

IV

NATIONAL PARKS OF CANADA

REPORT OF THE COMMISSIONER, J. B. HARKIN

National Parks

GENERAL

The past year was one of continued progress in the National Parks of Canada. Each year it becomes increasingly evident that a new pride and interest is awakening in these great national possessions on the part of the Canadian people. The travel drawn from Canadian sources in the case of every one of the parks was heavier than ever before and registrations showed that it represented every province of the Dominion. Foreign travel was also greater and included representatives from over twenty countries. In spite of the fact that the early part of the season was unfavourable for motoring on account of continuous rain, motor travel surpassed that of the previous season which had been regarded as exceptionally large.

The total number of visitors to all parks was 488,600. The heaviest traffic was naturally recorded in the three-park unit formed by the Banff, Kootenay and Yoho national parks. The two first of these parks are traversed by both railway and motor highway. Although Kootenay park can be reached from Firlands on the Golden-Cranbrook branch of the Canadian Pacific railway ninety per cent of the travel is by motor. The total motor traffic through these three gateways was as follows:—

<i>Kananaskis Gateway,</i>			
<i>Banff National Park—</i>			
Canadian cars entering.....	32,982	Passengers.....	115,154
United States cars entering.....	2,015	Passengers.....	5,724
	34,997		120,878
<i>Radium-Hot Springs Gateway,</i>			
<i>Kootenay National Park—</i>			
Canadian cars entering.....	7,853	Passengers.....	25,864
United States cars entering.....	2,719	Passengers.....	7,414
	10,572		33,278
<i>Leancoil Gateway,</i>			
<i>Yoho National Park—</i>			
Canadian cars entering.....	2,029	Passengers.....	7,290
United States cars entering.....	351	Passengers.....	1,032
	2,380		8,322
Total Canadian cars.....	42,864	Passengers.....	148,308
Total United States cars.....	5,085	Passengers.....	14,170
Total cars entering.....	47,949	Total passengers.....	162,478

In addition to the above many thousands of tourists arrived by rail. There is, however, as yet no way of recording this travel accurately as hotel registrations undoubtedly include a considerable proportion of motor visitors.

The motor campsites in these parks were crowded throughout the season. The road to the Tunnel Mountain campsite, Banff, was reconstructed so as to afford easier grades and this camp, which is one of the best equipped in Western Canada, proved very popular.

The Banff-Windermere highway was opened for the season on May 17. Usually this road is closed early in November by winter snows. Last year, however, there was little snow during the autumn months and by ploughing small sections through the two passes the road was kept open until December 27, establishing a record season so far as length is concerned. In Yoho park travel was so heavy that it was found necessary to establish an additional equipped motor campsite about one mile west of Field near the Kicking Horse river, making three equipped camps now established in this park. Cars totalling 2,460 and carrying 8,861 persons registered at the three camps. A large percentage of travel to this park was drawn from the east, probably due to the fact that on the west no continuous motor highway yet connects the park with the coast. With the building of the proposed Big Bend road through connections will be established between Golden and Vancouver and heavy travel may then be expected from British Columbia and the Pacific Coast states.

Jasper park, as yet inaccessible by motor highway, had an exceptionally good season with 12,000 visitors. The Canadian National Railways again found it necessary to enlarge Jasper Park Lodge by the addition of a number of new bungalows and service buildings, at a total cost of \$111,000.

Visitors to Waterton Lakes park numbered 26,002, nearly 12,000 more than during the previous year. These figures are particularly gratifying in view of the bad condition of connecting roads during the early part of the season and indicate the increasing popularity of this reservation. The Prince of Wales hotel, operated by the Great Northern Railway Company at Waterton lake, was open for the first time throughout the entire season and accommodated 5,784 visitors. Through bus service between Many Glaciers in Glacier national park, Montana, and Waterton as well as a regular boat daily between the two parks enabled an interchange of travel that was mutually beneficial. The recent improvements to the park roads and the townsite have added greatly to the appearance of this park.

Buffalo and Elk Island parks each showed a large increase in travel with 18,454 visitors to the first and 18,968 to the second. Both of these animal parks have attractive lakes with good bathing beaches which make them interesting objectives for parties motoring from the Prairies, and the number of people who make use of them in this way is increasing each year.

Point Pelee park in southern Ontario also had an unusually successful year, 12,525 cars carrying 50,100 persons entered the park. A large percentage of these were from United States points, indicating that this park is proving increasingly attractive to the people of the large cities, Detroit and Cleveland, and other places bordering the Great Lakes.

Sixteen thousand persons visited the Fort Anne park at Annapolis Royal; 15,050 went to Vidals Point recreational area in Saskatchewan, and 8,850 to Mount Revelstoke park in British Columbia.

One of the important events of the year was the opening of the new Prince Albert park north of Prince Albert, Saskatchewan. During the previous fall and early summer construction had been carried on at top speed on the road from the park gate to Waskesiu lake, the site of the park headquarters and its most popular resort. By August 1 this road was in fairly good condition and the province had also brought up to motoring requirements the old provincial road from Prince Albert north to the boundary. It was, therefore, decided to throw open the park to the public on the 10th of August. An interesting program of addresses and sports was arranged in connection with the event. The Right Honourable W. L. Mackenzie King, Premier of Canada, came from Ottawa to perform the opening ceremony and publicly dedicated the new park to the use and enjoyment of the people of Canada. The Prime Minister's fine address concluded with the following significant words:—

"In the building of Canadian national life and the moulding of our national character it is of utmost importance that we should cultivate an appreciation of all that is beautiful in our physical environment. In a young country so amply endowed with natural resources there is always a danger that we may turn to the gods of the market-place and sacrifice the beautiful on the altar of utility. In opening the Prince Albert national park we dedicate it to the glory of the Creator whose bounty it mirrors in forest, lake and stream, and to the highest good of the Canadian people for all time to come."

The Prime Minister's time was limited as he was leaving almost immediately for England, but he remained over night in the park and made use of the attractive bungalow presented to him by the citizens of Prince Albert district. Between the date of the opening and the close of the season over 5,000 visitors entered the park—a large number, considering the fact that its reputation was as yet largely local and that parties travelling had to bring with them tents and camping equipment.

ENGINEERING WORK

No new construction work of importance was undertaken in the parks, appropriations being expended with a view to bringing existing highways and other services up to first-class condition. Now that motor travel to the parks has reached such large proportions the cost of maintenance grows heavier each year. Practically all roads within the parks are now of standard width and grade and well surfaced with gravel but each year general improvements such as widening curves, providing guard rails at dangerous points and strengthening of bridges where necessary are being carried out.

Access to Buffalo park at Wainwright has always been difficult during bad weather owing to the nature of the road. Last year, through the co-operation of civic officials of the municipality of Gilt Edge and the National Parks Branch, a good gravel road was built connecting the park with the townsite. A noticeable increase in travel immediately followed its construction.

In Jasper park the section of the Edmonton-Jasper highway from Jasper to the east boundary was completed, and as soon as the provincial road reaches the park this reservation will be accessible by motor travel. The journey along the Athabaska valley by this highway now makes one of the most popular excursions from Jasper town and nearly all visitors who remain any length of time in the park avail themselves of the opportunity of visiting Pocahontas and the eastern ranges, which are geologically among the most interesting in the park.

The three-mile section of road between Jasper and Jasper Park lodge, which had been experimentally treated with tar sand from McMurray during the previous two years, stood up well under exceptionally heavy traffic conditions. It seems apparent that this material will provide an excellent road surface, as durable as imported asphalt, and at less cost.

Work was continued on the new tote road to Athabaska falls and the most difficult section—from the Edith Cavell highway to the Athabaska flats—was completed. There is a drop in elevation of about four hundred feet from the highway to the river benches, but it was found possible to secure good grades. This road will not only be a great advantage in case of fire in the southern part of the park but it will also make it possible for a much larger number of visitors to see the beautiful Athabaska falls. It will further be of great assistance to parties going into the more remote regions, such as the Whirlpool sector, the Columbia Ice-field region, or up the Brazeau river. The tote road to Medicine lake was improved, widened in places, and fills strengthened.

The roads in Yoho park connecting with the main highway, particularly the road up Yoho valley, were improved and modernized so as to meet motor

requirements. Practically the whole of the Yoho road, with the exception of a short distance through the Yoho canyon, has now been brought up to standard. Similar construction has been undertaken on the Emerald Lake road.

Among other items of work, carried out under the direction of the Engineering Division of Head Office, were the following:—

In Prince Albert park, three contracts were let covering the construction of thirty-four miles of standard motor road from the south boundary to Waskesiu lake. The work included the erection of two truss bridges, one trestle bridge and several smaller bridges. Contour surveys were carried out of areas in the vicinity of the Narrows of Waskesiu lake, Prince Albert park, for subdivision purposes. An important reconnaissance survey of a proposed road on the south side of Waskesiu lake from headquarters at Primeau Landing to the Narrows, a distance of some eight miles, was made.

In Elk Island park a road from the Lamont entrance gate to Sandy beach on Astotin lake, four miles in length, was constructed. A survey for the location of the extension of this road around the south end of the lake to park headquarters was carried out.

The road up mount Revelstoke was extended one mile, the total length completed now being approximately nineteen miles. This carries the road past Balsam lake to the vicinity of Lookout point, its final objective.

Work was continued on the extension of the Jasper water distributing system, a total of 3,500 feet of six-inch main being laid, together with necessary house connections. Construction work on the new Jasper sewerage system was commenced late in the season, and 1,475 feet of fifteen-inch outfall main laid. This involved the driving of 450 feet of tunnel under the main line and yard tracks of the Canadian National Railways, and the installation of cast-iron pipe on this section. In addition 2,240 feet of street mains with necessary house connections were laid in the townsite. The topography of Jasper townsite necessitated laying the main sewer to a depth of from sixteen to twenty feet in difficult material.

In Kootenay park the bathing-house at Sinclair radium hot springs, commenced in 1927, was completed. The concrete bathing pool, supplied from the hot springs was enlarged to a standard section with maximum depth of eight feet. Surveys were made in regard to the generation of electricity for the townsite near Sinclair radium hot springs. A truss bridge was constructed over the Ottertail river on the Field-Golden highway, replacing a timber bridge.

In Waterton Lakes park construction work was carried out on the Akamina road, which is now passable for motor traffic to Cameron lake, and provides a new route to the passes of the southern Rockies.

An inspection was made for the Forestry Branch of the road situation in the Riding Mountain national forest, and recommendations made for its development.

Two wharves to accommodate large boats were constructed in the St. Lawrence Islands park, one at Cedar island near Kingston, and one at Broder island near Morrisburg.

In addition to the above construction work, maintenance work was carried out on all trunk roads in Kootenay, Yoho, Waterton, and Jasper parks, a total of 145 miles of motor highways. This work included painting, repairing and redecking bridges; construction and repair of culverts; repair work, regrading, gravel surfacing and widening where necessary.

Preliminary surveys were made looking towards a re-location of part of the park section of the Banff-Calgary road, with a view to securing a more scenic route and better grades on the last six miles approaching Banff.

Highway Construction.—The present mileage of roads, trails and telephone lines in the different parks is as follows:—

Park	Number of miles		
	Roads	Trails	Telephones
Kootenay.....	63.0	102.0	64.0
Revelstoke.....	19.0	32.25	17.25
Banff.....	127.0	766.0	197.25
Jasper.....	62.0	637.50	343.0
Yoho.....	50.0	159.0	44.5
Glacier.....	9.0	121.0	7.0
Buffalo.....	1.0	.....	34.5
Elk Island.....	11.2	.....	.....
Waterton Lakes.....	20.0	176.0	56.5
Prince Albert.....	34.0	7.0	81.0
Totals.....	396.2	2,000.75	845.00

RECREATION

Each year sees a wider interest in trail riding and alpine climbing and larger numbers are penetrating to the more remote regions away from the beaten tourist trails. These mountain pathfinders are not only enjoying the thrill of the explorer but they are adding each year to the store of knowledge concerning the mountains and helping to open up new fields of enjoyment for the general public. The two organizations which have contributed largely to this end are the Trail Riders' Club of the Canadian Rockies and the Alpine Club of Canada. The former, which has a membership of over one thousand is doing much to develop trail riding as a sport and to encourage the spirit of adventure among lovers of the Canadian mountains.

The objective chosen for the annual ride last year was the Lake of the Hanging Glaciers, a beautiful body of water lying in an Alpine cirque about 6,000 feet above sea level. This lake has at its head magnificent glaciers which project into the lake itself. Great pieces of ice break away continually from the tongues of the glaciers to form small icebergs which float about on its clear blue waters. About ninety riders, fifteen guides and a string of fifty pack horses made the journey to the lake from the end of the Banff-Windermere highway, Kootenay national park. The expedition was in charge of Lieutenant-Colonel Philip Moore of Banff and Mr. J. M. Wardle, President of the Trail Riders' Club. The wide-spread enthusiasm aroused by the club was shown by the fact that two riders came expressly from England for the meet, two from Bermuda, one from the Bahamas and about thirty from the United States, including several well-known artists and writers.

After visiting the lake the members of the club explored the Starbird and Tiger Claw glaciers with their remarkable ice caves, before returning to Banff and Lake Louise.

The Alpine Club of Canada also choose the Lake of the Hanging Glaciers as a site for their camp at the end of July, and by arrangements with the Trail Riders left their tents behind for the accommodation of the latter in the following week. This club, which has now been twenty-two years in existence, has contributed probably more than any other agency towards the exploration of remote and interesting parts of the Canadian Rockies and has developed and encouraged among young Canadians a love for the noble sport of mountaineering. There was an exceptionally large attendance at this season's camp and over ninety new names were added to the membership list. Mr. T. B. Moffatt of Calgary was elected president of the club. The graduation climb took place on The Dome, an interesting peak in the neighbourhood of the camp.

Winter Sports and Banff Carnival.—The attractions of Banff as a winter sports resort are also being more widely recognized and many visitors now spend a winter holiday in the park enjoying the clear mountain air and the exceptional opportunities for sport. The winter carnival was held as usual from February 2 to February 9. Owing to transportation difficulties the number of entries as well as the attendance lowered. The usual enthusiasm, however, was manifest; a fine program of sports was drawn up and the competitions were keenly contested.

The climatic conditions at Banff combined with the presence of hot springs are such as to make it one of the finest natural winter resorts on this continent and with time it must become as outstanding for its winter attractions as for those of summer.

Indian Days.—The annual summer fête of the Indian tribes in the neighbourhood of Banff known as "Indian Days" was held on July 25, 26, and 27. This annual festival dates back for many years and is eagerly looked forward to—particularly by the Stony Indians who have their reserve at Morley just east of the park boundaries. It offers visitors one of the most interesting events of the season at Banff. The Indians appear in all the glory of their ancestral finery of beads, buckskin, porcupine quills, ermine and eagle feathers. The parade in full dress costume is usually over a mile long with horses two or three abreast. Last year a very interesting program of horse races and trials of skill in archery, lassoing, and roping was carried out, and the entertainment also included a thrilling dramatization of an Indian story connected with the Indian war pony dance. Over 2,200 visitors were in attendance.

Scottish Festival.—The Scottish festival and Highland gathering, inaugurated under the patronage of His Royal Highness the Prince of Wales in 1927, was again held at the Banff Springs hotel in September, 1928. Several hundred Scottish-born Canadians and many others were in attendance and keen interest was manifested in the programs of Scottish music and ballad singing. Competitions in folksong music, pipers' bands, and Scotch dancing as well as the national games of putting the shot, tossing the caber, throwing the javelin, and the tug-of-war were keenly contested. Some of the best dancers in Canada also gave exhibitions of such national dances as the Highland fling, sailors' hornpipe, sword dance, Scottish reel, and the graceful Sean Truibhas.

This holiday festival of the arts which drew lovers of Scottish music and dancing from all over the country to spend a few days' holiday in one of the loveliest places in Canada is a significant event in the national parks. Visitors to the Canadian Rockies have sometimes compared the Canadian mountains unfavourably with the Swiss and Italian alps because they lack human background. A visit to the parks has hitherto been chiefly a feast for the eye. The beauty of nature and the additional charm which in some cases man has been able to add through architecture were the chief appeals. It is good to note that the parks are now becoming a centre of artistic interest through Indian folk music, ceremonies and handicraft, and also through Scottish folk art and games. There is, perhaps, no place in the Dominion so suited to become a background for artistic performances, and it is hoped that as time goes on the parks may become more and more the scene of other art festivals, which will help to enrich not only the interest of the parks themselves but the general cultural life of Canada.

Regatta on Lake Minnewanka.—The annual regatta on lake Minnewanka was held in the middle of August. An interesting program of boat races and surf riding was carried out before a large attendance of visitors. The lake is specially adapted to sport of this nature and it is expected that the regatta will become one of the permanent features of the summer season.

Golf Links.—During the entire summer season work was carried out by the Canadian Pacific Railway Company on the remodelling of the golf course at Banff, formerly operated by the Government. When completed, this course will rank with any on the North American continent, both as to scenic setting and sportiness. It occupies practically the same ground as the old course, but marked improvements have been made in laying out new fairways, and in bringing the old terrain up to present-day standards. Such good progress was made that the use of the temporary nine holes was abandoned and play commenced over the new eighteen-hole course in August.

The first tee of the new course is situated a few yards from the Banff Springs hotel. The professional's quarters and the first tee are on a shelf cut into the bank of the Spray river and the first drive carries across the Spray river to the fairway on the opposite side. There are two other water hazards on the course. The eighth hole is played across Devil's Cauldron, a shallow lake set in a cup-like depression, while one of the home-coming holes is played across an elbow of the Bow river.

No effort has been spared to make the course one of the very finest, and while it is sporty enough for championship play, there is no part of it too difficult for the beginner.

MARKING OF HISTORIC SITES IN THE PARKS

On July 14 a cairn and bronze tablet were erected in Jasper national park to commemorate the site of the famous Jasper House founded in 1813 and which for so long was the centre of life in the Athabaska valley. Jasper House was established by the Northwest Company at the north end of Brûlé lake during the eventful years when the struggle between that company and its famous rival, the Hudson's Bay Company, was at its height. Jasper Hawes, from whom the park derives its name, was the first clerk in charge of the post, which came to be known as Jasper's House, later Jasper House. Between 1827 and 1829, following the amalgamation of the two great companies, it was removed to the west bank of the Athabaska, opposite the mouth of the Rocky river, where for many years it was a centre of activity. Practically all early travellers called at this post and many famous names are associated with it.

The unveiling ceremonies were performed by Mrs. Knight, wife of the Acting Superintendent of the park, and addresses were delivered by Mr. J. A. Jaffray, Archivist to the Alberta Government; His Honour Judge F. W. Howay, of New Westminster, representing the Historic Sites and Monuments Board of Canada; and Mr. W. Thompson, head of the Publicity Department of the Canadian National Railways. The bronze tablet bears the following inscription:—

"Jasper House. Built by the Northwest Company about 1813, at the northern end of Brûlé lake. Some time between 1827 and 1829 it was rebuilt near this site. For half a century it was a main support of the trade route across the mountains and an important point for all persons journeying through the Yellowhead and Athabaska passes."

Simpson Memorial.—A boulder monument in memory of Sir George Simpson, Governor of the Hudson's Bay Company from 1821 to 1860, was unveiled in Kootenay park on September 17. In the course of his famous journey around the world, 1841 and 1842, Simpson travelled through the Banff park by way of Pechee gap, lake Minnewanka and Banff, crossing the mountains by the pass which now bears his name. At Simpson summit he made camp and cut his initials on a neighbouring tree, recording in his diary his sense of awe amid the magnificence of his surroundings. Previous to Simpson practically all early travellers had used the northern route, but his expedition called attention to the possibility of utilizing the southern passes. The Historic Sites and Monuments Board considered that a tablet should be erected memorializing

this crossing of the mountains and it was first proposed that a monument should be placed at the summit of the pass itself. The comparative inaccessibility of this spot, however, made it appear likely that the memorial would be seen by a very small number and it was, accordingly, decided to erect it at the junction of Simpson creek and Vermilion river, the end of Simpson's descent of the western slope. As it happens, this junction lies in Kootenay park immediately adjoining the well-known Banff-Windermere highway, a spot in full view of hundreds of passing cars each day. The unveiling ceremony was performed by the Governor of the Hudson's Bay Company, Charles V. Sale, of London, England. His Honour Judge F. W. Howay, of New Westminster, British Columbia, representing the Historic Sites and Monuments Board of Canada, delivered an address, while Mr. T. C. Elliott, of Walla Walla, State of Washington, one of the outstanding historians of that State, represented the Washington Historical Society. The memorial consists of a cairn of rough boulders and a bronze tablet bearing the following inscription:—

"In recognition of the public services of Sir George Simpson, Governor of the Hudson's Bay Company Territories (1821-1860), under whose guidance the 'Far West', the 'Far North' and Arctic coast were explored, peace with the natives was maintained, trade developed and British rule strengthened.

"In August, 1841, he was the first white man to cross the Rocky Mountains by Simpson Pass."

SURVEYS IN THE PARKS

The topographical survey of Banff and Jasper parks which was resumed in 1927 with two parties of surveyors of the Topographical Surveys Branch, Department of the Interior, was carried on through the season of 1928. The whole of Banff park has now been surveyed and good progress was made with the survey of Jasper park. It is estimated that two more field seasons of both parties will be required in order to complete the survey of Jasper park. An examination was made of the north boundary of Jasper park for the purpose of completing the report on the general readjustment of the boundaries of Banff and Jasper parks along the lines proposed by the Minister of the Interior in 1927. Another investigation was carried out of the two alternative areas suggested for a national park in the province of Manitoba. The reports concerning these matters are now receiving the consideration of the department.

PRESERVATION OF WILD LIFE

The success of the sanctuary conditions existing in the national parks has long since been established by their results. Wild life in general appears to be almost everywhere on the increase, both within the parks and in the areas immediately adjacent thereto. Sheep are now found in all parts of the parks on the eastern slope of the Rockies, and up to the present they appear to be free from disease of any kind. Bear are becoming exceedingly numerous and are so tame that they are seen by practically every visitor who leaves the main roads and goes out along the trails. While they are almost never dangerous unless molested, their depredations about camps sometimes render them a nuisance and in several cases, for the protection of property, they have had to be destroyed. Beaver are undoubtedly on the increase, particularly in Jasper park, which appears to be a natural home for them. The elk imported from the Yellowstone national park continue to do well and are spreading out into new areas in both Banff and Jasper parks. Fur-bearers are also reported to be on the increase, though undoubtedly the larger predatory animals such as lynx, wolverine, and coyote keep down their numbers.

Buffalo.—The government buffalo herds are now in a very satisfactory and thriving condition. The extension of the boundaries of Elk Island park provided much-needed pasturage for the increasing numbers of this herd. The continued thinning of the herd at Wainwright park has also had most satisfactory results and the pasturage in those sections of the park which had been denuded of grass through over-grazing is now coming back. The buffalo show the results of these improved conditions and last winter the whole herd came through in splendid shape. Following the policy adopted in the past few years, shipments totalling 1,088 animals were made throughout the summer to the Wood Buffalo park near Fort Smith, Northwest Territories. Reports show that the buffalo transported in former years to this region are doing well and have successfully adapted themselves to the new environment and conditions. The strength of the herd at Wainwright at the close of the fiscal year was approximately 4,300 animals. During the year an addition of one square mile was made to Buffalo park at Wainwright. The extension brings the boundaries of the park down to the main line of the Canadian National Railways, and makes it possible for transcontinental travellers to see the buffalo from passing trains.

The Government was able to meet requests from several outside sources for wild animals for exhibition or breeding purposes. A pair of young buffalo were presented to the city of Johannesburg, South Africa, for the Zoological Gardens there, and arrived in good condition. Three buffalo were also forwarded to the Italian Government. These also bore the journey well and arrived in good condition. Six buffalo, three elk, and three mule deer from Wainwright park were presented to the Wild Life Animal park, Moose Jaw, Saskatchewan. A number of donations were also made from Banff park: these included one pair of Rocky Mountain sheep and one pair of beaver to New Zealand; two pairs of Rocky Mountain sheep to Melbourne, Australia; one Rocky Mountain ram to the Zoo, Edmonton, Alberta; five Rocky Mountain ewes and two rams to Medicine Bow national forest reserve, Wyoming, U.S.A.; five Rocky Mountain ewes and two rams to the Wichita national forest, Oklahoma, U.S.A.; one pair of Rocky Mountain sheep to the Moose Jaw Wild Life Animal park; one brown bear to Calgary, Alberta; one pair of beaver to the Zoological Society of Scotland, Edinburgh.

Antelope.—The antelope herd in the Nemiskam park, Alberta, suffered a severe setback in December, 1927, when during a heavy snow-storm part of the fence was broken down and more than half of the herd wandered out beyond park boundaries. During the past summer every effort was made to recover as many of the animals as possible, but unfortunately over 200 remained uncaptured. At the end of the year there were 247 antelope in the park. The increase this year was not so large as usual due to unusually severe weather in November and December which affected both the wild and enclosed herds.

Fish.—The restocking of lakes and streams in the parks was again carried on through the valuable assistance and co-operation of the Department of Marine and Fisheries, which now maintains hatcheries in Banff, Waterton Lakes, and Jasper national parks. Over 1,110,000 cut-throat trout fry were distributed from the Banff hatchery; 4,577,000 Lock Leven trout fry; 5,550,000 rainbow trout fry; and 319,670 brown trout fry. Practically all the streams in the Banff park suited to fish life were stocked and shipments of fry were also placed in the main waters of Yoho and Waterton Lakes national parks. In June under the direction of the Biological Board of Canada, and following out recommendations submitted after two years' investigation of the waters of Jasper park, 250,000 trout fry, which had been hatched in the temporary hatchery at Jasper, were transported by pack-horse to Maligne lake. Although the weather was extremely cold at the time the transplanting was successfully carried out and at the end of the season the fish were found to be over three

inches in length. A further shipment of speckled trout eggs was forwarded to Jasper in January, 1929, where the eggs were hatched in a similar way. These will be transported to Maligne lake and deposited there this spring when the ice goes out. In Waterton Lakes park the usual shipments of fry were received through the kindness of officials in Glacier national park, Montana, and these were liberated in the Waterton lakes and tributary streams. The small hatchery erected in this park last year proved its usefulness and was able to supply several thousand trout fry for the waters of the park. It is expected that the fish from the hatchery which will be spared the shock of the long journey from Banff will thrive better than those introduced in former years from that park.

FIRE PROTECTION

The season was an exceptionally favourable one for forest protection. Owing to the heavy rains during the spring months practically no fires occurred of any importance. In the autumn conditions became less favourable and there were a few outbreaks, but these were not serious with the exception of one in Banff national park and one in Prince Albert park. The latter threatened to assume alarming proportions but due to the prompt action on the part of the wardens was extinguished without serious loss.

The fire equipment in all the parks is each year being added to and is now reasonably adequate for any demands likely to be made. It includes: 76 portable pumps, 35 light twin pumps, 9 heavy pumps, as well as boats, railway speeders, velocipedes, out-board motors, etc.

The numbers of fires, the areas burned over, and the cost of extinguishing is shown by the following tables:—

RAILWAY FIRES DURING 1928-29

Park	Number of fires	Area burned acres	Cost of extinguishing \$ cts.
Jasper.....	7	36½	17 00
Banff.....	3	½	3 10
Yoho.....	1	.....	5 50
Totals.....	11	36½	25 60

GENERAL FIRES DURING 1928-29

Jasper.....	1	.....	2 35
Banff.....	21	2,881½	6,481 76
Yoho.....	4	.....	179 38
Buffalo.....	1	½	1 50
Kootenay.....	12	.....	.....
Point Pelee.....	2	505	.....
Prince Albert.....	8	25,369	977 99
Totals.....	49	28,755½	7,642 98
Grand totals all fires.....	60	28,792½	7,668 58

The mileage patrolled by the wardens totalled 291,382.

Five new warden's cabins were built during the year bringing the total number now in the parks to 119.

New telephone mileage totalled 18.5.

New trails were constructed as follows:—

Park	Trail	Miles
Glacier.....	Mountain creek.....	5
Jasper.....	Jasper lodge.....	3
".....	Maligne river.....	2½
".....	Jacques lake.....	18½
Banff.....	High water.....	1
".....	Spray river, East side.....	4
".....	Taylor lake.....	4½
".....	Sundance.....	3½
".....	Mistaya.....	6
Mount Revelstoke.....	Clach-Na-Cuddin.....	2½
Waterton Lakes.....	Carthew.....	3½
Yoho.....	Emerald lake.....	4

The total mileage of trails now in the parks is:—

Park	Miles
Glacier.....	121
Jasper.....	637½
Kootenay.....	102
Mount Revelstoke.....	32½
Prince Albert.....	7
Banff.....	766
Waterton Lakes.....	176
Yoho.....	159
Total.....	2,000½

LANDSCAPE AND ARCHITECTURAL WORK

A very large number of plans of buildings proposed to be erected within the various national parks by private owners were examined, and in the majority of cases drawings showing suggested revisions of elevations were prepared with a view to improving the external appearance without adding to the cost of the building. In a considerable number of instances, entirely new designs for various types of buildings were prepared at the request of the intending builder. Such buildings comprised, principally, residences and stores, but included also hotels, theatres, banks, churches, lodgerooms, tearooms, service stations, and public garages.

Working drawings, details, and specifications were prepared for the following:—

- Addition to R.C.M.P. Barracks building, Banff.
- New detachment buildings for R.C.M.P., Canmore.
- Buildings for camp grounds, Banff.
- Addition to officers' residence, R.C.M.P. Barracks, Jasper.
- Residence for Superintendent, Kootenay park.
- Garage, Kootenay park, for Superintendent.
- Residence for Superintendent, Prince Albert park.
- Garage for Superintendent, Prince Albert park.
- Warehouse building and boat-house, Prince Albert park.
- Addition to Administration building, Waterton Lakes park.
- Addition to Community building, Waterton Lakes park.
- New tourist bureau, Waterton Lakes park.
- Slaughtering plant, Elk Island park.
- Pavilion, Broder park.
- Shelters at Vidals Point recreational area, and St. Lawrence Islands park.

A number of plans for new subdivisions were prepared, notably those at Prince Albert park. Plans for the proposed layout of grounds at the Great Divide, for a proposed memorial park at St. Albert, and a zoning plan for Banff were made.

PUBLICITY

Active work was carried on by the Publicity Division during the year. It consisted of public lectures in Canada and the United States, the issue of attractive publications, the loan of prepared lectures, preparation and distribution of

moving pictures, and the furnishing of articles and memoranda to writers, magazines and the daily Press. The number of lectures delivered during the year was 148. Moving pictures shown outside the office 646, within the office 1,299, loaned 212. The Photographic Library was increased by several hundred negatives and 18,544 new prints were added to the collection. Prints distributed totalled 18,830, enlargements 1,812, transparencies 73; 2,263 coloured slides were also added to the collection, 68 prepared lectures with slides were loaned, and 382 articles distributed. To meet the increasing demands for publications several editions of the existing pamphlets were ordered. These included *The Kicking Horse Trail* 24,700, *Information for Tourists* 51,500, and *Kootenay National Park and the Banff-Windermere Highway* 20,150.

A pamphlet concerning the new Prince Albert national park was prepared and printed; 50,000 copies of a small *Guide to Rocky Mountains Circle Tour* were issued, and a new edition was also printed of the *Guide to Fort Anne*.

REVENUE

Revenue collected by the National Parks of Canada during the fiscal year ended March 31, 1929, amounted to \$237,470.35. The following statement shows the various sources from which the revenue was obtained and the individual amounts:—

Source	\$	cts.
Banff park.....	150,963	10
Jasper park.....	29,994	39
Waterton Lakes park.....	5,622	08
Yoho park.....	3,223	17
Glacier park.....	166	14
Elk Island park.....	5,993	15
Buffalo park.....	23,561	61
Kootenay park.....	13,729	64
Prince Albert park.....	379	77
Fort Anne park.....	6	00
Point Pelee park.....	607	37
Historic sites.....	32	00
Fines and forfeitures.....	2,590	93
Migratory birds.....	74	00
Brereton Lakes park.....	10	00
Vidals Point recreational area.....	72	00
Lake Florence.....	60	00
Antelope reserve.....	384	00
Miscellaneous.....	1	00
Total.....	\$ 237,470	35

WORLD WIDE MOVEMENT FOR LANDSCAPE PRESERVATION

The awakening interest in the national parks, and the growing demand for the creation of new ones, from practically every part of the Dominion, indicate a new interest in landscape preservation which is clearly awakening in almost every part of the world to-day. No doubt, largely as a result of the immense growth of motor travel and the increased use of highways, there is growing up a new interest in natural beauty and a desire for the preservation of the countryside. A great deal is being done in this direction in England and in such countries as France, Switzerland, and Italy. The National Trust in England, incorporated in 1907, is empowered by an Act of Parliament to hold for the public good buildings of historic or architectural interest and places of striking natural beauty. While England has practically no wilderness areas left to conserve, the spirit behind this movement is closely allied with the policy of the national parks movement in Canada. In the United States the national parks are coming more and more to be recognized as parts of a larger scheme of landscape and scenic conservation and development, which cannot stop until it is nation-wide.

VALUE AND PURPOSE OF PARKS

While it is possible in an annual report to give some account of the visible work performed by the various staffs in charge of administration, it is very difficult to set forth the important work that is being accomplished in the parks in so far as the health and happiness of the people is concerned and in the betterment of national life. The economic values of the parks as a means of attracting tourist travel have been pointed out many times before. So long as the national parks movement was in its infancy it was perhaps necessary to emphasize this aspect of their value. To-day, when this is so widely recognized, it is perhaps permissible to point out that there are other values, equally if not more important, in the long run. Already the national parks are arousing a new love and pride of country. They are stimulating a love of natural beauty and enjoyment of the wild places of this continent. Like great works of art, they are enriching the emotions and stimulating the imaginations of many and so helping to build up that finer cultural background which is necessary if Canada is to be a great nation among the nations of the world.

SCENIC PARKS.

BANFF NATIONAL PARK

Banff national park formerly known as Rocky Mountains park had again a most successful year. Tourist travel was the heaviest yet recorded both by rail and motor. The total number of cars, east bound and west bound, passing through the Kananaskis gateway was 67,836 an increase of 14,473 cars over the previous year. The heaviest registrations were as usual from the four western provinces, showing that the park is fulfilling a democratic use and serving to meet the recreational needs of the western half of the Dominion. A new daily record for the number of cars passing through the Kananaskis gateway was established on July 2 when 2,088 cars registered travelling in both directions as compared with the previous record of 1,533 cars on July 3, 1927. A new week-end record was also established from June 30 to July 2 when 4,184 cars passed through this gateway as compared with the previous week-end record of 3,731 in both directions established July 1-3, in 1927.

Coincident with the large increase in motor travel has been the number of bathers at the government hot springs. At the Cave and Basin bathing-house registrations showed 71,952 as compared with 66,233 in the previous year, an increase of 5,719. The number of visitors to the Cave, adjacent to the hot springs, was 69,209. At the Upper hot springs the total number of bathers was 47,536 as compared with 41,055 for 1927-28, an increase of 6,481. The new motor campsite at Tunnel mountain also showed increasing popularity. During the season 7,271 cars and 26,095 persons camped at this site as compared with 6,017 cars and 21,620 persons in the previous year. A new record was established at this campsite on the night of July 15, 1928, when 685 cars and 2,940 persons were accommodated.

Museum, Zoo and Animal Paddocks.—For some reason less interest was manifested in the Banff Museum; the number of visitors totalled approximately 21,000 as compared with 30,000 in the previous year. The season of 1927-28, however, had shown an increase in visitors of 100 per cent so that a certain falling off was to be expected. The Banff Zoo was again the centre of interest for thousands of visitors to Banff. The number of animals now encaged includes: 1 polar bear, 2 grizzly bears, 3 black bears, 1 cinnamon bear, 2 mountain lions, 1 Canada lynx, 1 bobcat, 4 timber wolves, 4 coyotes, 1 wolverine, 1 badger, 2 martens, 2 gophers, 1 porcupine, 2 great-horned owls, 1 peacock, 2 golden eagles and 3 Canada geese. The exhibition herds of animals in the pad-

docks are in good health. At the present time they include 20 buffaloes, 21 elks, 12 Rocky Mountain sheep, 7 angora goats, 9 four-horned sheep, 1 Rocky Mountain goat and 6 yaks.

Permits and Licences.—Permits and licences covering the various business activities carried on in the park totalled 18,647. Of these 16,709 were motor licences for transients. Motor licences for park residents numbered 580; guides' licences 44; chauffeurs' licences 283; restaurant and tea room licences 40.

Fire Protection.—Owing to the wet spring the fire hazard was greatly mitigated during the tourist season. A few small outbreaks occurred but caused no serious damage. The Banff Volunteer Fire Brigade responded to 11 alarms, total losses amounting to \$1,079.

The brigade now numbers 24 officers and firemen. A night patrol was maintained by the local detachment of the R.C.M.P. in the townsite.

Mosquito Control.—Owing to a late spring, mosquito larvae first appeared about the end of April, over a month later than usual. On April 26 three men were set at work distributing oil over the areas affected. An additional man was sent out on May 29 and work was carried on till the end of July. A total of 2,785 gallons of oil was used and about four pounds of pyrethium. The latter appears to promise good results. Mr. Arthur Gibson, Dominion Entomologist, and Mr. Eric Hearle, assistant, in charge of the work at Banff, made an inspection of the progress of the campaign in the park. Satisfaction was expressed that the fish "*Gambusia affinis*," which had been deposited in the small pool above the Cave and Basin bathing-house some years ago, have multiplied tremendously and are now found in great numbers in Sulphur swamp below the Cave and Basin. These fish are the greatest natural enemies known to the mosquito larvae and if it is possible to acclimatize them so that they will live in these cold-water swamps, a great decrease in the mosquito nuisance will undoubtedly result.

Public Health.—The public health was very good in Banff during the past year. The regular garbage collections were made during the summer. The dairy herds in the national park were tested during the year with the intradermal test for tuberculosis and all were found healthy. Samples of milk and water were also submitted periodically for analysis and the returns were satisfactory in every case.

JASPER NATIONAL PARK

Jasper park had a year of great activity. The total number of visitors was placed at 12,000, of these 7,568 registered at Jasper Park Lodge. This hotel was crowded through the season and it was again found necessary to increase the accommodation. The new golf links in this park attracted a great deal of notice among expert players, many of whom spent their holidays in Jasper upon the links.

Many improvements were made in Jasper townsite to accommodate its rapidly increasing population. The system of boulevards begun on a number of streets last year was completed, additional six-foot sidewalks extending more than a mile and a third were laid, a large number of pine and spruce trees and ornamental shrubs were planted, and enamel street signs erected. The electric and water services were considerably extended and four new hydrants erected, making a total of 18 now in the townsite.

New Buildings.—Building operations in Jasper included 14 new residences, 8 stores and business premises, 1 new bank, 1 new church and a number of garages and small buildings. The estimated cost was approximately \$150,000. In addition the Canadian National Railways took out permits for extensions including 4 four-room cabins, 3 ten-room cabins, 1 twelve-room officers' cabin, 1 sixteen-room help building at a total cost of \$111,000. A new log chalet of substantial design was erected at Maligne lake and a tea room near mount Edith Cavell.

Roads and Bridges.—The experimental stretch of tar pavement surfaced with McMurray tar sands on the Maligne highway between Jasper and the Lodge, stood up well. On the rest of the road gravelling was done where necessary and at Mile 7½ relocation was made, straightening a bad curve; 710 feet of guard rails were erected, and 100 feet of cribbing put in. The Edith Cavell road was in good condition during most of the season with the exception of the last few weeks. Additional guard rails to safeguard traffic were constructed on the Astoria hill.

A new bridge with concrete abutments was erected over the Miette river as the old log bridge at this point had become unsafe. The central span is 90 feet clear. The wooden bridge spanning Cottonwood creek was extended to a width of 18 feet and the last section of the highway widened to bring it up to a standard width. Construction was undertaken of a tote road from the Astoria bridge on the Edith Cavell highway down the steep and irregular slope to the Athabaska river, and along the flats for three-quarters of a mile. From this point cutting and clearing work was done, joining up with work done last year near Smoky Hollow. The continual wet weather in the early spring undermined the side banks along the tote road to Medicine lake and a great deal of attention was necessary to keep it open for travel. This road was in continual use by cars and proved of great convenience to tourists. A new horse trail and footpath which will add to the pleasure of visitors was constructed from a point near the railway crossing at Jasper to Jasper Park Lodge. Another popular trail was that constructed from the Maligne canyon down the Maligne river to the existing bridge, near its mouth. This trail furnishes a delightful morning or evening canter. Bridges over Maligne canyon were strengthened and a guard rail was erected on the sloping rock bank just below the Tea Room, where one of the finest views of the canyon may be obtained. A standard trail was commenced from Jacques Lake cabin down Jacques creek and south east along the Rocky River valley. It is intended to extend this trail next year to the Rocky River cabin, Number 7, about 12 miles from the present end of the trail. There are now 360½ miles of standard trails in Jasper park; and 277 miles of "pack", or second class trails. A new trail bridge was built over the middle fork of the Whirlpool river on the old trail leading to the Committee Punch Bowl. Telephone lines in the park now total 343 miles. New buildings included new warden's cabins at Devona and Snaring, a government stores building at Jasper, and an implement shed.

Sanitation.—A new sewer was constructed and the usual routine of garbage collection, cleaning up of lanes, and removal of ashes was carried on during the year.

Horses.—There are now seventy-four draught, saddle, and pack horses and four colts in the government stables and corrals in Jasper park.

Fires.—There were seven railway fires during the season, all of which were caused by sparks from locomotives. The areas burnt over totalled approximately 36½ acres and the cost of extinguishing was \$17. A few small outbreaks occurred in the townsite, but these were promptly extinguished by the wardens and fire brigade before any serious damage was done.

Wild Life

A steady increase in all species of game is noticeable in the park and the young appear to be healthy and in good condition. Owing to the heavy rainfall in the early summer months, grazing was good everywhere and the animals came through the year in an unusually good condition.

Elk.—Elk are noticeably increasing and are finding new feeding grounds all over the park. Large herds have been seen almost daily at Cabin creek, near

the golf course and along the Athabaska and Miette valleys. The largest herd ranges between Pyramid mountain and Cabin creek. The supervising game warden estimates that there are between 2,000 and 3,000 now in the park.

Sheep.—There was an average increase in sheep during the year. They are now spreading all over the park wherever they can find suitable ranges. Practically all the ranges from Sunwapta to Brûlé are sheep-feeding grounds, and a large flock has been seen regularly at Cavell bridge on the motor highway, where they are a great attraction to tourists. Large flocks were also seen at Pocahontas, Brûlé, the shale banks of the Snake Indian river, along the Snaring river, at Buffalo prairie, and Brazeau lake. A very fine herd of from 70 to 100 can be seen almost daily on the Maligne range. Hunters north of Jasper park this season spoke in high terms of the satisfactory overflow of sheep from the park to these areas. It is estimated that there are approximately 18,000 sheep now in the park.

Goat.—Goat are also multiplying rapidly and are in fine condition. A large herd is almost always to be seen at the shale banks of the Snake Indian river and others on the Smoky river, on mount Kerkeslin and the Colin range. They are also found in increasing numbers between Circus valley and Whistler mountain, but there they keep to high altitudes. From 4,000 to 5,000 are believed to be within the park.

Bear.—Black and grizzly bear are increasing everywhere. The latter seem to be more numerous on the Moosehorn creek but they are difficult animals to keep track of as they travel widely and it is believed that those seen in the Snake Indian may range as far as the Moosehorn valley. The whole of the park is adapted to grizzlies and they travel in and out of the park according to food and weather conditions. The number of bear in the park is placed at from 3,000 to 4,000.

Moose.—Moose are very plentiful and are now ranging in practically every valley. A particularly fine bull was seen on the townsite of Jasper last summer. Hunters have reported also that fine specimens have overflowed from the park on the northern boundary. Their numbers are placed at approximately 8,000.

Deer.—The season was particularly good for deer and they showed a marked increase. They now inhabit practically every valley in the park and are especially numerous along the Athabaska. The wardens estimate that there are 20,000 deer in the park.

Caribou.—Caribou are in good condition. They are found along the northern boundary near Byng pass and Twin Tree lake. Quite a few are also to be seen along the Smoky river and there are fully 300 in the Tonquin valley. Fine heads were brought in by hunters from the hunting grounds north of the park during the past autumn. It is difficult to arrive at the number of caribou in the park but the wardens consider 8,000 a fair estimate.

Fur-bearing Animals.—Beaver, marten, lynx, and coyote are reported to be more numerous and fresh beaver houses and dams were noticed on several creeks.

Game Birds.—Game birds, such as partridge, grouse, and prairie chicken, appear to be suffering a good deal from the increase of marten, lynx, and other predatory animals and the wardens report that they were seen in much smaller numbers this year.

Fish.—Fishing was reported as very good. Fine catches were made at Caledonia lake, Wabasso lake, Jacques lake, at Buffalo prairie and in the Brazeau and Upper Snake Indian rivers. The speckled trout fry deposited in Maligne lake in June did exceptionally well. A further shipment of 250,000 eggs was received in January. These are now being hatched and will be deposited in Maligne lake as soon as the ice goes out.

Alpine Climbing.—Dr. S. Kitada of the Imperial University of Japan, noted Japanese climber, spent some time in the park and made a record ascent of mount Edith Cavell in four and a half hours by the east ridge. Dr. Kitada plans to return with a party of students next year and to visit the Columbia Ice-field.

WATERTON LAKES PARK

Until this year the roads leading into Waterton Lakes park were not of a satisfactory character. While they were in good condition during the dry weather, in heavy rains they became almost impassable. Last year, however, the road from Cardston to the park, which connects with the motor highway leading into the United States, was gravelled by the provincial authorities as well as the provincial road from Cardston to Macleod. The park was thus connected with roads to the south and with a good gravel highway as far north as Edmonton. While the weather was unfavourable during June, the months of July and August were extremely pleasant and in consequence the park had the heaviest season in its history.

In the townsite the streets were kept in good condition, necessary grading and gravelling were done and the dust nuisance was kept down during the dry weather by the use of oil. New sidewalks were laid, tree planting along the streets was continued and an attractive display of flowers was maintained in the flower beds throughout the season.

The Prince of Wales hotel was opened for the first time for the entire season and for a great part of the time was filled to capacity. New buildings included a barracks for the Royal Canadian Mounted Police, which was surrounded with well laid out grounds; a new fish hatchery near the Pincher Creek entrance to the park and a number of new cottages.

The Waterton Lakes hotel was practically reconstructed during the year and a new wing added. An addition was also made to the park administration office and the golf club house. The roads within the park were maintained in good condition and improvements were undertaken on the Pass Creek road which is one of the most popular drives in the park. This road now gives ready access by automobile to the interesting Red Box canyon, which is always an interesting objective for tourists.

Further surfacing and completion work was done on the Akamina road and cars can now travel in comfort ten miles to Cameron lake, one of the beauty spots of the park and a favourite resort of anglers. A new trail was constructed to Carthew lake opening up a section of the park previously unknown to the tourist.

The golf club and tennis courts were well patronized as were also the bathing-house and bathing-beach at Linnet lake. Fishing in the main lake and in the various smaller lakes and streams was stated to be exceedingly good while fine catches were reported from Cameron lake, Bertha lake, Twin lakes, Belly river and from Pass creek.

A through bus service was maintained during the season connecting this park with Many Glaciers in the United States Glacier national park and hundreds of visitors availed themselves of this opportunity of visiting the adjoining playgrounds. A new motor launch capable of carrying 250 persons was also placed upon the Upper Waterton lake and made trips daily between the two parks.

Wild life of many kinds appears to be on the increase. Black bear, coyote, and weasel are plentiful in all districts. Mule deer and elk are to be seen in good numbers, while rabbits are not so numerous as last season.

There would appear to be a decrease in the number of mountain sheep this year. This is no doubt due to a series of spring storms which reduced the number of young lambs and proved dangerous to the mothers. Goat appear to be holding their own; bear and elk are noticeably on the increase. Beaver are particularly numerous and it is estimated there are now 1,500 in the park.

KOOTENAY NATIONAL PARK

The Banff-Windermere highway opened early in May and travel at once began to the park. No register is kept of cars entering at the Vermilion Summit boundary since these have already registered at the Kananaskis or Leancoil gateways. Registrations at the Sinclair Canyon gateway are given in the traffic tables at the beginning of this report.

The new bathing-house at the Sinclair Radium hot springs was completed and opened to the public on June 1. From that date to the end of the season, 21,038 bathers made use of the baths. During the month of October the bathing-house was closed to allow the making of an extension of thirty feet to the pool, bringing the total length up to one hundred and ten feet.

A new parking area in the immediate vicinity of the springs for the use of visitors to the baths was cleared. Improvements were made to the existing Floe Lake trail and a new trail was constructed from McLeod meadows to the park boundary up Deer creek. Sinclair Canyon campground proved very popular and was filled to capacity every night during the holiday season. One new camp shelter was erected at Dolly Varden creek.

No fires of any importance occurred in the park. There were several small outbreaks but these were extinguished without any damage being done.

Game, for some reason, was not so plentiful during the past season as previously but along the Kootenay valley, bear, elk, moose, and other game have increased. Hunting was very good outside the boundaries of the park during the hunting season.

YOHO PARK

Motor travel to Yoho national park totalled 7,106 cars carrying 24,140 persons. The season from the park point of view was an ideal one. There was a good deal of wet weather in May and June which enabled the staff to get the roads into first-class condition and obviated the danger of forest fires. The atmosphere throughout the summer was at all times clear and free from smoke, affording excellent opportunities for those who wished to take pictures, as well as giving tourists excellent views of the mountains practically all the time.

During the past few years the improvements in the townsite of Field have been very marked. Little by little undesirable buildings have been torn down and replaced by better ones. The town streets have been planted with new trees and old trees topped and pruned. The road surfaces have been regraded and kept oiled. The main road through the park, known as the Kicking Horse Trail, which forms part of a transmontane highway, is under the supervision of the Highways Engineering Division of the Head Office staff. Accordingly the attention of the park staff was chiefly devoted to the Emerald lake and Yoho extension roads. In the spring a caterpillar tractor was purchased by the department which proved of very great assistance in the road work, being much more efficient and economical than horses.

On the Emerald Lake road a good deal of widening was done, new bridges were constructed and curvatures reduced. On the Yoho road an additional mile was widened.

No serious accidents of any kind occurred on the park roads during the summer. This year through the co-operation of the Royal Canadian Mounted Police a special motor cycle patrol was maintained on the park roads. This greatly assisted in reducing cases of speeding by reckless drivers and no doubt accounted for the absence of accidents.

Early in the year a new tourist camp was established on the Emerald Lake road about one mile west of Field on the Kicking Horse flats. The ground was laid out in lots and two shelters were erected with cooking stoves and sanitary conveniences.

The heaviest traffic to the park was from the east, entries by the Kicking Horse pass showing 4,726 cars and 15,818 persons; of these 3,714 cars were Canadian and 1,012 foreign. Eastbound cars totalled 2,380, carrying 8,322 persons; 2,029 Canadian and 351 foreign.

A new trail which will be of interest to tourists was constructed from Surprise point at the summit of Burgess pass down the northern slope of mount Burgess towards Emerald Lake Chalet. This trail provides a northern route from Field to the Chalet. It also will be useful as a fire trail by making accessible a large area of timber. The trails to the Fossil beds, Burgess pass, Cathedral cut-off, Summit lake, Emerald lake, President glacier, Twin falls, and the Amiskwi were also gone over and put into good shape.

It is noticed that trail riding is on the increase in this park. Between sixty and eighty ponies were kept in the park for livery purposes throughout the season.

One new warden's cabin was erected near Kiwetinok creek and one near Tallon creek.

The growth of the townsite to the east necessitated some protection work being done on the banks of the creek in this district. A mattress of brush and rock was constructed along the river bank for a distance of 620 feet to prevent encroachment of water on the land during flood periods.

Wild life in the park appears to have held its own, so far as numbers are concerned, during the past year. Fifteen moose were reported as having been shot immediately outside park boundaries during the hunting season. Fishing in the lakes and streams of the park was better than ever before and a number of good catches were reported, particularly from Wapta lakes. Twenty thousand rainbow trout fry were distributed in the park waters from the Banff hatchery. Of these 12,000 were placed in Cataract creek and 8,000 in Summit lake.

Fire outbreaks were very few, owing to the favourable season, and the total cost of protection amounted to less than two hundred dollars.

GLACIER NATIONAL PARK

Owing to the fact that the Canadian Pacific Railway hotel at Glacier was again closed, the year was a quiet one in Glacier park so far as tourist travel was concerned. During the summer the company dismantled the old building and removed all furniture and permanent fixtures such as baths, etc. Plans for a new hotel of the bungalow type, it is understood, are now in preparation.

As early as possible in spring the road gang started on repairs to roads. The Station road, Nakimu Caves road and the Rogers Pass road were cleared out and repaired. The Asulkan, Caribou, Flat Creek, Illecillewaet, Mount Hermit, Great Glacier, Beaver River, Grizzly Creek, Bear Creek and Prairie Hills trails were gone over and underbrushed. One new trail was constructed up Mountain creek for a distance of four miles for fire protection purposes. A warden's cabin was constructed in Beaver valley near Grizzly creek, a small frame storehouse at Glacier and a fire equipment house on Flat creek.

At the Nakimu caves exploration work was again carried out. Attention was chiefly devoted to working through to the Number Two entrance via the "Ball Room", with a view to providing another exit from the lower caves and obviating the use of the St. Peter's stairway, which involves a climb of about 120 feet to the upper level. This passage, which was successfully made opens up what is apparently the largest cave yet discovered, immediately inside the Number Two entrance. It has been named "Satan's Palace". Visitors registered at the caves totalled 170.

Game is reported as being on the increase, particularly fur-bearing animals. Bears are plentiful; several which caused annoyance at the Canadian Pacific Railway construction camps had to be destroyed.

No fires occurred in the park during the year.

MOUNT REVELSTOKE PARK

In April work was begun on the lower portions of the Mount Revelstoke highway. The side ditches and culverts were cleared out to be ready for the flooding waters caused by the melting snows and as the snow retreated the road gang worked upward making repairs as they went. In July, under the supervision of head office engineers, work was begun on the extension of the highway. The portion of the new road completed in 1927 was first surfaced and then the extension from Balsam lake to the summit was proceeded with. A small portion of this road which will end with a loop at the summit near the forestry lookout station still remains to be completed next year.

A motor tourist camp was laid out along the shore of Balsam lake, a beautiful spot in the midst of a magnificent wild-flower garden with open views in all directions about three-quarters of a mile from the terminus of the road. A community kitchen was built and other necessary conveniences provided. A warden's patrol cabin was erected at Eva lake. The new boundary line on the west, including the area added to the park in 1927, was cut out and boundary sign notices posted up at various points. An additional two and a half miles was completed on the Clach-Na-Cuddin trail begun last year. This trail will be very useful in case of fire as it gives access to a heavily timbered area. Now that motors can easily reach the top of the mountain there is an increase in travel over the park trails particularly the trail to Eva and Millar lakes. On the ski hill a new stand for the accommodation of press representatives and distinguished guests was erected opposite the judge's stand. This was substantially built, roofed in, and protected from the weather on two sides. Further work was done on the runway at the bottom of the big hill altering the grade and levelling up the surface. The annual ski tournament took place on the 12th and 13th of February and as in former years was well attended and keen interest was shown in the various competitions although no new records were made.

Bear, grouse and partridge are plentiful in the park.

PRINCE ALBERT NATIONAL PARK

Prince Albert national park was officially opened to the public on August 10 and 11. A committee of prominent business men in Prince Albert took charge of the ceremonies and of all arrangements in connection with finances, accommodation, catering and the program of sports.

On Friday, August 10, the Prime Minister and his party arrived in Prince Albert. He was met at the station by the Hon. Charles Stewart, Minister of the Interior, the Hon. T. C. Davis of Prince Albert, several members of Parliament and of the Legislative Assembly. Weather conditions were ideal. The party left immediately for the park which was officially dedicated by the Prime Minister. After the opening had taken place an interesting aquatic sports program was carried out and a cottage presented to the Prime Minister by his constituents. The ceremonies were attended by more than 2,500 people.

Building Areas.—A business subdivision and a residential subdivision at Prospect Point were thrown open for entry during the summer. Eighteen residential lots were filed on and it is expected that several cottages will be erected early in 1929. Many of the inquiries relative to lots have been in connection with that portion of the lake from King island west. Contour surveys were

made of this section and it is expected that lots will be available early next year. In the business area five lots have been filed on, and the firms obtaining these lots intend to build early next year.

Campgrounds.—In addition to the main campground on Waskesiu lake, which is now one of the best in Saskatchewan, small campgrounds were cleared and cleaned up at the ends of each portage.

Tourist Traffic.—Although road conditions were not good and any stay in the park involved camping out, 1,304 cars, containing it is estimated 5,018 people, entered the park during the season. The majority of these visitors camped along the main beach.

Fires.—The spring and early summer months were very dry and there was constant danger of forest fires, a number of which occurred along the southern boundary of the park. The total number of fires during the period from April 1 to December 31 was eight; the cost of combatting them, including warden labour, was \$952.15.

Biological Survey.—The possibility of introducing game fish into the lakes and streams of the park was considered. In order that information in regard to the conditions might be obtained, a biological survey was begun and will be continued in 1929.

Roads.—When the park was established the only means of access was an old logging road in very bad condition. Work was immediately undertaken to bring it up into a condition suitable for motor traffic. The construction of a new highway was then started and thirty-two miles of new grade were completed. This new road has been carefully located in regard to both engineering problems and scenic advantages.

Game.—The increase in wild life within the park is already very noticeable, particularly so in the case of moose. These animals are so numerous that it is not unusual to see from eight to twelve in one herd. It is also interesting to note that all wild life is becoming tamer, a happy condition which is particularly noticeable in the case of mule deer. These animals seem to have almost entirely lost their fear of motor cars and people and consequently they are frequently seen by tourists.

Radio Station.—At first one of the great inconveniences was the lack of telephone communication between Prince Albert and the park. This condition has been overcome by the construction of a wireless station at Waskesiu, and another station in Prince Albert for the joint use of the Forest Service and the National Parks Branch.

Buildings.—During the summer, a storehouse and a boathouse were built at Waskesiu lake. In addition three shelters and one service building were constructed in the main camp grounds at the same place. A warden's cabin was built on Crean lake. This provides a stopping-place for the warden patrol which previously was without shelter at this point.

Lectures.—In the early part of April, a lecture tour through Saskatchewan was arranged, illustrated by slides and moving pictures of the Prince Albert park. Fourteen lectures were delivered at the following towns and cities: Melville, Yorkton, Regina, Swift Current, Saskatoon, North Battleford, Melfort, and Prince Albert. Inquiries as to future lectures were numerous.

ANIMAL PARKS

BUFFALO PARK

The animals in the park have come through the winter in splendid condition and owing to improved pasture conditions last summer and the nature of

the season, the herd required very little feeding during the winter. The following table shows the animals in the park on March 31:—

Buffalo.....	4,300
Elk.....	585
Moose.....	60
Mule deer.....	1,824
Antelope.....	1
Yak.....	30
Domestic cattle.....	12
Mixed stock.....	38
Total.....	6,830

Farming operations were carried on as usual. Approximately 500 acres were in crop and of this 100 acres were seeded down to grass. About 50 acres of the crop were left for green feed and from the remainder 18,575 bushels were threshed. This yield was sufficient to meet all requirements of this park and allow a surplus of about 10,000 bushels for shipment to other parks. In addition to the above about 350 tons of straw were secured which will make splendid feed for the animals.

Conditions were exceptionally good for putting up hay. There was plenty of moisture in the early part of the season to keep the Ribstone meadow well flooded with the result that there was good growth and, as there was little rain after haying operations began, one of the largest yields in the history of the park was secured. The total cut for the season was approximately 1,500 tons, of which 1,450 tons were procured from the Ribstone meadow.

On June 11 the first shipment of buffalo for the season went forward from Wainwright to the Wood Buffalo park on the Slave river and weekly shipments followed until July 2. This year's consignment totalled 1,088; it was made up of 1,009 yearlings and 79 two-year-olds. So successfully was the work of rounding-up, corralling and loading these animals carried out that only two were lost.

There was also a shipment of two young buffalo, male and female, to the city of Johannesburg, South Africa. These were forwarded from Wainwright in October and were shipped from the port of Montreal. Three buffalo were sent to the Italian Government, and six buffalo, three elk and three mule deer to the Moose Jaw Wild Animal Park.

Fencing.—It was necessary to go over all the main fences as well as cross fences which meant the repairing of approximately 100 miles of fence. In addition to the repair work a total of two miles of new fence was erected to include in the park section 25, township 44, range 7, west of the 4th meridian, which was obtained recently. A number of posts in connection with telephone service were replaced, this work being carried on in conjunction with the fence repair work.

Fire Protection.—Fireguards, both inside and outside the main fence as well as most of the inside guards, were ploughed and with the exception of a few miles along the west boundary, the ploughing was done by park teams. Two new portable fire units were supplied last spring. One was placed at the Home Paddock and the other at the farm.

Roads.—The construction of a new road from Wainwright to the Home Paddock entrance gate was completed in the early part of the season.

Buildings.—A pavilion was erected at Mott Lake picnic grounds. A new fireproof pump-house and a small building for storing ice were also built at the farm. Considerable improvements were made in the way of re-decorating and painting buildings.

Dry wood timber permits were issued to settlers living close to the park for 275 cords, also for 4,500 green willow pickets.

Predatory Animals.—Coyotes were not nearly so numerous in the park as in other years and several of those destroyed were affected with mange. Altogether 32 were shot by the wardens.

Visitors.—There was a noticeable increase again this year in the number of visitors to the park. The actual numbers of those visitors who recorded their names in the registers kept at three of the park gates were as follows:—

Wainwright gate (Home Paddock).....	15,310
Hardisty gate.....	1,933
Farm gate.....	1,211
Total.....	18,454

ELK ISLAND PARK

Visitors to Elk Island park totalled 18,968. While most motorists are attracted to the park by the fine herds of animals it contains, the beach and picnic grounds are also a great attraction to local visitors, and they were largely patronized throughout the season. The buffalo herd in this park is in splendid condition and pastured out on the range throughout the whole winter: 230 buffalo were killed, 200 for meat and hides and 30 aged bulls to improve the condition of the herd. Animals in the park at the close of the fiscal year were: 593 buffalo, 400 moose, 453 elk, and 200 deer.

The main fence was gone over and old posts replaced where necessary. A new enclosure near headquarters covering approximately half a section was fenced in. Another enclosure at the south end which was required as a corral during the round-up was also fenced. The existing fireguards were kept in good condition by ploughing and five miles of additional guards constructed along the west boundary.

A very luxuriant growth of grass and pea vine provided good grazing for the animals. About 500 tons of hay were stacked, providing a supply of feed ample for the year's requirements.

The roads in the park were gone over with a grader and kept in as good condition as weather permitted. Reconstruction was begun on the road from the north gate to Sandy beach and four miles were completed before the ground became frozen in the autumn.

Bird life appears to be increasing although prairie chicken seem scarcer than formerly. The blue heron, however, continues to nest in numbers on Crane island and migratory birds showed an increase in numbers. A few partridge were seen in the park during the summer. Fishing was good in Astotin lake and the pickerel and perch placed there in 1927 appear to have done well.

NEMISKAM PARK

Conditions during the early winter at Nemiskam were ideal, with no snow and abundant grazing, and the animals were accordingly in fine condition to withstand the more severe weather which was experienced in January and February. During February it was necessary to feed some hay to the animals. The antelope herd, however, all came through in good condition with the exception of six killed by coyotes. Keeping down these latter animals is one of the most difficult problems connected with the park but it is hoped shortly to devise means of solving it.

HISTORIC PARKS AND RECREATIONAL AREAS

FORT ANNE HISTORIC PARK

Visitors to Fort Anne national park, Annapolis Royal, Nova Scotia, numbered approximately 16,000 in the past year. Of these 11,390 registered and were shown through the museum, an increase of 1,603 over the previous year.

An attractive bridge over the moat was completed early in April.

On June 11 the Historical Association of Annapolis Royal formally unveiled and presented to the museum of Fort Anne park a portrait in oils of Jean Paul Mascarene, the officer, then a captain, who mounted the first British guard in this fort when the place was taken by the British in 1710. Mascarene remained at Fort Anne for forty years and played a very important part in its history.

The foundation of the Vetch memorial was laid on July 25 and completed August 1. The formal unveiling took place September 22 and was performed by Mrs. Robert Weeks Kelly of New York, a direct descendant of Samuel Vetch. Mrs. Kelly has since presented to the park museum the original commission appointing her distinguished ancestor Adjutant-General of the force which captured this place in 1710. A portion of the writing is illegible, but the Queen's signature "Anne R" is as distinct as on the day it was written. Other acquisitions to the museum during the year included some valuable and interesting pictures, documents, and books, and some additional specimens of local birds.

POINT PELEE PARK

Visitors to Point Pelee park last year totalled approximately 50,000, practically all of whom came by motor. While no register is kept at the park, the warden estimates that the number of cars entering from April 1 to December 31 was approximately 12,525. The number of campers who took out permits for less than a four days' stay was 275. Of these 75 came from Ontario and 200 from the United States. Camping permits for more than four days numbered 44; 22 from Ontario and 22 from United States. In view of the large patronage which this park receives from United States visitors it is expected that the completion of the tunnel at present under construction from Windsor to Detroit will greatly increase travel to the park. During the year underbrushing was widely undertaken which greatly improved the appearance of the groves, and early in the spring 950 young trees of willow and hackberry were set out. Six hundred of these were planted along the east beach where they will protect the shore line as well as improve the general appearance of the park. Thousands of migratory birds visited the park during the spring and fall migrations and wild geese were noted to be particularly abundant in the autumn. Permits to the number of 259 to shoot wild duck during the open season from October 1 to December 1 were issued. This is a smaller number than in the previous year. Squirrels are somewhat fewer in numbers in the park. Golden pheasant, however, are as plentiful as ever. The racoon are increasing, and quail appear in larger numbers each year. These increases show that the park is fulfilling the purpose for which it was created, in so far as the conservation of wild life is concerned.

VIDALS POINT RECREATIONAL AREA

The number of people to Vidals Point is steadily increasing. During July and August last year it is estimated that approximately 15,000 persons visited the reserve, the heaviest week being from July 21 to 28 when about 3,000 visitors entered the area. The beach was kept in good condition throughout the season and all camps and camp sites inspected and kept free from litter. Buoys, danger signals, and a diving platform were placed in position for the convenience of swimmers and a new well was sunk for campers' use. There was good fishing on lake Katepwa.

Protection of Migratory Birds

ENFORCEMENT OF THE MIGRATORY BIRDS CONVENTION ACT

In July, 1928, amendments were made to the regulations based on the Migratory Birds Convention Act, following suggestions from the different provincial game officers and the chief federal migratory bird officers. These included:—

For all Canada: A closed season on wood duck for a period of three years. In order to clarify the conditions with respect to the transportation and shipment of protected birds, the section pertaining to this matter has been revised. Following a resolution of the Provincial-Dominion Game Conference a provision was made in the regulations which will enable agriculturists to secure relief more rapidly when certain birds are found seriously damaging their crops. Several minor changes were made as well, and a consolidation of the Migratory Birds Convention Act and of regulations containing these amendments was printed and distributed prior to the opening of the hunting season.

For the province of British Columbia: The opening of the season on band-tailed pigeons, a revision of the districts, making general the prohibition of the use of the rifle in hunting migratory game birds, a change in the season for black brant, and a restriction respecting the time at which migratory game birds may be shot on the first day of the open season.

For Alberta: The dividing of the province into two zones, the season in the northern zone being two weeks earlier than formerly.

For Ontario: The dividing of the province into two zones, the season in the southern zone being two weeks later than formerly.

For Nova Scotia: A change in the open season for ducks and rails in Cape Breton island, and a special provision respecting the excavating of duck shooting blinds and sinking of casks or boxes in the tidal flats of Goose bay, Little River harbour, and at the mouth of Lobster bay.

The staff enforcing the Migratory Birds Convention Act continues at the same strength as last year, and complete co-operation with provincial game departments has been enjoyed. The enforcement of bird protection measures has been left largely in the hands of the provincial authorities in accordance with the original plan, and thus duplication is avoided.

In addition to the provincial officers who are enforcing the law, some hundreds of honorary game officers co-operate in this connection, and furnish this office with valuable information respecting bird conditions in their localities. Honorary officers are kept informed through a system of circular letters. The officers of the Royal Canadian Mounted Police have helped materially by enforcing the law and by conducting bird observations in various districts. Dominion fishery officers lend valuable assistance.

A staff of officers is maintained in the Maritime Provinces for enforcement of the migratory bird law. The Chief Federal Migratory Bird Officer for the provinces of Ontario and Quebec, protected, with the aid of a staff of temporary assistants and the bird sanctuary caretakers, the abundant sea-bird life on the north shore of the gulf of St. Lawrence in Quebec. The Chief Federal Migratory Bird Officer for the Western Provinces, while devoting much time to co-operative measures with the provincial game departments has been occupied as well in supervising the sanctuaries and public shooting grounds in these provinces and in making patrols.

Seventy-two prosecutions were instituted by Dominion officers in connection with the enforcement of the Migratory Birds Convention Act. These resulted in sixty-eight convictions. Fines imposed amounted to \$757. Prosecutions instituted by provincial officers are not included in this summary.

The department has worked in conjunction with the Department of Marine and Fisheries in seeking ways and means for preventing loss of bird life caused by oil dumped from vessels in navigable waters, or reaching navigable waters in other ways. Following a conference at Washington, in which Canada took part, a Draft Convention on oil pollution of the high seas was prepared, and an Order in Council has been passed authorizing the Hon. Vincent Massey, Envoy Extraordinary and Minister Plenipotentiary at Washington, to sign it on behalf of Canada.

This branch has undertaken a waterfowl census in conjunction with the Biological Survey at Washington. The purpose of this investigation is to determine, as nearly as possible, the abundance from year to year, distribution, and migration of the different species of ducks, geese, swans, and coots that inhabit North America. By having as many observers as possible throughout the United States and Canada making comparative counts, each on one area, month after month, it is hoped that it will be possible to tell approximately whether waterfowl are abundant or scarce in any locality after two or three years' records are available.

Permits and Licences.—Permits and licences were issued as follows (calendar year):—

Collection of birds for scientific purposes.....	263
Possession of birds for propagating purposes.....	481
Capture of birds for propagating purposes.....	36
Destruction of certain birds when found to be seriously damaging agricultural or fishery interests.....	72
Collection of eider-down.....	4
Special permits.....	12
Taking of birds for banding purposes.....	113
Practising taxidermy.....	76
Shooting of geese and brant in Shelburne and Queens counties, Nova Scotia, in the open season provided by law.....	472

Bird Banding.—Through bird banding, much valuable information is being secured concerning Canada's birds. The branch is co-operating with the United States Biological Survey in tracing and recording migrations of birds by the banding method, nearly all the field work being done by voluntary co-operators. The official records of bird-banding returns which concern Canada are kept in this branch. From January 1, 1928, to December 31, 1928, 10,557 records of birds banded by Canadian co-operators and 2,524 repeats and returns on banded birds were received. In addition to this, one of our most active operators has banded 3,600 birds during the year 1928, and secured during that year many returns of the birds which he had previously banded.

Bird Sanctuaries.—Recommendations have been made that sanctuaries be set aside for birds in goose concentration points in southern James bay, as it is expected that a large influx of hunters will go into that district by the new railway. This has been referred to the game administration officers of Ontario and Quebec. The shooting of wild ducks and wild geese on Many Island Lake and Lac La Biche bird sanctuaries, has been allowed during the regular open season.

The United States Congress has recently enacted legislation (the Norbeck-Andresen Act) under the Migratory Birds Treaty which provides for the appropriation of approximately eight million dollars for the purpose of purchasing and maintaining waterfowl refuges in the United States. These refuges will be of great value to waterfowl, and the bird life in Canada will consequently benefit.

Public Shooting Grounds.—Fifty-one public shooting grounds, consisting of marshy areas, have been reserved: thirty-two in Alberta; twelve in Saskatchewan; and seven in Manitoba. These continue to afford free shooting in season to the public. The game protection authorities of British Columbia have recommended the reservation of Pitt lake as a public shooting ground, and steps have been taken to comply with this recommendation. Suitable arrangements have been made with the Department of Marine and Fisheries in connection with the establishment of a pickerel hatchery on land included in Marshy Point public shooting grounds, Manitoba.

EDUCATIONAL

Various camps attended by young people were visited and instruction given in bird protection and natural history subjects.

The total distribution of pamphlets amounted to 35,133. Publicity concerning the shooting season and other bird protection matters was obtained through the distribution of 40,073 posters, 9,011 copies of the Migratory Birds Convention Act, and 15,850 abstracts of the regulations under it. Circular letters regarding the changes in the regulations for the season 1928 were distributed to the press throughout Canada. Circular letters were also distributed to all cold storage warehouses in Canada advising them that legally killed migratory birds could only be kept in storage for a certain period after the close of the open season.

The Chief Migratory Bird Officer for the Western Provinces after a conference with the Director of Education for British Columbia prepared a paper entitled "Teachers Guide to Bird Study in British Columbia", which is to be circulated through the schools. Numerous lectures on bird protection were given by members of the permanent staff in both Western and Eastern Canada. The latter series included a special tour of New Brunswick, Nova Scotia and Prince Edward Island, during which much public interest in bird protection was aroused.

The lantern slide library contains slides covering 981 subjects, and showing 340 different species of birds. The demand for these was greater than ever before and in all, 3,769 slides were sent out, free of charge.

Several items of interest to explorers and others in the Far North were prepared for broadcasting by this office and several talks on bird protection were given over the radio.

Special measures were continued to protect trumpeter swans in British Columbia. Christmas bird censuses were made at many points by members of the various naturalists' clubs and officers of this branch. At Ottawa 19 species were found. Bird censuses taken from year to year give a comparative idea of the distribution of bird life at a time when it is at its lowest ebb. Some specimens of swans and other birds found dead at Kingsville, Ontario, were transferred to the Health of Animals Branch, Department of Agriculture, Ottawa, for post-mortem examination. The results showed that a few of these birds had died from an intestinal infestation with a liver fluke. Satisfactory progress has been made in the study of the food of marine birds with special relation to the spawning of herring.

Much interest has been shown in the building of bird houses, and bird-house competitions have been held under various auspices throughout Canada.

Advisory Board on Wild Life Protection.—During the year the Board held five meetings and many important items were discussed. Mr. J. B. Harkin was appointed Chairman of the Board, and four new members were added, viz., W. W. Cory, C.M.G., Deputy Minister of the Interior; Mr. Hoyes Lloyd, Supervisor of Wild Life Protection; Mr. T. R. L. MacInnes, of the Department of Indian Affairs; and Mr P. A. Taverner, Ornithologist of the National Museum of Canada.

Dominion and Provincial Game Protective Associations.—A development, which will undoubtedly prove of value in conserving the wild life of Canada, is the activity which has occurred recently in the organization of provincial game protective associations and in the discussion of the formation of a Dominion association.

Historic Sites and Monuments

Good progress was made during the year in connection with the acquisition, preservation and marking of historic sites of national importance, and the commemoration of the public services of outstanding personages in Canadian history.

As in former years the executive work was carried out by the National Parks of Canada Branch in accordance with the recommendations and advice of the Historic Sites and Monuments Board of Canada. This Board, which is

an honorary body comprised of recognized authorities on Canadian history, held its regular meeting in Ottawa in May. The present personnel of the Board is as follows: Chairman, Brig.-General E. A. Cruikshank, LL.D., F.R.S.C., F.R. Hist. S., Ottawa, Ont.; His Honour F. W. Howay, LL.B., F.R.S.C., New Westminster, B.C.; James H. Coyne, M.A., LL.D., F.R.S.C., St. Thomas, Ont.; J. Clarence Webster, M.D., D.Sc., LL.D., F.R.S.C., Shediac, N.B.; His Honour W. Crowe, LL.B., K.C., Sydney, N.S.; Hon. P. Demers, LL.D., Montreal, P.Q.; Mr. J. B. Harkin, Commissioner, National Parks of Canada, Ottawa, Ont.; Secretary, Major A. A. Pinard, National Parks of Canada, Ottawa, Ont.

Since the inception of this work in 1919, the Board has reviewed the status of over 800 sites. From among these 221 have been selected to date as worthy of national commemoration. Control of 154 of these has been acquired by the National Parks Branch, and 129 memorials have already been erected. The interest and co-operation of provincial and local historical organizations in carrying out this work has in many instances been of great assistance and is gratefully acknowledged. The increase in the number of inquiries received with regard to these sites, as well as in the number of visitors to the sites themselves, point to a gratifying growth of interest on the part of the general public.

SITES MARKED

The following sites were commemorated during 1928:—

Canso, Nova Scotia.—A cairn with tablet was erected on a site provided by the town in the public school grounds to commemorate the events associated with the early history of Canso, which was developed as an important fishing station by the French in the 16th century. The British fortified it in 1720 and it was later the scene of several combats between them and the French and Indians.

First Post Office in British North America, Halifax, Nova Scotia.—With the consent of the Department of Public Works, a bronze tablet was affixed to the outer wall at the right hand entrance to the Post Office building, at Halifax, to record the fact that the first post office in the Dominion of Canada as now constituted was established in that city, in 1755.

King's College, Windsor, N.S.—With the consent of the University authorities, a tablet was attached to the outer wall of the Hensley Memorial Chapter building on the King's College University grounds at Windsor, to commemorate the founding of that college, in 1789, by the Right Reverend Charles Inglis, D.D., first bishop of Nova Scotia, and other United Empire Loyalists. The college was granted a Royal Charter in 1802, and is the oldest university in the King's overseas dominions.

Samuel Vetch, Annapolis Royal, Nova Scotia.—A cut-stone memorial, to which is affixed a tablet, was erected in the Fort Anne park, Annapolis Royal, to commemorate the public services of Samuel Vetch, Adjutant-General of the force which captured Port Royal, capital of Acadia, in 1710. Vetch was the first Governor and Commander-in-Chief of Acadia and continued in this position until after the Peace of Utrecht in 1713.

First Steam Fog Horn, St. John, New Brunswick.—With the consent of the Department of Public Works a bronze tablet was affixed to the outer wall of the Customs building in St. John, to commemorate the invention and construction by Robert Foulis, in 1854 of the first steam fog alarm in the world.

First Marine Compound Engine, St. John, New Brunswick.—By permission of the Public Works Department, a tablet was affixed to the outer wall, at the entrance to the Customs building in St. John, to commemorate the invention of the first marine compound steam engine. This was designed by Benjamin Tibbits, a native of Queens county, New Brunswick, and installed in 1842

on the steamer *Reindeer* for service on the Saint John river. The engine was in use for more than fifty years.

Ile-aux-Coudres, Province of Quebec.—A white granite cross, with a tablet affixed thereto, was erected on a plot of land donated by Messrs. Elie and Joseph Dufour, on Ile-aux-Coudres, in the St. Lawrence river opposite Baie St. Paul, to mark the site where Jacques Cartier landed on September 6, 1535. Cartier erected a cross, explored the island and gave it its name. He departed the following day after hearing mass.

First Steamship in Canada, Montreal, Province of Quebec.—With the approval of the Molson Brewery Company a tablet was placed on the outer wall of their main office building on Notre Dame street east, to commemorate the construction of the first Canadian steamship, the *Accommodation*, which was built in Montreal, in 1809, by the Honourable John Molson. During the war of 1812-14, the ship rendered notable service on the St. Lawrence river between Montreal and Quebec.

Battle of Two Mountains, near Senneville, Province of Quebec.—A cairn with tablet was erected on a small plot of land, donated by Mr. and Mrs. Waldo W. Skinner, adjacent to the Gouin boulevard near Senneville, to commemorate the events associated with the engagement which took place in 1689, on the lake of Two Mountains, when a band of Iroquois was defeated by the French, thus saving the island of Montreal.

Battle of Chateauguay Ford, near Allan's Corners, Province of Quebec.—A cairn with tablet was erected on a small plot of land, donated by Mr. James Kerr, adjacent to the de Salaberry highway, between Allan's Corners and Howick, to commemorate the events associated with the engagement which took place there on October 26, 1813, between troops, detailed for the defence of the ford, and an invading United States force, much superior in numbers. The defeat of the latter was an important factor in saving the island of Montreal.

Dr. John Strachan, Cornwall, Ontario.—By permission of the Board a tablet was affixed to the outer wall of the Cornwall Collegiate Institute building to commemorate the distinguished public services of the Honourable and Right Reverend John Strachan, first Anglican bishop in Upper Canada, 1778-1867, a patriotic citizen, pioneer educator, author, and legislator. The famous Strachan grammar school was opened in Cornwall in 1802 on the site of the present Institute.

Montgomery's Tavern, Toronto, Ontario.—A tablet was placed on the outer wall of Postal Station "K," North Yonge street, Toronto, with the consent of the Department of Public Works, to mark the site of Montgomery's Tavern, rendezvous of the leaders in the rebellion in Upper Canada in 1837. On December 7 a brief skirmish took place here resulting in the defeat of the insurgents by the loyal militia. The uprising was an important factor in bringing about the union of Upper and Lower Canada, in 1841, and the permanent establishment of responsible government in Canada.

Battle of York, Toronto, Ontario.—A tablet was affixed to a pedestal at the entrance to the Province of Ontario building in the Exhibition park, Toronto, to commemorate the events associated with the engagement which took place on April 27, 1813, between the Canadian Militia and invading United States troops near the spot.

Navy Island Shipyard, near Chippawa, Ont.—A tablet was placed on a pedestal erected by the Queen Victoria Niagara Falls Park Commission, adjacent to the park boulevard near Chippawa, to indicate the site of Navy Island shipyard where the first ships of war which navigated the upper lakes under the British flag were built in 1763-64.

Vrooman's Battery, near Queenston, Ont.—A tablet was placed on a pedestal erected by the Queen Victoria Niagara Falls Park Commission, adjacent to the park boulevard near Queenston, to mark the site of the battery engaged in the battle of Queenston Heights, 13th October, 1812, between Canadian and United States troops.

Fugitive Slave Movement, Windsor, Ont.—A tablet was affixed to a pillar of the Dominion Bank building on Ouellette avenue, to commemorate the events associated with the fugitive slave movement to Canada. Before the United States Civil War of 1861-65, Windsor was an important terminal of the "underground railroad." Escaping from bondage thousands of slaves from the south, landing there, found in Canada, friends, freedom, and protection.

Fort St. Joseph, St. Joseph's Island, near Sault Ste. Marie, Ont.—A tablet was attached to the chimney, all that now remains of Fort St. Joseph, the most westerly military post in Upper Canada, built in 1796-99 and garrisoned until 1812. The fort was a noted trading post and resort for the Indians, and from there was launched the attack in 1812 which resulted in the capture of Fort Mackinac by the British.

Indian Treaty No. 1, Lower Fort Garry, Manitoba.—By permission of the Hudson's Bay Company, a tablet was affixed to the outer stone wall of Lower Fort Garry, near the south gateway, to commemorate the events associated with the signing of Indian Treaty Number 1, on August 3, 1871, between the Crown and the Swampy Cree and Chippawa Indians, whereby those tribes surrendered all their possessory rights to the lands comprised within the then existing boundaries of Manitoba.

Fort La Reine, Portage la Prairie, Manitoba.—With the consent of the civic authorities a cairn with two tablets was erected near the city pumping station to mark the site of the fort built by la Verendrye, the French-Canadian explorer and discoverer, in 1738. This post became his headquarters and from it he, or his sons, carried on explorations northward to the Saskatchewan river, southwest to the Mandan country, and to the foot-hills of the Rocky mountains.

First Coal Mine in Alberta, Lethbridge, Alberta.—A cairn with tablet was erected in Galt gardens, with the approval of the civic authorities, to commemorate the events associated with the first discovery of coal in the province of Alberta. The mine was opened on the west bank of the Oldman river by Nicholas Sheran, in 1872. He broke his own trails, found his own markets and hauled coal by ox-team to Fort Benton, Montana, U.S.A., and other distant points. This vital industry has contributed greatly to the development of Western Canada.

Barkerville, British Columbia.—A cairn with tablet was erected on the side of the Provincial highway, just outside the town, to mark one terminus of the Yale-Cariboo wagon road, completed in 1865. Barkerville was the centre of the old Cariboo region whose gold fields, discovered in 1861, added many millions to the wealth of the world.

Sir George Simpson, Kootenay National Park, British Columbia.—A cairn with tablet was erected on the Banff-Windermere highway at the junction of the Simpson and Vermilion rivers, fifty miles west of Banff, to commemorate the public services of Sir George Simpson, Governor of the Hudson's Bay Company, 1821-1860, under whose guidance the country was explored, peace with the natives was maintained, trade developed, and British rule strengthened. He, during his journey round the world in 1841-42, was the first white man to cross the Rocky mountains, through this divide which has ever since been known as the Simpson pass.

PRESERVATION WORK

Preservation and other work was carried out at several of the larger sites as follows:—

Fort Cumberland (Beauséjour), New Brunswick.—The entire property was fenced, a new entrance, parking area and rest pavilion provided, footpaths laid out. A number of markers were placed designating points of interest, and the lines occupied by Monckton's attacking army, 1755, were cleared of bushes.

Fort Chambly, Chambly, Province of Quebec.—The stonework of the outer walls of the fort was thoroughly repaired and capped with a cement coping; a protection wall placed around the bastions facing the river, repairs made to the observation tower on the west wall and a monument erected in the old cemetery.

Fort Lennox, Ile-aux-Noix, Province of Quebec.—Stone arches of the arcade of the guard-house, which had fallen out of line, were restored. The upper walls were strengthened. The outside walls and the piers supporting the arches were thoroughly grouted and repointed. Repairs were also made to the roof, chimneys, and ceilings of the barracks, as well as to the masonry at the north and south main entrances.

Fort Wellington, Prescott, Ontario.—Extensive improvements were made to the caretaker's quarters and museum and the work of repairing the inner palisades was practically completed. A water supply system was also installed.

Martello Shoal Tower, Kingston, Ontario.—The wooden roof was removed from the tower so as to make it conform to its original design. Repairs were carried out on the masonry work and also to the small landing wharf and entrance.

ACQUISITION OF SITES

Control of the following sites, recommended by the Board for future marking, was also obtained:—

Louisbourg, Cape Breton.—The major portion of the lands included in the original site were purchased from the owners.

Fort La Have, La Have, N.S.—The Department of Marine and Fisheries granted permission to erect a memorial on the lighthouse reserve at La Have to mark the site of the fort built by de Razilly in 1632.

Fort Jemseg, Lower Jemseg, N.B.—Mr. F. C. Nevers of Lower Jemseg donated a plot of land adjacent to the public highway, on which to erect a memorial to mark the site of Fort Jemseg, built in 1659, during the British possession of Acadia.

First Railway in Canada, St. Johns, Quebec.—Permission was obtained from the Canadian National Railways to place a tablet on the outer wall of their station at St. Johns to mark one terminal of the first railroad in Canada.

Battle of 6th September, 1775, near St. Johns, Quebec.—The St. Johns Golf Club donated a plot of land adjacent to the Lacolle highway, on which to erect a memorial to commemorate the events associated with the engagement which took place on above date.

Chaudiere Portage, Hull, Quebec.—Permission was obtained from the Hull civic authorities for the erection of a memorial in the centre of Montcalm street, near the Ottawa river, to mark the site of the first portage around the Chaudiere falls.

Bishop Alexander Macdonell, St. Raphael, Ontario.—Permission was obtained from the Roman Catholic Episcopal Corporation of the Diocese of Alexandria to place a memorial on a small plot of land in front of the parish church at St. Raphael West to commemorate the distinguished public services of Bishop Alexander Macdonell.

Battle of the Longwoods near Wardsville, Ontario.—Mr. Roy Henderson donated a plot of ground, immediately adjacent to the London-Chatham highway on which to erect a memorial to commemorate the events associated with the engagement which took place there on March 4, 1814, between Canadian and United States troops.

Wawanesa, Manitoba.—Permission was obtained from the municipal authorities to place a memorial in one of the parks to commemorate the historic events associated with the early fur-trading posts which existed near the confluence of the Souris and Assiniboine rivers.

Indian Treaty No. 6, Fort Carlton, Saskatchewan.—Mr. W. P. Urton donated a plot of land adjacent to the main road leading from Prince Albert to Carlton Station on which to erect a memorial to commemorate the events associated with the signing of Indian Treaty No. 6, in August, 1876.

Point Grey, Vancouver, B.C.—Permission was obtained from the Provincial Government to place a memorial in the grounds of the University of British Columbia, to commemorate the events associated with the meeting of Captain George Vancouver and the Spanish explorers in June, 1792.

Pacific Cable, Bamfield, B.C.—Permission was obtained from the Pacific Cable Board to place a tablet on the Cable building at Bamfield to mark one terminal of the Pacific Cable which was completed in 1902.

DETAILS OF EXPENDITURE—Con.—DÉTAIL DES DÉPENSES—Suite

Salaries at Ottawa	Amount	Traitements à Ottawa	Montant
Vote-Crédit 13—Civil Government Salaries—Con.—Gouvernement civil: Traitements—suite		PERMANENT EMPLOYEES—Con. PERSONNEL PERMANENT—Suite	
PERMANENT EMPLOYEES—Con. PERSONNEL PERMANENT—Suite		Daly, P. J., prin. clk.	\$ 2,400 00
Langford, K., sten., gr. 2, 9 m. at \$1,080, 3 m. at \$1,140.	\$ 1,095 00	Donaldson, E. I., sten., gr. 1.	1,020 00
Leclair, J. A., prin. clk.	1,920 00	Durocher, E. J., clk., gr. 4.	1,920 00
Lochnan, J. J., clk., gr. 2.	1,380 00	Fisdale, R. J., deptl. acct., gr. 1.	2,220 00
Lothian, W. F., clk., gr. 4, 6 m. at \$1,620, 6 m. at \$1,680.	1,650 00	Gagnon, F. F., office app. opr., gr. 3, 12 m. at \$1,500, less 2 d.	1,491 28
McCann, D., head clk.	3,000 00	Gauthier, J. H. D., clk., gr. 3.	1,620 00
McRorie, W. W., sten., gr. 2.	1,380 00	Genest, S. M., office eng.	3,240 00
Neville, H. J., clk., gr. 4.	1,680 00	Gillis, W. C., asst. office eng.	2,580 00
O'Grady, W. J., clk., gr. 4, 12 m. at \$1,920, less 1½ d.	1,912 26	Gregoire, A., sten., gr. 2.	1,440 00
Payton, G. W., prin. clk.	2,400 00	Higgerty, H. J., clk., gr. 4.	1,680 00
Pereira, G. P., head clk.	3,000 00	Kelly, H. K., sten., gr. 2.	1,380 00
Richardson, M., sten., gr. 3.	1,680 00	Laflamme, R. J., clk., gr. 4.	1,680 00
Robertson, J. E., sten., gr. 2.	1,440 00	Larsen, E. C., sten., gr. 2.	1,140 00
Shields, J. A., prin. clk.	2,400 00	Leslie, M. I., sten., gr. 2.	1,380 00
Stothers, J. H., asst. office eng.	2,580 00	Lock, J. W. K., prin. clk.	2,400 00
Walker, E., sten., gr. 2.	1,380 00	McDermott, M. I. C., sten., gr. 2, 12 m. at \$1,380, less 2 d.	1,372 58
Watson, I. L., sten., gr. 2, 9 m. at \$1,200, 3 m. at \$1,260.	1,215 00	Metz, J. G., head clk.	3,000 00
Webster, W. V., prin. clk., 12 m. at \$2,400, less 9 d.	2,340 65	Mitchell, F. J., clk., gr. 2.	1,500 00
Weir, C. M., sten., gr. 2.	1,380 00	Pelton, A., prin. clk.	2,400 00
Wilson, C. A., clk., gr. 4.	1,680 00	Ross, J. M., clk., gr. 4.	1,680 00
Winters, A. T. C., prin. clk.	2,400 00	Shiels, E. E., clk., gr. 3, April 1 to June 12 at \$1,680 (superannuated)...	336 00
Witten, S., prin. clk.	2,400 00	Spence, C. F., asst. supt. M. L. branch.	3,480 00
		Stewart, H. L., clk., gr. 4.	1,920 00
		Westlake, W. E., clk., gr. 3.	1,620 00
North-West Territories and Yukon Branch —Territoires du Nord-Ouest et Yukon		Dominion Parks Branch—Parcs de l'État	
Anderson, M. G., clk., gr. 4, 9 m. at \$1,620, 3 m. at \$1,680.	1,635 00	Balmer, E., clk., gr. 2.	1,320 00
Beilby, R., clk., gr. 4, 9 m. at \$1,680, 3 m. at \$1,740.	1,695 00	Barber, D. M., clk., gr. 4.	1,920 00
Bracken, T. F., prin. clk., 9 m. at \$1,920, 3 m. at \$2,040.	1,950 00	Beatty, F. B., sten., gr. 2.	1,380 00
Champagne, N. W., clk., gr. 4, 9 m. at \$1,680, 3 m. at \$1,740.	1,695 00	Blenkarn, W., clk., gr. 3.	1,620 00
Clunn, T. H. J., office eng.	3,240 00	Brace, W., clk., gr. 4.	1,920 00
Doyle, J. F., prin. clk., 9 m. at \$1,920, 3 m. at \$2,040.	1,950 00	Bryan, G. W., prin. clk.	2,400 00
Finnie, O. S., dir., N.W.T. and Y. branch.	4,920 00	Calderhead, W. G., draftsman.	1,740 00
Macdonnell, J., clk., gr. 3, 12 m. at \$1,440, less 1 d.	1,437 86	Carnochan, G. A., clk., gr. 4.	1,680 00
McCracken, A., clk., gr. 2.	1,430 00	Casey, C. M., sten., gr. 2.	1,440 00
McKeand, D. L., asst. dir., N.W.T. and Y. branch, 9 m. at \$3,900, 3 m. at \$4,080.	3,945 00	Corcoran, J. B., prin. clk., 9 m. at \$2,280, 3 m. at \$2,400.	2,310 00
Moran, J. F., chief clk., 9 m. at \$3,120, 3 m. at \$3,240.	3,150 00	Corp. F., messenger.	1,300 00
Rosborough, V. M., clk., gr. 3, 9 m. at \$1,380, 3 m. at \$1,440.	1,395 00	Currie, M., sten., gr. 2.	1,380 00
Thomas, A. S., asst. eng.	2,700 00	Dacoust, A., clk., gr. 2.	1,440 00
		Donnelly, P. M., 3 m. to Mar. 31 at \$1,080.	270 00
		Durie, W. A., draftsman.	1,800 00
		Ebbs, E. J., clk., gr. 4.	1,920 00
		Featherstone, R., sten., gr. 1.	1,020 00
		Glenn, L. M. M., sten., gr. 2, 3 m. to Mar. 31 at \$1,080.	270 00
		Hand, S. E., prin. clk.	2,400 00
		Harkin, J. B., com. Dom. parks.	5,220 00
		Harris, K. D., asst. architect.	2,700 00
		Hawkins, L., sten., gr. 2.	1,380 00
		Heaslip, T. S., prin. clk.	2,400 00
		Herscovitz, B., sten., gr. 2, 9 m. at \$1,080, 3 m. at \$1,140.	1,095 00
		Lafranchise, M., clk., gr. 3.	1,620 00
		Love, G. A., clk., gr. 4.	1,680 00
		Macdonald, M. B., clk., gr. 3.	1,380 00
		McElroy, K. A., clk., gr. 3, 12 m. at \$1,680, less 4 d.	1,661 64
		McGahey, H. P., clk., gr. 3.	1,620 00
		McRae, D. C., sten., gr. 2, 6 m. at \$1,200, 6 m. at \$1,260, less 1 d.	1,226 61
		Murphy, A. J., prin. clk., 9 m. at \$2,040, 3 m. at \$2,160.	2,070 00
		Nagle, C. E., asst., wild life division.	2,700 00
Mining Lands Branch—Terrains miniers			
Batterton, W. P., deptl. acct., gr. 2.	2,700 00		
Bennett, C. H., prin. clk.	2,400 00		
Blue, W. A., clk., gr. 4.	1,920 00		
Busby, B. A., clk., gr. 4, 12 m. at \$1,680, less 4 d.	1,661 33		
Chamonard, L., sr. map draftsman.	2,160 00		
Clifford, T., clk., gr. 4, 6 m. at \$1,860, 6 m. at \$1,920.	1,890 00		
Cross, W. J., clk., gr. 2.	1,440 00		

INTERIOR—INTÉRIEUR

Salaries at Ottawa	Amount	Traitements à Ottawa	Montant
Vote-Crédit 13—Civil Government		PERMANENT EMPLOYEES—Con.	
Salaries—Con.—Gouvernement		PERSONNEL PERMANENT—Suite	
civil: Traitements—Suite			
PERMANENT EMPLOYEES—Con.			
PERSONNEL PERMANENT—Suite			
O'Brien, A., clk., gr. 2, 8 m. to Nov. 30 at \$1,380 (resigned).....	\$ 920 00	McClymont, P. J., head clk.....	\$ 3,000 00
Pinard, A. A., chief, historical sites division.....	3,420 00	McDonald, J. F., editor, gr. 1.....	2,520 00
Rogers, M. F., sten., gr. 3.....	1,680 00	McFadden, M. E., library asst.....	1,260 00
Scharie, V. J., sten., gr. 2, April 1 to Dec. 14 at \$1,330 (resigned).....	971 94	McMeekin, E. J., investigator, N.R., gr. 3.....	2,940 00
Scott, E., sten., gr. 2.....	1,380 00	McRae, A. D., investigator, N.R., gr. 3.....	3,180 00
Shea, J. J., clk., gr. 4.....	1,920 00	McStravick, C., clk., gr. 2.....	1,380 00
Spero, J. E., head clk.....	3,000 00	Murphy, A., prin. clk.....	2,400 00
Von Charles, F., clk., gr. 4.....	1,680 00	Murphy, M. E., typist, gr. 2.....	1,440 00
Walters, D. R., clk., gr. 2.....	1,440 00	Norrish, W. H., investigator, N.R., gr. 5, 9 m. to Mar. 31 at \$3,300.....	2,475 00
Ward, E. M., sten., gr. 2.....	1,380 00	Odell, R. K., asst. director, N.R.I. branch.....	4,620 00
Williams, E. R., sr. draftsman.....	2,160 00	O'Keefe, J. J., investigator, gr. 1.....	2,160 00
Williams, J. L., prin. clk., 4 m. to July 31 at \$2,400 (resigned).....	800 00	O'Neil, R. F., deptl. librarian, gr. 3, 12 m. at \$1,920, less 37½ d. (deceased).....	1,710 97
Williams, M. B., head clk.....	3,000 00	Quimet, E. G., photographer.....	1,800 00
Williamson, F. H. H., deputy com., Dom. parks.....	4,140 00	Peaker, R., head clk.....	2,760 00
Natural Resources Intelligence Branch—		Peaker, W. J., office eng.....	3,240 00
Renseignements sur les ressources		Petrie, J., geographer, gr. 1.....	2,820 00
naturelles		Pilon, E., sr. messenger.....	1,200 00
Adams, M. E., sten., gr. 3.....	1,500 00	Plunkett, R., sten., gr. 2.....	1,380 00
Atchison, M. B., clk., gr. 4.....	1,920 00	Proulx, A., sten., gr. 2.....	1,440 00
Bastien, J. A., investigator, N.R., gr. 2.....	2,700 00	Ritchie, I., clk., gr. 4.....	1,920 00
Birchenough, A. A., geographer, gr. 2.....	3,180 00	Routh, C. T., prin. clk.....	2,400 00
Bray, R. P., investigator, N.R., gr. 4.....	3,060 00	Ryan, T. W., clk., gr. 2.....	1,600 00
Browne, T. A., investigator, N.R., gr. 2, 12 m. at \$2,700, less ½ d.....	2,696 25	Shea, A. E., clk., gr. 1.....	1,300 00
Cameron, D. D., clk., gr. 4.....	1,920 00	Sim, J., cartographer.....	2,460 00
Clarke, H. H., investigator, N.R., gr. 2.....	2,460 00	Slade, W. T., clk., gr. 3.....	1,680 00
Collins, G. H. A., sr. photographer, 12 m. at \$2,100, less \$64.68 hospitalization charges.....	2,035 32	Sullivan, A., geographer, gr. 1.....	2,820 00
Cyr, E., office eng.....	2,880 00	Thomas, L. O., investigator, N.R., gr. 6.....	3,780 00
Deshaies, M. E., jr. map draftsman, Oct. 15 to Feb. 2 at \$1,440 (resigned).....	434 38	Walker, E., engineering clk., 9 m. at \$1,740, 3 m. at \$1,800.....	1,755 00
Dickson, D. H., map draftsman.....	1,620 00	Welsh, C., clk., gr. 2, 6 m. at \$1,200, 6 m. at \$1,260.....	1,230 00
Drew, D. A., clk., gr. 3, 10 m. to Jan. 31, at \$1,680.....	1,400 00	Weskett, F. C., clk., gr. 4.....	1,740 00
Gagnon, J. S., clk., gr. 2.....	1,600 00	Whitehead, A., typist, gr. 3.....	1,680 00
Garvin, E. R., clk., gr. 3.....	1,500 00	Wilkinson, J. J., chief photographer.....	2,580 00
Gaudry, G. A., chief economic geographer, mapping division.....	3,780 00	Geographer's Branch	
Gauthier, A., map draftsman.....	1,800 00	Service géographique	
Gibson, A., clk., gr. 2.....	1,440 00	Akerlindh, A. A., clk., gr. 4.....	1,920 00
Grindlay, T., geographer, gr. 1.....	2,880 00	Anderson, W., geographer, gr. 1.....	2,820 00
Harvey, E. R., investigator, N.R., gr. 3.....	2,940 00	Beveridge, J., cartographer.....	2,580 00
Hilliard, L., clk., gr. 4.....	1,920 00	Bryant, E. D., geographer, gr. 2.....	3,420 00
Hopkins, G. R., prin. clk.....	2,160 00	Chaliouf, J. E., chief geographer.....	4,320 00
Hughson, W. G., asst. office eng.....	2,580 00	Chandler, S., cartographer.....	2,460 00
Jodoin, R., clk., gr. 3.....	1,680 00	Dennison, M. I., clk., gr. 3.....	1,680 00
Kitto, F. H., investigator, N.R., gr. 6.....	3,960 00	Dumouchel, G., cartographer.....	2,460 00
Lynch, F. C. C., director, N.R.I. branch.....	5,220 00	Inkster, F., geographer, gr. 2.....	3,180 00
Macfarlane, J. H., clk., gr. 4.....	1,920 00	Lacroix, A., sr. map draftsman.....	2,160 00
Mackenzie, L., sten., gr. 3.....	1,500 00	Lightfoot, D., cartographer.....	2,460 00
Marsolais, D., clk., gr. 3, 3 m. at \$1,620, 9 m. at \$1,680.....	1,665 00	Linnell, A. A., sr. map draftsman.....	2,160 00
Master, O., economic adviser.....	4,920 00	Loyer, J. R., map draftsman.....	1,800 00
McCallum, H. A., investigator, N.R., gr. 6.....	3,780 00	McElligott, J. P., sr. map draftsman.....	2,040 00
		Nicol, H., sr. map draftsman, 12 m. at \$2,040, less 18 d.....	1,941 29
		Old, F. J. A., geographer, gr. 1.....	2,820 00
		Sawyer, G., clk., gr. 2.....	1,380 00
		Tache, H., geographer, gr. 1.....	2,820 00
		Secretary's Branch—Secrétariat	
		Adams, G. E., clk., gr. 4.....	1,680 00
		Ashfield, J. H., registrar of correspondence.....	3,420 00
		Ault, B. I., sten., gr. 2.....	1,380 00

DETAILS OF EXPENDITURE—*Con.*—DÉTAIL DES DÉPENSES—*Suite*

Votes—Crédits 280 & 501—Canadian National Parks—Parcs nationaux du Canada

GENERAL EXPENSES—DÉPENSES GÉNÉRALES

<i>Salaries—Traitements:—Ottawa</i> (Page K-30)	87,569 73
<i>Travelling Expenses—Frais de voyages:—J. H. Henderson</i>	499 46
<i>Materials, Supplies, Repairs, etc.—Matériel, fournitures, réparations, etc.:—Buffalo license plates, \$623.05; fire hose and accessories, \$919.25; map and photographic supplies, \$263.08; sundries, \$86.96</i>	1,892 34
<i>Printing and Stationery—Impressions et papeterie:—King's Printer, supplies</i>	15,836 70
<i>Miscellaneous—Divers:—Express and freight: American Railway Express Co., \$312.50; Can. Nat. Express Co., \$1,902.50; Can. Nat. Railways, \$584.16; Can. Pac. Express Co., \$1,377.15; Can. Pac. Railway Co., \$338.44; telegrams: Can. Nat. Telegraphs, \$675.54; Can. Pac. Ry. Co's Telegraphs, \$485.47; legal expenses, \$108.64; premium on guarantee bonds, \$290.98; sundries, \$50.24</i>	6,125 62 111,923 85

PUBLICITY—PUBLICITÉ

<i>Travelling Expenses—Frais de voyages:—J. C. Campbell, \$3,106.81; J. Rigby, \$1,678.92; S. M. Rogers, \$585.88; A. W. Ross, \$308.10; T. Shields, \$819.80</i>	6,499 51
<i>Materials, Supplies, Repairs, etc.—Matériel, fournitures, réparations, etc.:—Associated Screen News Ltd., Montreal, motion picture film, \$1,831.30; Dept. of Trade and Commerce, motion picture film, \$1,036.86; Natural Resources Intelligence Branch, photo. supplies, \$1,777.80; W. J. Oliver, Calgary, photographs, \$4,006.33; Plaunt Hardware Ltd., Ottawa, photo frame material, etc., \$1,025.17; W. Wolfe, Edmonton, mounting buffalo, etc., \$1,210; accounts under \$1,000: hardware and lumber, \$686.55; maps, \$460; motion picture film, \$511.29; phototgraphic supplies, \$712.37; sundries, \$156.34</i>	13,414 01
<i>Miscellaneous—Divers:—Advertising, \$480.83; car hire, \$30; flags, \$230.72; membership subscriptions, \$40; subscriptions to newspapers, \$1,125.65</i>	1,907 20
<i>Other Outlay—Autres déboursés:—Investigation of Mount Waddington region by W. A. Don Munday, Vancouver</i>	300 00 22,120 72

HISTORIC SITES AND MONUMENTS—SITES HISTORIQUES ET MONUMENTS

<i>Salaries and Wages—Traitements et salaires:—A. Martell, hon. supt., Fort Louisbourg, 4 m. to Mar. 31 at \$200; caretakers: J. Adcock, Fort St. Joseph, Dec. 15 to Mar. 31 at \$50; J. C. Boudreault, Lacolle, \$25; J. D. Bryson, Chateauguay, \$25; W. Callan, Mission of St. Ignace, \$25; C. Casement, Ernestown Shipyard, 1 m. to Mar. 31 at \$25; J. Connell, Fort Howe, \$50; G. B. Cookman, Battle of Odelltown, \$25; A. Courtois, Fort St. Jean, \$25; R. G. Craig, Glengarry House, \$25; D. J. Creighton, Cariboo Wagon Road, \$25; E. Deschamps, Fort Chambly, 31 d. at \$3; U. Deschenaux, Fort Grevier, \$25; M. Desmarais, Madeline de Vercheres, \$50; E. J. Dufour, Ile aux Coudres, Sept. 23 to Mar. 31 at \$25; J. W. Eccles, Battle of Eccles Hill, \$25; E. Gauvin, Fort Charlesbourg, \$25; Historic Association of Annapolis Royal, Champlain Habitation, \$25; J. Hnatiw, Fish Creek, April 16 to Mar. 31 at \$50; G. Jenner, Frog Lake, \$50; W. Lajeunesse, Battle of Coulee Grow, \$25; E. Lalanne, Fort Chambly, 11 m. to Mar. 31 at \$1,200; D. Lawrence, Fort Lawrence, \$25; A. Lamoureux, Forts Edmonton and Augustus, \$25; H. Lenihan, Martello Tower, \$25; C. A. W. Lethbridge, Fort Hope, \$25; D. J. MacPherson, Glengarry Cairn, \$25; S. Mann, Duke of Richmond, \$25; E. Marchand, Forges St. Maurice, 9 m. to Mar. 31 at \$50; R. Matthews, Battle of Cook's Mills, \$25; L. W. McDonald, Fort Edward, \$180; J. R. McKinnon, Fort Walsh, \$25; L. Messier, Fort Richelieu, \$25; W. Michelin, Battle of Three Rivers, \$25; A. W. Millar, Fort de Levis, Apr. 4 to Mar. 31 at \$25; D. Murray, Fort Moncton, \$25; F. Norton, Christian Island, \$25; S. Page, LaPrairie, \$25; W. H. Palmer, Gleichen, \$25; C. A. Papineau, Fort Lennox, \$1,380; J. W. Pidgeon, Logan Memorial Park, \$25; D. J. Pollard, Sir John A. MacDonald, May 14 to Mar. 31 at \$25; C. Price, Fort Louisbourg, 9 m. to Dec. 31 at \$50, less 1 m.; R. Reid, Fort George, \$25; J. Rourke, Fort Livingstone, \$25; P. Ste. Antoine, Fort Ste. Theresa, \$25; J. W. Shriner, Battle of Beechwood or Beaver Dams, \$25; F. H. Stringer, Landing Place of Dollier, \$50; A. Tessier, Battle of The Cedars, \$25; C. B. Townsend, Fort Cumberland, \$50; W. A. Van Allan, Chrysler Farm, \$25; J. T. Warden, Battle of Cut Knife Hill, \$25; W. G. Webb, Fort Wellington, \$1,260, less \$225 paid by Dept. of Nat. Defence; W. M. Wilson, Ernestown Shipyard, Apr. 1 to Oct. 5 at \$25 (resigned); Winnipeg Parks Board, Battle of Seven Oaks, \$25; S. Yexxa, Fort Meductic, \$25; G. F. Young, Fort Langley, \$50; S. C. Young, Kaministiquia Portage, \$25</i>	5,289 85
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IV

NATIONAL PARKS OF CANADA

REPORT OF THE COMMISSIONER, J. B. HARKIN

National Parks

GENERAL

The year 1929-30 was one of activity and expansion in the work of the National Parks of Canada. Two new areas were investigated and added to the national parks system. The first of these included twenty-nine island reservations in the Georgian Bay district of Ontario. Some years ago officers of the National Parks Branch had pointed out the rapidity with which this beautiful region was being taken up by summer residents, with the result that there would soon be no places to which the general public could have free access for camping, bathing, or picnicking. An examination of unalienated islands, title to which still remained in the hands of the Department of Indian Affairs in trusteeship for the Ojibway tribe, was made by National Parks officers. Later by arrangement with the Department of Indian Affairs, a number of suitable islands were reserved, and last year twenty-nine were acquired and set aside as the Georgian Bay Islands park. Beausoleil island, the largest of the group—in fact the only remaining large island not taken up in the entire region—is well suited to become a public resort. It covers nearly five square miles and presents a good example of the characteristic scenery of this picturesque part of Ontario. Beautiful groves and bathing beaches of white sand make it attractive for outdoor recreation while its plant and bird life are varied and interesting.

Beausoleil island, too, played a part in that tragic drama which resulted in the annihilation of the great Huron Confederation at the hands of the Iroquois. After their crushing defeat at Fort Ste. Marie II, a few Hurons, Jesuit clergy, and French soldiers are said to have taken refuge from their persecutors on this island. Ruins of fireplaces and piles of debris which appear to indicate a line of fortifications laid out on military principles are still to be seen and lend support to the belief. Others believe that the ruins are of Ojibway origin, and date back to a period one hundred years later than the downfall of the Hurons when the Ojibways came down from the north and occupied the island. The word "Beausoleil" is a French translation of the Indian name "Chi-kon-de-kiara," meaning "land-seen-in-the-beautiful-light-of-distance," or more freely "land-of-the-beautiful-sun." This charming designation may have owed its origin to the wonderful sunrises and sunsets for which Georgian bay is famous.

Another new park region of interest is that recently set aside covering the Riding mountain in Manitoba. It consists of 1,148.04 square miles of rolling woodland country dotted with beautiful lakes, of which Clear lake, already a resort, is the best known. The new park extends somewhat over fifty miles from east to west, and from twelve to twenty-four miles from north to south. It lies southwest of lake Dauphin and approximately 120 miles north of the international boundary. The eastern portion is broken, hilly country, forming part of the well-known Riding Mountain escarpment. The terrain is cut by deep gorges and covered with dense poplar, spruce and jack-pine forests which will provide opportunities for forest research and nature study in addition to the recreational attractions. On the east and north the escarpment rises abruptly

from the plains. To the south and west the terrain extends in a wide plateau broken by rolling hills. The park is also a natural home for big game and contains one of the largest herds of wild elk on the continent. Moose, deer, bear, and smaller animals are found in numbers, while its ponds and lakes supply a resting and feeding place for thousands of wild birds. Surveys for the construction of a highway to Clear lake were undertaken last autumn and development work will be prosecuted as soon as the season opens.

TRAVEL TO THE PARKS

The present year marks the eighteenth since the creation of the National Parks Branch. In that time astonishing developments have taken place. The number of national parks has been increased from seven to eighteen and the total area from 4,019.5 square miles to over 12,000 square miles. In every part of the Dominion the importance of national parks is appreciated and there is apparent a growing pride in these great national possessions. This interest has been reflected in the rapid growth of travel to the parks, which are no longer regions visited by the wealthy few, but are attracting the multitude.

VISITORS TO NATIONAL PARKS

The number of visitors entering the national parks last year was the largest yet recorded. The total reached 559,329, as compared with 488,721 in the previous year. Totals by parks for the two years show decreases and increases as follows:—

Park	1929-30	1928-29
Banff.....	217,781	236,801
Buffalo.....	18,853	18,454
Elk Island.....	22,611	18,968
Fort Anne.....	18,000	16,000
Glacier.....	1,000	1,000
Jasper.....	15,458	14,000
Kootenay.....	51,772	33,238
Nemiskam.....	100	50
Point Pelee.....	83,200	50,100
Prince Albert.....	10,131	5,118
Revelstoke.....	8,000	8,800
St. Lawrence islands.....	20,000	18,000
Vidal's Point.....	17,400	15,050
Waterton Lakes.....	48,592	26,002
Yoho.....	26,431	27,140
	559,329	488,721

Increase 70,608.

It will be noted that the largest increase occurred in the smaller parks, Waterton Lakes park showing a growth of nearly 90 per cent. Prince Albert park practically doubled the total of the previous year, while Kootenay park also showed a big increase. The business depression undoubtedly affected long-distance travel to Banff, particularly during the latter part of the summer, a decrease which was, however, partly made up by the increase in motor travel. The total number of cars using the Banff-Windermere and Kicking Horse highways was 98,482, an increase of 5,604 over the previous year. This increase is very gratifying and shows that these roads are fulfilling the purpose for which they were constructed—to act as through routes across the Rockies between the prairies and the coast, and as a means of bringing in foreign tourists to Canada.

REVISION OF PARK BOUNDARIES

The decision to transfer the natural resources to the western provinces led to a revision of the boundaries of the parks on the eastern slope of the Rockies. While the boundaries of these parks have been extended from time to time in the past, such extensions have always been considered as provisional. With the passing of all Crown lands, with the exception of national parks, to the provinces the desirability of fixing permanent boundaries became obvious.

During 1927 Mr. R. W. Cautley, D.L.S., was accordingly instructed by the minister to investigate the eastern areas of Banff and Jasper national parks and make recommendations for the guidance of the Government. Associated with Mr. Cautley was Mr. L. C. Charlesworth, Chairman of the Irrigation Council of Alberta, who was appointed the official representative of that province.

The report submitted strongly recommended, for the facilitation of both forest and game protection, that heights of lands as opposed to streams should be taken as boundaries. It pointed out that the valleys form the natural routes of travel both for game and visitors and that to have a closed area on one side of a stream and an open one on the other would lead to confusion and annoyance as well as danger to park game. The exclusion of certain areas possessing natural resources was recommended, including the Kananaskis and Spray watershed areas, the Ghost River area, the Red River watershed, the northerly portion of Rocky Mountains park, and the Brulé and Rock Lake areas which are believed to contain extensive coal deposits. With the exclusion of the areas recommended in the report, Rocky Mountains, or Banff, national park will be reduced in area from 3,961.50 square miles to 2,585 square miles, and Jasper national park from 4,635 square miles to 4,200 square miles.

PRESERVATION OF WILD LIFE

It is now eighteen years since the national parks were made game sanctuaries, through the establishment of an adequate system of game patrols and enforcement of the regulations. The results attained have been most gratifying. Native species have re-established their numbers to such an extent that the parks are more and more becoming the wild life reservoirs of the country.

Restocking.—In the past two or three years provincial governments have been drawing on the parks to replenish depleted game areas in other parts of the country. Two regions in the southern part of British Columbia have been stocked with Rocky Mountain sheep and an additional area between the Okanagan and Kettle valleys with elk. During the past year the British Columbia Government took up with the Department of the Interior the question of restocking the Queen Charlotte islands with elk. Authority was granted to furnish them with a small herd from the Buffalo park at Wainwright. The animals were cut out of the main herd—which now numbers 600—early in the spring, corralled until safe to handle, and then placed in specially constructed crates. Through the co-operation of the Canadian National Railways a special baggage car was provided which was attached to the regular passenger train for Prince Rupert and went through express to that port. Here the elk were transferred to a boat sailing to the Queen Charlotte islands. No loss or injury was sustained in transit and according to report the animals are settling down and adapting themselves successfully to their new surroundings.

Scientific and Educational Shipments.—Shipments for scientific and educational purposes were also made to various parts of the world. Two female buffalo were shipped to the Zoological Gardens of the city of Johannesburg, South Africa, and arrived in good condition after their long journey. A pair of beaver and a buffalo cow were presented to the Royal Zoological Society of Antwerp, Belgium. One male and two female buffalo were forwarded to the

Zoological Society of the city of Adelaide, Australia; two male buffalo and a pair of beaver to the Zoological Gardens at Auckland, New Zealand; and a pair of Rocky Mountain sheep to the Zoological Gardens, London, England. The Division of Animal Husbandry, United States Department of Agriculture, at Matanuska, Alaska, applied for one male and three female yak for experimental purposes in connection with the experimental farm there, and these animals were shipped in the autumn. A Rocky Mountain ram was presented to the Edmonton Exhibition Association, and one pair of sheep and a male elk to the city park authorities of Fort William, Ont. Two female buffalo and a pair of elk from Buffalo park were also donated to Stanley park, Vancouver, B.C. The male elk died shortly after arrival and an additional male was accordingly sent. A pair of Rocky Mountain goat was forwarded to the Zoological Gardens, Victoria, B.C. The corralling and shipping of such large wild animals, as most of the above, involves a good many difficulties, but it is gratifying to know that nearly all the animals reached their destination in good condition and are reported to be doing well.

Government Buffalo Herds.—The Government buffalo herds are in a very thriving condition. Nearly all problems in connection with their maintenance have been successfully met; the chief difficulty now is to keep their numbers within the forage limits of the reserve. The rapidity of increase is shown by the fact that if no disposal had been made of surplus animals since the original purchase in 1909, the herd through natural increase alone, would now total about 20,000 head. The calf crop at Buffalo park last year numbered about 1,200, with an approximately equal number of males and females.

The wisdom of the department's action in reducing the numbers in Buffalo park and of increasing the range at Elk Island park was particularly evident last year. The season proved to be very dry and the forage consequently scanty and poor, yet, owing to the fact that there was no overcrowding, the herds reached the autumn in good condition. Except for a severe spell in December, the winter was favourable, with moderate temperatures and snowfall and the animals came through well. A census taken in March showed 5,016 buffalo in Buffalo park and 716 in Elk Island park. No new shipments were made to the Far North during the year. In the autumn, with a view to keeping the herd in Buffalo park near the 5,000 total, a slaughter of 500 animals was decided upon. This was carried out early in December when the fur was prime. Owing largely to the educational and publicity efforts carried on by the department there now exists a ready market for buffalo products and no difficulty was found in disposing of the meat and hides, both at an advanced price compared with the previous year. Investigations were made with a view to improving forage conditions in Buffalo park and, at the request of the parks authorities, an official of the federal Department of Agriculture spent some time at Buffalo park, examining soil conditions and the present herbage. Steps are being taken to put the recommendations contained in his report into effect.

Antelope Herd.—The antelope herd at Nemiskam park is thriving. Climatic conditions during the past year were very favourable, particularly the mild winter with its light snowfall. There was an abundance of grass in the park, the antelope came through the cold season in good condition with no loss, and the natural increase in the spring was very satisfactory. The herd in Nemiskam park now totals 300. The chief enemy of the antelope is the coyote but, as in other parks, this pest was less troublesome this year, apparently owing to some epidemic which decreased the number. In co-operation with the Department of Agriculture an investigation was made with a view to determining the importance of sage brush in the feed of antelope and of discovering methods of increasing the growth of the plant in Nemiskam park.

Beaver.—Questionnaires were sent out to the game warden staffs in Banff, Jasper, Waterton Lakes, and Elk Island national parks, to obtain a census of the present number of beaver in each park; also suggestions as to their control where desirable and propagation in selected areas. Beaver had increased to such an extent in Cabin lake, Jasper park, that they were causing trouble with the water supply system there. The superintendent was authorized to trap a number of these alive and to place them in other waters of the park. Beaver were also found to be damaging the fish hatchery at Waterton Lakes park and authority was given the superintendent there to capture twenty-five animals alive for transfer elsewhere in the park.

FIRE PROTECTION

Owing to the extreme dryness of the season a number of fires occurred in the parks. The vigilance of the wardens, however, and the use of up-to-date fire-fighting equipment reduced the fire damage to the minimum. There are now in the parks 150 portable pumps with 200,000 feet of 1½-inch hose; several self-propelled pumpers with hose trucks similar to those used in cities, for use on highways; trailer pumpers of 20 horse-power; and automobile front-end pumps. Each year the equipment is being added to and the manner in which fires are now brought under control shows the efficiency of the provision made to safeguard the great park areas from fire.

The numbers of fires, the areas burned over, and the cost of extinguishing is shown by the following tables:—

RAILWAY FIRES DURING 1929-30

Park	Number of fires	Area burned	Cost of extinguishing	
		acres	\$	cts.
Jasper.....	3	9½	176	62
Banff.....	12	10½	139	76
Yoho.....	6	4½	25	01
Totals.....	21	25	341	39

GENERAL FIRES DURING 1929-30

Jasper.....	16	42½	450	95
Banff.....	33	3,476½	17,297	68
Yoho.....	3	1,500½	3,218	46
Glacier.....	2	5	246	80
Buffalo.....	1	2½	10	00
Elk Island.....	3	1½	2	50
Kootenay.....	9	100	1,796	13
Mount Revelstoke.....	5	116	1,932	37
Point Pelee.....	2	4½	.....	.....
Prince Albert.....	6	10,650½	1,489	70
Waterton Lakes.....	6	.....	67	75
Totals.....	86	15,898½	26,512	34
Grand totals all fires.....	107	15,923½	26,853	73

THE BIG BEND HIGHWAY

Following negotiations between the federal Government and the Government of British Columbia, arrangements were made for the construction

of the Big Bend highway which will connect Revelstoke with Golden and form the last link in the western section of a trans-Canada motor route. The road, which is now under construction, when completed, will provide a direct way through all-Canadian territory from Winnipeg to Vancouver and furnish an artery of communication which from a tourist point of view should prove of inestimable economic value to the country. Two years ago the Dominion Government constructed a link in the highway from Lake Louise in Banff national park through the Kicking Horse pass via Yoho park to connect with the provincial road through the Kicking Horse canyon from Golden, B.C. About the same time the province of British Columbia completed the scenic highway up the Fraser valley and as far as Revelstoke, B.C. There remained only the barrier of the Selkirk range to be surmounted, but this involved many engineering difficulties. Under the agreement made by the Government of Canada with the province of British Columbia the eastern section of the Big Bend highway from Donald to Boat Encampment at the head of the Big Bend will be constructed by the Dominion, while the western section from Boat Encampment to Revelstoke will be built by the province of British Columbia.

The Big Bend route will afford a spectacular scenic motor trip. The highway from Calgary to Vancouver, will pass through mountain scenery of unsurpassed grandeur and sublimity. Lofty mountains, deep luxuriant valleys, snowfields, and glaciers with many charms truly alpine in character, will be unfolded to the tourist. By the completion of this link the people of the Prairie Provinces will have ready access to the sea-level climate of the coast, while Banff and the beautiful Lake Louise district will be brought within easy reach of the people of the Pacific coast.

Over 500 miles of motor highways, more than 2,000 miles of trail and nearly 900 miles of telephone lines were under maintenance last year. The mileage by parks is as follows:—

Park	Roads	Number of miles	
		Trails	Telephone lines
Banff.....	145	769.0	235.25
Jasper.....	108	647.50	308.25
Yoho.....	55	168.25	44.25
Glacier.....	9	121.0	7.0
Waterton Lakes.....	34	225.25	57.37
Kootenay.....	71	115.50	64.00
Mount Revelstoke.....	19	34.25	17.25
Buffalo.....	11	.....	34.50
Prince Albert.....	34	7.0	89.0
Elk Island.....	15	.....	.....
Point Pelee.....	7	.....	.....
	508	2,087.75	856.87

LANDSCAPE AND ARCHITECTURAL WORK

The plans of a large number of buildings proposed to be erected in the various national parks were examined and in the majority of cases drawings showing suggested revisions to elevations were prepared with a view to improving the external appearance without adding to the cost of buildings. These included designs for residences, stores, hotels, theatres, banks, churches, hospital, service stations, masonic lodge, tea rooms, public garages, and other structures.

Working and detail drawings and specifications were prepared for the following new Government-owned buildings.

Gateway building, eastern entrance to Banff park.
 Milk vendor's store at Tunnel Mountain auto campsite, Banff park.
 Addition to dressing room accommodation at Cave and Basin swimming pool, Banff park.
 Residence for superintendent, Kootenay park.
 Stores and garage building, Yoho park.
 Residence for superintendent, Yoho park.
 Gasolene and oil storage building, Yoho park.
 Addition to Government garage, Waterton Lakes park.
 Addition to Administration building, Waterton Lakes park.
 Administration building, Prince Albert park.
 Caretaker's office, auto camp grounds, Prince Albert park.
 New Royal Canadian Mounted Police quarters, Prince Albert park.
 Alterations to foreman's cottage, Buffalo park.
 Refreshment pavilion, Point Pelee park.
 Pavilion, Beau Rivage island, St. Lawrence Islands park.
 Plan of War Memorial park at Mattawa, Ont.

A number of plans for new subdivisions and automobile camp grounds in Prince Albert park, where new roads are opening up attractive building areas, were prepared, also plans of proposed zoning areas in the townsite of Banff. Designs were drawn as well in furtherance of landscape development at the Great Divide near Stephen, B.C.

PUBLICITY

The Publicity Division was very active during the year. A systematic course of lectures illustrated by moving pictures and coloured lantern slides was given in Canada and the United States. Attractive publications were issued, moving pictures loaned, and articles and memoranda furnished to writers, magazines, and newspapers. The number of lectures delivered during the year was 140. Moving pictures shown outside the office, 718; within the office, 1,788; loaned, 355. The photographic library was increased by several hundred negatives; 23,975 new prints were added to the collection; and 16,481 distributed. Enlarged pictures sent out numbered 1,162; coloured slides added to the collection, 3,456; loaned, 4,710. Eighty-five lectures were prepared and provided for outside lecturers and 437 articles with 291 cuts furnished papers and magazines. Framed pictures used for exhibition purposes numbered 340.

To meet the increasing demand for publications, 344,380 pamphlets (new editions and reprints) were printed. These included:—

First editions—*Jasper*, 10,000; *Banff, Kootenay and Yoho Parks*, 25,400; *Guide to Waterton Lakes Park*, 25,000; *Elk Island Park*, 25,000; *Geological Story of Jasper National Park*, 10,000; *Guide to Fort Wellington*, 10,000; *The Succession of Fossil Faunas in the Eastern Part of Jasper Park*, 1,000; *Sedimentation in a Glacial Lake*, 1,000.

Reprints—*Banff, Kootenay and Yoho Parks*, 51,250; *Rocky Mountains Circle Tour*, 50,000; *Waterton Lakes Park*, 35,815; *The Kicking Horse Trail*, 25,100; *Kootenay National Park and the Banff-Windermere Highway*, 25,300; *Guide to Fort Anne*, 25,450; *Through the Heart of the Rockies and Selkirks*, 10,065; *Prince Albert National Park*, 10,000; *Tourists' Guide of Canada-1929*, 1,000.

During the year 209,095 pamphlets were distributed, besides 2,500 copies of the Annual Report of the Commissioner of National Parks, 1927-28.

REVENUE

Revenue collected by the National Parks of Canada during the fiscal year ended March 31, 1930, amounted to \$251,007.78. The following statement shows the revenue by parks:—

	1929-30	1928-29
	\$ cts.	\$ cts.
Banff National Park.....	148,851 63	150,963 10
Buffalo Park.....	26,430 39	23,561 61
Elk Island Park.....	9,343 50	5,993 15
Glacier Park.....	142 23	166 14
Jasper Park.....	35,252 72	29,994 39
Kootenay Park.....	14,431 51	13,729 64
Nemiskam Park.....	384 00	384 00
Point Pelee Park.....	401 75	607 37
Prince Albert Park.....	594 73	379 77
Vidal's Point Park.....	171 00	72 00
Waterton Lakes Park.....	6,926 42	5,622 08
Yoho Park.....	3,760 00	3,223 17
Fort Anne Historic Park.....	1 00	6 00
Brereton Lake Recreational Area.....	10 00	10 00
Hawke Lake Recreational Area.....	10 00	
Lake Florence Recreational Area.....	66 00	60 00
Fines and forfeitures.....	2,876 59	2,590 93
Historic sites.....	30 00	32 00
Migratory Birds.....	70 15	74 00
Miscellaneous.....	1,254 16	1 00
	251,007 78	237,470 35

Detailed reports of the work in the different parks are found hereunder.

SCENIC PARKS

BANFF NATIONAL PARK

Reports show that Banff national park had a very successful year. Tourist travel by motor assumed greater proportions than ever before. The total number of cars, east-bound and west-bound, through the Kananaskis gateway was 74,246, an increase of 6,410 cars over the previous year's figures. Passengers numbered 142,337, or 21,439 more than in 1928. Of the grand total of visitors by motor 135,577 were from Canada and 6,760 from the United States.

Tunnel Mountain motor campsite showed increasing popularity. During the season 7,309 cars and 26,861 persons were accommodated on the grounds, establishing a record. Of the campers 24,139 were from Canada and 2,722 from the United States. The record for a single day was made on June 30, 1929, when 768 cars and 3,141 persons were in camp, as compared with 685 cars and 2,940 motorists on July 15, 1928.

As usual the Government hot springs proved popular with bathers. At the Cave and Basin bathing house registrations showed 66,305. New daily and week-end records were established. On July 1, 2,295 bathers passed through the turnstile, and during the week-end June 29-July 1, 4,731 bathers were accommodated. The number of visitors to the Cave adjacent to the hot springs was 61,010. At the Upper hot springs there were 46,146 registrations.

Museum, Zoo, and Animal Paddocks.—An outstanding place of interest to visitors is the Banff museum. During the year over 20,000 people viewed the collections of big game and smaller animals; bird, fish, and plant life of the region; geological specimens and Indian relics. The Banff zoo was again the centre of interest for thousands of tourists. The animals and birds now being

cared for at the zoo include: 1 polar bear, 2 grizzly bears, 1 black bear, 1 cinnamon bear, 1 mountain lion, 1 Canada lynx, 1 bobcat, 4 timber wolves, 4 coyotes, 1 badger, 2 martens, 1 gopher, 3 porcupines, 1 ermine, 2 great horned owls, 1 peacock, 2 golden eagles, and 4 Canada geese. The exhibition herds of animals at the paddocks were in splendid condition. These comprised 22 buffalos, 25 elks, 7 Angora goats, 10 Rocky Mountain sheep, 9 four-horned sheep, 7 Rocky Mountain goats and 5 yaks.

Permits and Licences.—Permits and licences covering the various business activities carried on in the park totalled 20,560. Of these 18,203 were motor licences for transients. Motor licences for park residents numbered 625; guides' licences, 58; chauffeurs' licences, 515; restaurant and tea room licences, 41.

Banff Fire Protection.—There were few fires during the tourist season, and what outbreaks occurred were quickly brought under control and caused no serious damage. During the year the Banff volunteer fire brigade responded to nineteen alarms. The total loss amounted to \$723. The brigade now numbers 25, officers and firemen. A night patrol was maintained in the townsite by the local detachment of the Royal Canadian Mounted Police.

Mosquito Control.—The campaign against mosquitoes in the park has shown gratifying results. After a thorough investigation of conditions some years ago, officers of the Department of Agriculture found that the most important species of mosquito to combat in the neighbourhood of Banff was the *aedes*, members of which breed in flooded areas. When hatched out the adults may travel as far as four or five miles. Experiments have shown that the eggs retain their fertility as long as six years. During the larva and pupa stages the insects must breathe through the surface of the water and a thin film of oil will cause their death from suffocation in a maximum time of four hours. During May, June, and July of 1929, ten men were employed in the distribution of oil over the areas affected. A total of 2,565 gallons of oil was used on an area of 4,500 acres. Satisfaction was expressed by the officials in charge of the work that the fish *Gambusia affinis*, an enemy of the mosquito, which had been deposited some years ago in the pool above the Cave and Basin, had been prolific in their increase.

Roads.—The roads in and about Banff and throughout the park were maintained in excellent condition during the season.

Trails.—A new trail was constructed from Castle Mountain bungalow camp to Taylor lake, a distance of three miles.

Cabins.—A new cabin (No. 2 type) was constructed at each of the following points: On Bow Lakes trail, 10 miles from Lake Louise; at Bow pass; at Waterfowl lakes; on the Saskatchewan river near the mouth of Howse river. A storehouse was also erected near the mouth of Howse river.

Forest Telephone Lines.—New telephone lines were constructed from a point seven miles up the Spray river to Seventeen-mile camp, and from Lake Louise to Bow pass.

Public Health.—Little sickness was reported in Banff during the past year. Sanitary measures relating to the collection of garbage were strictly observed. Samples of milk and water were periodically submitted for analysis to the University of Alberta, Edmonton, and the returns in every case proved satisfactory. During the period from October 31 to November 5, the annual test of the dairy herds was made by Dominion Government inspectors and all the animals found to be free from tuberculosis.

Sports.—Banff is becoming more and more a centre for athletic events of all kinds. During the summer mountain-climbing, boating, swimming, and golf drew thousands to the park. The annual Indian Days' pageant and sports were carried out on July 23, 24, and 25, and were largely attended.

During Christmas week the Mount Norquay Ski Club started its activities, which subsequently gave much enjoyment to the members and winter tourists.

The winter carnival held under the auspices of the Banff Winter Sports Association was most successful. From February 1 to 8 great crowds attended the sports. There were racing, swimming and diving events, hockey matches, sleighing, ski-ing, toboggan races, dog races, ladies' hockey matches, trap shooting, ski-joring, and carnival dances. The last day was mainly devoted to a curling bonspiel and other ice events.

JASPER NATIONAL PARK

Jasper park is rapidly increasing in popularity. Last season the total number of visitors was 15,458, as compared with 14,000 the previous year. A large number of the visitors were accommodated at Jasper Park Lodge, which has been enlarged to care for 600 guests. The golf links were greatly improved by the removal of boulders from the fairways, the addition and adjustment of bunkers, and extensive fertilization. In August the Canadian Amateur Golf tournament took place, and early in September was held the usual Jasper Park Lodge Totem Pole tournament.

During the season many improvements were made in Jasper townsite to meet the needs of a rapidly growing population. A considerable amount of new sidewalk construction was completed, the electric and water services extended, and the work of installing the sewerage system continued.

New Buildings.—Building operations in Jasper included 15 residences, 1 new hospital, 1 store and a number of garages and small buildings. In addition the Canadian National Railways took out permits for extensions, including 1 golfers' sleeping quarters, 1 sixteen-room cottage, 2 ten-room cottages, 1 two-suite cabin, 2 sixteen-room cabins, 1 nurses' building, 1 four-suite cabin, 1 garage, altering 6 cabins, and extending steam lines, water lines, electric light and telephone services. The estimated cost of all above extensions and improvements undertaken was \$441,845.

Roads and Bridges.—The portion of the Maligne highway from the railway crossing to Jasper Park Lodge, which had been surfaced with McMurray tar sands, stood up well under the traffic, and was maintained in excellent condition. The rest of the road was gravelled where necessary.

At the new Miette River bridge the approaches were filled with 2,262 cubic yards of material and strengthened at the highest points by strong log cribs. On the Edith Cavell highway a considerable amount of widening was done on the upper sections. The road was in good condition during the season and only a small amount of gravelling was required. The tote road from the Astoria bridge on the highway to the Whirlpool River bridge, eight miles in length, was completed. Along the river flats where boulders protruded, a covering of heavy silt was laid, which packed down and made a smooth running surface. On the Medicine Lake tote road culverts were put in at low points and considerable gravelling done. This road is being used increasingly each year by cars from Jasper in connection with trips to the wonderful Maligne Lake district.

The Rocky River trail was continued from mile 18½ to mile 36. Standard construction was maintained, making a good path for the pack train. When completed this trail will join the standard trail at Southesk river and the Forestry trail. There are now 379 miles of standard trails in Jasper park and

268 miles of "pack" or second-class trails. Fifteen miles of new telephone line were constructed during the year from Jacques lake to and up Rocky river. Forest telephone lines within the park now total 308 miles. New buildings included a warden's cabin of improved design at the forks of Rocky river.

Sanitation.—The drainage system was extended and new sewers installed and the usual routine of garbage collection and other sanitary measures continued.

Horses.—There are now ninety draft, saddle, and pack horses in the Government service in Jasper park.

Fires.—During the season there were three railway fires, two of which were caused by sparks from locomotives. The areas burnt over total nine and one-half acres and the cost of extinguishing was \$176.62. There were also sixteen fires of a general nature in the park which were extinguished at a cost of \$450, and one town fire which caused a loss of \$300.

Wild Life.—There has been a noticeable increase in all species of wild life in Jasper park. Grazing and food conditions generally were everywhere good and the animals appear well nourished and healthy.

Elk are becoming quite numerous and are finding new feeding grounds all over the park. The largest herds range between Pyramid mountain and Cabin creek, and many frequent the Athabaska and Miette valleys. The number of elk in the park is placed between 3,000 and 4,000.

There was a large increase in Rocky Mountain sheep during the year. All the old ranges, including Pocahontas, Interlaken, Brazeau, Snake Indian river, Moose Horn creek, Southesk river, and the northern boundary of the park, were well stocked. The sheep are now spreading wherever they can find suitable ranges. A large flock has been seen regularly at Cavell bridge on the motor highway, and has been a great attraction to tourists. A fine herd may also be seen daily on the Maligne range. It is estimated that there are now 20,000 sheep in the park.

Rocky Mountain goat are multiplying rapidly and are in good condition. Large herds may be seen about mount Kerkeslin, the shale banks on the Snake Indian river, Smoky river, Colin range, and Maligne lake. They are also found to be in increasing numbers between Circus valley and Whistler mountain, where they keep to high altitudes. The supervising game warden places their number at between 9,000 and 10,000.

Black bear, cinnamon bear, and grizzly bear are becoming numerous. Grizzlies have been seen during the spring and early summer in the low valleys, especially the Athabaska valley, around Devona and Hawse. They are also found in numbers in the Moose Horn valley. Last year there were estimated to be 5,000 bear of all kinds in the park.

Moose range in practically every valley and are becoming very plentiful. These animals have been seen in large numbers about the Brazeau, Rocky, and Snake Indian rivers, and last fall twenty-eight splendid specimens were seen at Four Point camp near Nigel pass. There are at least 10,000 moose in the park.

The season was particularly good for deer which now inhabit practically every valley in the park. They have shown a marked increase and are in fine condition. The Athabaska and Brazeau valleys are favourite feeding grounds for these graceful animals which now number in the park approximately 25,000.

Caribou are steadily increasing in number. Their range is along the northern boundary about Byng pass and Twin Tree lake, the Tonquin and Circus valleys and Smoky river. There are at least 9,000 caribou in the park.

Béaver, marten, lynx, and coyote are on the increase. New beaver houses and dams were noticed on several creeks and many lakes abandoned by these animals years ago are again being occupied by them. Wolf and wolverine are not so numerous as in previous years.

Sports.—Fishing was particularly good during the season. Fine catches were made at Caledonia lake, Jacques lake, at Buffalo prairie and in the Brazeau river. The 250,000 speckled trout fry deposited in Maligne lake last June appear to be doing well. A shipment of 50,000 rainbow trout eggs hatched at Jasper during the summer was distributed in Cabin lake.

During the winter a party of skiers from Jasper made the first ski trip on record to Banff. The journey took fifteen days to accomplish and was made during bitterly cold weather. Three high mountain passes had to be crossed and 160 miles of unbroken trail followed. Food supplies had been cached several months in advance at locations which would be accessible under skiing conditions and free from the depredations of wild animals. It was a noteworthy achievement.

In the month of March a party of skiers from Minneapolis visited Jasper park. Under the leadership of an experienced guide, the party proceeded through the Maligne Lake district, over McLeod pass, down to Brazeau lake, thence up Brazeau river and over Nigel pass to camp Parker, returning to Jasper via Brazeau lake, Poboktan pass and Maligne lake. The members of the party were so impressed with the trip they expressed an intention of returning next winter.

WATERTON LAKES NATIONAL PARK

Improved facilities for taking care of tourists and good weather conditions combined to give Waterton Lakes park its most successful year. The total number of registered visitors was 48,592, as compared with 26,002 the previous season. Of these 36,838 were from Canada, 11,673 from the United States, 62 from transatlantic, and 19 from transpacific points. The total number of motor cars entering the park was 14,725.

Many improvements were made in the townsite by planting trees, laying out flower beds, and grading, gravelling, and oiling the streets. Building operations were started on eight new buildings, and a fine addition was made to the school-house. Construction work on the new Roman Catholic church was well advanced.

Sports.—The facilities for sport were extended and the golf links, tennis courts, and bathing beaches were thronged during the season. At the golf course a new club-house was completed. The fairways and greens were in good condition, and accommodated over 60 per cent more players than last season. The tennis courts at the recreation grounds were maintained in excellent condition, and the bathing beach at Linnet lake was improved. Owing to the increased number of campers at Waterton lakes the campsite was extended, new sites provided, three new shelters erected, and an addition made to the community house.

Roads and Bridges.—Work on the Akamina highway progressed, and the road is now in good condition from the townsite to the junction with Cameron Lake road. The Pass Creek road was graded as far as the upper bridge and in places relocated. Beyond this point to Red Box canyon the road where necessary was gravelled. On the Pincher Creek entrance road the work was mainly confined to straightening the "S" bend. At Waterton bridge the approaches were improved and the bridge itself strengthened.

During the tourist season the roads leading into Waterton Lakes park were in good condition. The road from Cardston to the park, which connects with the

motor highway leading into the United States, was kept in repair by the provincial authorities and also the road from Cardston to Macleod. The park was thus connected with roads to the south and with a good gravel highway as far north as Edmonton.

Trails.—All trails were kept in a good state of repair. Six miles of construction work was carried out on Carthew trail, which is now passable from Cameron falls to Cameron lake. This scenic way when completed should prove one of the most popular in the park. Work was also done on the Bertha Lake Shore, Pass Creek, and East Boundary trails.

Fires.—Seven fires were reported during the season but by prompt measures these were quickly controlled, and the damage done was negligible. At Cameron lake where the largest of these fires occurred a new cabin was built and furnished with fire-fighting equipment.

Sanitation.—An officer of the Department of National Health made an inspection of sanitary conditions and arrangements were made to ensure satisfactory water supply and sewage disposal. An incinerator was built and better facilities provided for the disposal of refuse.

Wild Life.—Wild life of many kinds appears to be on the increase. Mule deer, beaver, coyote, and rabbit are plentiful throughout the park, while elk, mountain sheep, and mountain goat are steadily increasing in numbers. White-tail deer, moose, wolf, marten, lynx, and fox are scarce, and bear show a noticeable decrease. Of particular interest is the great increase in beaver. There are now over 1,500 of these animals in the park.

YOHO NATIONAL PARK

Motor travel to Yoho national park totalled 8,117 cars carrying 26,431 persons. The season was a particularly dry one, and due to the absence of fires and the general good condition of roads and trails, ideal for visitors. The heaviest traffic to the park was from the east, entries by the Kicking Horse pass showing 5,268 cars and 17,036 persons. Of these 4,143 cars were Canadian and 1,125 foreign. Eastbound cars totalled 2,847—2,457 Canadian and 390 foreign—carrying 9,395 persons. This is an increase over the previous year of 982 cars and 2,291 passengers.

During the season many betterments were made in the park. The town-site of Field was much improved, trees pruned, and streets reggraded. Work on the residence for the park superintendent was started, a new fireproof gasoline and oil house constructed.

The camp sites throughout the park were kept in splendid condition. At the Kicking Horse campsite a new community kitchen was erected and equipped with camp stoves, tables, and benches. Registrations at this camp ground showed 928 cars and 3,328 people. Camps were opened on the roads leading to Yoho and Emerald lakes and these as well as the camp grounds at Field and Chancellor peak were well patronized during the season by the motoring public.

Road Improvement.—A great deal of repair work was done on the main and subsidiary roads. The main highway from the east to the west boundaries of the park was maintained in excellent condition. The road was widened in places and the whole highway oiled. On the two and one-half-mile section of road near Misko the grade was widened. Between the railway crossing and the bridge over the Kicking Horse river, the river bank was matted for a distance of about 600 feet. The Ottertail road was graded and the Yoho and Emerald Lake roads improved. On the Yoho road a considerable amount of

log crib work was done to widen the grade to standard width, and 1,600 feet of guard-rail constructed. The whole of the road was surfaced, and the turns at the Switchback widened. Portions of the road were oiled. Travel on the Emerald Lake road is always particularly heavy during the period the Chalet is open, and besides widening the road a great deal of surfacing was necessary to keep it in condition. The roads were regularly patrolled by the Royal Canadian Mounted Police and throughout the season no serious accidents were reported.

In co-operation with the Canadian Pacific Railway Company, park officials commenced improving and developing the area near the Great Divide. On both sides of the summit the stumps and debris are being cleared away. A new channel was made for the creek. At a point just below the main highway the channel was widened to form a pond, at the outlet of which a waterfall was constructed.

Trails.—New trail construction consisted in building an extension to the Otterhead trail up Otterhead creek for a distance of five miles. This will greatly facilitate fire protection work as it makes Otterhead valley accessible to workers with fire equipment. Amiskwi, Summit lake, Emerald lake, Burgess pass, Emerald creek, Upper and Lower Twin falls, President glacier, and Ottertail trails were cleared and repaired. These trails open on some of the most spectacular scenery in the Rockies. Signboards showing mileage were placed at all points of trail intersection.

Wild Life.—Wild life, including moose, deer, and fur-bearing animals, is on the increase. Fishing in the lakes and streams of the park was better than in previous years. Ninety thousand rainbow trout fry were distributed in the park waters from the Banff hatchery. Of these 20,000 were placed in Cataract creek, 10,000 in Ross lake, 25,000 in lake O'Hara, 5,000 in Giddie creek, 20,000 in Emerald lake and 10,000 in Yoho lake.

Fires.—During the season four railway fires were reported but owing to prompt action were quickly controlled. Only one bush fire, caused by lightning, did extensive damage. This outbreak along the river burned over an area of about 1,500 acres.

GLACIER NATIONAL PARK

The season was a quiet one in Glacier park as far as tourist travel was concerned. This may be attributed to the fact that at the present time the park lacks tourist accommodation. Since the dismantling of the old Canadian Pacific Railway hotel at Glacier no new building has been erected. The building of the Big Bend highway through the valley of the Columbia river will no doubt result in increased travel to Glacier park, as the road will skirt the park and open this spectacular Selkirk region to motorists from the Pacific coast and the Prairie Provinces.

Roads.—Early in the season the road gang repaired the road between the railway station and the site of the old Glacier hotel. The Rogers Pass road and the road to the Nakimu caves were graded and repaired. Mount Hermit, Rogers Pass, Flat Creek, Baloo Pass, Beaver River, Grizzly Creek, and Asulkan trails were gone over and put in good condition. An addition was made to the warden's cabin at Glacier. Repairs were also made to the Flat Creek cabin and the caretaker's cabin at the Nakimu caves.

Nakimu Caves.—Development work at the Nakimu caves was continued. The passage-way from Number Two entrance through Satan's Palace to the Ball Room was widened and improved. Concrete and wooden stairways with handrails were constructed. In Number Three cave the stairways were repaired and at points replaced.

Alpine Club.—The Alpine Club of Canada held their twenty-fourth annual camp on the site of the old town at Rogers pass. The visitors, who came from many parts of the world, numbered 142.

Wild Life.—Wild life in the park is plentiful. Goat, caribou, deer, and bear are numerous, and the fur-bearing animals appear to be on the increase, particularly marten and beaver.

KOOTENAY NATIONAL PARK

The Banff-Windermere highway was opened to tourists in May and a good year was reported. There was a slight decrease in travel from the Prairie Provinces attributable to business depression. During the season 16,121 cars carrying a total of 51,772 passengers registered in the park. Of the visitors 39,444 were Canadians and 12,328 citizens of the United States.

The bathing house at the Sinclair Radium hot springs, which was opened last June, had a record attendance. During the season 25,064 bathers made use of the baths. The pool is now 110 feet in length, an extension of thirty feet having been made last October. Three new cabins were erected by the Canadian Pacific Railway company on their property at the Radium hot springs. Further building operations included the superintendent's residence and garage.

Campsites.—Improvements were made to all campsites and at Sinclair Canyon campground two new shelters were erected. During the month of November all the cabins were removed from the Bungalow camp at Vermilion crossing to Storm mountain, with the exception of the main building which was transferred to the Royal Canadian Mounted Police for use during summer patrol work.

Roads and Trails.—The highway was maintained in splendid condition. Double hub rails were placed at curves in the road and no accidents were reported during the season. The old Settlers road from the highway to the southern boundary of the park was made fit for motor travel. This in addition to being of interest to tourists is important for fire protection work, as fire equipment may now be moved and patrols made by car. Two miles of motor road were built from Kootenay Crossing up Kootenay valley and the remainder of the trail cleaned out to the northern boundary of the park. Three miles of trail were also reconstructed up the Hawk Creek valley, and two additional miles of trail cleared. This trail when completed will connect with the Red Earth trail over Ball pass in Banff park now under construction. A survey was made for the location of a trail from Floe lake to Wolverine pass. When this and the Hawk Valley trail are completed a through scenic trail will be provided from Banff to Yoho park via Kootenay park.

Fires.—Although the season was unusually dry no serious fires occurred.

Wild Life.—A marked increase in wild life of all kinds was noted. Along the Kootenay valley bear, moose, and elk were numerous, and hunters during the season reported plenty of game outside the park boundaries.

MOUNT REVELSTOKE NATIONAL PARK

Work was begun on the lower slopes of Mount Revelstoke highway the last week in April. At narrow points the road was widened and put in good shape to the summit of the mountain beyond lake Balsam, where a loop in the road was constructed to facilitate the turning of cars. During the season 1,411 persons registered at the forest outlook station at the summit. This number, however, represented only a percentage of the people who actually entered the park.

Roads and Trails.—The public camping ground laid out in 1928 on the shores of Balsam lake, was extremely popular with tourists. The road leading from the main highway to the lake was conditioned to enable cars to drive right to the campground. An extension of two miles was made to the fire trail commenced last year towards the Clachnacudainn slopes. The trail passes through dense timberland and is an added safeguard for fire-protection purposes. All other trails in the park were cleared and repaired, particular attention being given to the Lindmark and Greely Creek trails, and those leading to Eva and Millar lakes, as the areas to which they lead are of increasing interest to visitors.

The three wooden posts which had been planted by H.R.H. the Prince of Wales, H.R.H. the Duke of Connaught, and H.R.H. Prince Arthur of Connaught, to mark various stages of road construction, were replaced by stone cairns each with a bronze tablet suitably inscribed. The sectionmen's cabins at the four-mile and sixteen-mile posts were repaired and further improvements made on the ski hill. The outside turn on the runway was built up, and benches were constructed for the convenience of spectators. The annual ski tournament was held the first week in February and was well attended.

Fires.—Five fires were reported during the season. With the exception of one, which burned over about one hundred acres of timberland, they were extinguished before any material damage was caused.

PRINCE ALBERT NATIONAL PARK

Over ten thousand tourists visited Prince Albert national park last year, which indicated the increasing popularity of the park as a resort for campers, canoeists, and fishermen. During the month of August the Regina Board of Trade held a convention in the park, there being present 160 persons. A delegation from the newly formed Provincial National Parks Association also spent four days in the park viewing points of interest. Among distinguished visitors during the summer were Lord and Lady Cromer and party.

Building.—Considerable activity took place in the Prospect Point residential subdivision last year. Three new cottages were erected and construction work begun on two. Many inquiries were made about building lots along the southwest shore. When the road to the Narrows is completed this district should be popular as the building sites are in close proximity to lovely sand beaches. In the business subdivision one new store was erected and five lots filed on by firms which propose building early next year. The park superintendent's residence at Waskesiu lake is now ready for occupation.

Campsites.—Last spring the campsite along the main beach of Waskesiu lake was enlarged by underbrushing, clearing and draining. During July and August further extensions were made to this site to accommodate campers. An attractive area was cleared on Kingsmere lake, two small campgrounds were established on Crean lake, and a large one at Sandy lake. The last mentioned is situated half way between Prince Albert and Waskesiu lake, and is made use of by those wishing to break the journey to Waskesiu.

Roads.—The highway to Waskesiu, completed in the fall of 1928, was maintained in good condition. The entire road was gravelled and construction work was also done on the Meridian-Rabbit road.

Air Base.—In view of the great increase in commercial flying in the northern part of Saskatchewan it was considered advisable to establish an air base at Waskesiu lake. This was done and the base was used during the summer and fall by privately owned and Government forestry planes.

Telephones.—The forestry telephone lines were extended to the air base at Waskesiu lake and to Crean lake. These communications proved very useful in game-protection and fire-suppression work.

Permits and Licences.—Seventy permits and licences were granted last year. These included: 7 timber, 5 building, 14 hay, 10 lot-rental, 5 hay-cutting, and 5 air-base permits; and 14 chauffeur, 3 motor-livery, and 2 boatman's licences.

Fires.—Six fires were reported in the park during the year which were extinguished at a total cost of \$1,489.70. The majority of the fires started outside the south and west boundaries of the park.

Wild Life.—There was a noticeable increase in wild life last season. Moose, deer, and elk were numerous and are becoming quite tame. Caribou, while not so plentiful, were reported in sections of the park where they have not been seen for years. Birds, particularly waterfowl, are multiplying rapidly.

The investigations of the game fish possibilities of the waters of Prince Albert park, which are being carried out through the assistance of the Biological Board of Canada, were continued by a small field staff of trained workers. The general survey begun the previous year was extended by additional work on Crean and Kingsmere lakes and on those waters in the recently added northern section of the park, namely, La Vallee, Burntwood, and Clearwater lakes with their tributary streams.

Detailed observations on possible spawning grounds and water temperature in Waskesiu lake were also obtained with a view to the experimental introduction of small-mouthed bass into this lake. While the mean temperatures and food conditions are not wholly favourable an experimental planting of adult bass and of fry was recommended. Kingsmere lake was found suitable for game trout and the experimental introduction of the "Kamloops" type was recommended for this lake and speckled trout for MacLennan river. The committee also suggested that additional efforts should be made towards the conservation of the present game fish fauna (1) by modification of the existing game laws to suit the needs of the park and (2) by a campaign for the education of sportsmen and visitors.

ANIMAL PARKS

BUFFALO PARK

Although grazing conditions in the park were poor as compared with other years, the animals were in good condition and came through the winter well. The following table shows the animals in the park on March 31, 1930:—

Buffalo.....	5,016
Elk.....	654
Moose.....	66
Mule deer.....	1,994
Antelope.....	1
Yak.....	33
Domestic cattle.....	13
Hybrid stock.....	20

Farming operations were carried on as usual. Early in April 3,600 bushels of oats were shipped to Banff and Jasper national parks. Due to strong winds and dry weather grain crops were very poor. Weather conditions were, however, good for hay. Approximately 1,500 tons were cut on the Ribstone meadow and 18 tons of rye grass taken off a plot at the farm which had been seeded down two years ago.

Owing to the rapid increase in the buffalo herd, 500 buffalo were slaughtered for sale. Fifty carcasses were reserved by the Department for native relief purposes in the North.

Fencing.—Fence repair work was carried on throughout the season and over 100 miles of fence were put in shape. In addition to this work a change was made in the location of the fence at the northwest corner of the park to include a portion of section 35, township 44, range 8, west of the Fourth Meridian in which there is good grazing. A change was made in the position of the Hardisty gate, and a short piece of fencing constructed near Jamieson lake for the convenience of riders when on the round-up.

Fire Protection.—Fireguards, both inside and outside the main fence, as well as cross guards were ploughed. Practically all this work was done by park teams. Additional hose was supplied for use at the farm buildings and improvements made at the hydrants for quicker service.

Roads.—Maintenance work was done on the new road from Wainwright to the Home Paddock entrance gate, and the old trails which had worn into deep ruts were repaired.

Buildings.—In the fall the park office was moved from the old location at the superintendent's residence to the new Federal Building in Wainwright. Extensions were made to the foreman's cottage and improvements to the riders' boarding house at the abattoir. A well was drilled in the winter quarters to provide water for the buffalo.

Permits.—Dry wood timber permits were issued to settlers living in the vicinity of the park for 175 cords, also for 4,500 green willow pickets.

Predatory Animals.—There was a marked decrease in the number of coyote in the park and most of those destroyed were affected with mange. Altogether nine were shot by the wardens.

Visitors.—During the season 18,753 people registered at the park. The numbers of visitors entering at three of the park gates were as follows:—

Wainwright gate (Home Paddock).....	15,978
Hardisty gate.....	1,666
Farm gate.....	1,109
Total.....	18,753

ELK ISLAND PARK

Visitors to Elk Island park totalled 22,611, which represented an increase of 3,656 over the registrations of the previous year. In addition to the fine herds of animals in the park the bathing beaches and picnic grounds afforded the tourist a wide diversity of entertainment. The buffalo herd was in splendid condition and the wardens reported an increase in moose, elk, and mule deer. During the season two animals—an elk and a moose—were killed for specimen purposes and presented to the museums at Banff and Ottawa. Animals in the park now number 716 buffalo, 398 moose, 500 elk, and 200 deer.

Repair work was carried on as usual. The main fence was put in good shape and all fireguards conditioned. Additional guards were ploughed along the west boundary for a distance of four miles. A lookout tower was erected west of Astotin lake and connected by telephone with park headquarters and the tower and headquarters of the Cooking Lake forest reserve.

Haying operations, owing to the dry season, were not extensive. One hundred and ten tons were stacked, which, with the large tonnage of hay carried over from the previous year, provided a supply for the year's feeding requirements.

Roads.—The roads in the park were maintained in good condition by use of the grader. Several culverts were replaced. The construction of the road from Sandy beach to the main gate was completed and several miles surfaced with gravel.

Wild Life.—Bird life showed an increase. Blue heron nest in numbers on Crane island and migratory birds are plentiful. Prairie chicken and partridge appear also to be on the increase. There was a marked absence of coyotes in the park, only one being killed during the season.

RECREATIONAL AREAS

POINT PELEE PARK

The season was an exceptional one so far as tourist travel was concerned. It is estimated that 20,800 cars entered the park carrying a total of 83,200 visitors. The number of campers who took out permits for less than a four days' stay was 446. Of these 120 were from Ontario and 326 from the United States. Camping permits for more than four days numbered 89; 50 from Ontario and 39 from the United States.

Wild Life.—Wild life was reported on the increase. Squirrel, raccoon, and muskrat were plentiful. Quail were about the same in numbers, while pheasant showed a marked increase. Migratory birds were never more plentiful. Wild duck—black, grey, and blue-bill—were present in thousands. A great many whistling swan were seen in the marshes, and during the spring and fall migrations of wild geese were abundant.

HISTORIC PARKS

FORT ANNE NATIONAL HISTORIC PARK

The total number of visitors to Fort Anne park for the calendar year was estimated at 18,000. Of these, 13,516 were shown through the museum, an increase of 2,126 over the record for 1928. Among the notable visitors were a party of ninety members of the Canadian Women's Press Club; the captain and seven other officers of the French warship *Aldabaran*; officers of H.M.S. *Cape-town*; Hon. William Phillips, United States Minister to Canada, and Mrs. Phillips; M. Carteron, the Consul General for France, and Madame Carteron; the Right Hon. Lord Pentland; and Mr. and Mrs. E. R. Warren, of Boston, Mass. Mrs. Warren is a direct descendant of Paul Mascarene, the officer who mounted the first British guard in Fort Anne on the taking of the place in 1710.

On July 3, a party from Central Canada numbering 180 visited the fort. The Raymond-Whitcomb Tourist Agencies in August brought 73 visitors. On September 3 there was an excursion of 94 persons, members of the Schuetzen Club of New York. The teachers and pupils from the Annapolis County Academy visited Fort Anne on three occasions in November and once in December.

Several interesting discoveries have been made in the fort grounds during the year. During a visit to the Canadian Archives at Ottawa in November, 1928, the Honorary Superintendent was able to examine some old pictures of Annapolis Royal, dated 1751, which showed a blockhouse about which nothing had locally been known. Photographs of the pictures were obtained and with their aid the site was discovered. After some digging the foundation of the blockhouse was revealed. On the War Office plan of the fort in the Provincial Museum at Halifax the blockhouse shown in the picture is plainly marked and also another one hitherto unknown east of the fort, the exact location of which it will require a surveyor to determine.

Through the agency of the Historical Association of Annapolis Royal, Fort Anne came into possession of a fine portrait in oils of Queen Anne. The canvas is 25 by 30 inches and the picture is enclosed in a valuable old English carved gold frame. Another valuable gift received from the same association was a water-colour picture of Lieutenant George Wedderburn, of the 76th Regiment, who was the last commandant of Fort Anne, leaving in 1854 when the place was finally abandoned as a military post.

Protection of Migratory Birds

In June last, amendments were made to the regulations based on the *Migratory Birds Convention Act*, following the receipt of suggestions from the different provincial game officers and the chief federal migratory bird officers. A number of changes were made throughout Canada. The close season for the following migratory game birds was extended for an additional period of three years: little brown, sandhill, and whooping crane, swan, curlew, greater and lesser yellow-legs, black-bellied and golden plover, and all shore birds, except Wilson's or jack-snipe and woodcock. It was provided that lying in wait with firearms, with or without decoys, for migratory birds, should be considered *prima facie* evidence of hunting. The daily bag limit for woodcock was reduced from ten to eight, and a seasonal bag limit placed upon this species in the provinces in which it occurs. In Nova Scotia, the season for duck and rail, and goose and brant was changed. In New Brunswick, the opening date for the shooting of Wilson's snipe and woodcock on the islands in the Grand Manan group was made to coincide with that for duck, goose, brant and rail, in that part of New Brunswick. In Ontario, the season for taking Wilson's snipe was made to coincide with that for duck, goose, brant, and rail. In the province of British Columbia, the use of decoys of any kind in the hunting of band-tailed pigeon was prohibited, and the special provision concerning the hour at which shooting might begin on the first day of the open season was changed.

The staff for enforcing the *Migratory Birds Convention Act* continues at the same strength and there has been complete co-operation with provincial game departments. In accordance with the original plan the enforcement of bird protection measures has been left largely in the hands of the provincial authorities, thus avoiding duplication.

Some hundreds of honorary game officers co-operated with the branch in enforcing the law, and in furnishing valuable information respecting bird conditions in their localities. Honorary officers were kept informed on bird protection subjects by a system of circular letters. The members of the Royal Canadian Mounted Police helped materially by enforcing the law and by conducting bird observations in various districts, and Dominion Fishery officers lent valuable assistance as well. A staff of officers was maintained in the Maritime Provinces for the enforcement of the migratory bird law. All members of the New Brunswick provincial police were appointed *ex officio* game officers under the *Migratory Birds Convention Act*.

Drought throughout a large part of the Prairie Provinces greatly affected water-bird life during 1929. In parts of Saskatchewan there was believed to be a reduction of nearly ninety per cent in the number of duck raised, and conditions were probably as bad in some other parts of the prairie breeding area.

In addition to his general duties, the Chief Federal Migratory Bird Officer for the provinces of Ontario and Quebec, with the aid of a staff of temporary assistants and the bird sanctuary caretakers, carried out valuable protection work with respect to the abundant sea-bird life on the north shore of the gulf of St. Lawrence in Quebec during the summer.

The Chief Federal Migratory Bird Officer for the western provinces, while devoting much time to co-operative work with the provincial game authorities, was occupied as well in supervising the sanctuaries and public shooting grounds in these provinces and in making inspections of lands reserved. The latter work was undertaken jointly by the province, the Dominion Lands Administration and this branch.

Ninety-one prosecutions were instituted by Dominion officers in connection with the enforcement of the *Migratory Birds Convention Act*. These resulted in 83 convictions. Prosecutions instituted by provincial officers are not included in this summary.

Oil Pollution.—The department has worked in conjunction with the Department of Marine and Fisheries respecting the loss of bird life by oil dumped from vessels in navigable waters, or reaching navigable waters in other ways, and all losses of bird life from oil have been referred to that department. Following the conference at Washington, in which Canada took part, a draft convention on oil pollution of the high seas was prepared, but no international agreement for control has yet been concluded.

Bird Censuses.—The investigation to learn the distribution and movements of waterfowl, and their fluctuation in numbers from year to year, undertaken by this branch and the United States Biological Survey, was continued and has resulted in valuable data being collected from hundreds of wildfowl observers. Bird censuses taken on Christmas day were made at many points by members of the various naturalists clubs and by the officers of this branch. At Ottawa twenty-four species were found. Bird censuses taken from year to year give a comparative idea of the distribution of bird life at a time when it is at its lowest ebb.

Permits and Licences.—Permits and licences were issued for the calendar year 1929 as follows:—

Collection of birds for scientific purposes.....	355
Possession of birds for propagating purposes.....	549
Capture of birds for propagating purposes.....	38
Destruction of certain birds when found to be seriously damaging agricultural or fishery interests.....	66
Permits allowing the shooting of predatory birds in bird sanctuaries, etc.....	11
Taking of birds for banding purposes.....	110
Practising taxidermy.....	70
Shooting of geese and brant in Shelburne, Queens and Halifax counties, Nova Scotia, in the open season provided by law.....	615

Investigations.—Mr. J. Dewey Soper, by the co-operation of this Branch and the North West Territories and Yukon Branch, in 1928 was sent to south-western Baffin island, for the purpose of studying birds and mammals, and especially to find the breeding grounds of the blue goose. He was successful in locating these breeding grounds. Assistance was extended Mr. Soper in various ways. His report of the discovery has been published by the North West Territories and Yukon Branch.

Bird Banding.—The Branch worked in full co-operation with the United States Biological Survey in tracing and recording migrations of birds by banding. Nearly all the work is done by voluntary co-operators. The official records of bird-banding returns for Canada are kept in this branch. From January 1, 1929, to December 31, 1929, 16,634 records of birds banded by Canadian co-operators and 7,955 repeats and returns on birds already banded were received, an increase of 5,977 records over last year, and of 5,430 repeats and returns.

Sanctuaries for birds are increasing everywhere; small estates, villages, golf courses, air ports, and lakes with bordering marshes are being included. Action

to reserve sanctuaries in Canada would not be effective if sanctuaries were not reserved in the United States. Consequently, it is of great interest to Canadians to know that the work of establishing sanctuaries is progressing in that country.

Public Shooting Grounds.—Certain lands near Pitt lake, British Columbia, were reserved for public shooting-ground purposes.

Educational Work.—Various camps attended by young people were visited, and instruction given in bird protection and natural history subjects. Requests for lectures on wild-life conservation were received from more than forty organizations that conduct summer camps for young people. The total distribution of pamphlets amounted to 72,783. Publicity concerning the shooting season and other bird protection matters was obtained through the distribution of 44,710 posters, 22,783 copies of the *Migratory Birds Convention Act*, and 24,819 abstracts of the regulations under it. Circular letters regarding the changes in the regulations for the season 1929 were distributed to the press throughout Canada.

Numerous lectures on bird protection were given by members of the permanent staff, and lantern slides were furnished to the honorary game officers and others for lecture purposes. Addresses on birds and bird protection were delivered over the radio. The lantern slide library contains 5,365 slides covering 1,143 subjects, and showing 391 different species of birds. In all, 3,079 slides were loaned free of charge.

Bird-House Competitions.—Much interest has been shown in the building of bird-houses, and bird-house competitions have been held under various auspices throughout Canada.

Contact with Scientific and Conservation Organizations.—During the year the branch was represented at the following national and international meetings interested in the protection and conservation of wild life:—

September, 1929—Meeting of International Association of Game, Fish and Conservation Commissioners, at Minneapolis, Minnesota.

October, 1929—47th stated meeting of the American Ornithologists' Union, at Philadelphia, Pennsylvania.

December, 1929—National Game Conference of the American Game Protective Association at New York, N.Y.

December, 1929—Meeting of the Province of Quebec Association for the Protection of Fish and Game at Montreal, P.Q.

March, 1930—Organization meeting of the Canadian Game Protective Association, at Ottawa, Ontario.

Historic Sites and Monuments

During the past year, work in connection with the preservation and marking of historic sites or structures eminently national in character, was carried on. In addition a number of sites were acquired on which to erect memorials and a scheme of development formulated for some of the larger areas already controlled. The annual meeting of the Historic Sites and Monuments Board, which acts in an advisory capacity to the Department of the Interior regarding all historic matters, was held in Ottawa, when a large number of sites were reviewed and from these a selection made for attention in future years.

Since the inception of this work, in 1919, approximately 950 sites have been under consideration and from these the Board has selected 246 as being of national importance and recommended them to the Department for preservation or marking. The Board has also suggested the marking of the birth-places of a number of outstanding personages in Canadian history by tablets bearing appropriate inscriptions.

Sites Marked

In previous reports a summary of sites already marked, now numbering 150, will be found. During 1929-30 the following sites of national importance were marked and the services of important personages commemorated by the placing of tablets and the erection of monuments:—

Admiral d'Anville's Encampment, near Halifax, N.S.—A rubble-stone cairn, with a bronze tablet affixed, was erected on a plot of land donated by Mr. E. Clayton, at the intersection of the Old French Landing and Bedford roads, to mark the place of encampment of the formidable but storm-shattered expedition sent from France under the command of Duc d'Anville, in 1746, to recover Acadia.

Fort La Have, La Have, N.S.—A cairn with tablet was erected on the lighthouse reserve at Fort Point, La Have, to mark the site of the fort built by Isaac de Razilly, Lieutenant-Governor of Acadia, in 1632, from which headquarters he administered the colony.

Fort Jemseg, Lower Jemseg, N.B.—A cut-stone monument with tablet, enclosed by an iron fence, was erected on a small plot of land donated by Mr. F. C. Nevers, to mark the site of the fort built in 1659 by Col. Thomas Temple, Governor of Acadia. This was the first trading post established by the English on the Saint John river.

Battle of the Petitcodiac, Hillsborough, N.B.—A cut-stone monument with tablet was erected near the railway station at Hillsborough to commemorate the events associated with the engagement which took place in the vicinity in September, 1755, between British troops from Fort Beauséjour and a French force commanded by Charles Deschamps de Boishebert.

Major Gilfrid Studholme, St. John, N.B.—A cut-stone monument with tablet was erected on Fort Howe hill to commemorate the public services of Major Gilfrid Studholme, a notable figure in the early history of New Brunswick. Major Studholme built Fort Howe in 1778 and was its commander. He zealously assisted the settlement of United Empire Loyalists.

Battle of Chateauguay, Allan's Corners, P.Q.—A tablet was affixed to the granite monolith, which stands on the site, to commemorate the victory of a small Canadian force and a little band of Indians under the command of Lieut. Colonel Charles Michel de Salaberry over a large body of United States troops which attempted the invasion of Canada on October 26, 1813.

The Royal Navy, Ile-aux-Noix, P.Q.—A tablet was affixed to the gateway at the south entrance to Fort Lennox to perpetuate the memory of the services of the officers, seamen, and soldiers of the Royal Navy, Royal Marines and Provincial Marines, who fought in defence of Canada on lake Champlain in 1776-77 and 1812-14.

Battle at Montgomery's Creek, near St. Johns, P.Q.—A cairn with tablet was erected on the St. Johns Golf Club property, adjacent to the King's Highway, to commemorate the events associated with the battle of September 6, 1775, when Montgomery's invading army, surprised by a force of Mohawks and Canadian Indians, was compelled to re-embark and retire to Ile-aux-Noix.

Coteau-du-Lac, P.Q.—A cairn with tablet, was erected adjacent to the public road at Coteau-du-Lac to commemorate the early events associated with that place. A canal was constructed in 1779-80; later a blockhouse, and then a fort were built for its protection. These proved of valuable service during the wars of the American Revolution and of 1812. Coteau-du-Lac was for many years the chief port of entry for imports into Upper Canada.

First Railway in Canada, St. Johns, P.Q.—A tablet was affixed to the railway station at St. Johns to mark one terminal of the first railway in Canada which led originally to Laprairie and was constructed to connect lake Champlain with the river St. Lawrence. It was opened for traffic on July 21, 1836, by Lord Gosford.

Bishop Alexander Macdonell, St. Raphael, Ont.—A cut-stone monument with tablet was erected adjacent to the public highway in front of the parish church at St. Raphael West to perpetuate the memory of the Honorable and Right Reverend Alexander Macdonell, patriot, military chaplain, educator, and legislator who lived and laboured with success at this place for many years.

Niagara Portage Road, Stamford, Ont.—A stone monument with tablet was erected on Stamford village green, adjacent to the Portage road, to commemorate events associated with the Queenston-Chippawa portage road, opened by United Empire Loyalists in 1788. This was the principal route of travel and trade to the Upper Lakes region until the opening of the Welland canal in 1829, and the completion of railway lines in 1854.

Ridgeway Battlefield, Ridgeway, Ont.—A cairn with tablet, was erected on a plot of land, adjacent to the Garrison road, donated by the township of Bertie, to perpetuate the memory of the officers and men who fought there in defence of Canada against Fenian Raiders on June 2, 1866.

Starting Point Brock's Expedition, Port Dover, Ont.—A cairn with tablet was erected in Powell park to mark the spot from which Major General Isaac Brock set out with his army of three hundred men, on August 8, 1812, to relieve the invaded western frontier. His brilliant capture of Hull's army at Detroit, with a much smaller force, saved this province to the Empire and made Brock the hero of Upper Canada.

First Electric Telegraph, Toronto, Ont.—A tablet was affixed to the St. Lawrence market building, which now stands on the site of the old city hall of Toronto, to mark one terminal of Canada's first electric telegraph line, connecting Toronto with Hamilton, inaugurated December 19, 1846.

Fort Fork, Alberta.—A cairn with tablet was erected adjacent to the road allowance passing through Lot 19, Shaftesbury settlement, to mark the site of the fort built by Sir Alexander Mackenzie, on the east bank of the Peace river, in 1792, and from which he set out in the following year on his quest for the Western Sea. This first crossing of North America north of Mexico, stimulated the commercial development which saved a coast on the Pacific to Canada and the Empire.

The Last Spanish Exploration, Point Grey, B.C.—A cut-stone monument with tablet was erected on the British Columbia University grounds, between the waters of English bay and the Marine drive, in commemoration of the first friendly meeting of the British and the Spaniards in these waters. The British commander, Captain George Vancouver, established mutual confidence and exchanged information with the Spaniards, Galiano and Valdes, and they then continued the exploration together.

Fort Steele, B.C.—A cairn, with tablet, was erected on a plot of land donated by Mr. William A. Drayton, adjacent to the Fort Steele-Fernie highway, to mark the site of the first North West Mounted Police fort in British Columbia, built in 1887 by Superintendent Sam Steele. The presence of this force secured peace and order in the country at a critical time.

Preservation Work

At several larger sites preservation work and improvements were carried out.

Fort Cumberland (Beauséjour), N.B.—The earthworks were repaired, the entrance to the park improved, and a number of markers erected to indicate the various points of historic interest.

Louisbourg, N.S.—The several buildings, vacated by property owners whose rights had been purchased, were demolished and removed; the area fenced; the casemates cleaned out and repaired; and a road built and surfaced from the gateway to the headquarters building.

Fort Chambly, Chambly, P.Q.—Masonry and concrete retaining walls were erected along the river front; a dry stone wall was built along the north side; and the inner walls were repaired and pointed.

Fort Lennox, Ile-aux-Noix, P.Q.—Extensive repairs were made to the north bridge across the moat, improvements made to several buildings, and the moat cleaned.

Fort Wellington, Prescott, Ont.—The blockhouse was re-shingled and painted, the inner palisades repaired and other improvements made to the museum and grounds.

Acquisition of Sites

Arrangements for the acquisition or control of a number of sites recommended by the board were made.

Fort Monckton (Gaspéreau), N.B.—An additional area of two acres was purchased with a view to future development work.

Fort St. Peters, St. Peters, N.S.—The Department of Railways and Canals granted authority for the erection of a memorial on their reserve at St. Peters to mark the site of the fort and trading post built by Nicholas Denys, in 1650.

First Coal Mine in Cape Breton, Port Morien, N.S.—The Dominion Coal Company has donated a plot of land for the erection of a memorial to commemorate the events associated with the establishment by the French in 1720, of the first regular coal mining operations in America.

Fort Ste. Anne, Ste. Anne, N.S.—Mr. George E. Fader has donated a plot of land twenty-five feet square, adjacent to the Baddeck-Cape North highway, on which to erect a memorial to mark the site of the fort built there in 1629, for the protection of the French settlement.

First Atlantic Cable, North Sydney, N.S.—The Western Union Telegraph Company has granted permission to place a tablet on the outer wall of the company's cable building at North Sydney to commemorate the events associated with the laying of the first submarine telegraph cable in North America in 1856. This cable connected Cape Breton with Newfoundland.

Wolfe's Landing, Kennington Cove, N.S.—Mr. D. A. McInnis has donated a plot of land on Gabarus bay, with a right of way from the main road, for the erection of a memorial to mark the landing place of Brigadier General James Wolfe's brigade, on June 8, 1758.

First Export of Coal, Minto, N.B.—The Canadian Pacific Railway Company has granted permission for the placing of a memorial on their station grounds at Minto to commemorate the events associated with the discovery and mining of the first coal for export in Canada.

Chambly Canal, Chambly, P.Q.—The Department of Railways and Canals has granted permission for the erection of a memorial on the canal reserve at Chambly to commemorate the events associated with Chambly canal, which was first opened to navigation in 1843.

Benjamin Sulte, Three Rivers, P.Q.—The city of Three Rivers has granted permission for the erection of a bronze plaque at the entrance to the city hall to commemorate the public services of Benjamin Sulte, historian and poet.

First Geodetic Survey Station, Kingsmere, P.Q.—Mr. M. Mulyihill has donated a plot of land twenty-five feet square on King mountain on which to erect a memorial to mark the site of the first Geodetic Survey station in Canada established in 1905.

Opening of St. Lawrence River to All Nations, Quebec.—The Quebec Harbour Commission has granted permission to place a tablet on the wall of the waiting room at the Princess Louise docks, to commemorate the opening of the St. Lawrence to all nations, January, 1850.

Mattawa Portage, Mattawa, Ont.—The Women's Institute of Mattawa has granted permission for the erection of a memorial in a small park controlled by them at the intersection of Main and Water streets, to mark one of the principal portages of the historic canoe route from Montreal to lake Huron and the Northwest.

Southwold Earthworks, near St. Thomas, Ont.—An area of five acres, north of Talbot road, was purchased on which a memorial is to be erected to mark the site of an old Indian stronghold, a unique example of a double-walled aboriginal fort, the origin and antiquity of which remain unknown.

Dominion Lands Survey System, near Winnipeg.—Senator Aimé Bénard and Mr. John T. Haig have donated a plot of land twenty-five feet square, adjacent to the Portage highway, at its intersection with the First Principal Meridian, on which to erect a memorial to mark the site of the first monument on the Dominion Lands Survey, July 10, 1871.

Simon Fraser, Musqueam, B.C.—The Provincial Government has granted permission for the erection of a memorial at Look-Out Point, adjacent to Marine drive, at the west end of the Musqueam Indian Reserve, to mark the place where Simon Fraser ended his adventurous and dangerous exploration of the Fraser river in July, 1808.

DETAILS OF EXPENDITURE—Con.—DÉTAIL DES DÉPENSES—Suite

Salaries at Ottawa	Amount	Traitements à Ottawa	Montant
Vote-Crédit 11—Civil Government		PERMANENT EMPLOYEES—Con.	
Salaries—Con.—Gouvernement		PERSONNEL PERMANENT—Suite	
civil: Traitements—Suite			
PERMANENT EMPLOYEES—Con.			
PERSONNEL PERMANENT—Suite			
Pelton, A., prin. clk.	\$ 2,400 00	Genest, S. M., controller, technical division	\$ 3,720 00
Pepin, S., clk., gr. 1.	1,020 00	Gillis, W. C., office eng.	2,640 00
Ratthey, A., clk., gr. 3.	1,680 00	Labrosse, J., prin. clk.	2,160 00
St. Laurent, M., clk., gr. 1.	1,020 00	Leslie, M. I., sten., gr. 3.	1,380 00
Turnbull, M., clk., gr. 3.	1,680 00	Miller, M. A., sten., gr. 1, 6 m. at \$1,020; gr. 3, 6 m. at \$1,380	1,200 00
Mining Lands Branch		Proctor, G. S., sr. map draftsman, 12 m. at \$2,160, less 3 d.	2,142 00
Terrains miniers		Stewart, H. L., prin. clk.	1,920 00
Blue, W. A., prin. clk.	1,920 00	Stothers, J. H., asst. office eng.	2,580 00
Clifford, T., prin. clk.	1,920 00	Taylor, L. B., asst. office eng.	2,580 00
Daly, P. J., head clk.	2,520 00	Tierney, E., sten., gr. 2.	1,380 00
Donaldson, E. I., sten., gr. 1.	1,020 00	North-West Territories and Yukon Branch	
Gregoire, A., sten., gr. 3.	1,380 00	Territoires du Nord-Ouest et Yukon	
Kelly, H. K., sten., gr. 3.	1,380 00	Anderson, M. G., clk., gr. 4, 9 m. at \$1,680, 3 m. at \$1,740	1,695 00
Laflamme, R. J., clk., gr. 4.	1,740 00	Beilby, R., clk., gr. 4, 9 m. at \$1,740, 3 m. at \$1,800	1,755 00
Larsen, E. C., sten., gr. 2.	1,200 00	Bracken, T. F., prin. clk., 9 m. at \$2,040, 3 m. at \$2,160	2,070 00
Lock, J. W. K., head clk.	2,520 00	Champagne, N. W., clk., gr. 4, 9 m. at \$1,740, 3 m. at \$1,800	1,755 00
McDermott, M. I. C., sten., gr. 2.	1,380 00	Finnie, O. S., director, N. W. T & Y. branch	4,920 00
Metz, J. G., chief clk.	3,120 00	Macdonnell, J., clk., gr. 3, 9 m. at \$1,440, 3 m. at \$1,500	1,455 00
Ross, J. M., clk., gr. 4.	1,740 00	McCracken, A., clk., gr. 2.	1,480 00
Spence, C. F., controller, mining lands.	3,720 00	McKeand, D. L., assist. director, N.W.T. & Y. branch	4,080 00
Westlake, W. E., clk., gr. 3.	1,620 00	Moran, J. F., chief clk., 9 m. at \$3,240, 3 m. at \$3,360	3,270 00
Timber and Grazing Lands Branch		Rosborough, V. M., sten., gr. 3, 9 m. at \$1,440, 3 m. at \$1,500	1,455 00
Permis de coupes de bois et de pâturages		Thomas, A. S., asst. eng.	2,700 00
Aylen, F., sten., gr. 2, 12 m. at \$1,380, less 7½ d.	1,350 99	Supervisory Mining Engineers Branch	
Beehler, T. M., sten., gr. 2.	1,380 00	Ingénieurs des mines, inspection	
Bowes, H. M. M., sten., gr. 2, 9 m. at \$1,140, 3 m. at \$1,200	1,155 00	Ault, B. I., sten., gr. 2.	1,380 00
Byrne, G. M., sten., gr. 2.	1,380 00	Clunn, T. H. G., office eng.	3,240 00
Chapman, M. V., sten., gr. 2, 2m. to May 31 at \$1,380 (resigned).	230 00	de Renzy, N. K., typist gr. 3.	1,680 00
Dowd, J., prin. clk., 9 m. at \$2,160, 3 m. at \$2,280	2,190 00	Doyle, J. F., prin. clk., 9 m. at \$2,040, 3 m. at \$2,160	2,070 00
Higgerty, J. J., prin. clk.	2,400 00	Gauthier, J. D. H., clk., gr. 3.	1,620 00
Hoad, W. F., clk., gr. 2, 3 m. at \$1,140, 9 m. at \$1,200	1,185 00	Howie, J., sr. map draftsman	2,160 00
Ince, R. A., prin. clk.	2,400 00	Dominion Parks Branch—Parcs de l'État	
Langford, K., sten., gr. 2, 9 m. at \$1,140, 3 m. at \$1,200	1,155 00	Balmer, E., clk., gr. 2.	1,380 00
Leclair, J. A., prin. clk., 9 m. at \$1,920, 3 m. at \$2,040, less 1 d.	1,944 52	Barber, D. M., clk., gr. 4.	1,920 00
McCann, D., chief clk.	3,120 00	Beatty, F. B., sten., gr. 2.	1,380 00
McRorie, W. W., sten., gr. 2.	1,380 00	Blenkarn, W., clk., gr. 3.	1,620 00
Neville, H. J., clk., gr. 4.	1,740 00	Brace, W., clk., gr. 4.	1,920 00
O'Grady, W. J., clk., gr. 4.	1,920 00	Bryan, G. W., prin. clk.	2,400 00
Payton, G. W., head clk.	2,520 00	Calderhead, W. G., draftsman	1,800 00
Pereira, G. P., controller, timber and grazing lands.	3,720 00	Carnochan, G. A., clk., gr. 4.	1,740 00
Richardson, M., sten., gr. 3.	1,680 00	Casey, C. M., sten., gr. 2.	1,440 00
Robertson, J. E., sten., gr. 3.	1,440 00	Coreoran, J. B., prin. clk.	2,400 00
Walker, E., sten., gr. 2.	1,380 00	Corp, F., messenger.	1,300 00
Watson, I. L., sten., gr. 2, 9 m. at \$1,260, 3 m. at \$1,320, less 4 d.	1,261 00	Currie, M., sten. gr. 2.	1,380 00
Weir, C. M., clk., gr. 3.	1,380 00	Daoust, A., clk., gr. 2.	1,440 00
Wilson, C. A., clk., gr. 4.	1,740 00	Donnelly, P. M., sten., gr. 2, 9 m. at \$1,080, 3 m. at \$1,140	1,095 00
Winters, A. T. C., prin. clk.	2,400 00	Durie, W. A., draftsman	1,800 00
Witten, S., prin. clk.	2,400 00	Ebbs, E. J., prin. clk.	1,920 00
Technical Division		Featherstone, R., sten., gr. 1.	1,020 00
Service technique			
Chamonard, L., prin. clk.	2,160 00		
Corry, J. H., prin. clk.	2,160 00		
Cram, A. S., office eng.	2,760 00		

INTERIOR—INTÉRIEUR

Salaries at Ottawa	Amount	Traitements à Ottawa	Montant
Vote-Crédit 11—Civil Government		PERMANENT EMPLOYEES—Con.	
Salaries—Con.—Gouvernement		PERSONNEL PERMANENT—Suite	
civil: Traitements—Suite		Water Power Branch	
PERMANENT EMPLOYEES—Con.		Forces hydrauliques	
PERSONNEL PERMANENT—Suite			
Glenin, L. M. M., sten., gr. 2, 9 m. at \$1,080, 3 m. at \$1,140, less 1 d.	\$ 1,092 10	Allan, N. T., chief draftsman	\$ 3,120 00
Hand, S. E., prin. clk.	2,400 00	Barber, L. J., clk., gr. 4	1,800 00
Harkin, J. B., com., Dom. parks	5,220 00	Beale, A. M., W. P. & R. eng., 6 m. at \$3,660, 6 m. at \$3,720	3,690 00
Harris, K. D., asst. architect	2,700 00	Brady, H. M., typist, gr. 2	1,380 00
Hawkins, L., sten., gr. 2	1,380 00	Branback, Z. H., sten., gr. 2	1,380 00
Heaslip, T. S., prin. clk.	2,400 00	Brown, W. L., sr. engineering clk.	2,160 00
Hennessey, S., clk., gr. 2, 8 m. at \$1,080, gr. 3, 4 m. at \$1,380	1,180 00	Cleary, K. G., sten., gr. 3	1,680 00
Herscovitz, B., sten., gr. 2, 9 m. at \$1,140, 3 m. at \$1,200	1,155 00	Cochrane, N. F., W. P. & R. eng., 6 m. at \$3,660, 6 m. at \$3,720	3,690 00
Lafranchise, M., clk., gr. 3, Apr. 1 to Nov. 20 at \$1,620 (resigned)	1,035 00	Denis, L. G., hydraulic eng.	3,950 00
Love, G. A., clk., gr. 4	1,740 00	Douglas, A. G., sr. engineering clk.	2,160 00
Macdonald, M. B., clk., gr. 3	1,440 00	Groulx, A., cartographer	2,580 00
McElroy, K. A., clk., gr. 3	1,680 00	Johnston, J. T., director W. P. & R. service	7,000 00
McGahey, H. P., clk., gr. 3	1,620 00	Jones, G. E., prin. draftsman	2,700 00
McRae, D. C., sten., gr. 2, 6 m. at \$1,260, 6 m. at \$1,320	1,290 00	Lambe, A. B., eng., Dom. power board	4,140 00
Murphy, A. J., prin. clk., 9 m. at \$2,160, 3 m. at \$2,280	2,190 00	Lazenby, G. E., photostat opr.	1,080 00
Nagle, C. E., asst., wild life division	2,700 00	McGillis, M. L., sten., gr. 2	1,140 00
Pinard, A. A., chief, historical sites division	3,420 00	McRorie, H. E., sten., gr. 2	1,380 00
Rogers, M. F., sten., gr. 3	1,680 00	Murphy, A. M., clk., gr. 4	1,740 00
Scott, E., sten., gr. 2	1,380 00	O'Connor, A. L., sten., gr. 2	1,380 00
Shea, J. J., clk., gr. 4	1,920 00	Perrin, V., sr. draftsman	2,160 00
Spero, J. E., chief clk.	3,120 00	Ramsay, E. M., sr. draftsman	2,160 00
VonCharles, F., clk., gr. 4	1,740 00	Richards, W. A., sr. draftsman	2,160 00
Walters, D. R., clk., gr. 2	1,440 00	Roger, A., asst. power development eng.	2,700 00
Ward, E. M., sten., gr. 2	1,380 00	Spence, M. M., sten., gr. 3, 9 m. at \$1,560, 3 m. at \$1,620	1,575 00
Williams, E. R., sr. draftsman	2,160 00	Squire, R. L., asst. office eng.	2,580 00
Williams, M. B., head clk.	3,000 00	Thompson, N. A., asst. hydraulic eng.	2,700 00
Williamson, F. H. H., deputy com., Dom. parks	4,320 00	Wilkinson, P., prin. clk.	2,400 00
		Wimberley, A. C., asst. eng. W. P. & R. branch	2,460 00
		Young, S. A., sten., gr. 3	1,680 00
Forestry Branch—Forêts		Natural Resources Intelligence Branch	
Bastien, A., clk., gr. 2	1,380 00	Renseignements sur les ressources naturelles	
Beliveau, J., clk., gr. 2, 3 m. at \$1,320, 9 m. at \$1,380	1,365 00	Adams, M. E., sten., gr. 3, 12 m. at \$1,560, less 10 d.	1,517 36
Blackburn, I. B., depl. librarian, gr. 2	1,800 00	Atchison, M. B., clk., gr. 4, 12 m. at \$1,920, less 32 d.	1,752 34
Brown, B. O., sten., gr. 2, Apr. 1 to Sept. 22 at \$1,380 (resigned)	659 33	Bastien, J. A., investigator N.R., gr. 2	2,700 00
Byshe, F. H., chief clk.	3,480 00	Birchenough, A. A., geographer, gr. 2	3,300 00
Chapman, H. D., engineering clk., 9 m. to Dec. 31 at \$1,740 (deceased)	1,305 00	Bray, R. P., investigator N.R., gr. 4	3,180 00
Duscet, G., sten., gr. 3	1,680 00	Browne, T. A., investigator N.R., gr. 2	2,700 00
Edey, R. K., clk., gr. 4	1,920 00	Cameron, D. D., clk., gr. 4, 12 m. at \$1,920, less 2 d.	1,903 57
Esdale, V. A., clk., gr. 3	1,560 00	Charlebois, H., clk., gr. 3, 12 m. at \$1,500, less 3 d.	1,487 91
Evans, M. P., clk., gr. 3	1,620 00	Clarke, H. H., investigator N.R., gr. 2	2,580 00
Finlayson, E. H., director of forestry	5,220 00	Collins, G. H. A., sr. photographer	2,220 00
Gillespie, K. M., sten., gr. 3	1,440 00	Cyr, E., office eng.	3,000 00
Jacombe, F. W. H., editor, gr. 1	2,520 00	Dickson, D. H., map draftsman	1,680 00
Johnston, A. J., library asst.	1,380 00	Drew, D. A., clk., gr. 3, 12 m. at \$1,680, less Apr. 1 to Nov. 29	564 67
McCann, I. M., clk., gr. 4	1,740 00	Gagnon, J. S., clk., gr. 2	1,600 00
McCarthy, M. E., clk., gr. 1	1,020 00	Garvin, E. R., clk., gr. 3, 12 m. at \$1,560, less 18 d.	1,484 52
Pepper, G. D., artist, publicity, 3 m. at \$1,740, 9 m. at \$1,860	1,830 00	Gates, H. L., clk., gr. 2, 4 m. to Mar. 31 at \$1,080	360 00
Potter, G. R. L., clk., gr. 4	1,920 00	Gaudry, G. A., chief, economic geography mapping division	3,960 00
Robinson, M., clk., gr. 4	1,920 00	Gauthier, A., map draftsman	1,800 00
Thomson, M. A., clk., gr. 2	1,480 00		
Tulley, C. J., prin. clk.	2,400 00		
Turton, E. E., prin. clk.	2,400 00		
Woodburn, M., sten., gr. 1	1,250 00		
Wright, J. G., asst. office eng.	2,580 00		
Young, A. J., clk., gr. 4	1,920 00		