<table>
<thead>
<tr>
<th>NAME</th>
<th>Kahilu Game Reserve</th>
</tr>
</thead>
<tbody>
<tr>
<td>TYPE</td>
<td>NP</td>
</tr>
<tr>
<td>BIOTIC PROVINCE</td>
<td>5.6.1</td>
</tr>
<tr>
<td>LEGAL PROTECTION</td>
<td>Total</td>
</tr>
<tr>
<td>DATE ESTABLISHED</td>
<td>1 September 1928 under Notification No. 188 of 9 July</td>
</tr>
<tr>
<td>GEOGRAPHICAL LOCATION</td>
<td>Southern Burma, on west bank of the Salween river about 120 km upstream from Moulmein, N 17°32'-17°35'; E 97°29'-97°37'</td>
</tr>
<tr>
<td>ALTITUDE</td>
<td>24.38-76.20 metres</td>
</tr>
<tr>
<td>AREA</td>
<td>16,057 ha</td>
</tr>
<tr>
<td>PHYSICAL FEATURES</td>
<td>Low hills</td>
</tr>
<tr>
<td>VEGETATION</td>
<td>Evergreen forest</td>
</tr>
<tr>
<td>NOTEWORTHY FAUNA</td>
<td>No information later than 1962 is available, when the reserve was reported as giving protection to the Sumatran rhinoceros Dicerorhinus sumatrensis, classified in the Red Data Book as endangered, and the Burmese race of the Sumatran or black serow Capricornis sumatraensis milne-edwardsi, of which the typical race is similarly endangered. Other species recorded included the Malayan sambhar Cervus unicolor equinus and larger Malayan chevrotain or mouse deer Tragulus napu napu.</td>
</tr>
</tbody>
</table>

**ZONING**

**DISTURBANCES OR DEFICIENCIES**

**SCIENTIFIC RESEARCH**

**PRINCIPAL REFERENCE MATERIAL**


**STAFF**

**BUDGET**

**LOCAL PARK ADMINISTRATION**

Pa-an Forest Division, Kawtheelei State, Burma.
BURMA

NAME Mulayit Game Sanctuary

TYPE NP

BIOTIC PROVINCE 5.7.2

LEGAL PROTECTION Total

DATE ESTABLISHED 1936, Notification No. 232 of 5 November 1935

GEOPGRAPHICAL LOCATION Near the Thailand border ESE of Moulmein, N 16°03'-16°12'; E 98°26'-98°34'

ALTITUDE 152.4-2079.65 metres

AREA 13,859 ha

LAND TENURE

PHYSICAL FEATURES Western slopes of the Dawna range, the highest point being Mount Mulayit which is a place of pilgrimage. Many perennial streams. The climate is wet with probably more than 5000 mm of precipitation per annum.

VEGETATION Dense evergreen forests, moist deciduous forests, hill forests and open grassy screes depending on altitude and aspect.

NOTEWORTHY FAUNA Burmese tiger Panthera tigris tigris, leopard Panthera pardus fusca and Fea's muntjac Muntiacus feae are present; other species include bears and a variety of deer. The muntjac is classified in the Red Data Book as an endangered species; there is no recent information of its status in Burma, although its survival in wilder areas of neighbouring Thailand has been confirmed.

ZONING

DISTURBANCES OR DEFICIENCIES

SCIENTIFIC RESEARCH

PRINCIPAL REFERENCE MATERIAL


STAFF

BUDGET

LOCAL PARK ADMINISTRATION Deputy-director, Kawkareik Forest Division, Kawtheelei State, Burma.
BURMA

NAME Maymyo Game Sanctuary

TYPE NP

BIOTIC PROVINCE 5.6.2

LEGAL PROTECTION Total

DATE ESTABLISHED 1918

GEOGRAPHICAL LOCATION Central Burma, north-east of Mandalay, N 21°55'-22°05'; E 96°25'-96°35'

ALTITUDE 1066.80-1197.25 metres

AREA 12,691 ha

LAND TENURE

PHYSICAL FEATURES Maymyo Plateau, a part of the Shan plateau, with undulating small hills and valleys.

VEGETATION Dry teak forest and chestnut, no bamboo, with fairly dense undergrowth during the rainy season but almost open during summer and winter.

NOTEWORTHY FAUNA Reported to serve mainly as a bird sanctuary at the present time, but no information received on the species.

ZONING

DISTURBANCES OR DEFICIENCIES Despite its sanctuary status, this reserve like all others in Burma was reported by the authorities in 1970 to be not sufficiently secure to provide a suitable place for the release of Mrs. Hume's bar-tailed pheasant Syrmaticus humiae, when an offer was made by The Pheasant Trust to provide a number of pairs for re-introduction into areas where the species has been exterminated.

TOURISM The reserve is close to the popular hill station of Maymyo and part of it is developed as a botanic garden and is the only section visited. But it is well suited for development into a national park if the public could be educated into an appreciation of wildlife and the appropriate facilities were provided.

SCIENTIFIC RESEARCH

PRINCIPAL REFERENCE MATERIAL


STAFF No separate staff has been allotted to the Sanctuary, but the local Range Staff of the Forest Department keep an eye on it.

BUDGET About Kyats 2000/- are made available annually for maintenance of boundaries and footpaths, including payment for one daily labourer, plus a further Kyats 100/- for the artificial feeding of animals.

LOCAL PARK ADMINISTRATION Range officer, Maymyo ranger, Mandalay Forest Division, Northern Circle, Burma.

WDNP IUCN © 1975 6(1)F Code: BUR(1).4.3
NAME Moscos Islands Game Sanctuary

TYPE NP

LEGAL PROTECTION Total

DATE ESTABLISHED 1924 (original notification), confirmed by Forest Department Notification No. 243 of 29 September 1927.

GEOGRAPHICAL LOCATION Northernmost islands of the Mergui Archipelago off the coast of Tenasserim and about 250 km south of Moulmein, N 13°47'-14°27'; E 97°46'-97°56'

ALTITUDES  
Heinze Is. 15.24-310.90 metres  
Maungmagan Is. 15.24-358.44 metres  
Launglon Bok Is. 15.24-361.49 metres

AREA 4920.96 ha

LAND TENURE

PHYSICAL FEATURES Three groups of offshore islands, Heinze, Maungmagan and Launglon Bok, strung out over some 70 km of ocean from north to south. The largest island, in which the main settlement is situated, is in Launglon Bok, the most southerly group; it is also the highest, but all the islands rise steeply to their forested peaks.

VEGETATION Evergreen forest, some of which has been cleared

NOTEWORTHY FAUNA Best known, because heavily exploited, are edible nest swiftlets of two species, the 'grey-rumped' Collocalia fuciphaga inexpectata and the 'black-nest' or 'Low's' C. maxima (rowi). Apart from these two cave-dwellers, the forest avifauna is very rich, the various hornbills (especially Aceros spp.) and flocks of Imperial pigeons (mainly the green Ducula aenea) being especially remarkable. Turtles, probably of several species, breed around the shores. The only mammal reported is the crab-eating monkey Macaca irus, but sambar Cervus unicolor equinus have been introduced from the neighbouring mainland.

ZONING

DISTURBANCES OR DEFICIENCIES The right to collect edible birds' nests, formerly auctioned by the Forest Department, in 1971-72 became a monopoly of the Launglon Township Cooperative Society. The nests taken in that season weighed over 572 kg and Grade I 'white' nests of the grey-rumped swiftlet fetched Kyats 1800/- (US$ 360) per viss or 1.634 kg. The 'black' nests of maxima are much less valuable, but the quantity available is usually greater and would presumably account for a high proportion of the 572 kg quoted. Turtle eggs are also collected. The Water Products section of the Government Trading Corporation handles the grading, pricing and marketing of these products.

SCIENTIFIC RESEARCH
PRINCIPAL REFERENCE MATERIAL


STAFF

BUDGET

LOCAL PARK ADMINISTRATION  Tavoy Forest Division, Tavoy, Burma.
NAME  Kelatha Hill Wild Life Sanctuary

TYPE  NP  BIOTIC PROVINCE  5.7.4

LEGAL PROTECTION  Total

DATE ESTABLISHED  1942, on the suggestion of the abbot of a nearby monastery

GEOGRAPHICAL LOCATION  South Burma, between the Sittang and the Salween rivers, north-east of Rangoon, N 17°11'-17°15'; E 97°04'-97°08'

ALTITUDE  15.2-359.97 metres

AREA  2447 ha

LAND TENURE

PHYSICAL FEATURES  Low hills. The reserve is near the Kyaungdawya-Myathabeik monastery in the Kelatha Hills.

VEGETATION  Evergreen forest

NOTEWORTHY FAUNA  Barking deer Muntiacus muntjak grandicornis and black serow Capricornis sumatraensis milne-edwardsi, the latter a local race, reported from several of the listed areas, of a species which in Sumatra itself (the typical race) is classified as endangered. The Burmese red jungle fowl Gallus gallus spadiceus occurs.

ZONING

DISTURBANCES OR DEFICIENCIES

SCIENTIFIC RESEARCH

PRINCIPAL REFERENCE MATERIAL


STAFF

BUDGET

LOCAL PARK ADMINISTRATION  Deputy-director, Thaton Forest Division, Burma.
BURMA

NAME Taunggyi Game Sanctuary

TYPE  NP

BIOTIC PROVINCE  5.6.2

LEGAL PROTECTION  Total

DATE ESTABLISHED  1930

GEOGRAPHICAL LOCATION  Central Burma, N 20°42'-20°48'; E 97°03'-97°06'

ALTITUDE  1432.56 metres

AREA  1587 ha

LAND TENURE

PHYSICAL FEATURES  A hill to the south-east of Taunggyi, the capital of the Shan states. Its slopes vary from fairly steep to very steep with a few precipitous crags commanding a fine view of the town.

VEGETATION  Plantations of oak, chestnut and other tree species including a few pines, designated as a fuel reserve for the town.

NOTEWORTHY FAUNA  The area was formerly noted for a variety of species, including leopard Panthera pardus fusca and the bar-tailed pheasant Syrmaticus humiae. It has been suggested as possibly a suitable place for the re-introduction of the latter, but up till now has, like other reserves, been considered by the Forest Department to be too subject to disturbance.

ZONING

DISTURBANCES OR DEFICIENCIES  Possible exploitation of the tree plantations for fuel. See also under 'noteworthy fauna'.

TOURISM  Much visited by the inhabitants of Taunggyi and many 'ridas' and footpaths have been provided for their use, but facilities still need to be improved.

SCIENTIFIC RESEARCH

PRINCIPAL REFERENCE MATERIAL


STAFF  No separate staff; sanctuary is managed by local Forest Department personnel.

BUDGET

LOCAL PARK ADMINISTRATION  Divisional Forest Officer, South Shan State Forest Division, Burma.
NAME: Diamond Island (Thamila Kyun or Leik Kyun) Wildlife Sanctuary

TYPE: NP

LEGAL PROTECTION: Total

DATE ESTABLISHED: 1 December 1970, Agr. and Forests Notification No. 289

GEOGRAPHICAL LOCATION: Extreme south-west of the country, off the mouth of the Bassein river, N 15°51'-15°52'; E 94°16'-94°17'

ALTITUDE: Sea level to highest points of 15.24 metres and 30.48 metres, respectively

AREA: 88 ha

LAND TENURE: Physical Features

PHYSICAL FEATURES: Rocky island about 8 km from the coast, off the mouth of the Bassein river, the most western of the nine principal mouths of the Irrawaddy river. The central area rises to a few small hills with soil and vegetation.

VEGETATION: Mostly grassland with few trees

NOTEWORTHY FAUNA: Established to protect the turtles including the green turtle Chelonia mydas, the loggerhead Caretta caretta and the hawksbill Eretmochelys imbricata all of which are totally protected. Indigenous fauna includes lizards and hermit crabs.

ZONING

DISTURBANCES OR DEFICIENCIES: Turtle eggs are collected for sale, but 10% are hatched for recruitment purposes each year. A number of birds and other animals, including peafowl Pavo cristatus, rhesus monkey Macaca mulatta and hog deer Cervus porcinus, have been introduced from the Rangoon Zoological Gardens and some have undoubtedly had an adverse effect on native biota. However the rhesus monkeys and, perhaps a greater threat to the Sanctuary, a dozen or so domestic goats are reported to have been removed or destroyed. Between 1969 and 1972 planting of fruit-bearing trees was undertaken, including 1500 in the final year, but these were of local forest species.

SCIENTIFIC RESEARCH: Observation of turtle behaviour during nesting and assessment of female turtles and recruitment.

SPECIAL SCIENTIFIC FACILITIES: Nursery tanks and equipment for physical oceanography

PRINCIPAL REFERENCE MATERIAL

STAFF: Department of Fisheries: 1 officer and 4 staff
Department of Forests: 5 staff (responsible to Ngaputaw Range Officer)
Police: 1 officer and 5 staff

BUDGET: Approximately Kyats 157,000/- (US$ 31,400) annually for staff

WDNP: IUCN © 1975 6(1)F Code: BUR(1).7.1
LOCAL PARK ADMINISTRATION 1) Forest Conservation and Department of Forests, Bassein - Henzada Forest Division, Maritime Circle; 2) Turtle Conservation and Department of Fisheries; 3) Security: Police
CAMEROON

AREA 474,955 sq. km

POPULATION 7,000,000 (1976 estimate)

PARKS AND RESERVES LEGISLATION No information received. The dates on which what were previously ranked as forest and/or faunal reserves were re-established as national parks, suggest that enabling legislation must have been enacted in about 1961 or 1962, shortly after the establishment of the Federal Republic, which became the present United Republic in 1972.

PARKS AND RESERVES ADMINISTRATION No information but presumably still the responsibility of the Direction des Eaux et Forêts in turn responsible to the Secretary of State for Rural Production.

ADDRESS Secrétariat d'Etat de la Production Rurale, Yaounde.

TOTAL AREA UNDER PROTECTION Areas included in the 1976 U.N. List: 909,512 ha

PROTECTED AREAS (U.N. Listed only)

2.1 Faro Forest and Faunal Reserve 330,000 ha
2.2 Bouba N'Djiddah National Park 220,000 ha
2.3 Benoué National Park 180,000 ha
2.4 Waza National Park 170,000 ha
4.1 Kimbi River Game Reserve 5,012 ha
5.1 Kalamaloué National Park 4,500 ha
Waza National Park

**NAME**  Waza National Park

**TYPE**  NP

**BIOTIC PROVINCE**  4.11.4

**LEGAL PROTECTION**  Flora and fauna totally protected but in practice the protection is still not fully effective.

**DATE ESTABLISHED**  Faunal protection dates from 1934 (for giraffe); National Park status was accorded unofficially in 1936, but not formally confirmed under the provisions of the Law until 1968.

**GEOGRAPHICAL LOCATION**  On western side of northern tip of Cameroon and a little less than half the distance between Maroua and Lake Chad, to the immediate east of the township of Wazza: N 11°30'; E 14°45'

**ALTITUDE**  320-500 metres

**AREA**  170,000 ha

**LAND TENURE**  No information

**PHYSICAL FEATURES**  Part of the Chad basin, consisting of grassy plains to the east, flooded during the rainy season June-September, and a slightly more elevated sector extending westwards which, however, is still fairly flat.

**VEGETATION**  The western sector is Soudano-Sahelian woodland savanna dominated by *Acacia seyal* but with areas of shrubland or low bush and open herbaceous grasslands.

**NOTeworthy Fauna**  The mammals include patas monkey *Erythrocebus patas*, striped hyaena *Hyaena hyaena*, lion *Panthera leo*, elephant *Loxodonta africana*, warthog *Phacochoerus aethiopicus*, giraffe *Giraffa camelopardalis*, bushbuck *Tragelaphus scriptus*, grey duiker *Sylvicapra grimmia*, kob *Kobus kob*, reedbuck *Redunca redunca*, roan antelope *Hippotragus equinus*, topi *Damaliscus korrigum* and red-fronted gazelle *Gazella rufifrons*. Two species rated as vulnerable by the Red Data Book, the leopard *Panthera pardus* and cheetah *Acinonyx jubatus*, have been recorded in the past but few if any survive. The swampy areas are rich in birds including many herons Ardeidae, saddle-bill stork *Ephippiorhynchus senegalensis*, marabou stork *Leptoptilos crumeniferus*, geese, duck, fish eagle *Haliaetus vocifer*, and crowned crane *Balearica pavonina*. The bateleur eagle *Terathopius ecaudatus* can be seen hunting over the savanna woodlands.

**ZONING**  None

**DISTURBANCES OR DEFICIENCIES**  The village of Baram remains within the Park, with about 30 inhabitants who refuse to be moved and depend on hunting and fishing. Controlled burning is used as a management tool, reducing damage from wild fires.

**TOURISM**  Some 400 km of tracks which are motorable in the dry season are available for visitors to the Park and extend beyond its boundaries towards the Logone River where many of the animals migrate in the dry season. The Park is open from November to April and other facilities include a hotel with 22 two-room cabins, situated about 1.5 km outside the Park near the main entrance. Mini-bus excursions through the Park have been tried but have not so far received much support.
SCIENTIFIC RESEARCH Some research has been undertaken on patas monkeys and a further programme on elephant migration was scheduled. The ecology of the Park has been studied under FAO auspices and groups of students from the Garo a Wildlife Management School regularly receive field training in the Park which involves investigation of the fauna and flora.

SPECIAL SCIENTIFIC FACILITIES None

PRINCIPAL REFERENCE MATERIAL None listed

STAFF This includes a Conservator and staff of the Eaux et Forêts department. The staff includes a number of Guides/Game Guards the employment of whom by visitors for tours in the Park is compulsory.

BUDGET No information

LOCAL PARK ADMINISTRATION Conservateur du Parc National de Waza, Waza.
Kalamaloud National Park

**Type**: MR

**Biotic Province**: 4.11.4

**Legal Protection**: Extends only to flora and fauna.

**Date Established**: February 1972

**Geographical Location**: 10 km west of N'Djamena, capital of the Chad Republic, on the other side of the Chari River, which below its confluence with the Logone River forms the border between the two countries: N 12°00'-10'; E 16°55'-15°02'

**Altitude**: 293 metres

**Area**: 4,500 ha, but an unconfirmed report suggests that it has now been doubled in size.

**Land Tenure**: No information

**Physical Features**: Flat seasonally flooded plains at the edge of the Lake Chad basin, merging into Soudano-Sahelian transitional woodland savanna and shrub savanna along the Logone River to the south.

**Vegetation**: The woodland savanna sector is dominated by Acacia spp, particularly albida. Scattered Tamarindus sp. also occur and the shrub savanna is composed of Balanites aegyptiaca and other stunted species. No information has been given on the composition of the vegetation of the swampy grasslands.

**Noteworthy Fauna**: This was reported in 1972 still to include a few leopard Panthera pardus (classified as 'vulnerable' in the Red Data Book), elephant Loxodonta africana, and a good variety of antelopes such as bushbuck Tragelaphus scriptus, grey duiker Sylvicapra grimmia, waterbuck Kobus ellipsiprymnus, Buffon's kob Kobus kob, topi Damaliscus korrigum and red-fronted gazelle Gazella rufifrons. There is a good deal of movement of these animals between Kalamaloud and the Waza National Park. Crocodiles, monitor lizards and pythons still survive along the rivers, but it is not certain whether the crocodile is the slender-snouted Crocodylus cataphractus, rated as 'endangered' by the Red Data Book, or the Nile crocodile C. niloticus rated as 'vulnerable', -or both. The waterbirds comprise a good varied sample of herons, storks, ducks and geese, with plenty of fish eagles Haliaetus vocifer, kingfishers, and interesting passerine species such as the gonolek Lamarius erythrogastrus.

**Zoning**: None

**Disturbances or Deficiencies**: There is still one fishing village in the Park, the inhabitants of which would like to be free to hunt, whenever the fishing is unproductive, and no doubt indulge in poaching. Other losses to wildlife are caused by road traffic on the main road which bisects the Park from N'Djamena and Kousseri on its way to Maiduguri in Nigeria and to Waza and Maroua (the road forking at the village of Maltam a little to the west of the Park).

**Tourism**: One cabin with four beds is available but visitors have to be fully equipped with food and bedding. The Park is, however, quite popular, especially with day visitors from N'Djamena, which is not more than an hour or two away including the ferry crossing of the Chari River.
The vervet monkey has been studied by a postgraduate student from the UK and the FAO has carried out an ecological study, with recommendations for diverting the main road, when it is eventually upgraded to a hard surface, round the southern boundary of the Park.

SPECIAL SCIENTIFIC FACILITIES None

PRINCIPAL REFERENCE MATERIAL None listed, but relevant if available is -

STAFF The Conservator and staff of the Departement des Eaux et Forêts responsible for the Waza National Park are also responsible for Kalamaloué, but four guards were specifically stationed at Kalamaloué in 1972.

BUDGET No information

LOCAL PARK ADMINISTRATION As for Waza National Park: Conservateur du Parc National de Waza, Waza.
CANADA

AREA 9,958,925 sq. km
POPULATION 22,479,000 (1974 est.)

PARKS AND RESERVES LEGISLATION The National Parks Act, 1930, as revised in 1952

PARKS AND RESERVES ADMINISTRATION Vested by the Act in the Minister of Indian and Northern Affairs and undertaken by Parks Canada which is headed by a Director General and maintains five regional offices. Scientific research, related primarily to the study of wildlife resources and their management, is conducted by biologists of the Canadian Wildlife Service; other resource studies, inventory programmes and recreational research are carried out by Parks Canada staff and consultants. Research is also undertaken by universities, subject to the Director General’s approval. Special licensing is required for any collecting necessary for scientific purposes. Facilities for park visitors (over 14 million in 1971), rated third in the administrative priorities, after protection of natural communities and wild species and protection of outstanding natural landscapes, are based on providing opportunities, through publications, interpretative programmes and personal experience, for developing an understanding of the values of natural communities and landscapes, while enjoying outdoor recreation in natural surroundings.

ADRESSES
Department of Indian and Northern Affairs, Parks Canada, 400 Laurier Avenue West, Ottawa, Ontario K1A 0H4, Canada
Director General: Mr. John I. Nicol

Regional Offices
Atlantic Region, Parks Canada, The Royal Bank Building, 5161 George Street, Halifax, Nova Scotia, Canada
Ontario Region, Parks Canada, P.O. Box 1359, Cornwall, Ontario, Canada
Québec Region, Parks Canada, C.P. 9578 Québec, Québec G1V 4C2, Canada
Prairie Region, Parks Canada, 114 Garry Street, Winnipeg, Manitoba R3C 1G1, Canada
Western Region, Parks Canada, 131 Customs Building, 11th Avenue and 1st Street S.E., Calgary, Alberta T2G 0X5, Canada

TOTAL AREA UNDER PROTECTION (UN Listed Areas, 1974, only) 146,254 sq. km.
<table>
<thead>
<tr>
<th>PROTECTED AREAS</th>
<th>Size (ha)</th>
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<tbody>
<tr>
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<tr>
<td>Kluane (Yukon Territory)</td>
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<td>Baffin Island (N.W. Territories)</td>
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<td>Jasper (Alberta)</td>
<td>1,087,800</td>
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<td>Algonquin Provincial Park (Ontario)</td>
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<td>Banff National Park (Alberta)</td>
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<td>Nahanni (N.W. Territories)</td>
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<td>Quetico Provincial Park (Ontario)</td>
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<td>Prince Albert National Park (Saskatchewan)</td>
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<td>Riding Mountain (Manitoba)</td>
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<td>Mont Tremblant Provincial Park (Quebec)</td>
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<td>Gros Morne National Park (Newfoundland)</td>
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<td>Elk Island (Alberta)</td>
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<td>Wildcat Hill Wilderness Area (Saskatchewan)</td>
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<tr>
<td>St. Lawrence Islands National Park (Ontario)</td>
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</table>
NAME Wood Buffalo National Park

TYPE NP

BIOTIC PROVINCE 1.2.1

LEGAL PROTECTION Total (but certain traditional Indian rights still permitted)

DATE ESTABLISHED 1922

GEOGRAPHICAL LOCATION On the boundary between Alberta and the Northwest Territories: N 58°0'5"-60°40'3"; W 111°0'2"-115°30'5"

ALTITUDE 217-945 metres

AREA 4,480,700 ha

LAND TENURE Public lands

PHYSICAL FEATURES A vast wilderness area of the Northern Plains with four main topographic features: erosion plateaux left by glaciers, glaciated plains, river deltas and alluvial river lowlands. Saline plains with evaporites and extensive karstic topography are also represented. Geologically the area has a thin Paleozoic sequence of Devonian rocks with the east boundary of the park almost co-incident with the Precambrian Canadian Shield/Paleozoic contact along the Athabasca and Slave rivers. The plateaux are of Cretaceous age. The climate is boreal continental with temperatures ranging from daily means of -17.8°C to -23.3°C in January to 15.6°C to 18.3°C in July; annual precipitation 300 mm.

VEGETATION Typical of the boreal forest zone with predominately white spruce Picea glauca, black spruce P. mariana, jack pine Pinus banksiana and tamarack Larix laricina. Many watercourses have stands of balsam poplar Populus balsamifera and some uplands have pure stands of aspen P. tremuloides. Extensive stands of white spruce forests cover the banks of the Peace, Athabasca and Birch rivers. Some areas of prairie with grasses occur and the Peace-Athabasca delta has flats with marshes of cat-tail Typha latifolia and sedges Carex rostrata, C. atheroides and C. aquatilis.

NOTEWORTHY FAUNA The park was created specifically to protect North American bison, consisting of wood buffalo Bison bison athabascae, plains bison Bison bison and a large population of hybrids. Numbers now exceed 12,000. Other large mammals include black bear Ursus americanus, woodland caribou Rangifer tarandus caribou and moose Alces alces. A total of 46 mammals have been recorded, smaller species being abundant in some areas. The Peace-Athabasca delta is an important waterfowl nesting area located at the convergence of four major flyways. Over 200 species of birds have been recorded. The still highly endangered (Red Data Book category) whooping crane Grus americanus has its breeding grounds in the park.

ZONING Not yet applied, but due to be provided for in the park Master Plan

DISTURBANCES OR DEFICIENCIES Hunting and trapping by the indigenous inhabitants for game other than buffalo is permitted under licence, subject to regulations. Logging permitted in small portion of the park. Sport-fishing also allowed.

TOURISM 717 visitors totalled 112,250. Facilities available in nearby towns of Hay River and Fort Smith outside the park. Picnic ground and 16 campgrounds within the park.
SCIENTIFIC RESEARCH  Studies of wildlife resources and management by Canadian Wildlife Service

SPECIAL SCIENTIFIC FACILITIES  None

PRINCIPAL REFERENCE MATERIAL  Reports and publications available on request

STAFF  Total 31, 22 full-time, 9 part-time

BUDGET  US$ 685,000

LOCAL PARK ADMINISTRATION  Superintendent, Wood Buffalo National Park, Fort Smith, Northwest Territories, Canada.
NAME Jasper National Park

TYPE NP

BIOTIC PROVINCE 1.8.2

LEGAL PROTECTION Total, except in certain zones and for sport-fishing

DATE ESTABLISHED 1907

GEOGRAPHICAL LOCATION Alberta. 52°05' -53°28' N; 116°50'-119°32' W

ALTITUDE 1058-3773 metres

AREA 1,087,800 ha

LAND TENURE Public ownership

PHYSICAL FEATURES Eastern edge of the Rocky Mountains: although these were formed 75 million years ago, some rocks exposed in the park date back over 500 million years. Beds of Palliser limestone form the great cliffs at Roche Miette and the Palisades. Some spectacular peaks have been carved by glaciation and several active glaciers continue to create new land forms; the Columbia ice field, extending over 285 sq. km is the most spectacular in Canada. Alpine and rock barrens cover 104 sq. km.

Other outstanding geological features are the mineral hot springs of Sulphur Creek (Miette Hot Springs) and Medicine Lake, drained by an underground river which re-appears in Maligne Canyon. The mean January and July temperatures are about -12.2°C and 15.6°C respectively; mean total annual precipitation is about 50.8 cm.

VEGETATION Altitudinally zoned. Valleys heavily forested with conifers, the main communities dominated by lodgepole pine Pinus contorta – which comes in after fire – occupying some 168,000 ha, and white spruce Picea glauca covering 27,500 ha. Along the rivers communities of aspen Populus tremuloides (700 ha) and poplar Populus balsamifera are found. Some lower and drier slopes support Douglas fir Pseudotsuga menziesii forest (500 ha), while spruce-fir Picea engelmannii-Abies lasiocarpa forest occupies 232,500 ha near the timberline. Small areas of black spruce Picea mariana cover about 120 ha. Above the timberline open alpine meadows cover 50,000 ha and support communities dominated by arctic species such as the heath Cassiope tetragona, mountain avens Dryas integrifolia and the willow Salix arctica. Noteworthy herbaceous species of the park include Heuchera glabra, Lupinus nootkatensis, Galium palustre and Dryopteris phegopteris.

NOTEWORTHY FAUNA The marso Marmota caligata, bighorn sheep Ovis canadensis and the pika Ochotona princeps are typical of higher elevations, while moose Alces alces, mule deer Odocoileus hemionus, caribou Rangifer tarandus, of the woodland form, and the beaver Castor fiber canadensis remain in the valleys. Carnivores include timber wolf Canis lupus, grizzly bear Ursus arctos horribilis, wounded wolf Canis lupus, badger Taxidea taxus, lynx Felis lynx canadensis and cougar F. concolor. About 200 species of birds have been identified in the park.

ZONING 58% is classified as wilderness, 15% as somewhat modified natural area, 16% as special preservation area, 6% as a recreation zone including campgrounds, park trails and scenic parkways and 1% as an intensive use and transportation corridor zone.
DISTURBANCES OR DEFICIENCIES  The last mentioned zone includes a permanent
townsite with a population of 3732, skiing facilities, and powered tourist and
fishing boats on designated lakes. Sport-fishing is considered compatible with
the proper management of natural zones.

TOURISM  Facilities based on town of Jasper, with about 1760 rooms available in
hotels and motels. There are 1900 camping grounds in the park. Visitor total was
1,408,000 in 1971.

SCIENTIFIC RESEARCH  See summary of the policy on scientific work, which is
included in the Country Sheet.

PRINCIPAL REFERENCE MATERIAL

LAIDLAW, T.F. 1971. The black spruce (Picea mariana) vegetation of Banff and

PORSILD, A.E. 1959. Botanical excursion to Jasper and Banff National Parks,

STRINGER, P.W. 1973. An ecological study of grasslands in Banff, Jasper and

STRINGER, P.W., and LA ROI, G.H. 1970. The Douglas fir forests of Banff and

STAFF  145 full-time

BUDGET  1973-74 about US$ 4,743,000

LOCAL PARK ADMINISTRATION  The Superintendent, Jasper National Park, Jasper,
Alberta, Canada TOE 1E0.
NAME Banff National Park

TYPE NP

BIOTIC PROVINCE 1.8.2

LEGAL PROTECTION Total, except in certain zones and for sport-fishing

DATE ESTABLISHED 1885

GEOGRAPHICAL LOCATION Alberta. 50°42'-52°16'N; 115°10'-117°18'W

ALTITUDE 1383-3628 metres

AREA 664,076 ha

LAND TENURE Public ownership

PHYSICAL FEATURES Rocky Mountain landscape formed 75 million years ago and modified by folding, faulting and glaciation. Essentially there are three parallel ranges running north and south. Several still active glaciers, mineral hot springs of Sulphur Mountain, Johnston Canyon, and the so-called hoodoos or erosion-carved pinnacles are features of special interest. Alpine and rock barrens cover 113,000 ha. Mean January and July temperatures are c. -12.2°C and 15.6°C, respectively, and mean total annual precipitation c. 50.8 cm.

VEGETATION Altitudinally zoned. Valleys dominated by dense lodgepole pine Pinus contorta forest covering 192,000 ha. Further up the slopes stands of the blue variety of Douglas fir Pseudotsuga menziesii glauca cover some 500 ha, but the principal subalpine forest community is of Engelmann spruce Picea engelmannii (162,000 ha). Alpine grasslands occupy 25,000 ha. Less extensive forest types include black spruce bogs Picea mariana, aspen forest Populus tremuloides, white spruce forest Picea glauca, and willow scrub Salix spp.

NOTEWORTHY FAUNA Rocky Mountain goat Oreamnos americanus and bighorn sheep Ovis canadensis (not yet considered in the mammals volume of the Red Data Book to be out of danger of further decline) are typical of the higher alpine pastures, elk Cervus canadensis and white-tailed and mule deer Odocoileus virginianus and hemonus of meadows in the forest zone, and moose A. alces of swampy valley bottoms. Timber wolf Canis lupus, grizzly Ursus arctos horribilis and cougar Felis concolor represent the carnivores. A good variety of bird species, though except in favoured areas such as the Vermillion Lakes, thinly distributed; the majority are migratory. Lakes and streams contain half a dozen salmonid species, including eastern brook trout, cutthroat, rainbow and brown trout.

ZONING 37% and 36% respectively, of undisturbed and slightly modified wilderness; 19% rated as of outstanding interest or attraction; of the remainder 7% is set aside for recreational use, mainly campsites, and 1%, largely consisting of the town of Banff itself (pop. c. 3600), is intensively developed.

DISTURBANCES OR DEFICIENCIES Apart from the permanent townsite and the Lake Louise centre, these mainly arise from wintersports facilities and, during the summer, the use of power-boats on certain lakes.
TOURISM  Accommodation at the visitor centres at Banff and Lake Louise amounts to 3053 rooms and there are 3200 campsites. Visitor total was 2,498,400 in 1971.

SCIENTIFIC RESEARCH  See summary of the policy on scientific work, which is included in the Country Sheet. A Cosmic Ray Station for High Atmospheric Research is located in the park.

PRINCIPAL REFERENCE MATERIAL


STAFF  221 full-time

BUDGET  About US$ 4,027,000

LOCAL PARK ADMINISTRATION  Superintendent, Banff National Park, Banff, Alberta.
CANADA

NAME Prince Albert National Park

TYPE NP

LEGAL PROTECTION Total

DATE ESTABLISHED 1927

GEOGRAPHICAL LOCATION Central Saskatchewan: N 53°35'-54°19'; W 106°-106°47'

ALTITUDE 514-698 metres

AREA 387,464 ha

LAND TENURE Government land

PHYSICAL FEATURES A gently undulating area with an east-west ridge forming the watershed between the northward draining Churchill river system and the southward draining North Saskatchewan river. Thick deposits of glacial till bury the bedrock. Aquatic ecosystems are well represented in lakes, streams, sloughs and bogs. A subarctic climate gives cool, short summers and cold winters with mean daily temperatures in January and July of -26°C and 19°C respectively. Mean annual precipitation is 460 mm.

VEGETATION A transition area between the coniferous boreal forests, the aspen parklands and prairie grasslands. The coniferous forest areas have white spruce Picea glauca, balsam fir Abies balsamea, aspen Populus tremuloides, white birch Betula papyrifera and balsam poplar P. balsamifera. Aspen parklands have aspen, balsam poplar and white birch. Prairie grasslands have rough fescue Festuca scabrella as dominant, with porcupine grass Stipa sportea, northern bedstraw Galium boreale and American vetch Vicia americana. Stands of aspen and poplar are common. A large variety of shrubs, mosses and wildflowers.

NOTEWORTHY FAUNA The park serves as a refuge for fauna driven from their former range by man’s activities. Mammals include beaver Castor canadensis, timber wolf Canis lupus, coyote Canis latrans, red fox Vulpes v. fulva, black bear Ursus americanus, Canadian lynx Felis lynx canadensis, wapiti Cervus canadensis, white-tailed and mule deer Odocoileus virginianus and O. hemionus, moose Alces alces, woodland caribou Rangifer tarandus caribou and bison Bison bison. Abundant waterfowl are present and over 175 bird species have been recorded. Fish include northern pike Esox lucius, walleye Stizostedion vitreum, lake trout Salvelinus namaycush, yellow perch Perca flavescens and cisco Leucichthys artedi.

ZONING 76% wilderness recreation area (class II); 16.7% natural environment areas (class III); 3.6% special areas (class I); 3.4% general outdoor recreation areas (class IV); 0.3% intensive use areas (class V).

DISTURBANCES OR DEFICIENCIES Sport-fishing permitted

TOURISM 145,801 visitors in 1971. Facilities include 120 trailer sites and 477 campsites including primitive back country camps. Access is by provincial highway. Waskesiu township provides motel, lodge and bungalow accommodation nearby.

SCIENTIFIC RESEARCH No specific examples: the Canadian Wildlife Service undertakes research on maintenance and management of wildlife.

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SPECIAL SCIENTIFIC FACILITIES  None
PRINCIPAL REFERENCE MATERIAL  Reports and publications available upon request
STAFF  Total 138, 52 full-time, 86 part-time
BUDGET  US$ 1,125,000
LOCAL PARK ADMINISTRATION  Superintendent, Prince Albert National Park, Waskesiu, Saskatchewan, Canada.
**NAME**
Riding Mountain National Park

**TYPE**
NP

**BIOTIC PROVINCE**
1.2.1 - 1.10.1

**LEGAL PROTECTION**
Total, except to the extent that various recreational activities are allowed

**DATE ESTABLISHED**
1927

**GEOGRAPHICAL LOCATION**
Manitoba Escarpment. 50°30'-51°01'N; 99°31'-101°05'W

**ALTITUDE**
318-755 metres

**AREA**
297,591 ha

**LAND TENURE**
Public ownership

**PHYSICAL FEATURES**
Rolling, wooded plateau, of which the 300-350 m high scarp is part of the shoreline of glacial Lake Agassiz and also separates the plains of Manitoba from those of Saskatchewan. Numerous kettle holes and other glacial features gives the area a high geological interest. The bedrock is covered by thick deposits of clay, sand, gravel and boulders. Mean January temperature about -19°C, mean July temperature c. 18°C and mean annual precipitation c. 66 cm.

**VEGETATION**
Tripartite: (a) northern coniferous, characterized by the spruces *Picea glauca* and *mariana*, jack pine *Pinus banksiana*, balsam fir *Abies balsamea*, tamarack *Larix laricina*, aspen *Populus tremuloides*, canoe birch *Betula papyrifera*; (b) eastern deciduous forest, characterized by the maples *Acer negundo* (box-elder) and *spicatum*, green ash *Fraxinus pennsylvaniae* laceolate, the plums *Prunus vigra* and *virginiana* (chokecherry), white elm *Ulmus americana*, bur oak *Quercus macrocarpa*, and *Viburnum spp.*; and (c) central grasslands life zone, dominated by Festuca scabrella and including such species as the porcupine grass *Stipa spartea* and dwarf sedges *Carex spp.*

The azonal vegetation, principally riparian, comprises large stands of *Typha latifolia*, *Phragmites communis* and *Scirpus spp.*, with scattered wet meadows mainly of *Carex spp.*

**NOTEWORTHY FAUNA**
Park is a refuge, surrounded by agricultural land, for the beaver *Castor fiber canadensis*, which is common, and some interesting small rodents such as the water shrew *Sorex palustris*, vagrant shrew *S. vagrans*, and northern lemming mouse *Synaptamys borealis*; several carnivores: e.g. wolf *Canis lupus*, coyote *C. latrans*, black bear *Ursus americanus* and Canadian lynx *Felis lynx canadensis*; and a variety of ungulates: wapiti or elk *Cervus canadensis*, moose *Alces alces*, the mule and white-tailed deer *Odocoileus hemionus* and *virginianus*, and *Bison bison*. 230 species of birds have been recorded, among them the bald eagle *Haliaeetus leucocephalus*, and the fish species includepike *Esox lucius*, lake whitefish *Coregonus clupeaformis*, the walleye *Stizostedion vitreum* of the typical form, rainbow trout *Salmo gairdneri* and lake and brook trout *Salvelinus namaycush* and *fontinalis*. The area is remarkable for rare northern forms of lepidoptera, and at least seven new races have been recorded including Hobomok skipper *Poepes hobomok ridingsii*, and the Jutte arctic *Caneis jutte ridingiana*.

**WDNP**
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**Code:**  CAN.2.5
ZONING  88% wilderness, a further 10% constituting a special preservation zone, and 2% used for recreational or other intensive development purposes.

DISTURBANCES OR DEFICIENCIES   A public highway traverses the eastern end of the park and the seasonal resort facilities are highly urbanized: power boats are permitted on certain lakes and skiing facilities have been developed.

TOURISM    Visitor services and supplies are centred on the town of Wasagaming and include motels, lodges and bungalows; there are also five campgrounds with a total of 637 campsites and 95 trailer sites. Visitors totalled 74,508 in 1971.

SCIENTIFIC RESEARCH    See Country Sheet for summary of the policy applied to all National Park areas.

STAFF  73 full-time and 75 part-time

BUDGET    About US$ 1,268,000

LOCAL PARK ADMINISTRATION    The Superintendent, Riding Mountain National Park, Wasagaming, Manitoba.
NAME  Gros Morne National Park
TYPE   NP-M
BIOTIC PROVINCE  1.2.1
LEGAL PROTECTION  Total, except that sport-fishing is permitted
DATE ESTABLISHED  1970
GEOGRAPHICAL LOCATION  Bonne Bay, W. coast of Newfoundland. 49°18'-59'N; 57°25'-58°10'W
ALTITUDE  Sea level to 806 metres
AREA  194,250 ha
LAND TENURE  Public ownership

PHYSICAL FEATURES  Comprise three distinct regions - the scarp and plateau of the Long Range Mountains, the coastal plain and the ultra-basic-rock area of the Serpentine Hills. This makes for great diversity, ranging from magnificent seascapes, through mountain and fjord rock formations, lakes and waterfalls to shifting dunes. Outstanding are the fjord-like lakes with sheer 600 m walls. The bedrock is also varied, Precambrian, Cambrian, Ordovician and early Silurian. Soils of the Long Range are podzolic, lithosolic or peaty. Offshore in Bonne Bay two troughs have been detected, one from 91-155 m and the other 228 m deep.

The mean January and July temperatures are -9.4°C and 14.4°C, respectively, and the mean annual precipitation amounts to about 92 cm.

VEGETATION  The coastal plain is mostly muskeg and wet bog with narrow belts of trees, which on the cliffs and coastal hills are predominantly black spruce Picea mariana and the balsam fir Abies balsamea. Due to high winds and exposure much of the vegetation is of the prostrate, ground-hugging form known as 'tuckamoor'. The coastal wetlands themselves have a typical flora of sedges, grasses and herbaceous plants, with bog communities such as Sphagnum imbricatum-Gaylussacia covering large areas, and forming the northernmost extreme of western blanket peat. In the highest part of the park there are a few dwarf shrub, grass and moss communities, with dominants such as Arctostaphylos alpina, Vaccinium uliginosum, Calamagrostis inexpectans and Sphagnum spp. Patches of taller heath communities, Kalmia-Myrica and of medium to small (2 metres high, 30 cm thick trunk) conifers, Picea and Abies, with some alder Alnus, occur over limited areas. The alpine and arctic plant communities of the Serpentine Hills and other parts of the park include species that are rare or even unique in eastern North America, for example, Antennaria leucosma, Castilleja septentrionalis, Cerastium beeringianum and terrae-novae, Calliergon cordifolium, Arenaria humifusa, A. mucronata, A. rubella and Brachyelytrum erectum var. septentrionale. Some of the marine flora of Bonne Bay is also quite unique.

NOTEWORTHY FAUNA  Mammals are scarce, but of the species found the marten Martes americana is uncommon in Canada. The arctic hare Lepus arcticus, moose A. alces and caribou Rangifer tarandus occur in small numbers. The birds are of special interest, particularly the cliff nesters and waterfowl; the bald eagle Haliaeetus leucocephalus and probably the willow and rock ptarmigan Lagopus lagopus and mutus nest in the park. There are three major salmon rivers and the aquatic life of the bay shelf and deep troughs, as well as of the inland fjord lakes, is remarkably varied.

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ZONING

Somewhat modified natural areas are estimated to account for 52% and true wilderness 42% of the park; 2% is earmarked for special preservation, and the recreational or intensive use zones occupy the remaining 4%.

DISTURBANCES OR DEFICIENCIES

The park surrounds one or two urban enclaves.

TOURISM

Little developed. There are motels at Deer Lake 33 km to the south-east and a few temporary campsites are available in the park pending the construction of permanent ones in the next few years.

SCIENTIFIC RESEARCH

See Country Sheet for a summary of the overall position in the parks.

PRINCIPAL REFERENCE MATERIAL


STAFF

12 full-time

BUDGET

About US$ 31,000

LOCAL PARK ADMINISTRATION

The Superintendent, Gros Morne National Park, Rocky Harbour, (Bonne Bay), Newfoundland.
NAME Pukaskwa National Park

TYPE NP

LEGAL PROTECTION Total

DATE ESTABLISHED 1971

GEOGRAPHICAL LOCATION North-eastern shore of Lake Superior, Ontario: N 47°34'15"-48°59'45"; W 83°31'15"-86°16'15".

ALTITUDE 180-630 metres

AREA 187,775 ha

LAND TENURE Government owned

PHYSICAL FEATURES An area of rugged Precambrian topography with an 80 km shoreline along Lake Superior. It has numerous smaller lakes and streams and also the third highest elevation in Ontario. Mean January and July daily temperatures are -13.3°C and 18°C, respectively, and mean annual total precipitation is 1010 mm.

VEGETATION Boreal forests; representative species include white and black spruces Picea glauca and mariana, jack pine Pinus banksiana, poplars Populus sp. and birch Betula sp.

NOTEWORTHY FAUNA Characteristic large and small mammals of the boreal forest, such as beaver Castor fiber canadensis, muskrat Ondatra zibethica, timber wolf Canis lupus, black bear Ursus americanus, marten Martes Americana, fisher Martes pennanti, mink Mustela vison, lynx Felis lynx canadensis, white-tailed deer Odocoileus virginianus, moose Alces alces and woodland caribou Rangifer tarandus caribou.

ZONING Not yet notified: to be included in Park Master Plan

DISTURBANCES OR DEFICIENCIES None notified

TOURISM Under development: visitor facilities not yet installed

SCIENTIFIC RESEARCH Wildlife and management studies to be undertaken by the Canadian Wildlife Service as necessary.

SPECIAL SCIENTIFIC FACILITIES None

PRINCIPAL REFERENCE MATERIAL None listed

STAFF 14 full-time employees plus some additional assistance for two or three months every year.

BUDGET Total for 1974-75 fiscal year: US$ 818,900 ($535,500 capital expenditure, $283,400 organization and management).

LOCAL PARK ADMINISTRATION Superintendent, Pukaskwa National Park, P.O. Box 550, Marathon, Ontario, Canada.
NAME Kootenay National Park

TYPE NP

Biotic Province 1.8.2

Legal Protection Total

Date Established 1922

Geographical Location Rocky mountains, British Columbia, adjoining Banff National Park, Alberta: N 50°35'–51°18'; W 115°48'–116°35'.

Altitude 1088–3440 metres

Area 137,788 ha

Land Tenure Government land

Physical Features A series of parallel ranges on the western flank of the Rocky Mountains, some of them formed by flat beds of sedimentary rock, others more rugged with signs of fracturing and folding. Heavily glaciated with features such as cirques, hanging valleys, moraines, glacial lakes and active glaciers. A hot spring with a temperature of 35°C flows from a fault. January and July mean daily temperatures are -6.7°C and 15.6°C respectively, mean annual total precipitation is 500 mm.

Vegetation Two major zones: 1) subalpine forest with Engelmann's spruce Picea engelmannii at lower elevations and alpine fir Abies lasiocarpa near the timberline. 2) Above 2100 m the alpine tundra zone has high windswept meadows, exposed plateaux and barrens. A small transition zone of Douglas fir Pseudotsuga menziesii occurs in the south-west corner of the park below 1140 m.

Noteworthy Fauna Larger mammals are numerous, including grizzly bear Ursus arctos horribilis, black bear U. americanus, cougar Felis concolor, elk Cervus canadensis, male deer Odocoileus hemionus, white-tailed deer O. virginianus, moose Alces alces, mountain goat Oreamnos americanus and mountain sheep Ovis americanus. Year round resident birds range from golden eagle Aquila chrysaetos to mountain chickadee Parus gambeli; in tundra areas, the white-tailed ptarmigan Lagopus leucurus and the water pipit Anthus spinola are among the typical species.

Zoning No details to date; to be provided for in the Park Master Plan

Disturbances or Deficiencies None noted but tourist pressure is increasing

Tourism 400 campsites and 478 motel units available in the park. 2,195,880 visitors in 1973-74. Main road passes through the park from Banff to Windermere. Swimming-bath facilities have been developed at the Radium Hot Springs.

Scientific Research Study of wildlife and management by Canadian Wildlife Service as necessary.

Special Scientific Facilities None

Principal Reference Material None listed

Staff Total man-years 91; 66 full-time staff, 70 part-time

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BUDGET

About US$ 1,664,800 in 1974-75 fiscal year

LOCAL PARK ADMINISTRATION
Superintendent, Kootenay National Park, Radium Hot Springs, British Columbia, Canada.
NAME  Glacier National Park
TYPE  NP
BIOTIC PROVINCE  1.8.2
LEGAL PROTECTION  Total
DATE ESTABLISHED  1886
GEOGRAPHICAL LOCATION  Rocky Mountains, British Columbia, Selkirk and Purcell ranges: N 51°02'-51°29'; W 117°12'-117°25'.
ALTITUDE  760-3295 metres
AREA  134,939 ha
LAND TENURE  Government owned

PHYSICAL FEATURES  Includes parts of the Selkirk mountains, which are composed of Precambrian sediments plus Mesozoic and Cenozoic intrusives, and also of the Purcell mountains. The principal rock formations are quartzites, breccias, conglomerates, schists and shales, with some granitic sectors. Glaciation has played a major role in the evolution of the landscape and is still active. Mean January and July daily temperatures are -6.7°C and 15.6°C, respectively. Mean annual total precipitation exceeds 900 mm but local conditions vary significantly. Winter snowfall averages over 1000 cm on Roger's Pass and up to 1703 cm on Mount Fidelity.

VEGETATION  Dense luxuriant forest, similar to the coastal forest of British Columbia. Among the dominant species are western and mountain hemlocks Tsuga heterophylla and mertensiana, western red cedar Thuja plicata, alpine fir Abies lasiocarpa and Engelmann spruce Picea engelmannii.

NOTEWORTHY FAUNA  Small predators are fairly common but larger mammals are not well represented, although among those that are present year round are grizzly bear Ursus arctos horribilis, black bear U. americanus, elk Cervus canadensis, moose Alces alces, woodland caribou Rangifer tarandus caribou and mountain goat Oreamnos americanus.

ZONING  Not yet notified: to be included in the Park Master Plans

DISTURBANCES OR DEFICIENCIES  None reported: a major highway goes through the park and the town of Glacier is located on it.

TOURISM  3 campgrounds and accommodation and restaurant facilities. 926,900 visitors in 1971.

SCIENTIFIC RESEARCH  Wildlife and management studies undertaken by the Canadian Wildlife Service as necessary

SPECIAL SCIENTIFIC FACILITIES  Snow and avalanche warning station

PRINCIPAL REFERENCE MATERIAL  None listed
STAFF 77 full-time and 48 part-time (shared with Mount Revelstoke National Park).

BUDGET About US$1,096,000 (also covering Mount Revelstoke National Park)

LOCAL PARK ADMINISTRATION Superintendent, Mount Revelstoke and Glacier National Parks, Revelstoke, British Columbia, Canada.
NAME: Yoho National Park

TYPE: NP

BIOTIC PROVINCE: 1.8.2

LEGAL PROTECTION: Total

DATE ESTABLISHED: 1886

GEOGRAPHICAL LOCATION: Rocky Mountains, British Columbia, adjoining Kootenay and Banff National Parks: N 51°06'-51°39'; W 116°15'-116°48'.

ALTITUDE: 1036-3562 metres

AREA: 131,313 ha

LAND TENURE: Government owned

PHYSICAL FEATURES: A series of almost parallel mountain ranges. Many of the older rocks are rich in fossils: there is a notable laccolith at the southern end of the park and a Natural Bridge, a rock formation spanning the waters of the Kicking Horse River. Other features include the 380 m Takakkaw Falls, Hoodoos, Laughing Falls and Twin Falls. January and July mean daily temperatures are -10.7°C and 13.6°C, respectively. Mean annual total precipitation is 690 mm.

VEGETATION: Rich and varied plant life. Middle and lower altitudes are forested with conifers including Douglas fir Pseudotsuga menziesii, white spruce Picea glauca, Engelmann's spruce P. engelmannii, alpine fir Abies lasiocarpa and western red cedar Thuja plicata. Higher elevations have larch Larix occidentalis and limber pine Pinus flexilis. Above the 2100 m timberline are alpine meadows with a variety of heaths, grasses, sedges and forbs. Other species of interest are Rhododendron sp., dwarf birch Betula glandulosa and alpine bearberry Arctostaphylos rubra.

NOTEWORTHY FAUNA: Characteristic mammals of the alpine tundra include the pika Ochotona princeps, hoary marmot Marmota caligata and mountain goat Oreamnos americanus. Mammals of the forest include hare Lepus canadensis, red squirrel Tamiasciurus hudsonicus, grizzly Ursus arctos horribilis, wolverine Gulo gulo luscus, cougar Felis concolor, lynx Felis lynx canadensis, mule deer Odocoileus hemionus and moose Alces alces. About 145 bird species have been noted, including the white-tailed ptarmigan Lagopus leucurus, northern three-toed woodpecker Picoides tridactylus, grey jay Perisoreus canadensis and mountain bluebird Sialia currucoides.

ZONING: Not yet notified: to be included in Master Plan for the park.

DISTURBANCES OR DEFICIENCIES: None reported. A major highway passes through the park and the town of Field is located in the park.

TOURISM: 320 campsites and accommodation for approximately 380 in hotels and lodges. 1,204,568 visitors in 1973-74.

SCIENTIFIC RESEARCH: Studies of wildlife and management undertaken by the Canadian Wildlife Service as necessary.

SPECIAL SCIENTIFIC FACILITIES: None.
PRINCIPAL REFERENCE MATERIAL  None listed

STAFF  Total man-years 78.4; 61 full-time, 54 part-time

BUDGET  About US$ 974,000 for 1973-74 fiscal year

LOCAL PARK ADMINISTRATION  Superintendent, Yoho National Park, Field, British Columbia, Canada.
CANADA

NAME Cape Breton Highlands National Park

TYPE NP - Biotic Province 1.2.1

LEGAL PROTECTION Total, except that as in all parks sport-fishing is allowed

DATE ESTABLISHED 1936

GEOGRAPHICAL LOCATION Part of the Nova Scotia section of the highlands of the eastern Canadian seaboard. 46°31'-51°30'N; 60°19'-60°57'W

ALTITUDE Sea level to 524 metres

AREA 95,053 ha

LAND TENURE Public ownership

PHYSICAL FEATURES A dissected tableland of pre-Cambrian rock, including the highest point in Nova Scotia; fringed by a coastal plain and bounded on two sides by the Atlantic. Impressive headlands, shingle and sandy beaches; numerous headwater lakes and deeply cut river valleys diversify the interior plateau. Mean January and July temperatures -9.4°C and 17°C, respectively, and mean annual precipitation about 121 cm.

VEGETATION Forested areas on lower slopes with both broad-leaved and coniferous species dominated by the balsam fir Abies balsamea, the spruces Picea glauca and mariana and canoe or white birch Betula papyrifera; some maple Acer saccharum, beech Fagus grandifolia and poplar Populus spp. Large areas of upper slopes and plateau are treeless barrens, with caribou lichen Cladonia sp. dominant in drier places and muskeg and peat bog elsewhere.

NOTEWORTHY FAUNA The larger mammals are black bear Ursus americanus, white-tailed deer Odocoileus virginianus, moose A. alces, and the recently reintroduced woodland caribou Rangifer tarandus caribou; rodents: the flying squirrel Glaucomys sabrinus, beaver Castor fiber canadensis and muskrat Ondatra zibethica; and carnivores: red fox V. vulpes fulva, North American otter Lutra canadensis and lynx Felis lynx canadensis.

180 bird species recorded, including many seabirds, shore birds and passage migrants. The bald eagle Haliaeetus leucocephalus still occurs, though scarce as elsewhere in the region, and the interior woodlands support spruce grouse Canachites canadensis and ruffed grouse Bonasa umbellus. Salmon Salmo salar, lake trout Salvelinus namaycush and brook trout S. fontinalis are native to the park waters.

ZONING 52% classified as wilderness and a further 44% as somewhat modified wilderness, with 3% as meriting special preservation and the remaining 1% allocated to recreational uses.

DISTURBANCES OR DEFICIENCIES One or two urban enclaves within the park

TOURISM The Cabot Trail, one of Canada's most scenic highways, provides the main access; a lodge and bungalow complex inside the park, and seven campgrounds with a total of 933 campsites; other accommodation just outside the park boundaries. Visitors totalled 760,370 in 1971.

WDNP IUCN © 1975 6(1)F Code: CAN.3.1
SCIENTIFIC RESEARCH  See Country Sheet for summary of the work being undertaken in the parks as a whole.

PRINCIPAL REFERENCE MATERIAL

BEIL, C.E., COMEAU, P.L., and SMITH, R.T. 1971. An ecological investigation and floristic survey of the Sunday Lake, Baldwin Lake, Big Southwest Brook area in Cape Breton Highlands National Park. Report to the National Parks Branch Canada Department of Indian Affairs and Northern Development (Project No. 01/7-F4) (unpublished).


STAFF  57 full-time, 101 part-time

BUDGET  About US$ 1,246,000

LOCAL PARK ADMINISTRATION  The Superintendent, Cape Breton Highlands National Park, Ingonish Beach, Cape Breton, Nova Scotia.
NAME La Mauricie National Park

TYPE NP

BIOTIC PROVINCE 1.2.1/1.4.2

LEGAL PROTECTION Total

DATE ESTABLISHED 1971

GEOGRAPHICAL LOCATION West bank of the St. Maurice river, Quebec: N 46°30'-46°55'; W 73°15'-73°45'

ALTITUDE 100-450 metres

AREA 54,390 ha

LAND TENURE Public land

PHYSICAL FEATURES Rounded hills and glacial valleys, geologically part of the Greville sub-province of the Canadian Shield, a formation of faulted Precambrian gneisses and granites. The area is a largely unspoilt section of the Laurentian Mountains with numerous lakes. Humid continental climate with January and July mean daily temperatures of -15°C and 11.7°C respectively; annual precipitation 890 mm.

VEGETATION A transition zone between deciduous and boreal forest zones with a great variety of plant life. Representative vegetation includes eastern white pine Pinus strobus, red or Norway pine P. resinosa, red spruce Picea rubens, fir Abies spp., cedar Thuja occidentalis, beech Fagus sp., maple Acer sp., and yellow birch Betula alleghaniensis.

NOTEWORTHY FAUNA Abundant and diversified fauna with the most common mammals being beaver Castor fiber canadensis, muskrat Ondatra zibethica, grey wolf Canis lupus (a vulnerable species), black bear Ursus americanus, lynx Felis lynx canadensis, white-tailed deer Odocoileus virginianus and moose Alces alces. Approximately 150 species or sub-species of birds have been recorded. The many lakes and rivers abound with fish including speckled trout Salvelinus fontinalis and lake trout S. namaycush, pike Esoc lucius, walleye Stizostedion vitreus and small-mouth black bass Micropterus dolomieu.

ZONING Still to be zoned: will be provided for in the Master Plan for the park

DISTURBANCES OR DEFICIENCIES Sport-fishing permitted

TOURISM The park is presently being developed and is expected to attract up to a million visitors a year. Permanent facilities will include serviced and primitive campgrounds, beaches, picnic areas, marinas, interpretation centres and trails. A scenic parkway will provide internal access.

SCIENTIFIC RESEARCH No specific information: Canadian Wildlife Service undertakes projects on maintenance and management of fauna.

SPECIAL SCIENTIFIC FACILITIES None

PRINCIPAL REFERENCE MATERIAL Reports and publications available upon request
STAFF  Total 15, 13 full-time, 2 part-time

BUDGET  US$ 1,012,000

LOCAL PARK ADMINISTRATION  Superintendent, La Mauricie National Park, Shawinigan, Quebec, Canada.
NAME Waterton Lakes National Park

TYPE NP

Biotic Province 1.8.2 and 1.10.1

Legal Protection Total, except in township area and for sport-fishing

Date Established 1895 (linked with Glacier NP, Montana, as first International Peace Park in the World, in 1932)

Geographical Location South-western Alberta. 49°-49°11'N; 113°39'-14°10'W

Altitude 1274-2918 metres

Area 52,577 ha

Land Tenure Public ownership

Physical Features Isolated mountainous area rising abruptly from prairie, with good examples of glacial formations. Some steep scarps particularly in the red clay and yellow shale areas. Continental climate with means of about -9.4°C in January and 17.2°C in July. Total annual precipitation about 92 cm.

Vegetation Composed of two strongly contrasting elements with only a narrow transitional zone linking them. The prairie grasslands are dominated by a Festuca-Danthonia association; the mountain zone by Douglas fir Pseudotsuga menziesii, lodgepole, limber and whitebark pines Pinus contorta, flexilis and albicaulis, the spruces Picea glauca and engelmannii and the alpine fir Abies lasiocarpa. In or near the transitional zone, species such as aspen Populus tremuloides, cottonwood P. sargentii, canoe or paper birch Betula papyrifera, Douglas maple Acer glabrum, Sitka alder Alnus sinuata and willows Salix spp. are found. Good shrub ground flora. Arctic-alpine communities above the tree line include Dryas octopetala and Polemonium viscosum as dominants, with a large area occupied by lichen vegetation, principally Rhizocarpon geographicum and Lecidea spp. Noteworthy species found in the park are Taxus brevifolia, Pinus monticola, Potentilla villosa and Townsendia condensata.

Noteworthy Fauna Rodents: beaver Castor fiber canadensis, muskrat Ondatra zibethica; carnivores: wolf Canis lupus, coyote C. latrans, grizzly Ursus arctos horribilis, American black bear Ursus americanus, mink Mustela vison and cougar Felis concolor; ungulates: elk Cervus canadensis, mule and white-tailed deer Odocoileus hemionus and virginianus, moose A. alces, bison B. bison, Rocky Mountain goat Oreamnos americanus and bighorn sheep Ovis canadensis. 238 species of birds have been recorded. The fish fauna includes pike Esox lucius, lake whitefish Coregonus clupeaformis, Rocky Mountain whitefish Prosopium williamsoni, cut-throat and rainbow trout Salmo clarki and gairdneri, Dolly Varden, lake and eastern brook trout Salvelinus malma, namaycush and fontinalis, and the arctic grayling Thymallus signifer.

Zoning 66% wilderness, a further 21% somewhat modified by man; 7% recreational, and 3% each of the highly developed and specially preserved categories.

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Code: CAN.3.3
DISTURBANCES OR DEFICIENCIES  This is a heavily used seasonal resort, the Water-
ton townsite having most modern urban facilities, including a motel, lodge and
bungalows; two provincial and one interstate highway give access, one of which
bisects the eastern end of the Park. Powered boats are permitted on designated
lakes. The number of campgrounds has been reduced from 13 to 4, which has now
helped to modify the impact of the large numbers of visitors (540,177 in 1973-74).

SCIENTIFIC RESEARCH  See summary of the policy on scientific investigation,
which is included in the Country Sheet.

PRINCIPAL REFERENCE MATERIAL
KUCHAR, P. 1973. Habitat types of Waterton Lakes National Park. Nat. and
Hist. Parks Branch, Dept. Indian Affairs and North. Dev., (unpubl.).
LOPOUKHINE, N. 1970. Forest types and related vegetation of Waterton Lakes

STAFF  47 full-time

BUDGET  1973-74 about US$ 1,475,000

LOCAL PARK ADMINISTRATION  The Superintendent, Waterton Lakes National Park,
Waterton, Alberta.
CANADA

NAME Terra Nova National Park

TYPE NP

BIOTIC PROVINCE 1.2.1

LEGAL PROTECTION Total

DATE ESTABLISHED 1957

GEOGRAPHICAL LOCATION Bonavista Bay, Atlantic coast of Newfoundland: N 48°23'-48°40'; W 54°13'-54°41'

ALTITUDE Sea level to 320 metres

AREA 39,627 ha

LAND TENURE Public lands

PHYSICAL FEATURES The rugged east coast of Newfoundland at the north-eastern extremity of the Appalachian mountain chain. Distinctive features include fjords or 'sounds' reaching far inland from the sea with numerous bays, promontories and inlets. The bedrock is of Precambrian granite sediments. The North Atlantic marine environment is well represented and the boreal forest is influenced by the cooling effect of the sea. Mean January and July daily temperatures are -6.7°C and 15.6°C respectively and mean annual precipitation 1270 mm.

VEGETATION Boreal forest dominated by black spruce Picea mariana and balsam fir Abies balsamea thickly covers the rolling terrain. Stream valleys have speckled alder Alnus rugosa and red maple Acer rubrum. Stands of white birch Betula papyrifera and aspen Populus tremuloides occur throughout the area. Forest flowers include lady's slipper orchid Cypripedium acaule, twinflower Linnaea borealis and Coptis groenlandicum. Numerous bogs are present with thick mats of Sphagnum mosses and shrubs including bog laurel Kalmia angustifolia, leatherleaf Chamadaphone caluliculata and Labrador tea Ledum groenlandicum. Marine vegetation includes Irish moss Chondrus crispus, bladder wrack Fucus vesiculosus and other shore seaweeds, with kelp Laminaria spp., off-shore.

NOTEWORTHY FAUNA Common mammals include snowshoe hare Lepus americanus, beaver Castor canadensis, muskrat Ondatra zibethica, fox Vulpes v. fulva, black bear Ursus americanus, mink Mustela vison, otter Lutra canadensis, lynx Felis lynx canadensis and moose Alces alces (introduced and now the park's most noticeable animal). Off the park shoreline porpoise or long-finned pilot whale Globicephala melaena and seals Phocidae can be seen. Many species of land and seabird are common with bald eagle Haliaeetus leucocephalus and osprey Pandion haliaetus carolinensis nesting throughout the park. Marine fauna includes lobster Homarus americanus, starfish Asterias vulgaris and sea anemone Actinaria sp., in deep waters, with blue mussels Mytilus edulis, barnacles Balanus balanoides and periwinkles Littorina sp., clinging to rocks along the shore.

ZONING Not yet determined: to be included in Master Plan

DISTURBANCES OR DEFICIENCIES Sport-fishing permitted

TOURISM 299,200 visitors to the park in 1971. Facilities include a motel and 423 camping sites. Other accommodation is available nearby.

WDNP IUCN © 1975 6(1)F Code: CAN.3.4
SCIENTIFIC RESEARCH  No specific information: Canadian Wildlife Service undertakes investigations on maintenance and management of wildlife.

SPECIAL SCIENTIFIC FACILITIES  None

PRINCIPAL REFERENCE MATERIAL  Reports and publications available upon request

STAFF  Total 80, 31 full-time, 49 part-time

BUDGET  US$ 839,000

LOCAL PARK ADMINISTRATION  Superintendent, Terra Nova National Park, Glovertown, Newfoundland, Canada.
CANADA

NAME Pacific Rim National Park

TYPE NP

BIOTIC PROVINCE 1.3.1

LEGAL PROTECTION Total

DATE ESTABLISHED 1970

GEOGRAPHICAL LOCATION West coast of Vancouver Island, British Columbia: N 48°59'-49°07'; W 125°30'-125°52'

ALTITUDE Sea level to 240 metres

AREA 38,850 ha

PHYSICAL FEATURES Three distinct areas, long sandy beaches, a group of rocky islands and a 72 km shoreline section of the historic Lifesaving Trail. Permian volcanic series originating as underwater volcanoes covered by Cretaceous limestone deposits sculptured by ice action. Glacial debris forms the basis of the extensive sand and gravel beaches. A very maritime climate gives January and July daily mean temperatures of 4.4°C and 15.6°C respectively and a mean annual precipitation of 2540 mm.

VEGETATION The maritime climate favours dense fast-growing forests dominated by western red cedar Thuja plicata. In more sheltered areas a mixed forest includes Sitka spruce Picea sitchensis, western hemlock Tsuga heterophylla, Douglas fir Pseudotsuga menziesii and silver fir Abies amabilis as dominants and shore pine Pinus contorta in wetter areas. Shore regions subject to salt spray support Sitka spruce, Douglas fir and western hemlock. The forest floor is usually concealed by a heavy growth of underbrush.

NOTEWORTHY FAUNA Mammals include black bear Ursus americanus, raccoon Procyon lotor, cougar Felis concolor and black-tailed or mule deer Odocoileus hemionus. Each summer Wickaninnish bay becomes a feeding ground for gray whales Eschrichtius glaucus; colonies of Steller's sea lions Eumetopias jubata are found in more inaccessible areas and on off-shore islands. The park is situated on the Pacific flyway and during autumn and spring thousands of migrating geese and duck stop to feed and rest at lakes and estuaries. Colonies of seabirds occur on the coast and islands. Off-shore banks support large quantities of Pacific salmon Oncorhynchus spp., cod Gadus macrocephalus, halibut Hippoglossus stenolepis and soles Soleidae. Sandy beaches and tidal pools have abundant marine life.

ZONING Not yet determined: to be included in Master Plan

DISTURBANCES OR DEFICIENCIES Sport-fishing permitted

TOURISM Presently under development and many facilities have yet to be installed. Commercial accommodation and services are available outside the park at Ucluelet and Tofino.

SCIENTIFIC RESEARCH No specific studies mentioned: the Canadian Wildlife Service undertakes any necessary studies for maintenance and management of wildlife.

SPECIAL SCIENTIFIC FACILITIES None
PRINCIPAL REFERENCE MATERIAL Reports and publications available upon request

STAFF Total 10. 9 full-time, 1 part-time

BUDGET US$ 1,047,000

LOCAL PARK ADMINISTRATION Superintendent, Pacific Rim National Park, Ucluelet, British Columbia, Canada.
NAME  Kejimkujik National Park

TYPE  NP

LEGAL PROTECTION  Total

DATE ESTABLISHED  1964

GEOGRAPHICAL LOCATION  Interior of southern Nova Scotia: N 44°15'45"-44°28'30"; W 65°09'15"-65°27'

ALTITUDE  85-183 metres

AREA  36,960 ha

LAND TENURE  Public lands

PHYSICAL FEATURES  A gently sloping plateau with low relief and numerous shallow lakes (covering 15% of the park). Bedrock in the west is mainly granite with Precambrian slates and quartzites to the east. Glacial features include a deep till mantle with eskers, drumlins, glacial erratics and bedrock striations as evidence of ice retreat. Soils are sandy loams, stony and infertile with poor drainage. The mean January and July daily temperatures are -6°C and 18°C respectively with a mean annual precipitation of 1140 mm. Low fogs are common, the annual average being 40 days with maximum frequency in July and August.

VEGETATION  The area is in the Atlantic upland section of the Acadian forest region. The eastern part with deeper soils has broad-leaved trees predominating, beach Fagus grandifolia, sugar maple Acer saccharum and red oak Quercus rubra. Moist areas support red spruce Picea rubens and hemlock Tsuga canadensis, with eastern white pine Pinus strobus in valley floors and on abandoned farmland. The western section has coniferous forests of white pine, red spruce and hemlock, with balsam fir Abies balsamea and black spruce Picea mariana in wetter areas beech sugar maple and red oak also occur but occupy exposed slopes and hilltops. The islands in Kejimkujik lake are of special interest as they may prove to have a relic forest.

NOTEWORTHY FAUNA  Common mammals include flying squirrel Glaucomys sabrinus, beaver Castor fiber canadensis, muskrat Ondatra zibethica, black bear Ursus americanus, raccoon Procyon lotor, otter Lutra canadensis, bobcat Felis rufus and white-tailed deer Odocoileus virginianus. Approximately 100 bird species nest and there are about another 100 species of regular migrants: they include loon Gavia immer, black duck Anas rubripes, osprey Pandion haliaetus, spruce and ruffed grouse Canachites canadensis and Bonasa umbellus, great blue heron Ardea herodias, American bittern Botaurus lentiginosus, gulls, woodpeckers (the everywhere uncommon black-backed three-toed Picoides arcticus was noted in 1968), blue and grey jays Cyanocitta cristata and Perisoreus canadensis, and an abundance of ravens, crows, sparrows and slate-coloured juncos Junco hyemalis. A variety of reptiles and amphibians are present, including some which are unusual in the region. Fish include brown trout Salmo trutta and speckled trout Salvelinus fontinalis. Grafton lake has a Federal fish hatchery.

ZONING  Not yet determined: to be included on Master Plan

DISTURBANCES OR DEFICIENCIES  Sport-fishing permitted

WDNP  IUCN © 1975  6(1)F  Code: CAN.3.6
TOURISM  140,500 visitors in 1971. Facilities include 320 campsites and 10 primitive sites. Access is by highway and additional accommodation is available within 50 km of the park.

SCIENTIFIC RESEARCH  An eventual study of vegetation on Kejimkujik lake island is planned to provide interpretive and conservation data as well as a basis for management.

SPECIAL SCIENTIFIC FACILITIES  None

PRINCIPAL REFERENCE MATERIAL  Reports and publications available upon request

STAFF  Total 40, 21 full-time, 19 part-time

BUDGET  US$ 415,000

LOCAL PARK ADMINISTRATION  Superintendent, Kejimkujik National Park, Maintland Bridge, Nova Scotia, Canada.
NAME Mount Revelstoke National Park

TYPE NP

BIOTIC PROVINCE 1.8.2

LEGAL PROTECTION Total

DATE ESTABLISHED 1914

GEOGRAPHICAL LOCATION Central British Columbia, between the Selkirk and Monashee mountains: N 51°01'-51°12; W 117°54'-118°13'.

ALTITUDE 450-2600 metres

AREA 26,263 ha

LAND TENURE Government owned

PHYSICAL FEATURES The park embraces the Clachnacudainn range on the western flank of the Selkirk mountains, between the valleys of the Columbia and Illecillewaet rivers on east and south, respectively. The exposed bedrock is mainly schist, gneiss and granite, the mountain peaks generally bare and rocky with sharp and jagged summits. Extensive snowfields and glaciers bear witness to heavy precipitation, winter snowpack averages 365 cm but actual snowfall is considerably more and compares with that of Mount Fidelity in Glacier National Park. January and July mean daily temperatures are -9.0°C and 17°C, respectively.

VEGETATION. Three biotic areas: the Columbia forest, the subalpine forest and the alpine tundra. Main forest species are western red cedar Thuja plicata, western white pine Pinus monticola, western hemlock Tsuga heterophylla and Engelmann spruce Picea engelmannii. The alpine meadows around Mount Revelstoke have a rich flora.

NOTEWORTHY FAUNA Small mammals include the pika Ochotona princeps, snowshoe hare Lepus americanus, hoary marmot Marmota caligata, the Columbian ground squirrel Spermophilus columbianus. Black bear Ursus americanus and mountain goat Oreamnos americanus are seen occasionally, as are mule deer Odocoileus hemionus, whitetailed deer O. virginianus and moose Alces alces. The bird species most often seen include three kinds of grouse Tetraonidae, Steller's jay Cyanocitta stelleri, grey jay Perisoreus canadensis, evening grosbeak Hesperiphona vespertina, pine grosbeak Pinicola enucleator, pine siskin Spinus pinus, crossbills Loxia spp., and juncos Junco spp.

ZONING Not yet notified: to be included in Park Master Plan

DISTURBANCES OR DEFICIENCIES None reported; the park adjoins a major highway, but the town of Revelstoke is outside the boundary.

TOURISM Accommodation in Revelstoke just outside the park. 966,760 visitors in 1971.

SCIENTIFIC RESEARCH Studies of wildlife and management by the Canadian Wildlife Service as necessary

SPECIAL SCIENTIFIC FACILITIES None

WDNP IUCN © 1977 (1)F Code: CAN.3.7
STAFF
77 full-time and 48 part-time (shared with Glacier National Park)

BUDGET
About US$ 1,096,000 (also covering Glacier National Park)

LOCAL PARK ADMINISTRATION
Superintendent, Mount Revelstoke National Park, Revelstoke, British Columbia, Canada.
NAME  Forillon National Park

TYPE  NP

BIOTIC PROVINCE  1.2.1 (1.4.2)

LEGAL PROTECTION  Total

DATE ESTABLISHED  1970

GEOGRAPHICAL LOCATION  Forillon peninsular, Quebec, on the Gulf of St. Lawrence: N 48°45'-49°00'; W 64°10'-64°17'.

ALTITUDE  Sea level to 548 metres

AREA  24,035 ha

LAND TENURE  Government owned

PHYSICAL FEATURES  Eastern tip of Gaspé peninsular, projecting into the Gulf of St. Lawrence and forming part of the Notre Dame mountains, which are composed of Ordovician and Siluro-Devonian sediments. Mean January and July daily temperatures are about -12.2°C and 17.2°C, respectively. Mean annual total precipitation is 890 mm.

VEGETATION  A transitional zone between the Great Lakes-Lower St. Lawrence forest and the boreal forest. The cordilleran or arctic alpine flora of Cap Bon Ami and the sand dune communities of Penouille form two of the park's ecosystems considered to be of a unique character.

NOTEWORTHY FAUNA  The Gaspé peninsula fauna is well represented in the park and the avifauna is particularly abundant and diversified. Species include gannets Morus bassanus, double-crested cormorant Phalacrocorax auritus, herring gull Larus argentatus, ktitwate Rissa tridactyla and guillemot Cepphus grylle. Fish abound in the waters of the park's coastline including Atlantic salmon Salmo salar, herring Clupea harengus, cod Gadus sp. and mackerel Scomber scombrus.

ZONING  Not yet notified: to be included in the Park Master Plan

DISTURBANCES OR DEFICIENCIES  None reported

TOURISM  Under development: all accommodation except camping located outside the park boundaries.

SCIENTIFIC RESEARCH  Studies of wildlife and management by Canadian Wildlife Service as necessary.

SPECIAL SCIENTIFIC FACILITIES  None

PRINCIPAL REFERENCE MATERIAL  None listed

STAFF  12 full-time, 11 part-time

BUDGET  About US$ 2,216,000 in, presumably, 1973-74

LOCAL PARK ADMINISTRATION  Superintendent, Forillon National Park, Gaspé, Quebec, Canada.

WDNP  IUCN © 1977  (1)F  Code: CAN.3.8
NAME: Kouchibouguac National Park

TYPE: NP

LEGAL PROTECTION: Total

DATE ESTABLISHED: 1969

GEOGRAPHICAL LOCATION: Northern end of Northumberland strait, New Brunswick:
N 46°42'-46°57'; W 64°47'-65°03'

ALTITUDE: Sea level to 30 metres

AREA: 22,533 ha

LAND TENURE: Public lands

PHYSICAL FEATURES: A 22 km crescent around Kouchibouguac bay, a shallow indentation in the coastline of the New Brunswick lowlands. Surface material consists of a shallow plain of marine deposits overlying the Permo-Carboniferous grey sandstone bedrock. Features include estuaries, shallow bays, tidal flats and marshes, extensive sand dunes, lagoons and raised bogs. A long crescent of offshore barrier islands and spits protects the backshore and encloses a series of lagoonal river mouths. The mean January and July daily temperatures are -9.4°C and 23.9°C and the mean annual precipitation 1020 mm.

VEGETATION: The area is in the eastern lowland section of the Acadian forest where impeded drainage favours black spruce Picea mariana, red spruce P. rubens and balsam fir Abies balsamea associations, with a varying admixture of white pine Pinus strobus, red maple Acer rubrum, sugar maple A. saccharum, yellow birch Betula alleghaniensis and canoe birch B. papyrifera. Bog areas support Sphagnum, tamarack Larix laricina, sheep laurel Kalmia angustifolia and Labrador tea Ledum groenlandicum. Dune areas have marram Ammophila breviligulata, false heather Hudsonia tomentosa and bayberry Myrica pennsylvanica.

NOTEWORTHY FAUNA: Mammals are scarce, but snowshoe hare Lepus americanus, American red squirrel Tamiasciurus hudsonicus, porcupine Erethizon dorsatum, red fox Vulpes v. fulva, raccoon Procyon lotor and striped skunk Mephitis mephitis occur. During the spring whelping season various species of seal Phocidae are seen. White-tail deer Odocoileus virginianus and moose Alces alces are present but not abundant. Over 150 bird species have been recorded including some rarities. The area is a seabird and waterfowl breeding area and an important rest stop on the Atlantic flyway. Over 25 species of salt water, brackish and freshwater fish have been catalogued.

ZONING: Not yet determined: will be included in Master Plan

DISTURBANCES OR DEFICIENCIES: Sport-fishing permitted

TOURISM: 300-600 campsites will be constructed in the park shortly. Private campgrounds and motels are situated near the area.

SCIENTIFIC RESEARCH: No specific information. The Canadian Wildlife Service will undertake any necessary investigations on maintenance and management of wildlife.

WDNP IUCN © 1975 6(1)F

Code: CAN.3.9
SPECIAL SCIENTIFIC FACILITIES
None

PRINCIPAL REFERENCE MATERIAL
Reports and publications available upon request

STAFF
Total 11, 9 full-time, 2 part-time

BUDGET
US$ 899,000

LOCAL PARK ADMINISTRATION
Superintendent, Kouchibouguac National Park, Kouchibouguac, New Brunswick, Canada.
NAME Fundy National Park

TYPE NP

BIOTIC PROVINCE 1.2.1 (1.4.2)

LEGAL PROTECTION Total

DATE ESTABLISHED 1948

GEOGRAPHICAL LOCATION Bay of Fundy, south-east New Brunswick: N 45°31'30"-45°42'30"; W 64°56'-65°09'.

ALTITUDE Sea level to 380 metres

AREA 20,590 ha

LAND TENURE Government owned

PHYSICAL FEATURES A hilly plateau, part of the Caledonia Highland complex of folded and faulted bedrock, cut by deep valleys with an abrupt escarpment facing the Bay of Fundy. The coastline is rugged with great tidal variation in the Bay, well illustrated at the mouths of several rivers. Mean January and July temperatures are about -7.8°C and 18°C, respectively, and mean total annual precipitation is 1020 mm.

VEGETATION Two forest types are present. Near the shore dominant species include white and black spruces Picea glauca and mariana, balsam fir Abies balsamea and tamarack Larix laricina. Inland, deciduous trees such as yellow birch Betula allegheniensis, sugar maple Acer saccharum and American beech Fagus grandifolia, are found in association with conifers. The forest floor is rich in herbaceous plants and ferns.

NOTEWORTHY FAUNA Conspicuous mammals include snowshoe hare Lepus americanus, beaver Castor fiber canadensis, red fox Vulpes vulpes fulva, black bear Ursus americanus, raccoon Procyon lotor, mink Mustela vison, marten Martes americana, white-tailed deer Odocoileus virginianus and moose Alces alces. Some 185 bird species have been recorded of which 87 nest in the park. They include a number of diurnal birds of prey Falconiformes, shore birds Charadriiformes, upland species and nocturnal raptors such as the great horned owl Bubo virginianus. Numerous other species can be observed during spring and autumn migration. Atlantic salmon Salmo salar spawn in the Upper Salmon river; rainbow trout Salmo gairdneri have been introduced in some waters and American brook trout Salvelinus fontinalis are native to most lakes and streams.

ZONING Not yet notified: to be included in Park Master Plan

DISTURBANCES OR DEFICIENCIES None reported

TOURISM Access by provincial highway from the Trans-Canada highway. 6 campgrounds with 1024 sites, 53 other accommodation units. 737,500 visitors in 1971.

SCIENTIFIC RESEARCH Wildlife and management research by the Canadian Wildlife Service as necessary.

SPECIAL SCIENTIFIC FACILITIES None

WDNP IUCN © 1977 (1)F Code: CAN.3.10
PRINCIPAL REFERENCE MATERIAL  None listed

STAFF  31 full-time, 82 part-time

BUDGET  About US$ 778,000

LOCAL PARK ADMINISTRATION  Superintendent, Fundy National Park, Alma, New Brunswick, Canada.
NAME Elk Island National Park

TYPE NP

BIOTIC PROVINCE 1.2.1

LEGAL PROTECTION Total

DATE ESTABLISHED 1913

GEOGRAPHICAL LOCATION Alberta, northern part of Beaver Hills. 53°31'-43'N; 112°48'-57'W

ALTITUDE 705-754 metres

AREA 19,425 ha

LAND TENURE Public ownership

PHYSICAL FEATURES Portion of low hills, rising 30-60 m above the surrounding plain and forming a "dead-ice moraine" or isolated rolling and wooded country, with many kettle holes, lakes, ponds and bogs, set in comparatively flat, fertile farmland. Cretaceous bedrock overlaid by about 30 m of glacial debris. The soils of the elevated areas are fairly well drained, with gleysols and peat soils in the depressions. Mean January and July temperatures are -21°C and 16.7°C, respectively, and the mean annual precipitation about 46 cm.

VEGETATION The area is dominated by deciduous poplar forests, mainly Populus tremuloides-P. balsamifera covering nearly 14,000 ha. Areas of black spruce Picea mariana bog (430 ha) and a mixed white spruce-aspen community Picea glauca- Populus tremuloides (50 ha) are the other principal forest types, with more open communities of aspen Populus tremuloides (300 ha) and Prunus virginiana (30 ha). A large area of willow-sedge Salix-Carex shrubland with some dense thickets, and a small rush community Scirpus acutus-Juncus balticus occupy the less well drained areas on gleyed soils and include some alder Alnus and hazelnut Corylus cornutus.

NOTEWORTHY FAUNA The park is a refuge for three herbivores no longer found wild in the region, the wapiti or elk Cervus canadensis, Bison bison and the woodland race of bison B. b. athabascae. White-tailed deer Odocoileus virginianus and moose A. alces are common. The only surviving carnivore is the coyote Canis latrans. The beaver Castor fiber canadensis has been reintroduced and is now abundant. Over 200 species of birds have been recorded.

ZONING 93% is classified as wilderness, the remainder being made up of special preservation areas (5%) and the recreational zone, of which a small part is under intensive use (2%).

DISTURBANCES OR DEFICIENCIES None of note, but the provincial highway which gives access to the park traverses its southern portion.

TOURISM Only one campground with 123 campsites and trailer sites. Visitor services are centred at Edmonton, 31 km to the west. Visitor total 313,557 in 1971.

SCIENTIFIC RESEARCH See Country Sheet for summary of the policy on scientific investigation of all park areas.
PRINCIPAL REFERENCE MATERIAL


STAFF 26 full-time and 50 part-time

BUDGET About US$ 507,000

LOCAL PARK ADMINISTRATION The Superintendent, Elk Island National Park, Fort Saskatchewan, Alberta.
NAME Wildcat Hill Wilderness Area

TYPE PP

BIOTIC PROVINCE 1.2.1

LEGAL PROTECTION Total, protected under the Provincial Parks, Protected Areas, Recreation Sites and Antiquities Act

DATE ESTABLISHED 23 April 1971, by Order-in-Council; listed under Saskatchewan Parks and Protected Areas Act

GEOGRAPHICAL LOCATION Central eastern Saskatchewan, Hudson Bay: N 53°17'; W 102°30'

ALTITUDE 602-782 metres (mean elevation 692 metres)

AREA 16,795 ha

LAND TENURE Crown land held by Province of Saskatchewan

PHYSICAL FEATURES Within the Pasquia Hills, an upland region with gentle to strong undulating morainic topography. Glaciation has exposed bedrock. Wildcat Hill rises in the upper basin of the Mann river and is the highest point. String bogs and small lakes dot the uplands and the area is the upper watershed for several rivers. Mean January and July daily temperatures are -30°C and 14°C, respectively; mean annual precipitation is 450 mm.

VEGETATION Mixed coniferous forests of black spruce Picea mariana, tamarack Larix laricina and birch Betula pumila occupy 10,000 ha around Bankside Lake, with mixed close forest of canoe birch Betula papyrifera, white spruce Picea glauca and aspen Populus tremuloides occupying a further 2200 ha. Scrub with alder Alnus rugosa and mountain ash Sorbus decora covers a further 220 ha.

NOTEWORTHY FAUNA Good variety of species, including cougar Felis concolor, caribou Rangifer tarandus and moose Alces alces. Birds include the bald eagle Haliaeetus leucocephalus.

ZONING None; whole park is classified as wilderness

DISTURBANCES OR DEFICIENCIES Very few disturbances due to inaccessibility. An old observation tower, camp, trappers' cabins and trails have been and may still be disturbing factors.

TOURISM Not accessible by road, no tourist facilities: when provided they will be confined to areas outside the boundary

SCIENTIFIC RESEARCH International Biological Programme intensive study area at Bankside Lake

SPECIAL SCIENTIFIC FACILITIES None

PRINCIPAL REFERENCE MATERIAL None

STAFF No operating staff assigned to the area; managed by staff of the Hudson Bay Region
BUDGET No operating budget as no facilities are associated with the area. Initial establishment costs were US$ 2041.

LOCAL PARK ADMINISTRATION Regional Director/Field Supervisor, Tourism and Renewable Resources, Natural Resources Building, Hudson Bay, Saskatchewan, Canada.
NAME East Redonda Island Reserve

TYPE NR

BIOTIC PROVINCE 1.3.1

LEGAL PROTECTION Protected for ecological purposes by the Ecological Reserves Act (British Columbia), Chapter 16 of Statutes, 1971.

DATE ESTABLISHED Order-in-Council No. 1564, 4 May 1971

GEOGRAPHICAL LOCATION Mouth of the Toba inlet, New Westminster district, British Columbia: N 50°14'; W 124°41'

ALTITUDE Sea level to 1568 metres

AREA 6212 ha

LAND TENURE Crown land

PHYSICAL FEATURES An island almost divided by Pendrell Sound, a natural inlet of considerable interest. The coast is steep, rocky and cliff-bound. The centre of the island has sharp relief with some gentler undulating areas and a glaciated kettle-hole interspersed on the steep northern slopes. Streams form cascades. Soils are mainly podzols with some gleying and lithosols.

VEGETATION Three bioclimatic zones: a) mountain hemlock zone with Tsuga mertensiana forest and scrub and dwarf scrub communities dominated by Vaccinium membranaceae, V. deliciosi and Cassiope mertensiana respectively; b) coastal perhumid and humid western hemlock zone with stands of Tsuga heterophylla, some virgin; c) coastal zone of Douglas fir Pseudotsuga menziesii and western red cedar Thuja plicata forest, mainly secondary.

NOTEWORTHY FAUNA Black bear Ursus americanus occurs

ZONING None known to be operative

DISTURBANCES OR DEFICIENCIES Small areas of forest have been logged in the past

TOURISM Not encouraged

SCIENTIFIC RESEARCH Projects are planned for 1975; research is the prime purpose of the reserve

SPECIAL SCIENTIFIC FACILITIES None reported

PRINCIPAL REFERENCE MATERIAL


STAFF 1 part-time and 1 full-time appointed by Ecological Reserves Committee

BUDGET About US$ 30,000 has been allocated annually by the Ecological Reserves Committee, mostly for surveys

LOCAL PARK ADMINISTRATION Director, Ecological Reserves Committee, c/o Department of Lands, Victoria, British Columbia, Canada.
NAME Dewdney and Glide Islands Reserve

TYPE SNR

Biotic Province 1.3.1

LEGAL PROTECTION Protected for ecological purposes by the Ecological Reserves Act (British Columbia).

DATE ESTABLISHED 4 May 1971 by Order in Council No. 1587

GEOGRAPHICAL LOCATION Islands in the Estevan Group, British Columbia, between Banks and Aristazabal islands: N 52°59’; W 129°36’.

ALTITUDE Sea level to 128 metres

AREA 3846 ha

LAND TENURE Crown land

PHYSICAL FEATURES Dewdney Island comprises a central high bog, with a network of ponds, in undulating terrain fringed with forest. Its coast is rugged and deeply indented. Pemberton Bay, one of these inlets, reaches almost to the centre of the island and has extensive tidal flats at its head. The Glide Islands are a series of bleak rocky islets to the east of Dewdney.

VEGETATION The extremely rich minerotrophic bog of Dewdney Island supports a Sphagnum moss dominated community with dwarf shrubs of Ledum and occasional trees. The principal forest communities are dominated by lodgepole pine Pinus contorta, sitka spruce Picea sitchensis and western hemlock Tsuga heterophylla, respectively. Species of particular interest include a rich bryophyte flora with liverwort Pleurozia purpurea, Trematodon ambiguus and Campylopus atrovirens, C. fragilis, Brotherella sp. nov., lichen Sphaerophorus compressus, Plagiochila semidecurrens, Campylium adscendens, Macrodiplphyllum plicatum and others.

NOTEWORTHY FAUNA An isolated population of beavers Castor fiber canadensis maintains the open pond network in the central bog. Birds include Canada geese Branta canadensis nesting on the bog, sandhill cranes Grus canadensis and Lincoln’s sparrow Melospiza lincolnii. The Glide Islands have puffins and petrels together with breeding Cassin’s auklet Ptychoramphus aleutica.

ZONING To be used for research purposes

DISTURBANCES OR DEFICIENCIES None reported

TOURISM Not encouraged

SCIENTIFIC RESEARCH No research activities at present although research is a prime purpose of the reserve.

SPECIAL SCIENTIFIC FACILITIES The reserve is in itself a research facility

STAFF  For Ecological Reserves Committee: 1 full-time and 1 part-time civil servant

BUDGET  For Ecological Reserves Committee: US$ 30,000 per annum, mostly for survey purposes

LOCAL PARK ADMINISTRATION  Director, Ecological Reserves Committee, c/o Department of Lands, Victoria, British Columbia, Canada.
CANADA

NAME  Prince Edward Island National Park

TYPE  NP

BIOTIC PROVINCE  1.2.1

LEGAL PROTECTION  Total

DATE ESTABLISHED  1937

GEOGRAPHICAL LOCATION  North shore of Prince Edward Island: N 46°24'-46°31'; W 63°02'-63°29'

ALTITUDE  Sea level to 8 metres

AREA  1813 ha

LAND TENURE  Public Land

PHYSICAL FEATURES  A narrow 40 km-long strip of coast on the Gulf of St. Lawrence, 24 km from Charlottetown, the Provincial capital. The eastern section has extensive beaches and broad shallow bays, the western high sandstone cliffs overlooking smaller beaches. Sand dunes and sand spits, freshwater pools, salt and fresh water marshes and abandoned farm lands returning to forest, are present generally and the area demonstrates the ecological sequence from land to sea. Bedrock is Permo-Carboniferous. Mean daily January and July temperatures are -6.7°C and 12.8°C, respectively; mean annual precipitation 920 mm.

VEGETATION  Sandy beaches with marram Ammophila breviligulata, as a dune stabilizer, sea rocket Cakile edentula and sea milkwort Glaux maritima. Dune slacks support thickets of crowberry Empetrum nigrum, bear-berry Arctostaphylos uva-ursi, ground juniper Juniperus horizontalis, bayberry Myrica pensylvanica and wild rose Rosa sp. Coastal woodlands have stunted white spruce Picea glauca and inland the Acadian forests have white spruce, red spruce P. rubens, black spruce P. mariana, canoe birch Betula papyrifera, wire or grey birch B. populifolia, red maple Acer rubrum, balsam fir Abies balsamea, larch Larix laricina, aspen Populus tremuloides and speckled alder Alnus rugosa americana.

NOTEWORTHY FAUNA  Mammals frequently sighted are snowshoe hare Lepus americanus, American red squirrel Tamiasciurus hudsonicus, muskrat Ondatra zibethicus, red fox Vulpes v. fulva, raccoon Procyon lotor, mink Mustela vison and striped skunk Mephitis mephitis (an introduced species). Over 145 birds have been catalogued during migration periods, the most conspicuous being the great blue heron Ardea herodias. Eastern brook trout Salvelinus fontinalis and rainbow trout Salmo gairdneri are present.

ZONING  Not zoned to date: to be included in Master Plan

DISTURBANCES OR DEFICIENCIES  Sport-fishing permitted

TOURISM  Number of visitors in 1971 was 1,896,350. Facilities include 3 major campgrounds within the park giving a total of 625 sites; 25% of tourist accommodation of the Province is in the immediate vicinity of the park, 3% within the park and 25% in Charlottetown.

SCIENTIFIC RESEARCH  None specifically noted: studies generally by the Canadian Wildlife Service

WDNP  IUCN © 1975  6(1)F  Code: CAN.5.6
SPECIAL SCIENTIFIC FACILITIES  None

PRINCIPAL REFERENCE MATERIAL  Reports and publications available on request

STAFF  Total 109, 29 full-time, 80 part-time

BUDGET  US$ 899,000

LOCAL PARK ADMINISTRATION  Superintendent, Prince Edward Island National Park, P.O. Box 487, Charlottetown, Prince Edward Island, Canada.
CANADA

NAME                Point Pelee National Park
TYPE                NP
BIOTIC PROVINCE    1.4.2

LEGAL PROTECTION  Total
DATE ESTABLISHED  1918

GEOGRAPHICAL LOCATION  A section of a peninsula projecting into Lake Erie, Ontario: N 41°54'-41°59'; W 82°32'-82°32'45".

ALTITUDE           174-175 metres
AREA               1554 ha

LAND TENURE        Government land

PHYSICAL FEATURES  An extensive sandspit overlying Devonian limestone. Only one third of total area is land, the remainder is a large fresh water marsh. Lake erosion and deposition changes the shoreline daily. The climate is mild and continental with long summers. Mean January and July daily temperatures are -1°C and over 15.6°C, respectively. Mean annual total precipitation is around 760 mm.

VEGETATION         Near primeval deciduous forest is unique and includes species such as black walnut Juglans nigra, butternut J. cinerea, sycamore Platanus occidentalis, sassafras Sassafras albidum, shagbark hickory Carya ovata, hackberry Celtis occidentalis and red cedar Juniperus virginiana. Southern species not found elsewhere in Canada include catbrier Smilax rotundifolia, spicebush Styrax aestivalis, hop tree Ptelea trifoliata, prickly pear Opuntia humifusa and swamp mallow Hibiscus palustris.

NOTEWORTHY FAUNA   The woodland areas include eastern mole Scalopus aquaticus machrinus, eastern cottontail Sylvilagus floridanus, gray squirrel Sciurus carolinensis, Baird's white-footed mouse Peromyscus leucopus, coyote Canis latrans, raccoon Procyon lotor and white-tailed deer Odocoileus virginianus. The marsh has muskrat Ondatra zibethica and mink Mustela vison.

ZONING            Not yet notified: to be included in Master Plan for the park

DISTURBANCES OR DEFICIENCIES  None reported

TOURISM           Only group camping permitted; other accommodation available in the vicinity. 456,147 visitors in 1973-74.

SCIENTIFIC RESEARCH  Studies of wildlife and management as necessary by the Canadian Wildlife Service.

SPECIAL SCIENTIFIC FACILITIES  None

PRINCIPAL REFERENCE MATERIAL  None listed

STAFF             Total man-years 43; 26 full-time employees in 1973-74, 29 in 1974-75

BUDGET            1974-75 US$ 1,126,000

LOCAL PARK ADMINISTRATION  Superintendent, Point Pelee National Park, Leamington, Ontario, Canada.

WDNP               IUCN © 1977 (1)F  Code: CAN.5.7
NAME          Georgian Bay Islands National Park

TYPE          NP

BIOTIC PROVINCE  1.2.1/1.4.2

LEGAL PROTECTION  Total

DATE ESTABLISHED  1929

GEOGRAPHICAL LOCATION  Lake Huron, Ontario: N 44°49'30"-45°06'45"; W 79°47'30"-80°00'15"

ALTITUDE  193-229 metres

AREA  1424 ha

LAND TENURE  Public lands

PHYSICAL FEATURES  48 islands or portions of islands stretching 64 km up the eastern shoreline of Georgian bay. This is a flooded sector of the Canadian Shield and the islands are extremely rugged and exposed, the twisted and banded gneiss with quartz dykes showing scratching and scraping from glaciation. Larger islands such as Beausoleil (the largest) have a mantle of glacial till forming drumlins. Changing lake levels have reworked drumlins into ridges and deposited many sandy beaches. Flowerpot island is softer sedimentary rock. Numerous caves, cobble stone beaches and the 'flowerpot' limestone pillars are present, carved from the limestone cliffs of the Niagara escarpment.

VEGETATION  A wide variety of habitats with equally varied vegetation. Most islands have windblown eastern white pine Pinus strobus and some hardwood forests of beech Fagus grandifolia, maple Acer sp., and oak Quercus sp., in the southern sector. Eastern hemlock Tsuga canadensis and birch Betula sp., are common. Especially conspicuous are the variety of ferns; the bogs protect many species of orchids, including rarities. Other habitats include beaver ponds, small lakes, meadows and rocky outcrops.

NOTEWORTHY FAUNA  Animal life is varied: mammals include abundant red and grey squirrels Tamiasciurus and Sciurus sp., porcupine Erethizon dorsatum, red fox Vulpes v. fulva, raccoon Procyon lotor, striped skunk Mephitis mephitis and white-tailed deer Odocoileus virginianus. Numerous species of bird breed. A large variety of reptilian and amphibian life is present, including some species endangered in Canada, such as the terrapin Emydoidea blandingi, spotted turtle Clemmys guttata, eastern hog-nosed snake Heterodon platyrhinos, eastern fox snake Elaphe vulpina and the small massasauga rattlesnake Sistrurus catenatus for which the islands provide the last refuge in Ontario, where it is the only venomous species.

ZONING  Not yet determined: to be included in Master Plan

DISTURBANCES OR DEFICIENCIES  Sport-fishing permitted

TOURISM  135,960 visitors during 1973-74. Access by boat or power toboggan (winter season) only. Several campsites on Beausoleil and one or two other islands.

SCIENTIFIC RESEARCH  No specific information; the Canadian Wildlife Service undertakes any necessary studies for maintenance and management of wildlife.
SPECIAL SCIENTIFIC FACILITIES
None

PRINCIPAL REFERENCE MATERIAL
Reports and publications available upon request

STAFF
12 full-time employees

BUDGET

LOCAL PARK ADMINISTRATION
Superintendent, Georgian Bay Islands National Park, Box 28, Honey Harbour, Ontario, Canada.
CANADA

NAME Waskwei River Protected Area

TYPE PP

BIOTIC PROVINCE 1.2.1

LEGAL PROTECTION Totally protected against any exploitation

DATE ESTABLISHED 1964

GEOGRAPHICAL LOCATION Pasquia Hills region of Saskatchewan. 53°25'N; 102°1'W

ALTITUDE 360-390 metres

AREA 1028 ha

LAND TENURE No information

PHYSICAL FEATURES Part of the eastern slope of the Pasquia Hills, a thinly glaciated plateau having exposures of shale bedrock; fossiliferous shales from the Cretaceous are exposed along the Waskwei River, which also drains the Carrot River lowland region, a glacial lacustrine - alluvial plain. The soils of the reserve are predominantly organic muskeg types usually of only slightly decomposed peat in very wet positions, supporting string bogs in some places. Minor areas of low, narrow sandy to gravelly ridges also occur. Mean January and July temperatures -30°C and 14°C respectively, and mean annual precipitation about 450 mm.

VEGETATION The main community is open black spruce bog Picea mariana - Sphagnum (385 ha), with smaller areas of closed forest types dominated respectively by jack pine Pinus banksiana, white pine P. glauca and aspen Populus tremuloides, and by canoe birch Betula papyrifera. Good specimens of Balsam fir Abies balsamea, over 70 feet in height, are also to be found, as well as some sizeable black spruce Picea mariana.

NOTEWORTHY FAUNA A wide variety of wildlife present owing to relative inaccessibility, including grey wolf Canis lupus griseoalbus, possibly grizzly bear Ursus arctos horribilis, cougar Felis concolor, moose Alces alces and caribou Rangifer tarandus.

ZONING No information available

DISTURBANCES OR DEFICIENCIES Part of the area has been logged in the past and hunting has reduced the predators considerably, particularly the wolf packs, black bear, fox, coyote and wolverine.

TOURISM No information, but campgrounds are available outside the boundaries

SCIENTIFIC RESEARCH No information

SPECIAL SCIENTIFIC FACILITIES None

PRINCIPAL REFERENCE MATERIAL

STAFF One officer for this and other areas in the district

BUDGET No information

LOCAL PARK ADMINISTRATION

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NAME. St. Lawrence Islands National Park

TYPE. NP

BIOTIC PROVINCE. 1.2.1 (1.4.2)

LEGAL PROTECTION. Total

DATE ESTABLISHED. 1914

GEOGRAPHICAL LOCATION. Thousand Island region of the St. Lawrence river, Ontario: N 44°17'15"-44°27'30"; W 75°50'15"-76°11'30".

ALTITUDE. 74-99 metres

AREA. 414 ha

LAND TENURE. Government owned

PHYSICAL FEATURES. Numerous holdings scattered over an 80 km stretch of the St. Lawrence river and including 18 larger islands, numerous smaller ones and a mainland base. The Thousand Islands are located on the Frontenac Axis, a narrow ridge of Precambrian rock joining the main body of the Canadian Shield to the Adirondack mountains. Flooding caused by the St. Lawrence river crossing this terrain has produced a myriad of islands of which the park is a representative sample. Mean January and July daily temperatures are -6.7°C and 19.4°C, respectively, with 762 mm annual precipitation.

VEGETATION. A transitional 'tension zone' between the deciduous and Great Lakes forests, resulting in a distinctive blend of species unique to this area. Typical trees include red and white oak Quercus spp., shagbark and butternut hickory Carya spp., hemlock Tsuga sp., white cedar Thuja occidentalis, red juniper Juniperus virginiana and red pine Pinus resinosa, eastern white pine P. strobus and pitch pine P. rigida, a species of phytogeographical significance. Deerberry Vaccinium stamineum is also of interest.

NOTEWORTHY FAUNA. Conspicuous small mammals in summer include the eastern chipmunk Tamias striatus, black squirrel Sciurus carolinensis, red squirrel Tamiasciurus hudsonicus and muskrat Ondatra zibethica. Winter snowtracks identified are those of meadow vole Microtus pennsylvanicus, coyote Canis latrans, red fox Vulpes vulpes fulva and white-tailed deer Odocoileus virginianus. Birds include several herons Ardea, Butorides and Botaurus spp., gulls Larus spp., terns Sterna spp. and small passerines. An important concentration of waterfowl occurs on the river in spring. Reptilian and amphibian life is varied and includes the rare black rat snake Elaphe obsoleta.

ZONING. Not yet notified; to be included in Park Master Plan

DISTURBANCES OR DEFICIENCIES. None reported

TOURISM. Two campgrounds with 64 mainland sites and 20 island sites; individual campsites and picnic areas on most islands. 230,000 visitors in 1973.

SCIENTIFIC RESEARCH. Studies of wildlife and management by the Canadian Wildlife Service are carried out as and when required.

SPECIAL SCIENTIFIC FACILITIES. None
PRINCIPAL REFERENCE MATERIAL None listed

STAFF Total man-years 18; 10 full-time staff

BUDGET 1974-75 fiscal year: US$ 256,700

LOCAL PARK ADMINISTRATION Superintendent, St. Lawrence Islands National Park, Box 469, R.R. No. 3, Mallorytown, Ontario KOE 1R0, Canada.
COLOMBIA

AREA 1,139,600 sq. km

POPULATION 22,000,000 (1970 estimate)

PARKS AND RESERVES LEGISLATION Extraordinary Decree No. 2420 of 1968 gave INDERENA (Instituto de Desarrollo de los Recursos Naturales Renovables) total responsibility for establishing and managing national parks and wildlife reserves in Colombia. INDERENA has the right to expropriate lands and to inspect and seize vehicles, equipment and arms employed in illicit activities.

PARKS AND RESERVES ADMINISTRATION Division de Parques Nacionales y Vida Silvestre, Instituto de Desarrollo de los Recursos Naturales Renovables (INDERENA), Ministerio de Agricultura. The country is divided into four regions each with a Jefe de Programa and the regions are subdivided into Departamentos, each with a Jefe Seccional.

ADDRESS Division de Parques Nacionales y Vida Silvestre, INDERENA, Ministerio de Agricultura, Bogota, Colombia.

TOTAL AREA UNDER PROTECTION 1,173,866 ha

PROTECTED AREAS

1.1 Sierra de la Macarena National Park 600,000 ha
2.1 El Tuparro Faunistic Reserve 380,000 ha
3.1 Puracé National Park 80,000 ha
3.2 Sierra Nevada National Park 50,000 ha
3.3 Las Orquideas National Park 30,566 ha
3.4 Isla de Salamanca National Park 21,000 ha
4.1 Tayrona National Park 11,600 ha
6.1 Cueva de los Guacharos National Park 700 ha
NAME: Sierra de la Macarena National Park

TYPE: NP

Biotic Province: 3.8.6/3.7.3

Legal Protection: Total

Date Established: 1971 (first measures in 1948)

Geographical Location: Central Colombia, Meta province. N 2°15'-3°00'; W 73°00'-74°00' (estimated)

Altitude: 200-3000 metres (estimated)

Area: 600,000 ha

Land Tenure: Government-owned

Physical Features: Isolated mountain range to east of the Cordillera Oriental. Uniform summit ridge, deep gorges, rock domes and pinnacles and several spectacular rivers.

Vegetation: Humid to very humid tropical forest and subtropical rain forest, with savannahs in some areas. Very interesting floristically, being in the transition zone between the Andean, Orinoco and Amazonian floras. Several endemic species.

Noteworthy Fauna: Includes a number of Red Data Book species: giant otter Pteronura brasiliensis (in the 'endangered' category), spectacled bear Tremarctos ornatus, great armadillo Priodontes giganteus, jaguar Panthera onca and ocelot Felis pardalis (all 'vulnerable'); also to be seen are: black-headed uakari Cacajao melanocephalus, capybara Hydrochoerus hydrochaeris, tapiti rabbit or eastern cottontail Sylvilagus floridanus and white-tailed deer Odocoileus virginianus. Some 450 species of birds have been recorded. Reptiles include spectacled caiman Caiman c. crocodilus, Orinoco crocodile Crocodylus intermedius and arrau tortoise Podocnemis expansa.

Zoning: None reported

Disturbances or Deficiencies: Still some settlers within the park boundary, also some illegal hunting and fishing.

Tourism: Over 10,000 visitors in 1971 and numbers increasing. Access by air and by road from Villavicencio.

Scientific Research: Mainly on ecology, geology and fauna

Special Scientific Facilities: None

Principal Reference Material:


WDNP IUCN © 1975 6(1)F Code: COL.1.1
STAFF  Chief Forest Engineer, Assistant for protection, Assistant to the Chief of the Project, 20 inspectors of natural resources and a small labour force, (1971).

BUDGET  303,840 pesos Colombianos from the Division of National Parks and Wildlife and 1,400,000 from the Division of Control and Inspection.

LOCAL PARK ADMINISTRATION  Administrador, Parque Nacional Sierra de la Macarena, Division de Parques Nacionales y Vida Silvestre, INDERENA, Ministerio de Agricultura, Bogotá, Colombia.
COLOMBIA

NAME  El Tuparro Faunistic Reserve

TYPE  NP

Biotic Province  3.7.3

Legal Protection  Total

Date Established  1970

Geographical Location  Eastern Colombia, Vichada Province. N 4°45'-5°45'; W 67°45'-68°40'

Altitude  75-250 metres

Area  380,000 ha

Land Tenure  Government-owned

Physical Features  Fairly flat country bounded by the rivers Orinoco, Tomi, Tuparro and Tuparrito and partly inundated for most of the year. Soils of loamy sands. Mean annual temperature of more than 30°C and mean annual precipitation of 2000 mm.

Vegetation  Transitional between Holdridge's dry tropical forest (bs-T) and humid tropical forest. Savannahs, swamps and gallery forest along the rivers. The most abundant species include Tecoma stans, Guarea sp., Tabebuia sp., West Indian locust tree Hymenaea courbaril, Pseudosamanea guachapele, Bombacopsis quinata, Curatella americana, Aspidosperma dugandii, Cedrela sp., Corozo oleifera and Jessenia polyacarpa. Dominant grass of the savannah is Andropogon bicorne. Marshland areas or 'morichales' with the palm Mauritia minor.

Noteworthy Fauna  Varied savannah and forest fauna, including giant otter Pteronura brasiliensis (a Red Data Book 'endangered' species), great armadillo Priodontes giganteus, spectacled caiman Caiman c. crocodilus and Orinoco crocodile Crocodylus intermedius (all in the 'vulnerable' category). Among the other mammals are capybara Hydrochoerus hydrochaeris and white-tailed deer Odocoileus virginianus. The birds include the scarlet ibis Eudicimus ruber, several macaws and parrots and the yellow-rumped cacique Cacicus cela. In addition to the crocodiles, reptiles are represented by the anaconda Eunectes sp., and other boas, and several other snakes. Brachyplatystoma vaillanti and Serrasalmus spp., are among the many colourful fish.

Zoning  None reported

Disturbances or Deficiencies  None reported; the reserve is difficult of access

Scientific Research  Mainly on four species of commercial interest: Pteronura brasiliensis, Caiman crocodilus, Iguana iguana and Hydrochoerus hydrochaeris.

Principal Reference Material

Franky, S.M.V. 1971. Reservas del Sistema de Parques Nacionales Colombianos. INDERENA (prepared for the VII Latin American Committee Meeting on National Parks, CLAPN).

WDNP  IUCN © 1975  6(1)F  Code: COL.2.1
STAFF

Chief agronomist engineer, forest engineer, biologist, taxidermist, 3 assistants, 10 inspectors of natural resources, 1 chauffeur-mechanic, 5 guards, 2 workers (1971).

BUDGET

1,151,408 pesos Colombianos from the Division of National Parks and Wildlife and 819,000 pesos Colombianos from the Division of Control and Protection.

LOCAL PARK ADMINISTRATION

Division de Parques Nacionales y Vida Silvestre, INDERENA, Ministerio de Agricultura, Bogotá, Colombia. (Meta branch office is at Villavicencio, Calle 36, No. 29.)
COLOMBIA

NAME Puracé National Park

TYPE NP

BIOTIC PROVINCE 3.8.3

LEGAL PROTECTION Total

DATE ESTABLISHED Departmental Decree No. 119 of 1961 and Resolution No. 92 of 1968

GEOGRAPHICAL LOCATION South-western Colombia, 45 km south-east of Popayan, provinces of Huila and Cauca. N 2°15'; W 76°25'

ALTITUDE 2500-4700 metres

AREA 80,000 ha (approximately)

LAND TENURE Government-owned

PHYSICAL FEATURES Active volcano, part of the cordilleras of the northern Andes. The 'Sugar Loaf' volcano is within the park together with five more craters. Some of these summits have perennial snowfields. Watershed for the rivers Magdalena, Cauca, Caqueta, Cusiyaco, Mazamorro and others. Lakes and rivers, including spectacular waterfalls, also hot springs. Precolombian Indian archaeological remains.

VEGETATION Humid sub-tropical forest (bb-ST), very humid subtropical forest (bms-ST) and very humid low montane forest (bmb-MB) in Holdridge classification. Higher altitude slopes with Ericaceae and associations of the aloe-like Espeletia hartevegrana on skeletal soils, with graminoid associations on sandy soils. Rich in orchids, lichens and endemic species.

NOTEWORTHY FAUNA Rich in endemic fauna. Mammals include mountain tapir Tapirus pinchaque (a Red Data Book 'endangered' species) and spectacled bear Tremarctos ornatus (in the 'vulnerable' category). Some other mammals are nutria Lutra enudris, puma Felis concolor and pudu Pudu mephistophiles. Birds include the quetzal Pharomaeus mocinno, the oil-bird Steatornis caripensis, cock-of-the-rock Rupicola rupicola, condors and several species of eagle.

ZONING None reported

DISTURBANCES OR DEFICIENCIES None reported, except for some human occupancy. Modest tourist facilities, including three cabins and marked trails.

SCIENTIFIC RESEARCH No information available

SPECIAL SCIENTIFIC FACILITIES None

PRINCIPAL REFERENCE MATERIAL

STAFF 5 inspectors of natural resources, 3 guards, 8 workers

BUDGET 791,090 pesos Colombianos from Division of National Parks and Wildlife, 268,000 pesos Colombianos from the Division of Control and Protection.
LOCAL PARK ADMINISTRATION

Administrador, Parque Nacional de Puracé, Division de Parques Nacionales y Vida Silvestre, INDERENA, Ministerio de Agricultura, Bogota, Colombia.
COLOMBIA

NAME Sierra Nevada National Park

TYPE NP

BIOTIC PROVINCE 3.6.5/3.6.9

LEGAL PROTECTION Total

DATE ESTABLISHED Article 13, law 2a of 1959, declared all snow peaks with surroundings as National Parks. Decree 1964.

GEOGRAPHICAL LOCATION Extreme north of Colombia, Department of Magdalena. N 10°42'-10°54'; W 73°27'-75°52'

ALTITUDE maximum 5800 metres

AREA 50,000 ha

LAND TENURE Government-owned

PHYSICAL FEATURES An isolated mountain range (unconnected with the Andean cordilleras), featuring the highest point in Colombia—the peak named for Simon Bolivar. Varied topography with perpetual snowfields at 4800 m on northern slope and 5100 m on southern slope. Geomorphological features include effects of glacial erosion such as polished rocks, glacial cirques and terminal moraines. In addition to its geology, the flora, fauna, and archaeological remains of altars and dwellings of the Arhuacas tribes, are of considerable interest.

VEGETATION Many endemic plant species. Herbaceous and shrubby plants growing in rock fissures on upper slopes. Lower slopes with shrubby vegetation of Espeletia glossophylla and E. subnerifolia reaching 4 or 5 m in height; this zone is known as the 'paramo'.

NOTEWORTHY FAUNA Few mammals in the 'paramo', but there are several peculiar forms such as Thomas's mouse Thomasomys laniger and an endemic race of brocket deer Mazama americana carrikeri; also herds of long-haired feral horses. Largest population of Andean condor Vultur gryphus in the country; other birds of note are: the sabrewing Campylopterus phainopeplus, Cinclodes fuscus oreobates, streak-backed canistero Asthenes wyarti, great thrush Turdus fuscater cacozelus and the plumbeous Sierra-finch Phrygilus unicolor nivarius. Endemic frog: Ateolopus carrikeri.

ZONING None

DISTURBANCES OR DEFICIENCIES Indians and settlers live on the lower slopes, and some hunting may still take place

SCIENTIFIC RESEARCH No information

SPECIAL SCIENTIFIC FACILITIES None

PRINCIPAL REFERENCE MATERIAL

GRIMWOOD, I.R. 1968. Reports and Recommendations on the Sierra Nevada de Santa Marta National Park, the Isla Salamanca National Park, the Tairona National Park, the La Macarena National Reserve. Ministry of Overseas Development, London, United Kingdom.

STAFF None

WDNP IUCN © 1975 6(1)F Code: COL.3.2
BUDGET  None

LOCAL PARK ADMINISTRATION  Division de Parques Nacionales y Vida Silvestre, INDERENA, Ministerio de Agricultura, Barranquilla, Colombia.
NAME Las Orquídeas National Park

TYPE NP

BIOTIC PROVINCE 3.8.3

LEGAL PROTECTION No information: supposedly total

DATE ESTABLISHED 1971

GEOGRAPHICAL LOCATION North-western Colombia, Antioquia Province. N 6°30'; W 76°25' (estimated)

ALTITUDE 300-3850 metres

AREA 30,566 ha

LAND TENURE Government-owned

PHYSICAL FEATURES Located in the Cordillera Occidental with steep gorges and ravines and several rivers. Mean annual temperatures range from nearly 30°C to less than 12°C depending on altitude.

VEGETATION Four ecological life zones recognized according to the Holdridge system: very humid tropical forest, sub-tropical forest, lower montane rain forest and montane rain forest. Species include silk cotton tree Ceiba sp., balsa Ochroma sp., Pachira sp., Inga sp., guava Psidium sp., bamboo Chusquea sp., Podocarpus sp., Aniba sp., calabash tree Crescentia sp., Tibouchina sp., and Ceroxylon sp. The numerous orchids which give the park its name include species of Peristeria, Anguloa, Cattleya, Epidendrum, Elleanthus, Masdevallia, Odontoglossum, Oncidium, Pleurothallis, Stanhopea and Maxillaria.

NOTEWORTHY FAUNA No details, but many species of mammals, birds and reptiles are said to be present

ZONING None reported

DISTURBANCES OR DEFICIENCIES No information

SCIENTIFIC RESEARCH Mainly on orchids

SPECIAL SCIENTIFIC FACILITIES None

PRINCIPAL REFERENCE MATERIAL

STAFF No information

BUDGET No information

LOCAL PARK ADMINISTRATION Division de Parques Nacionales y Vida Silvestre, INDERENA, Ministerio de Agricultura, Bogota, Colombia.
COLOMBIA

NAME Isla de Salamanca National Park

TYPE NP

BIOTIC PROVINCE 3.6.9

LEGAL PROTECTION Total

DATE ESTABLISHED 1964 by Resolution No. 191 (INCORA)

GEOGRAPHICAL LOCATION Caribbean coast, northern Colombia. N 10°57'-11°06'; W 74°22'-74°50'

ALTITUDE Sea level to 8 metres

AREA 21,000 ha

LAND TENURE Government expropriated land (5000 ha still in private ownership)

PHYSICAL FEATURES Triangular shaped sandbar with beaches 500-1050 m wide at mean tide. Western border formed by the Magdalena river, southern border by the Barranquilla-Cienaga road. A network of lakes and channels with variations in salinity from fresh to brackish and saline marshes. Mean annual temperature approximately 30°C.

VEGETATION Western part covered by the characteristic neotropical mangrove species Avicennia nitida, Rhizophora mangle and Laguncularia racemosa; eastern part by dry tropical forests of mesquite Prosopis juliflora, Pereskia spp., and divi-divi Caesalpinia coriaria.

NOTEWORTHY FAUNA Mammals include golden howler monkey Alouatta seniculus, lesser anteater Tamandua tetradactyla, crab-eating fox Cercocyon thous and ocelot Felis pardalis; about a dozen other species have been recorded, though one or two may now be extinct in this area. Over 150 species of birds recorded, among which some of the commonest or most interesting are the neotropic cormorant Phalacrocorax olivaceus, magnificent frigatebird Fregata magnificens, white-necked heron Ardea cocoi and eleven other heron species, of which the most numerous is the snowy egret Leucophoyx thula, roseate spoonbill Ajaja ajaja, northern screamer Chauna chavari, nine species of duck but particularly the blue-winged teal Anas discors, great black hawk Buteogallus urbitinga, limpkin Aramus guarauna, wattled jacana Jacana jacana, stilt Himantopus himantopus, least tern and royal tern Sterna albifrons and maxima, greater and Crotophaga major, tropical mockingbird Mimus gilvus, and great-tailed grackle Quiscalus mexicanus.

ZONING (i) primitive undisturbed zone with limited research activity (c. 13,000 ha); (ii) natural recuperation zone; (iii) general recreation zone; and (iv) intensive use zone.

DISTURBANCES OR DEFICIENCIES Illegal fishing, oyster gathering and taking of iguana eggs, aggravated by the considerable amount of settlement still existing within the park boundaries. Pyloned powerline transects.

TOURISM 15,000 visitors a year. The 'Los Cocas' visitor centre comprises exhibition and conference rooms, cafeteria, small zoo, nature trail, quays, boats for hire, etc., and there are 20 picnic units.
SCIENTIFIC RESEARCH

Mainly on birds but also on molluscs, flora and entomology

SPECIAL SCIENTIFIC FACILITIES

None

PRINCIPAL REFERENCE MATERIAL


FRANKY, S.M.V. 1971. Reservas del Sistema de Parques Nacionales Colombianos. INDERENA (prepared for the VII Latin American Committee Meeting on National Parks, CLAPN).

STAFF

1 superintendent (Jefe de Proyecto), with (according to varying reports) about 10-12 inspectors and wardens, and labour force of 10-20

BUDGET

In 1973, the Government allocated US$ 54,000

LOCAL PARK ADMINISTRATION

Superintendent, Parque Nacional Isla de Salamanca, INDERENA, Calle 40, Barranquilla, Departamento del Atlantico, Colombia.
NAME Tayrona National Park

TYPE NP

BIOTIC PROVINCE 3.6.9

LEGAL PROTECTION Total


GEOGRAPHICAL LOCATION Northern Caribbean coast, east of Santa Marta in Magdalena Department. N 11°16'; W 73°53'-74°12'

ALTITUDE Sea level to 900 metres

AREA 11,600 ha

LAND TENURE Government expropriated land (1200 ha still in private ownership)

PHYSICAL FEATURES Coastal range up to the divide which forms the southern boundary and down to sea level. Western section metamorphic and eastern section igneous rock. Coastline with several bays and coral reefs of high value. Mean annual temperature 28°C, annual rainfall 800 mm with wet seasons from April to June and September to November. Precolombian archaeological remains of the Tayrona Indian culture (the so-called 'Pueblito' site).

VEGETATION Dry tropical forest (life zone bs-T of Holdridge) comprising: (i) low hillsides with Haematoxylum sp., Platymiscium pinnatum, the cassie flowered Acacia farnesiana and Pereskia colombiana; (ii) riverine plains with quebracho Astronium graveolens, Samanea saman, the sandbox tree Hura crepitans and Bursera simaruba. Wet tropical forest (life zone bh-T of Holdridge) comprises: (i) low hillsides with carratillo Cufodontia currani and guava Psidium; (ii) high hillsides with Poulsenia armata and Coccoloba candolleana; (iii) riverine plains with Anacardium excelsum.

NOTEWORTHY FAUNA Mammals include two-toed sloth Chloepus didactylus, tree porcupine Coendou sp., paca Cuniculus paca, agouti Dasyprocta sp., crab-eating fox Cercocyon thous, skunk Conepatus sp., puma Felis concolor, and peccary Tayassu tajacu. Green and loggerhead turtles Chelonia mydas and Caretta caretta breed on the beaches and 50 species of coral have been recorded. The spiny lobster Palinurus argus was formerly abundant. 300 bird species recorded.

ZONING (i) primitive undisturbed zone; (ii) natural recovery zone (natural reafforestation of cleared land); (iii) outdoor recreation zone; (iv) intensive use zone; (v) historic/cultural zone.

DISTURBANCES OR DEFICIENCIES Highway construction through part of the primitive undisturbed zone. Part of national tourist agency's plans to construct tourist complexes disregard ecological values. Still some settlement; occasional poaching and dynamiting of fish.

TOURISM 40,000 visitors in 1973 to INDERENA developments at Canaveral

SCIENTIFIC RESEARCH Inventory of birds and animals, study of corals, archaeological study, Ministry of Agriculture Coco palm fertilizing study.
SPECIAL SCIENTIFIC FACILITIES  Biological station, mainly for marine research

PRINCIPAL REFERENCE MATERIAL

SCHRINPF, E. 1967. Estudio sobre una delimitacion y zonificacion del proclamado Parque Nacional de Tayrona (Santa Marta) y elaboracion de un plan piloto. Bogota, Colombia, CVM. 23 p.


STAFF 1 superintendent and about 10 inspectors and 10 guards, with labour force also of about 20

BUDGET US$ 25,700 provided by the Government

LOCAL PARK ADMINISTRATION Jefe de Proyecto, Parque Nacional Tayrona, INDERENA, Barranquilla, Colombia.
COLOMBIA

NAME       Cueva de los Guácharos National Nature Park

TYPE       NP

BIOTIC PROVINCE  3.8.3

LEGAL PROTECTION  Total

DATE ESTABLISHED  1960

GEOGRAPHICAL LOCATION  South central Colombia, south-east of the town of Neiva, in Huila province, at approximately N 2°30'; W 75°05'

ALTITUDE  1700-4000 metres

AREA  700 ha

LAND TENURE  Government ownership

PHYSICAL FEATURES  Cordillera Oriental; geologically recent with many caves of great beauty and scientific interest

VEGETATION  Very humid sub-tropical forest (life zone bh-T of Holdridge) and humid sub-tropical forest (life zone bh-T). Pure stands of Podocarpus sp., cedar Cedrela sp., and palms. Orchids very abundant.

NOTEWORTHY FAUNA  The oilbird or guácharo Steatornis caripensis lives in the caves and is of great scientific interest. Also present in the park is the black tinamou Tinamus osgoodi, known only from this area and one other area in southern Peru and found only in this area. Mammals include a sub-species of the brown capuchin monkey, Cebus apella fatuellus, and Humboldt's woolly monkey Lagothrix lagotricha.

ZONING  Presumably none

DISTURBANCES OR DEFICIENCIES  Steatornis caripensis is hunted for its oil which is still much in demand

TOURISM  About 5000 visitors, mainly to the caves, in 1971

SCIENTIFIC RESEARCH  Studies of vegetation and fauna, especially the birds

SPECIAL SCIENTIFIC FACILITIES  None

PRINCIPAL REFERENCE MATERIAL

FRANKY, S.M.V. 1971. Reservas del Sistema de Parques Nacionales Colombianos. INDERENA (prepared for the VII Latin American Committee Meeting on National Parks, CLAPN).


STAFF  1 forest auxiliary, 2 inspectors of natural resources, 1 guard and 3 workers for 1971

BUDGET  121,000 pesos Colombianos from the Division of National Parks and Wildlife and 270,000 pesos Colombianos from the Division of Control and Protection.


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CONGO, PEOPLE'S REPUBLIC OF THE

AREA 336,595 sq. km

POPULATION 2,100,000

PARKS AND RESERVES LEGISLATION The law 7/62 of 20 January 1961, controls the exploitation and the protection of fauna and gives authority to the 'Service des Chasses et de la Conservation de la Nature' to protect natural sites and to create reserves. In order to maintain sufficient density of game animals throughout the country, the Regions and rural communes are required to maintain as 'game reserves' at least one fifth of their area.

PARKS AND RESERVES ADMINISTRATION The protected areas are administered jointly by the 'Service des Chasses et de la Conservation de la Nature' and by the Regions or Districts in which they are located.

ADDRESS Service des Chasses et de la Conservation de la Nature, B.P. 2153, Brazzaville.

TOTAL AREA UNDER PROTECTION 1,031,000 ha

PROTECTED AREAS

1.1 Lefini Fauna Reserve 650,000 ha
2.1 Odzala National Park 110,000 ha
3.1 M'bomo Game Reserve 90,000 ha
3.2 Lekoli-Pandaka Fauna Reserve 50,000 ha
3.3 Mont Mavoumbou Game Reserve 42,000 ha
3.4 Kilometre 77 (la Tsoulou) Partial Game Reserve 30,000 ha
3.5 Nyanga Sud Game Reserve 23,000 ha
4.1 Mont Fouari Fauna Reserve 18,000 ha
4.2 Nyanga Nord Fauna Reserve 18,000 ha

NOTE The sum of 10,000,000 CFA Francs was allocated to conservation activities undertaken by the 'Service' during the triennial beginning 1975.
CONGO

NAME Lefini Fauna Reserve

TYPE MR

BIOTIC PROVINCE 4.7.1

LEGAL PROTECTION Total

DATE ESTABLISHED 26 November 1951

GEORGICAL LOCATION 125 km north of Brazzaville, between the Bateke Plateaux and Pool Regions: S 2°30'-3°30'; E 15°05'-15°00'

ALTITUDE 600-700 metres

AREA 650,000 ha

LAND TENURE State property

PHYSICAL FEATURES The reserve is located in an area of sandstone plateaux with deeply incised permanent rivers 200-300 m lower than the plateau surface. The two main rivers flowing through the Reserve are the Lefini, a major tributary of the Congo, and the Nambouli which crosses a portion of the northern plateau through the deepest of the clefts. This deep incision results in remarkable scenery. Apart from a few sandy areas, soils are generally black. Rainfall is heavy with between 1800-2500 mm falling in a 9 months wet season. Temperatures range from 22°C to 28°C or 30°C.

VEGETATION The valley areas are always forested and this forest often extends some way up the slopes and also occurs as small patches on the plateau surfaces. The plateaux also support a considerable extent of savanna grassland ranging from short to medium in height and from open treeless savanna to well-wooded savanna. The overall effect is of a mosaic of forest and grassland. Species of interest include those of the genus Hymenocardia, such as H. assida, Nauclea sp. and Hannonia sp. These occur in the savanna areas, which are not exploited.

NOTEWORTHY FAUNA Species present include many small monkeys, especially the moustached monkey Cercopithecus cephus, spotted hyaena Crocuta crocuta, leopard Panthera pardus (classified as a 'vulnerable' species in the Red Data Book), the forest elephant Loxodonta africana cyclotis, bushpig Potamochoerus porcus, hippo Hippopotamus amphibius, dwarf forest buffalo Syncerus caffer nanus and the yellow-backed duiker Cephalophus sylvicultor.

ZONING None

DISTURBANCES OR DEFICIENCIES Clearing due to the development of villages along National Route No. 2 and because of its proximity to Brazzaville.

TOURISM Virtually no tourism based on wildlife viewing survives, although there is still a restcamp for travellers with accommodation for six people.

SCIENTIFIC RESEARCH None currently under way

SPECIAL SCIENTIFIC FACILITIES None

WDNP IUCN © 1977 (1)F Code: CON.1.1
PRINCIPAL REFERENCE MATERIAL  None listed

STAFF  The field staff consists of 2 Game guards and 3 game assistants

BUDGET  No special budget is provided for this Reserve but an overall total of 10,000,000 CFA were allocated to Conservation and Game Reserves in the 1975 budget, from which staff salaries and other expenses are paid.

LOCAL PARK ADMINISTRATION  Chef de Service des Chasses et de la Conservation de la Nature, B.P. 2153 Brazzaville
NAME Odzala National Park

TYPE NP  BIOTIC PROVINCE 4.7.1

LEGAL PROTECTION National Park: totally protected

DATE ESTABLISHED 27 July 1940

GEOGRAPHICAL LOCATION North-western Congo, 30 km east of border with Gabon, 120 km south-west of Ouésso on the Cameroun border: N 0°35'-1°05'; E 14°40'-15°05'.

ALTITUDE 400-600 metres

AREA 110,000 ha

LAND TENURE None (presumed to indicate Government ownership)

PHYSICAL FEATURES An undulating plateau area in the south, relatively flat-lying in the north. Total precipitation 1595 mm, ranging from 30 mm monthly mean for July to a maximum of 210 mm monthly mean for October with 112 days of rain annually. Driest months June to August, also January.

VEGETATION Humid forests, partly of secondary origin, and savanna. The areas with the greatest relief in the south are relatively densely forested, more so than the flatter areas in the north. Savanna is found on hill crests. The understorey includes species of Marantaceae.

NOTEWORTHY FAUNA Typical forest fauna with primates of great interest including chimpanzee Pan troglodytes and gorilla Gorilla gorilla (both vulnerable species), carnivores such as golden cat Felis aurata and leopard Panthera pardus (also vulnerable), elephant Loxodonta africana, bushpig Potamochoerus porcus and forest hog Hylochoerus meinertzhangei; forest antelopes including bongo Taurotragus euryceerus and various duikers as well as buffalo Syncerus caffer nanus.

ZONING No information

DISTURBANCES OR DEFICIENCIES To some degree the park is bound to be affected by the several groups of pygmies who inhabit the forest areas. In June 1972, some doubt was expressed about adequacy of supervision of the park.

TOURISM Access difficult; Makoua airport is 160 km by passable road and there is an airstrip for light aircraft at Lellé, 130 km away.

SCIENTIFIC RESEARCH None

SPECIAL SCIENTIFIC FACILITIES None

PRINCIPAL REFERENCE MATERIAL None

STAFF 6 supervisory personnel located at M'Boko Controlled Hunting Area, which with Lekoli-Pandaka Fauna Reserve is adjacent to the park. Staff supervise all these areas with assistance from the military police of the area.

BUDGET The national budget includes annual provision for parks and reserves

LOCAL PARK ADMINISTRATION In process of being 'constituted.'
CONGO

NAME M'bomo Game Reserve

TYPE MR

BIOTIC PROVINCE 4.7.1

LEGAL PROTECTION Controlled hunting by permit holders only.

DATE ESTABLISHED 3 December 1955 by Decree No. 4220.

GEOGRAPHICAL LOCATION The north-western Région de la Cuvette, adjoining the Lekoli-Pandaka Fauna Reserve and due west of the confluence of the Oubangui and Zaire Rivers: N 0°30'-0°46'; E 14°30'-15°14' (the coordinates apply to the combined area of this reserve and the Lekoli-Pandaka Reserve 3.2).

ALTITUDE 50-100 metres approximately

AREA 90,000 ha

LAND TENURE State ownership

PHYSICAL FEATURES Upper flood plain of rivers draining into the Congo/Zaire near Mossaka. Soils are black and usually saturated. The seasonal climate comprises a nine month rainy season from September to May and a short dry season from June to August, which is often broken by scattered thunderstorms. Total precipitation varies between 2500 and 3800 mm annually and mean temperatures are around 23°C-28°C.

VEGETATION 80% of the area is open short to medium height scattered tree grassland. This savanna is interspersed with patches of forest which make up the remaining 20%. The forest is characteristic of the humid and very dense equatorial rainforest, but where the valuable timber has been extracted there are areas of comparatively poor secondary forest.

NOTEWORTHY FAUNA The mammals include many small monkeys, lion Panthera leo, forest elephant Loxodonta africana cyclotis, bongo Taurotragus eurycerus, bushbuck Tragelaphus scriptus and dwarf forest buffalo Syncerus caffer nanus.

ZONING None

DISTURBANCES OR DEFICIENCIES Poaching and fishing

TOURISM Not yet developed, but the eventual aim is to upgrade this area to National Park status

SCIENTIFIC RESEARCH None

SPECIAL SCIENTIFIC FACILITIES None

PRINCIPAL REFERENCE MATERIAL None

STAFF The staff of the Lekoli-Pandaka reserve and Odzala National Park are also responsible for this large Game Reserve.

BUDGET A total of 10 million CFA was allocated to all conservation and game reserves of the Congo in 1975.

LOCAL PARK ADMINISTRATION Chef de Service des Chasses et de la Conservation de la Nature, B.P. 2153, Brazzaville

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Code: CON.3.1
CONGO

NAME Lekoli-Pandaka Fauna Reserve

TYPE NR

BIOTIC PROVINCE 4.7.1

LEGAL PROTECTION Total

DATE ESTABLISHED 3 December 1955 by Decree

GEOGRAPHICAL LOCATION In the north-west about 150 km SW of Ouesso on the Cameroun border and adjoining Odzala National Park: N 0°30'-0°46'; E 14°30'-15°14' (the coordinates apply to the combined area of this and the M'bomo Reserve 3.1.

ALTITUDE 200-300 metres approximately

AREA 50,000 ha

LAND TENURE State ownership

PHYSICAL FEATURES Located at the junction of two major vegetation types, equatorial rainforest and scattered tree grassland savanna. The Reserve is bounded on the south by the Lekoli R. which is very deep in places but also has saline pans bordering some sections of it, which are important in attracting fauna to the area. The soils when saturated during the nine-months rainy season are subject to landslips and washaways. Storms are also not infrequent in the short dry season from June to August or September. Up to 60% of the reserve is flooded during the rains. Annual rainfall is between 2500 and 3800 mm and mean temperatures vary from 23°C to 28°C.

VEGETATION The area of dense humid equatorial rainforest occupies around 70% of the Reserve: the remaining 30% consists of savanna with medium high grass and low shrubs.

NOTEWORTHY FAUNA Similar to that of Odzala National Park, the mammals including various primates, lion and leopard Panthera leo and Panthera pardus (the latter classified as 'vulnerable' in the Red Data Book), elephant Loxodonta africana, bushpig Potamochoerus porcus, forest hog Hylochoerus meinertzhageni, bongo Taurotragus eurycerus, bushbuck Tragelaphus scriptus and various duikers.

ZONING None

DISTURBANCES OR DEFICIENCIES Fish and game poaching occurs, especially on rivers such as the Mambili in the north-east of the Reserve near the main road south from Ouesso. The cultivation which still takes place in clearings and traditional hunting within a 5 km peripheral zone will eventually be abolished.

TOURISM The Reserve is not yet open to the public but a short length of track already exists branching off the main M'boko District road immediately to the south of the Reserve, and giving access to the saltpan area along the Lekoli (Likouala) River.

SCIENTIFIC RESEARCH None

SPECIAL SCIENTIFIC FACILITIES None

PRINCIPAL REFERENCE MATERIAL None

WDNP IUCN © 1977 (1)F Code: CON.3.2
STAFF  Same as for the Odzala National Park (Code 2.2)

BUDGET  See under M’bomo Game Reserve (Code 3.1).

LOCAL PARK ADMINISTRATION  Chef de Service des Chasses et de la Conservation de la Nature, B.P. 2153, Brazzaville
CONGO

NAME Mont Mavoumbou Game Reserve

TYPE MR

BIOTIC PROVINCE 4.7.1

LEGAL PROTECTION Controlled hunting under permit, but existing customary rights recognized.

DATE ESTABLISHED 8 February 1958 by Decree No. 535/CH

GEOGRAPHICAL LOCATION In the Niari Region in the extreme west, north of the point where the main road to Libreville runs along the border with Gabon: S 2°40' - 3°10'; E 11°40' - 12°

ALTITUDE 200-400 metres approximately

AREA 42,000 ha

LAND TENURE State ownership

PHYSICAL FEATURES Situated in the same general area as the Fouari and Nyanga Nord Reserves (code 4.1 and 4.2), the most outstanding feature of this Reserve is Mount Mavoumbou, which bounds it on the south astride the frontier with Gabon. Some water courses flow down from the mountain across the Reserve but they are all of small size. Soils are generally lateritic and red. The humid equatorial climate comprises a dry season from June to September (sometimes lasting to mid-October) and a wet season from October to May. Annual precipitation is between 2500 and 3000 mm and the mean temperature varies from 22°C to 28°C.

VEGETATION 95% of the area consists of tall and medium grass savanna and the remaining 5% of isolated patches of forest. The savanna is more or less wooded and is broadly similar to that of the Mont Fouari Reserve (4.1).

NOTEWORTHY FAUNA Mammals include sitatunga Tragelaphus spekei, dwarf buffalo Syncerus caffer nanus, defassa waterbuck Kobus defassa and reedbuck Redunca arundinum but other species found in the Mont Fouari Reserve also occur.

ZONING None

DISTURBANCES OR DEFICIENCIES Poaching; the inhabitants of villages located within the Reserve do not distinguish between traditional hunting rights and commercial hunting.

TOURISM None

SCIENTIFIC RESEARCH None

SPECIAL SCIENTIFIC FACILITIES None

PRINCIPAL REFERENCE MATERIAL None listed

STAFF Shared with the Mont Fouari Reserve (4 game guards and 2 game auxiliaries)

BUDGET Allocation from the national budget for parks and reserves (see Code 3.1)

LOCAL PARK ADMINISTRATION Chef de Service des Chasses et de la Conservation de la Nature, B.P. 2153, Brazzaville

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CONGO

NAME Kilometre 77 (la Tsoulou) Partial Fauna Reserve

TYPE MR BIOTIC

PROVINCE 4.6.3

LEGAL PROTECTION The fauna is totally protected

DATE ESTABLISHED 7 January 1963, by Decree

GEOGRAPHICAL LOCATION On the right bank of the Niari River, east of the road from Loubomo (formerly Dolisie) to Gabon: S 3°15'-3°55'; E 12°15'-12°45'

ALTITUDE 50-100 metres approximately

AREA 30,000 ha

LAND TENURE State ownership

PHYSICAL FEATURES A series of calcareous hills forming a hummocky group over a 3 km area in the south-west of the country. The northern boundary is formed by the Niari River, the other major watercourse in the Reserve being its tributary the Tsoulou (or Blue) River. The soils of the Reserve are largely lateritic. The humid equatorial climate is characterized by a long rainy season from October to May (broken by a short dry period from January to March) and a dry season from June to September, with 2500 to 3000 mm annual rainfall and mean temperatures of 22°C to 28°C.

VEGETATION 98% of the Reserve lies within the woodland savanna zone, the trees being Hymenocardia assida, Hannonia sp., Nauclea sp. and others as yet unidentified. Secondary forest occurs along the Niari and Tsoulou rivers, the latter having stands of Pandanus round the sluggish pools near its source.

NOTEWORTHY FAUNA Mammals include the hippo Hippopotamus amphibius, bushbuck Tragelaphus scriptus, sitatunga T. spekei, dwarf forest buffalo Syncerus caffer nanus and waterbuck Kobus defassa.

ZONING None

DISTURBANCES OR DEFICIENCIES Poaching is a scourge of the area and the Service des Chasses is apparently not given the authority to prevent it.

TOURISM None

SCIENTIFIC RESEARCH None

SPECIAL SCIENTIFIC FACILITIES None

PRINCIPAL REFERENCE MATERIAL None listed

STAFF 5 game guards (one trained at the Garoua Wildlife Management college in Cameroun).

BUDGET Allocation to cover staff salaries made from the relevant head of the national budget (see Code 3.1)

LOCAL PARK ADMINISTRATION Chef de la Service des Chasses et de la Conservation de la Nature, B.P. 2153, Brazzaville.

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