudson's Bay Company fort in Fort Langley, British Columbia. In addition, more than 700 national historic plaques across Canada recall the people, places and events that formed this country.

A century has now passed since legislators first set aside 16 km^2 (6 square miles) of land near Banff Siding for a small public park. The Canadian park system has grown by leaps and bounds since then, a national legacy and a point of pride for all Canadians. Today, Parks Canada is charged with the responsibility of protecting these special places and ensuring that they will be enjoyed by generations of Canadians to come.

Canada

Lively, entertaining and information-packed, this comprehensive guide to one of Canada's least known and most spectacular national parks will soon have you pulling out your road maps and dusting off your hiking boots. Nestled against the Continental Divide in southwestern Alberta, Waterton Lakes National Park is a naturalist's paradise, blending rolling, golden prairie, where balsamroot and prairie crocus blossom, and lofty, pine-clad mountains, where bear grass and mountain gentian bloom—and grizzlies and mountain goats roam. Author Heather Pringle introduces armchair adventurers and serious wilderness buffs alike to its many outstanding attractions in this valued reference brimming with photographs, illustrations, maps, road logs and a trail guide.

A former information officer with Parks Canada and historical researcher for the Provincial Museum of Alberta, Pringle brings a wide-ranging knowledge of Alberta's human and natural history to this long-awaited book.

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