BUDGET Covered by that of the Taï National Park (q.v.)

LOCAL PARK ADMINISTRATION Chef de l'Inspection des Parcs Nationaux, Soubre.
### Mont Peko National Park

**Type** | NP
---|---
**Biotic Province** | 4.5.1/4.7.2

**Legal Protection**
Protected against all types of disturbance and exploitation.

**Date Established**
9 February 1968, under Decree No. 68-79

**Geographical Location**
West-central region, about 120 km south-east of Man and not far to the west of the Sassandra river, in the Sous-préfectures of Dukoudou and Bangolo: N 6°53'-7°08'; W 7°11'-7°21'.

**Altitude**
About 400 to 1115 metres (summit of Mt. Kahoud)

**Area**
34,000 ha

**Land Tenure**
State ownership

**Physical Features**
A mountainous area in which many summits reach or exceed 1000 m in height. Drained by tributaries of the Sassandra river which flows to the east of and about 12 km from the reserve boundary. Characteristically Guinean type of climate, with a mean annual rainfall of 1700 mm falling almost entirely between May and October. The N'Zo Partial Fauna Reserve (IVO.3.2) and the Ta'i National Park (IVO.2.1) are situated at no great distance to the south, and the three areas together ensure the protection of a very representative sample of the regional fauna and flora.

**Vegetation**
About 80 per cent of the Park is covered by dense deciduous forest, composed of such species as white and large-leaved mahoganies Khaya anthotheca and K. grandifoliola, Entandrophragma sp., Triplochiton scleroxylon, Terminalia superba, iroko Chlorophora excelsa, the wild cacao Heritiera utilis and the wild rubber Funtumia sp., African oak Lophira lanceolata and the monotypic Piptadeniastrum africanum. The remaining 20 per cent is savanna woodland of a Guinean type or resulting from degradation of the forest, with species such as Terminalia spp., Combretum spp., Pterocarpus erinaceus, Isoberlinia spp., Afzelia africana, Burkea africana, Daniellia oliveri andlapa somon.

**Noteworthy Fauna**
Among the mammals, which include two species classified as vulnerable in the Red Data Book (the chimpanzee and leopard) are anubis baboon Papio douleri, chimpanzee Pan troglodytes, giant pangolin Manis gigantea, long-tailed tree pangolin M. longicaudata, leopard Panthera pardus, elephant Loxodonta africana, tree hyrax Dendrohyrax arboreus, warthog Phacochoerus aethiopicus, hippo Hippopotamus amphibius, water chevrotain Hyemoschus aquaticus, buffalo Syncerus caffer, Maxwell’s duiker Cephalophus maxwelli and red-flanked duiker C. rufilatus. All are rather common or abundant except for giant pangolin and water chevrotain, both of which are quite rare.

**Zoning**
None

**Disturbances and Deficiencies**
The Park is fairly well protected against poaching but nevertheless still subjected to pressure by neighbouring villages practising shifting cultivation. Mining and industry are likely to change the nature of the demographic pressure in the future, and have an increasing impact.

**Tourism**
At present non-existent. Nearest hotel facilities available are at Man (60 rooms), and the Park is some distance from the highway between Man and Daloa.

WDNP IUCN © 1977 (1)F
Code: IVO.3.3
SCIENTIFIC RESEARCH  None

SPECIAL SCIENTIFIC FACILITIES  None

PRINCIPAL REFERENCE MATERIAL  None listed

STAFF  Chief Inspector stationed at Duékoué, together with 16 Guards and a labour force of 4: total 21.

BUDGET  Expenditure in 1975 on personnel totalled CFA Francs 8.5 million, on maintenance operations and running of the Park CFA Francs 3.2 million, and on capital investment and equipment CFA Francs 12 million, the latter figure also covering 1974.

LOCAL PARK ADMINISTRATION  Chef d'Inspection, Mont Peko National Park, Duékoué.
NAME Asagny Fauna Reserve

TYPE MR BIOTIC PROVINCE 4.7.2

LEGAL PROTECTION Partial fauna reserve; the riverside residents have retained customary rights to food-gathering, fishing, subsistence farming and raising livestock, along with hunting of smaller game.

DATE ESTABLISHED 25 June, 1960, under Order No. 536 6 6666 536

GEOGRAPHICAL LOCATION Between the Bandama river, near its mouth, on the west and the Ebrie lagoon on the east, 75 km west of Abidjan: N 5°09'-5°16'; W 4°48'-4°58'.

ALTITUDE No relief; practically at sea level.

AREA 17,000 ha

LAND TENURE State ownership

PHYSICAL FEATURES The Reserve is surrounded by water on three sides: the Bandama on the west, the Ebrie lagoon on the east and the Asagny canal, which links them, to the south. Essentially it is a waterlogged basin bounded by slightly higher land to the north and west. Climatically it falls within the sub-equatorial regime in which there is no marked dry season and very high rainfall, here estimated to average 2300 mm a year.

VEGETATION Includes mangroves, largely Rhizophora racemosa and Avicennia nitida, swamp formations of various kinds, which occupy around two-thirds of the area of the Reserve, groundwater forest and coastal savanna. Many palms are present including the wild date Phoenix reclinata, borassus Borassus flabellifer var... aethiopum and Raphia. The savannas are dominated by lalang grass Imperata cylindrica.

NOTEWORTHY FAUNA Many species of monkey occur. Other larger mammals include West African manatees Trichechus senegalensis, a species classified as 'vulnerable' in the Red Data Book, elephant Loxodonta africana, which are specially characteristic of the Reserve, bushpig Potamochoerus porcus, bongo Taurotragus eurycerus and dwarf forest buffalo Syncerus caffer nanus, which are abundant. Crocodiles still occur, but of what species is uncertain.

ZONING None

DISTURBANCES AND DEFICIENCIES The high density of the human population in the neighbourhood of the Reserve leads to strong pressure for development of plantations within the protected area. Fortunately, what is at least a temporary solution of the problem, is offered by the fact that a neighbouring area suitable for crops has recently been made available.

TOURISM Access is difficult, though it can be achieved by light aircraft from Abidjan, or boat across the lagoon from the Dabou-Grand north of the Reserve... Within the Reserve itself there are no motorable tracks. The nearest accommodation is at Grand Lahou, across the Bamenda R., where there is a camp.

SCIENTIFIC RESEARCH Biological and management studies undertaken at the instance of the National Parks Secretariat.
SPECIAL SCIENTIFIC FACILITIES

None

PRINCIPAL REFERENCE MATERIAL

RAHM, U. and BIENEK, B.  Etude des Parcs Nationaux de Côte d'Ivoire.
ZIRIMBA, S.  Etude du projet d'aménagement de la Reserve d'Asagny.

STAFF

The Chef de Cantonnement at Grand Lahou and an assistant Monitor, 8 guards or supervisors and one handyman: total 11

BUDGET

The expenditure on staff in 1975 amounted to CFA Francs 4.2 million, on maintenance and running of the Reserve CFA Francs 1.5 million, and, over the two-year period 1974-75, investment in capital works totalled CFA Francs 7.5 million.

LOCAL PARK ADMINISTRATION

Moniteur des PVA, Chef de Cantonnement, Grand-Lahou.
NAME Mont Nimba Strict Nature Reserve

TYPE NR

LEGAL PROTECTION Totally protected

DATE ESTABLISHED 13 December 1943, under Order No. 4190

GEOGRAPHICAL LOCATION Bordering Liberia and the Guinea Republic, near the central point of the western frontier: approx. N 7°35'; W 8°15'

ALTITUDE 500-1752 metres

AREA 5000 ha

LAND TENURE State ownership

PHYSICAL FEATURES The mountain massif of Nimba, with its rounded summits but very eroded flanks cut by deep valleys, runs from the south-west to the north-east for a distance of about 30 km, rising from a plinth and divided between three countries. The Guinea sector, which also receives some measure of protection, is the largest (13,000 ha). The eastern Ivory Coast sector is strongly lateral. The rectangular summit ridge is about 15 km in length.

VEGETATION Dense tropical forest at lower altitudes, extending as gallery forest up valleys to between 1000 m and 1600 m. Grassland, mainly of Loudetia kagarensis, well developed on lighter soils of the summit area but rather poor on lateritic soils, where it takes the form of a stunted prairie. The flora is very rich on the mountain as a whole, but is best known in the Guinea sector. However, the heath Blaeria mannii, which is found on the scarp of the summit ridge, no doubt occurs in the Ivory Coast sector, whilst remnants of forest at high altitudes are likely to be dominated by Myrtaceae species and the ravines by the tree fern Cyathea mannii.

NOTEWORTHY FAUNA Mammals include the potto Perodicticus potto, lesser bushbaby Galago senegalensis, chimpanzee Pan troglodytes, otter Lutra lutra, African civet Viverra civetta, golden cat Felis aurata, leopard Panthera pardus, wart hog Phacochoerus aethiopicus, bushbuck Tragelaphus scriptus, buffalo Syncerus caffer and the bay, black and Maxwell's forest dulkers Cephalophus dorsalis, E. niger and C. maxwelli. An amphibian of very special interest is the Mount Nimba viviparous toad Nectophrymoidea occuralis, which occurs in montane grasslands at 1200-1600 m. With the chimpanzee and leopard it is one of the species found in the Reserve classified as 'vulnerable' in the Red Data Book. The bird life of Nimba is of great interest and includes a number of rare and endemic species.

ZONING None

DISTURBANCES AND DEFICIENCIES Some poaching occurs and cultivation of various crops tends to intrude into the Reserve. The Liberian sector, which is unprotected, is exploited by an international iron mining consortium and its extensive operations have carved into the mountain to an altitude of over 600 m, which in the long term is likely to have a drastic effect on the whole ecosystem.

TOURISM No facilities available

WDNP IUCN © 1977 (1)F Code: IVO.5.1
SCIENTIFIC RESEARCH  Studies of the botany, zoology and geology of the massif have been undertaken under the auspices of the Institut Fondamental d'Afrique Noir (IFAN) in Dakar.

SPECIAL SCIENTIFIC FACILITIES  A scientific station formerly established in the Guinea sector is no longer operational.

PRINCIPAL REFERENCE MATERIAL  Not listed, but numerous papers have been published by IFAN and in other scientific journals.

STAFF  2 supervisory handymen.

BUDGET  An allocation of CFA Francs 400,000 for personnel and maintenance.

LOCAL PARK ADMINISTRATION  Chef d'Inspection des Chasses, Man.
NAME Banco National Park

TYPE NP  BIOTIC PROVINCE 4.7.2

LEGAL PROTECTION Totally protected against all forms of exploitation or disturbance.

DATE ESTABLISHED 6 July 1926, under Order No. 1.027

GEOGRAPHICAL LOCATION North bank of the Ebrié lagoon round the mouth of the small Banco river, about 10 km to the west of Abidjan: approx. N 5°19'; W 4°02'.

ALTITUDE Sea level to 110 metres

AREA 3000 ha

LAND TENURE State property

PHYSICAL FEATURES An area of dense rain forest, with an arboretum and a few plantations, especially of teak, established in cleared areas.

VEGETATION Over 200 forest species have been identified within the Park. The trees include mahogany Khaya spp., avodiré Turraeanthus africanus, niangon Heritiera (or Tarrietia) utilis and amóbé or African oak Lophira alata.

NOTEWORTHY FAUNA This is not abundant but includes white-nosed monkey Cercopithecus nictitans, chimpanzee Pan troglodytes (V), black-and-white colobus Colobus polykomos, African civet Viverra civetta, genet Genetta genetta, bushbuck Tragelaphus scriptus and Maxwell's duiker Cephalophus maxwelli.

ZONING None, except for the recreation zone mentioned under Tourism.

DISTURBANCES AND DEFICIENCIES The integrity of the Park has been maintained until the present, but may now be threatened by extensions of the Abidjan road system.

TOURISM About 60 km of signposted tracks provide three main circuits for visitors to the Park. A small section has been developed for recreational purposes with seats and shelters, and simple swimming facilities are available on the Banco river. The arboretum trees and plants are labelled. The general aim of the Park is to serve as a leisure centre for the inhabitants of Abidjan.

SCIENTIFIC RESEARCH The Forest School is located in the Park, which is used as a study area for the students.

SPECIAL SCIENTIFIC FACILITIES The arboretum constitutes the main scientific facility.

PRINCIPAL REFERENCE MATERIAL Not listed

STAFF One Monitor is appointed by the FVA/Productions and is assisted by 20 full-time wardens and handymen.
BUDGET  Annual expenditure on staff and maintenance of facilities is about CFA Francs 3 million (approximately U.S. $12,000).

LOCAL PARK ADMINISTRATION  Chef d’Inspection, Abidjan.
JAPAN

AREA 369,882 sq. km

POPULATION 105,960,000 (1971 estimate)

PARK LEGISLATION The National Park Commission was established in 1930 in the Ministry of the Interior, resulting in the enactment of the 'National Park Law' (No. 36 of 1931) and designation of the first National Park in 1934. After 1945, it was realised that it would be necessary to safeguard for recreational purposes those areas marginally below international standards. Since 1950, these have been designated as Quasi-National Parks through the 'National Park Law'. On 1 June 1957, the 'National Park Law' was rewritten as a new 'Natural Parks Law' (No. 161 of 1957), providing for improvements in terms of a unified system of National Parks, Quasi-National Parks and Prefectural Natural Parks. National Parks are designated by the Director General of the Environmental Agency with advice from the Council on Nature Conservation. Quasi-National Parks are designated by the Director General of the Environmental Agency on the recommendation of the Prefecture again with advice from the Council on Nature Conservation.

PARK ADMINISTRATION National Parks are administered by the Environmental Agency (under the powers of the Director General) and delegated to the Governor of the Prefecture as provided for by Cabinet Order. Quasi-National Parks are administered by Prefectural Governments in accordance with the provisions of the Natural Parks Law. A particular feature of parks management is the designation of Special Protection Areas (SPA) in the Quasi-National Parks.

ADDRESS National Parks: Nature Conservation Bureau, Environmental Agency, 3-1-1 Kasumigaseki, Chiyoda-ku, Tokyo, Japan.
Quasi-National Parks: as above and the Prefectural Government Office concerned.

TOTAL AREA UNDER PROTECTION 1,117,730.2 ha

PROTECTED AREAS
2.1 Daisetuzan National Park 231,929 ha
2.2 Bandai-Asahi National Park 189,699
2.3 Joshinetsu Kogen National Park 188,915
2.4 Chubu Sangaku National Park 169,768
2.5 Nikko National Park 140,698
2.6 Fuji-Hakone-Izu National Park 122,309
2.7 Chichibu-Tama National Park 121,600
3.1 Shikotsu-Toya National Park 98,660
3.2 Akan National Park 87,498
3.3 Echigosanzan-Tadami Quasi-National Park (+SPA) 86,129
3.4 Towada-Hachimantai National Park 83,351
3.5 Kurikoma Quasi-National Park (+SPA) 77,137
3.6 Aso National Park 73,060
3.7 Seto Naikai National Park 63,118
3.8 Yoshino-Kumano National Park (+MPA) 56,023
3.9 Kirishima-Yaku National Park 55,231
3.10 Ise-Shima National Park 52,036
3.11 Hakusan National Park 47,402
3.12 Shiretoko National Park 41,375
3.13 Zao Quasi-National Park (+SPA) 40,089 ha
3.14 Yatsugatake-Chushin Kogen Quasi-National Park (+SPA) 39,857
3.15 Minamiarupusu National Park 35,799
3.16 Daisen-Oki National Park (+MPA) 31,927
3.17 Suzuki Quasi-National Park (+SPA) 29,893
3.18 Sado-Yahiko Quasi-National Park (+MPA) 27,305
3.19 Tanzawa-Oyama Quasi-National Park (+SPA) 26,345
3.20 Unzen-Amakusa National Park 25,665
3.21 Saikai National Park (+MPA) 24,324
3.22 Wakasawan Quasi-National Park (+MPA) 21,898
4.1 Niseko-Shakotan-Otaru-Kaigan Quasi-National Park (+MPA) 19,338
4.2 Shimokita Hanto Quasi-National Park (+SPA) 18,704
4.3 Rishiri-Rebun Quasi-National Park (+SPA) 16,703
4.4 Irismote National Park 12,506
4.5 Rikushu Kaigan National Park (+MPA) 12,348
4.6 Genkai Quasi-National Park (+MPA) 11,138
4.7 Ashizuri-Uwaki National Park (+MPA) 10,907
4.8 Noto Hanto Quasi-National Park (+MPA) 9,790
4.9 Sanin Kaigan National Park 8,996
4.10 Nippo Kaigan Quasi-National Park (+MPA) 8,506
4.11 Amami Gunto Quasi-National Park (+MPA) 7,861
4.12 Muroto-Anan Kaigan Quasi-National Park (+MPA) 7,216
4.13 Okinawa Kaigan Quasi-National Park (+MPA) 6,701
4.14 Ogasawara National Park (+MPA) 6,434
4.15 Minamiboso Quasi-National Park (+MPA) 5,670
5.1 Nichinan Kaigan Quasi-National Park (+MPA) 4,643

(A further 30 unlisted Quasi-National Parks total 652,808 ha)

NOTE: A number of Quasi-National Parks have either over 1000 ha of Special Protected Area (SPA) or include Marine Park Area (MPA). This is indicated by the addition of (+SPA) or (+MPA) respectively after the park name.

NOTE: Numbers appearing in parentheses in the section on Vegetation are IUCN numbers taken from A Working System for Classification of World Vegetation, IUCN Occasional Paper No. 5.
NAME: Daisetsuzan National Park

TYPE: NP

BIOTIC PROVINCE: 2.2.5

LEGAL PROTECTION: Places of scenic beauty protected as National Park with development within park controlled by Art. 17, 18 and 20 of Natural Parks Law.

DATE ESTABLISHED: 4 December 1934 (designated by the Natural Park Law)

GEOGRAPHICAL LOCATION: Central part of Hokkaido: N 43°13'-43°48'; E 142°19'-142°38'

ALTITUDE: 300-2290 metres

AREA: 231,929 ha (inclusive of 5 SPA, totalling 35,193 ha)

LAND TENURE: 224,794 ha State land, 7135 ha Public land

PHYSICAL FEATURES: Largest of Japanese National Parks, the area is called the 'roof of Hokkaido' and consists of the Ishikari volcanic mountain range with peaks including Mt. Tomuraushi, Mt. Asahi and Mt. Tokachi. The rivers have many picturesque gorges in their upper reaches with Sounkyo and Tenninky gorges being the most representative and with good exposures of rhyolites showing structural features. Many hot springs occur in the piedmont zones. Temperatures vary from 20.4°C in August to -8.6°C in January; 1.277 mm annual precipitation.

VEGETATION: Extensive coniferous forest with yezo spruce Picea jezoensis, red yezo spruce P. glehnii, white fir Abies mayriana and dwarf pine Pinus pumila (2.1.2.2, 3.1.2). Also deciduous forest with yezo water oak Quercus crispula var. sachalinensis, white birch Betula tauschii, B. ermanii var. communis, elm Ulmus laciniata, maple Acer sp., Sorbaria sp., and alder Alnus maximowiczii (1.2.5.1, 2.2.5). The montane area is rich in alpines including dwarf shrub heath with Empetrum nigrum var. japonicum, Rhododendron aureum (4.1.1), Genista nipponica, Prula cuneifolia, Phyllodoce caerulea and Therorhodion camschaticum.

NOTEWORTHY FAUNA: Mammals include the rare northern pika Ochotona hyperborea yessoensis, the Ezo chipmunk Tamias sibiricus lineatus, brown bear Ursus arctos yessoensis and the rare Ezo sable Martes zibellina brachyura. Birds include the great black woodpecker Dryocopus martius, the Ezo three-toed woodpecker Picoides tridactylus inouei, mountain-finch Leucosticte arctoa brunneonucha, grey bunting Emberiza variabilis, rubythroat Luscinia c. calliope and Kurile pine grosbeak Pinicola enucleator urupensis.

ZONING: 84.3% (195,416.6 ha) multiple use area; 15.7% (36,512.4 ha) wilderness area

DISTURBANCES OR DEFICIENCIES: Several hydroelectric barrages and installations have been built in the park

TOURISM: 4.08 million visitors in 1972: facilities include hotels, inns, huts, campgrounds, picnic areas, mountain and nature trails, a 'forest' museum, skiing areas and access roads.

SCIENTIFIC RESEARCH: Studies of vegetation by the Environmental Agency (1973)
SPECIAL SCIENTIFIC FACILITIES None

PRINCIPAL REFERENCE MATERIAL Many scientific reports have been published on the geology, flora and fauna

STAFF 2 rangers (Environmental Agency) and 21 seasonal patrolmen (Hokkaido Prefectural Government)

BUDGET Support from the annual allocation by the Environmental Agency to National Parks of US$ 700,000; US$ 10,800 per annum from Hokkaido Prefectural Government.

NAME  Chubu Sangaku National Park

BIOTIC PROVINCE  2.3.1/2.3.2

LEGAL PROTECTION  Places of scenic beauty protected as a National Park; development controlled by Art. 17, 18 and 20 of Natural Parks Law.

DATE ESTABLISHED  4 December 1934, designated under Natural Parks Law

GEOGRAPHICAL LOCATION  North central Honshu, Gifu, Nagano and Toyama Prefectures. N 36°03'-37°54'; E 137°26'-137°52'

ALTITUDE  400-3190 metres

AREA  169,768 ha (63,522 ha SPA)

LAND TENURE  147,888 ha State land, 12,870 ha Public land; 9010 ha still in private ownership

PHYSICAL FEATURES  The tectonic mountain area of the 'Japan Alps', comprising over 100 peaks including both active and extinct volcanoes and lava plateaux. Effects of glacial erosion very apparent, snow-filled valleys, spectacular cliffs and such features as the 90 km Kurobe gorge with its series of waterfalls and rapids surrounded by peaks of 2500-3000 m. The Kamikochi valley is especially noted for scenic beauty. Hot springs are plentiful in the foothills. Temperatures from 17.6°C (August) to -7.5°C (January); average precipitation 2703 mm annually.

VEGETATION  Primeval forests of conifers clothe the mountain sides: mainly firs Abies homolepis, A. mariesii and A. veitchii, spruce Picea jezoensis var. hondoensis, Japanese cedar Cryptomeria japonica, hemlock Tsuga diversifolia, Thuja standishii and pines Pinus parviflora and P. pumila (1.1.9.2, 1.1.9.3), also some larch Larix kaempferi (1.2.6). Deciduous forests include water oak Quercus crispula, birch Betula tauschii and F. ermanii var. communis, beech Fagus crenata and Japanese judas or katsura Cercidiphyllum japonicum (1.2.5.1, 2.2.5). The willow-like Chosenija arbustifolia (bracteosa) is also characteristic; alpines include Dryas octotala var. asiatica, Trollius japonicus, Orchis aristata var. immaculata, Platanthera makinoe, Gentiana alpina, Veratrum stamineum and Empetrum nigrum var. asiatica (4.1.1). Raised bogs are present (4.3.1.1).

NOTEWORTHY FAUNA  Characteristic species of mammal include Japanese macaque Macaca f. fuscata, Asiatic black bear Selenarctos thibetanus japonicus and the rare Japanese serow Capricornis crispus crispus. Birds include a few golden eagles Aquila chrysaetos japonica, Hodgson’s hawk eagle Spizaetus nipalensis orientalis and ptarmigan Lagopus mutus japonicus; other characteristic species are nutcracker Nucifraga caryocatactes japonicus, the accentors Prunella collaris erythopygia and P. r. rubida, and white-throated needle-tailed swift Chaetura caudacuta caudacuta.

ZONING  Two zones proposed: 52.6% (103,216.4 ha) multiple use; 37.4% (63,551.6 ha) wilderness

DISTURBANCES OR DEFICIENCIES  Several man-made lakes with hydroelectric barrages and installations. Summer overuse of cars in the Kamikochi area.
TOURISM  
7.56 million visitors in 1972. Facilities include hotels, inns, huts, campgrounds, picnic areas, nature and mountain trails, access and mountain roads, cable car and aerial tramway, visitor centre and the national Vacation Village in the Norikura area.

SCIENTIFIC RESEARCH  
Study on the carrying capacity of the Park undertaken by Professor Masami Eyama, Tokyo Agricultural University. Studies of vegetation by Environmental Agency (1973).

SPECIAL SCIENTIFIC FACILITIES  
None

PRINCIPAL REFERENCE MATERIAL


STAFF  
8 full-time (superintendent and 5 rangers from the Environmental Agency, plus 2 Toyama Prefectural officers); 39 seasonally (3 patrolmen, Niigata and Gifu Prefectures; 32 volunteer naturalists, Toyama Prefecture; 4 naturalists, National Park Association).

BUDGET  
Share of the Environmental Agency's annual subvention to National Parks (total US$ 700,000); US$ 68,500 annually from Niigata, Toyama, Gifu and Nagano Prefectures; US$ 2000 from National Parks Association.

LOCAL PARK ADMINISTRATION  
Chubu Sangaku National Park Headquarter Office, Environmental Agency, Shimashima, Azumi Village, Nagano Prefecture, Japan. Ranger offices at Hirayu, Kamita Kara Village, and Tateyama Town; Ranger station at Azumi Village.
NAME  Nikko National Park

TYPE  NP

BIOTIC PROVINCE  2.3.2

LEGAL PROTECTION  Places of scenic beauty protected as National Park; development controlled within Park (Art. 17, 18 and 20, Natural Parks Law).

DATE ESTABLISHED  4 December 1934 (designated by the Natural Parks Law)

GEOGRAPHICAL LOCATION  Central Honshu, north of Tokyo: N 36°39'-37°13'; E 139°09'-140°05'

ALTITUDE  300-2578 metres

AREA  140,698 ha; 14 SPAs total 9805 ha

LAND TENURE  74,824.2 ha State land, 11,377.2 ha Public land, 54,496.7 ha Private land

PHYSICAL FEATURES  An area of volcanic mountains, the most important being Mt. Okushirane (2578 m), Mt. Nantai with the crater of an extinct volcano, Mt. Nasu and Mt. Hiuchi. Picturesque landscape of plateaux, rivers, waterfalls, lakes and dense forest. Oze area has the highest moorland in Japan notable for blooms of 'mizu-basho' Lysichiton camtschacense var. japonicum and other moorland plants. Many hot springs. Toshogu shrine and Rinnoji Temple are famous structures of great beauty. Temperatures range from 19.0°C (August) to -4°C (February); average annual precipitation 2254 mm.

VEGETATION  Coniferous forests of fir Abies homolepis and A. mariesii, spruce Picea jezoensis var. hondoensis, hemlock Tsuga diversifolia, pines Pinus densiflora and P. pumila, very old Japanese cedars Cryptomeria japonica (1.1.9.1, 1.1.9.3) and larch Larix kaempferi (1.2.6). Deciduous forests of birch Betula tauschii and B. ermanii, beech Fagus crenata, water oak Quercus crispula, elm Ulmus davidiana and azalea Rhododendron japonicum (1.2.5.1). Alpines include Arnica umalashcensis var. tschonoskyi, Potentilla matsumurae, the avens Sieversia pentapetala var. dryadoides, wintergreen Pyrola asarifolia var. purpurea and Orchis aristata var. immaculata. The raised bog flora includes Andromeda polifolia, Gentiana thunbergii var. minor, day lily Hemerocallis middendorfii var. esculenta, Iris setosa, Drosera anglica, the thistle Cirsium homolepis and arrow grass Scheuchzeria palustris.

NOTEWORTHY FAUNA  Japanese macaque Macaca fuscata, Asiatic black bear Selenarctos thibetanus japonicus and Honshu sika Cervus nippon centralis are the typical mammals, the Japanese serow Capricornis crispus crispus rather rare. Characteristic birds: green pheasant Phasianus versicolor, Honshu copper pheasant Symaticus scissin pubescens, the finch Leucosticte arroca brunneonucha, blue flycatcher Muscicapa c. cyanomelana and Japanese robin Erithacus a. akahige.

ZONING  Two zones are proposed: 93% (130,898.5 ha) multiple use area and 7% (9799.6 ha) wilderness area

DISTURBANCES OR DEFICIENCIES  Several man-made lakes and hydroelectric barrages in the park. Excessive visitor pressure in summer.
TOURISM  Over 19 million visitors in 1972. Facilities include hotels, inns, mountain huts (at Oze), campgrounds, picnic areas, mountain and nature trails, skiing area, access roads, museum, visitor centre and the National Vacation Village (Nasu area).

SCIENTIFIC RESEARCH  Investigations of vegetation by Environmental Agency (1973)

SPECIAL SCIENTIFIC FACILITIES  None


STAFF  10 full-time (superintendent and 6 rangers from Environmental Agency, 3 prefectural officers from Tochigi prefecture); 11 seasonal (7 patrolmen from Fukushima and Niigata prefectures, 4 naturalists from National Parks Association).

BUDGET  Support from annual allocation by Environmental Agency to National Parks (total US$ 700,000); US$ 48,000 per annum from Fukushima, Tochigi, Gumma and Niigata prefectures; US$ 2000 from National Parks Association of Japan.

NAME    Fuji-Hakone-Izu National Park

TYPE    NP

BIOTIC PROVINCE  2.3.2

LEGAL PROTECTION  Protection of places of scenic beauty as a National Park; development controlled within the Park. (Art. 17, 18 and 20 Natural Parks Act.)

DATE ESTABLISHED  1 February 1936, designated by the Natural Parks Act

GEOGRAPHICAL LOCATION  South central Honshu, west of Yokohama. Fuji area: N 35°14'-35°34'; E 138°32'-138°56'; Hakone area: N 35°10'-35°17'; E 138°57'-139°08'; Izu area: N 34°36'-35°10'; E 138°45'-139°09'; Izu Seven Island area: N 33°03'-34°48'; E 139°05'-139°51'.

ALTITUDE  Sea level to 3776 metres

AREA    122,309 ha (7951 ha SPA)

LAND TENURE  21,958.7 ha State land, 52,703.1 ha Public land; 47,647.2 ha in private ownership

PHYSICAL FEATURES  Mount Fuji, the highest peak in Japan, a solitary cone-shaped volcano, is important in the religious, social and artistic life of Japan and one of the most celebrated mountains in the world. Hakone area comprises a large composite volcano with a central cone and a caldera lake. The Izu peninsula area includes the Amagi Mountains in the centre and the sea coast with caves and cliffs. Many hot springs are present in Hakone and Izu. The chain of seven islands off Izu, the Izu Shichii to, extending 185 km southwards, are volcanic and have a sub-tropical climate. Annual temperatures vary from 22.9°C (Fuji-Hakone) and 27°C (Izu, Hachijo Islands) in August to 0.5°C (Fuji-Hakone) and 10.5°C (Izu, Hachijo Islands) in January. Annual precipitation is from 3231-3303 mm, the Izu Islands being the wetter area.

VEGETATION  Mount Fuji has virgin forests on its lower slopes, dominated by Japanese cedar Cryptomeria japonica, Japanese cypress Chamaecyparis obtusa, red pine Pinus densiflora, first Abies homolepis and A. veitchii, hemlock Tsuga diversifolia, spruce Picea polita and P. jezoensis var. hondoensis (1.1.9.2, 1.1.9.3) and some larch Larix kaempferi (1.2.6). Deciduous forests include Zelkova serrata, wild cherry Prunus serrulata var. spontanea, Gynoxylon japonica and azaleas Rhododendron japonicum and R. fauriae (1.2.5.1, 3.2.3.1). Izu peninsula has a similar flora with the addition of Podocarpus macrophyllus, Sawara cypress Chamaecyparis pisifera, black pine Pinus thunbergii, camphor tree Cinnamomum camphora and bamboo Phyllostachys reticulata. The Izu Seven Island area has P. thunbergii, Quercus glauca, paasnia Castanopsis cuspidata var. sieboldii, Prunus lannesiana var. speciosa, Ilex crenata var. typica and Camellia japonica var. spontanea. Other typical species are Picea polita, boxwood Buxus microphylla var. japonica and the unique Ericaceous Tamusiphylum tanakae.

NOTEWORTHY FAUNA  Mammals: Japanese macaque Macaca f. fuscata, various bats Chiroptera, Japanese dormouse Glirulus japonicus, wild pig Sus scrofa leucomystax and Honshu sika Cervus nippon centralis. Birds: buzzard eagle Butastur indicus, Japanese sparrowhawk Accipiter gularis, Latham’s snipe Gallinago hardwickii, Japanese auk or murrelet Synthliboramphus wumizusume, (for which the Izu Islands are the chief remaining breeding-place), Columba janthina, the Japanese woodpigeon a scarce species with a very limited range, the Pygmy woodpecker Dendrocopos.
Kizuki matsudairai, paradise flycatcher Terpsiphone atrocaudata and Seven Islands thrush Turdus celaenops.

ZONING Two zones proposed: 95.7% (117,042.7 ha) multiple use; 4.3% (5266.3 ha) wilderness area; but the proposal is likely to be revised shortly.

DISTURBANCES OR DEFICIENCIES The dense population of the region and extreme pressure from tourists present many problems.

TOURISM 20.55 million visitors in 1972, the highest level of visitation of any park in the world. Facilities include hotels, inns, camp and picnic grounds, mountain and nature trails, visitor centres, natural history museum and botanic garden, sightseeing boats, aquarium, golf course and ice rink. Izu Seven Islands can be reached by sea or air from Tokyo.


SPECIAL SCIENTIFIC FACILITIES None.

PRINCIPAL REFERENCE MATERIAL

STAFF 33 full-time (superintendent and 7 rangers, Environmental Agency; 18 Prefectural officers, Tokyo and Kanagawa Prefectural Governments; 7 patrolmen Kanagawa Prefectural Government); 18 seasonal (14 patrolmen Shizuoka and Yamanashi Prefectural Governments; 4 naturalists, Kanagawa Prefectural Government).

BUDGET Share of the Environmental Agency's annual subvention to National Parks (total US$ 700,000); US$ 100,000 from Tokyo, Kanagawa, Shizuoka and Yamanashi Prefectural Governments.

NAME Chichibu-Tama National Park

TYPE NP

BIOTIC PROVINCE 2.3.2

LEGAL PROTECTION Places of scenic beauty protected as National Park; development controlled (Art. 17, 18 and 19 of Natural Parks Law)

DATE ESTABLISHED 10 July 1950: designated under Natural Parks Law

GEOGRAPHICAL LOCATION Central Honshu, north-west of Tokyo: N 35°41' -36°02'; E 138°30' -139°14'

ALTITUDE 210-2595 metres

AREA 121,600 ha (1001 ha SPA)

LAND TENURE 18,480 ha State land, 64,070 ha Public land, 39,050 ha Private land

PHYSICAL FEATURES One of the few mountain parks in Japan with sedimentary rocks, being composed of paleozoic strata, the oldest in Japan, forming the Chichibu and Tama mountains and Shoshenkyo gorge. Summits of Mt. Kobushi and Mt. Kimpu (in the first-named) have granite and diorite rock. Temperatures vary from 20.6°C (August) to -1.8°C (January); average precipitation 1672 mm.

VEGETATION Dense coniferous forests of Japanese cedar and cypress Cryptomeria japonica and Chamaecyparis obtusa, red pine Pinus densiflora, firs Abies mariesii and A. veitchii, spruce Picea jezoensis var. hondoensis (1.1.9.2, 1.1.9.3), larch Larix kaempferi (1.2.6) and dwarf or creeping pine Pinus pumila (3.1.2). Other conifers that are common are Tsuga diversifolia and Abies homolepis var. umbellata. The deciduous forests are typically of beech Fagus crenata, birch Betula tauschii and B. ermanii var. communis, water oak Quercus crispula, chestnut Castanea crenata, Zelkova serrata, horse chestnut Aesculus turbinata and maple Acer (1.2.5.1).


ZONING It is proposed to establish a multiple-use area and a wilderness zone shortly

DISTURBANCES OR DEFICIENCIES Several multiple-use man-made lakes, also limestone mining in the Tama mountains, forest exploitation and forest road construction.

TOURISM 8.39 million visitors in 1972. Facilities include inns, camp and picnic grounds, mountain and nature trails, visitor centre and many huts in the mountain areas.

SCIENTIFIC RESEARCH Investigations of vegetation by Environmental Agency

SPECIAL SCIENTIFIC FACILITIES None
PRINCIPAL REFERENCE MATERIAL

Many other scientific reports on the park area.

STAFF  3 full-time (ranger, Environmental Agency: 2 officers of the Saitama Prefectural Government); 1 seasonal (patrolman, Nagano Prefectural Government).

BUDGET  Share of annual allocation of US$ 700,000 by Environmental Agency to National Parks; US$ 70,000 from Tokyo, Saitama, Yamanashi and Nagano Prefectural Governments.

LOCAL PARK ADMINISTRATION  Hikawa Ranger Office, Environmental Agency, Okutama town, Tokyo Prefecture, Japan.
JAPAN

SETO-NAIKAI (INLAND SEA) NATIONAL PARK

TYPE: NP

BIOTIC PROVINCE: 2.3.2

LEGAL PROTECTION: Places of scenic beauty protected as National Park; development controlled within the Park (Art. 17, 18 and 20, Natural Parks Law)

DATE ESTABLISHED: 16 March 1934: designated by Natural Parks Law

GEOGRAPHICAL LOCATION: Western Honshu and northern Shikoku; N 33°16' - 34°49'; E 130°57' - 135°21'

ALTITUDE: Sea level to 932 metres

AREA: 63,118 ha (370 ha SPA)

LAND TENURE: 9,240 ha State land, 17,356.6 ha Public land, 36,521.6 ha Private land

PHYSICAL FEATURES: The Inland Sea, entered by four straits between Honshu and Shikoku, extends 400 km from east to west, varies in width from 7-60 km and contains over 600 islands. The coasts are deeply indented, geologically composed of granite with white sand beaches. The sea is blue and clear, its straits and channels noted for rapid tides and whirlpools (Naruto Channel). The area has much historical interest, this having been the main route by which foreign influences first entered Japan. Temperatures 28°C to 5.8°C; average annual rainfall 1147 mm.

VEGETATION: The islands are noted for their black pine Pinus thunbergii forests, interspersed with red pine P. densiflora and Japanese cedar Cryptomeria japonica (1.1.9.2). The virgin forest of Mt. Misen, Miyajima has red and black pine mixed with Abies firma, Tsuga sieboldii and some Quercus stenophylla and Symlocos prunifolia. There is also temperate rain forest of camphor Cinnamomum camphora, oaks Quercus glauca and Q. phylliraeoides, pasania oak Castanopsis japonica var. sieboldii, Camellia japonica var. spontanea, cherry Prunus yamasakura and maple Acer spp. (1.1.6).

NOTEWORTHY FAUNA: Mammals include Japanese macaque Macaca fuscata, black finless porpoise Neomoros phocaenoides (considered rare), wild pig Sus scrofa leucomystax and Honshu sika Cervus nippon centralis. Birds include as winter visitors divers or loons Gavia stellata and G. pacifica, and as common summer residents the plumed egret Egretta intermedia and black-headed gull Larus ridibundus sibiricus.

ZONING: Proposed: 93.3% (58,904 ha) multiple-use areas, 6.7% (4214 ha) wilderness areas

DISTURBANCES OR DEFICIENCIES: Heavy industrial zones along seashores and construction of bridges across the inland sea at three points. The area is too close to major cities to be easily kept free of pollution pressures.

TOURISM: 48.78 million visitors in 1972. Facilities include hotels, inns, camp and picnic grounds, yacht harbour, nature trails, visitor centre, aquarium, marine museum and 5 National Vacation Villages.
**SCIENTIFIC RESEARCH**

Studies of vegetation by Environmental Agency (1973)

**SPECIAL SCIENTIFIC FACILITIES**

None

**PRINCIPAL REFERENCE MATERIAL**

Many scientific reports on the natural history of the area

**STAFF**

25 full-time (superintendent, 3 rangers, Environmental Agency; 5 officers of the Hiroshima, Yamagushi and Tokushima Prefectural Governments; 14 patrolmen of Hiroshima and Kagawa Prefectural Governments); 15 seasonal (patrolmen of Hyogo, Okayama, Yamaguchi, Wakayama, Tokushima and Ehima Prefectural Governments).

**BUDGET**

Share of annual allocation of US$ 700,000 provided by Environmental Agency for National Parks; US$ 100,000 per annum provided by Prefectural Governments.

**LOCAL PARK ADMINISTRATION**

Seto-naikai National Park Headquarters Office, Environmental Agency, c/o Kojima Branch Office, Kurashiki City, Kojima, Okayama Prefecture. Ranger Office at Yashima; Ranger Stations at Rokko, Ikuta-ku, Kobe City, Miyajima, Hiroshima City; Park Offices at Miyajima, Miyajima Town and Norosan, Kawajiri Town, Japan.
NAME: Kirishima-Yaku National Park (+MPA)

TYPE: NP-M

LEGAL PROTECTION: Places of scenic beauty protected as National Park; development controlled within park (Art. 17, 18, 18-2 and 20, Natural Parks Law). Special protection for 6 families, 10 species of fish; 4 genera and 28 species of invertebrate; 1 genus, 4 species of seaweed.


GEOGRAPHICAL LOCATION: The extreme south of Kyushu; Kirishima area: N 31°50'-32°00'; E 130°55'-130°59'; Sakurajima, Ibisuki and Sato areas (with Sakurajima and Satamisaki MPAs): N 30°59'-31°40'; E 130°31'-130°47'; Kirishima area: N 30°14'-30°23'; E 130°33'-130°59'.

AREA: 55,231 ha (26.5 ha MPA and at least 10,793 ha SPA)

LAND TENURE: 40,094 ha State land, 4394 ha Public land, 10,743 ha Private land

PHYSICAL FEATURES: The Kirishima sector is a volcanic range with 23 peaks over 1700 m, 15 complete craters, 10 with lakes and other volcanic features including hot springs. Mt Sakurajima is an active volcano in Kinko bay, an island linked by a lava bridge to the mainland. Yakushima is an offshore island of plutonic rocks with Mt Myianoura (1935 m) and 30 peaks over 1000 m and a rocky cliff coast. Sakurajima MPA has a uniquely undulating seabed due to lava flows; Satamisaki MPA is off the Sata promontory of the Kyushu mainland, an area of granite rocks. Temperatures range from 27.5°C (August) at Yakushima to 4.8°C (January) at Kirishima. Annual precipitation ranges from 2516 mm (Kirishima) to 3852 mm (Yakushima). The warm Kurishio current influences the MPAs; water transparency is 10-16 m, lowest at Sakurajima MPA.

VEGETATION: Kirishima has 600 ha of Japanese fir Abies firma forest, mixed with some Quercus acuta and Illicium religiosum (1.1.9.2., 2.1.2.1) and 1600 ha of Pinus densiflora and Rhododendron kiusianum, covering most of the island. In the remaining 820 ha Quercus salicina, Cleyera japonica, Alpinia japonica and some beech forest of Fagus crenata (1.2.5.1, 2.2.5) are found. Sakurajima has evergreen hardwood forests of Quercus glauca and Neolitsea thunbergii, with plantations of Pinus densiflora, Okikojima islet in the MPA being entirely forested with Pinus thunbergii. Yakushima is noted for its forests of Japanese cedar Cryptomeria japonica estimated to be 3000 years old. These are with Distylium racemosum and Trochodendron aralioides occupying 12,250 ha. A further 2700 ha of Castanopsis cuspidata, Ficus wrighitana and Distylium sp., and 1400 ha of plantations of cedar and Pinus thunbergii. The island is of biogeographical interest with several endemic species of plant. Marine flora includes Codium sp., and flourishing Padina arborescens in the Sakurajima area.

NOTeworthy Fauna: Japanese dormouse Glirulus japonicus and wild pig Sus scrofa leucomelas are generally present. Species of biogeographical interest on Yakushima include Yakushima macaque Macaca fuscata yakui, a sub-species of sika Cervus nippon yakushimae and the reptile Gekko yokushimensis. Kirishima is rich in birds including: streaked shearwater Calonectris leucomelas, white-rumped copper pheasant...
Phasianus soemeringii ijimae, blue-winged pitta Pitta brachyura and paradise flycatcher Terpsiphone atrocaudata. The fish fauna includes both temperate and tropical varieties such as Syngnathus schlegeli, Pomacentrus coelestris and Chasodon collaris. Scleractinian and alcyonarian corals are well developed including Montipora cactus, Acropora spp., Pocillipora damicornis, Porites tenuis, Melithaea fimbriiformis and Anthoplexaura dimorpha. Parasigonis setinostoloides is gregarious in its development in Okikojima, Sakurajima MPA.

**ZONING**

Two zones are proposed: 78.6% (43,407.8 ha) multiple-use areas; 21.4% (11,823.2 ha) wilderness areas.

**DISTURBANCES OR DEFICIENCIES**

The cedars of Yakushima are threatened by felling; plantations and pesticides have also affected this area as well as growth of settlement. Road construction for sightseeing is occurring at Mt Kirishima and the low lying parts have various disturbances. No polluted freshwater drainage occurs from land to sea but waters at Sakurajima are turbid due to the substrate.

**TOURISM**

Annual visitors: 13.54 million, 470,000 to MPAs (1972). Facilities include hotels, inns, camp and picnic grounds, mountain and nature trails, visitor centre and glass bottomed boats. Ibusuki has a National Vacation Village. Yakushima can be reached by sea or air from Kagoshima.

**SCIENTIFIC RESEARCH**

Vegetation studies by the Environmental Agency (1973).

**SPECIAL SCIENTIFIC FACILITIES**

Meteorological Observatory, Mt Kirishima, Tokyo University.

**PRINCIPAL REFERENCE MATERIAL**


**STAFF**

Total 8, 3 full-time (ranger, Environmental Agency, Prefectural Officer and patrolman, Kagoshima Prefectural Government), 5 seasonal (patrolmen, Kagoshima Prefectural Government).

**BUDGET**

Support from annual allocation by Environmental Agency to National Parks (US$ 700,000); US$ 9500 annually from Kagoshima Prefectural Government.

**LOCAL PARK ADMINISTRATION**

Ebino Ranger Office, Environmental Agency, Ebino Kogen, Ebino City, Miyazaki Prefecture. Ranger Station also at Kirishima Hot Spring, Makizono, Kagoshima, Japan.
NAME Hakusan National Park

TYPE NP

BIOTIC PROVINCE 2.3.1/2.3.2

LEGAL PROTECTION Places of scenic beauty protected as a National Park; development controlled by Art. 17, 18 and 20 Natural Parks Law

DATE ESTABLISHED 12 November 1962, designated by Natural Parks Law

GEOGRAPHICAL LOCATION North central Honshu: N 35°58'-36°22'; E 136°32'-136°53'

ALTITUDE 300-2702 metres

AREA 47,402 ha (18,080 ha SPA)

LAND TENURE 31,670 ha State land; 1372 ha Public land; 14,360 ha in private ownership

PHYSICAL FEATURES The area forms the backbone of the Hokuriku district, dominated by Mount Hakusan, a tholoid volcano with 8 craters near the summit. This mountain, long the object of religious worship and with several ancient temples, is one of the three most notable in Japan. Senjaga lake in one of the summit craters is the only polar lake in Japan, being icebound all the year. At Yunotani is one of the oldest fossil forests in Japan. Temperatures at the foot of the mountain vary from 24.3°C in August to 0°C in January. Precipitation averages 3493 mm, much of it in the form of heavy snowfalls.

VEGETATION Coniferous forests surround the base of the mountain: firs Abies mariesii (of considerable age), A. veitchii and A. homolepis, pines Pinus densiflora, P. parviflora and Japanese cedar Cryptomeria japonica (1.1.9.2, 1.1.9.3); Pinus pumila forms creeping scrub (3.1.2). Deciduous forest or woodland of two types are also present, comprised mainly of birch Betula ermanii var. communis, beech Fagus crenata, water oak Quercus crispula and poplar Populus maximowiczii (1.2.5.1, 2.2.5). Rhododendron fauriae and Prunus nipponica are other typical species. The alpine flora of the summits is rich with such species as Primula hakusanensis, Geranium yezoense var. nipponicum, Anemone narcissiflora, Orchis aristata var. immaculata, Fritillaria camtschatcensis and Veratrum stamineum.

NOTEWORTHY FAUNA Mammals: Japanese macaque Macaca fuscata, Asiatic black bear Selenarctos thibetanus japonicus, Honshu sika Cervus nippon centralis and Japanese serow Capricornis crispus. Birds: golden eagle Aquila chrysaetos japonica, Hodgson's hawk eagle Spizaetus nipalensis orientalis (both sub-species now considered rare), white-throated needle-tailed swift Chaetura caudacuta, broad-billed roller Eurythomus orientalis calonyx, great spotted woodpecker Dendrocopos major orientalis, nutcracker Nucifraga caryocatactes japonicus and alpine accentor Prunella collaris erythropygia.

ZONING Two zones proposed: 62.3% (29,322 ha) multiple use; 37.7% (18,080 ha) wilderness

DISTURBANCES OR DEFICIENCIES Road construction for forestry
TOURISM  460,000 visitors in 1972. Facilities include inns, huts, camp and picnic grounds, mountain and nature trails, visitor centres and access roads. Climbing is one of the most popular activities.

SCIENTIFIC RESEARCH  Vegetational recovery, wildlife management and conservation education are among the subjects studied by the Hakusan Nature Conservation Society. The vegetation has also been investigated by the Environmental Agency (1973).

SPECIAL SCIENTIFIC FACILITIES  Hakusan Nature Conservation Centre at Chugu hot springs, Yoshinodani, Ishikawa Prefecture


STAFF  Total 22 (ranger, Environmental Agency; 16 Prefectural officers, Ishikawa Prefectural Government; 5 patrolmen Ishikawa and Fukui Prefectural Governments).

BUDGET  Share of the Environmental Agency's annual subvention to National Parks (US$ 700,000); US$ 76,000 provided by Ishikawa, Gifu and Fukui Prefectural Governments.

NAME  Minamiarupusu (Southern Alps) National Park

TYPE  NP

B I O T I C  PROVINCE  2.3.2

LEGAL PROTECTION  Places of scenic beauty protected as a National Park; development controlled by Art. 17, 18 and 20 Natural Parks Law

DATE ESTABLISHED  1 June 1964, designated by the Natural Parks Law

GEOGRAPHICAL LOCATION  South central Honshu: N 35°19'-35°49'; E 138°04'-138°21'

ALTITUDE  1200-3192 metres

AREA  35,798 ha (9181 ha SPA)

LAND TENURE  14,096.5 ha State land, 17,890.9 ha Public land; 3811.4 ha in private ownership

PHYSICAL FEATURES  A mountainous area with sedimentary rocks, the north-south ridges about 3000 m in altitude, with clusters of peaks and lateral spurs. Lacking vertical cliffs and snow-filled valleys, but otherwise a typical example of Japanese alpine scenery. Records kept at the foot of Mount Notori show a temperature variation from 23.6°C (August) to 0.6°C (January) and an average annual precipitation of 2186 mm.

VEGETATION  The coniferous forest is composed mainly of firs Abies mariesii, A. homolepis and A. veitchii, hemlock Tsuga diversifolia, red pine Pinus densiflora, short-leaved pine P. parviflora, spruce Picea jezoensis var. hondoensis, Japanese cedar and cypress Cryptomeria japonica and Chamaecyparis obtusa (1.1.9.2, 1.1.9.3), and some larch Larix kaempferi (1.2.6). Deciduous stands are largely birch Betula ermanii, beech Fagus crenata, water oak Quercus crispula and maple Acer spp. (1.2.5.1). The high alpine zone supports creeping pine Pinus pumila (3.1.2) and such species as Artemisia glomerata, Veronica nipponica, Polemonium japonicum, Dryas octopetala, Sibbaldia procumbens, Fritillaria camschatcensis and local varieties of Ranunculus and Melandrium spp.

NOTEWORTHY FAUNA  Mammals: Japanese macaque Macaca fuscata, wild pig Sus scrofa leucomystax, Honshu sika Cervus nippon centralis and Japanese serow Capricornis crispus. Birds: golden eagle Aquila chrysaetos japonica, Hodgson's hawk eagle Spizaetus nipalensis orientalis, ptarmigan Lagopus mutus japonicus (the local subspecies are now considered rare in Japan), nutcracker Nucifraga caryocatactes japonicus, wren Troglodytes troglodytes tumigatus and Japanese robin Erithacus zosterops.

ZONING  Two zones proposed: 58.9% (21,071.2 ha) multiple use; 41.1% (14,727.6 ha) wilderness

DISTURBANCES OR DEFICIENCIES  Still considerable forest exploitation and road construction on a large scale for that purpose

TOURISM  750,000 visitors in 1972. Facilities restricted to huts, access roads and mountain trails

SCIENTIFIC RESEARCH  Studies of vegetation by the Environmental Agency (1973)

WDNP  IUCN © 1975  9(1)F  Code: 3.15
SPECIAL SCIENTIFIC FACILITIES
None

PRINCIPAL REFERENCE MATERIAL

STAFF
2 full-time (ranger, Environmental Agency; patrolman, Nagano Prefectural Government); 4 seasonal (patrolmen, Nagano and Yamanashi Prefectural Governments).

BUDGET
Share of the Environmental Agency's annual subvention to National Parks (US$ 700,000); US$ 5000 provided by Nagano and Yamanashi Prefectural Governments.

LOCAL PARK ADMINISTRATION
None
NAME Unzen-Amakusa National Park (+MPA)

LEGAL PROTECTION Places of scenic beauty protected as National Park; development controlled (Art. 17, 18, 18-2 and 20, Natural Parks Law). Special protection for 4 families, 6 species of fish; 5 genera and 16 species of invertebrate Anthozoa; 2 genera and 4 species of seaweed.

DATE ESTABLISHED 16 March 1934: designated under Natural Parks Law. Marine Park Areas established 1 July 1970.

GEOGRAPHICAL LOCATION North-west coast of Kyushu-Unzen area: N 32°40'-32°49'; E 130°10'-130°22'. Amakusa area: N 32°08'-32°36'; E 130°02'-130°28'. Tomioka MPA: N 32°31'; E 130°01'; Amakusa MPA: N 32°20'; E 129°58' and Ushibuka MPA: N 32°09'; E 130°03'

ALTITUDE Sea level to 1360 metres (maximum depth of MPAs 20 metres)

AREA 25,655.2 ha (MPAs 51.7 ha; SPA 608 ha)

LAND TENURE 8706 ha State land, 4053 Public land, 12,906 ha Private land

PHYSICAL FEATURES Mt Unzen is an inactive (except for hot springs) tholoid volcano with 4 peaks over 1000 m and a number of minor ones, and its base gently dissected and covered by forest cover noted for its autumn tints and 'frost flowers'. Temperatures range between 23.7°C (August) and 1.5°C (January); 3030 mm average annual precipitation. The Amakusa zone, to the south, is an archipelago, Amakusa Island itself having an indented coast with Ushibuka MPA located at its southern end and Amakusa MPA located on a group of outlying stacks. The other islands are steep and rocky with boulder, shingle, sand or mud beaches, Tomioka MPA being on the west of the famous 'land-tide' island Tombro. Temperatures here are higher, from 27.9°C (August) to 7.8°C (January), with lower average (2069 mm) rainfall. The Tsushima current (a branch of the Kuroshio) gives a sub-tropical aspect to the MPAs. Water transparency is 12-16 m.

VEGETATION Unzen has forests of red pine Pinus densiflora and Rhododendron kaempferi occupying 6000 ha, also plantations of Japanese cypress and cedar Chamaecyparis obtusa and Cryptomeria japonica with red pine and P. thunbergii occupying 5000 ha (1.1.9.2). Deciduous forests occupy 1300 ha with dogwood Cornus kousa, Acer sieboldianum, Ilex crenata and Rhododendron kiusianum (1.2.5.1, 1.1.6). The Amakusa sector is also forested, mainly by oaks Castanopsis cuspidata var. sieboldii, Quercus glauca and Q. serrata, but also plantations of Japanese cedar and cypress. The presence of Albizia glabriflora is of biogeographical interest. The marine flora comprises 'forests' of Sargassum spp., Ecklonia kurome and Undaria pinnatifida, with Martensia denticulata, Amphiroa dilatata and Corallina pilulifera abundant in Tomioka MPA.

NOTEWORTHY FAUNA Mammals of the Unzen sector include Cervus nippon nippon, birds include breeding populations of mandarin duck Aix galericulata and blue-winged pitta Pitta brachyura (also an endemic insect Epaphiopsis unzenensis). Amakusa sector has breeding populations of grebes Podiceps caspicus and P. cristatus, also shelduck Tadorna tadorna. The marine fauna includes sub-tropical fish such as Pomacentrus coelestis, Chaetodon collaris, Thalassoma cupido and Ostracionidae. Scleractinian and alcyonarian corals include Acropora spp., Montipora cactus.
Pocillopora damicornis, Favia speciosa, Nepthea chabrolii and others. Ushibuka MPA has especially well developed Antipathes japonica, Parasicyonis actinostoloides, Melithaea flabellifera and Anthoplexaura dimorpha.

**ZONING** Two zones are proposed: 96% (24,606.5 ha) multiple-use areas, 4% (1058.7 ha) wilderness areas.

**DISTURBANCES OR DEFICIENCIES** No freshwater drainage from land to sea.

**TOURISM** 10.24 million visitors in 1972 with 150,000 visitors to the MPAs. Facilities include hotels, inns, camp and picnic grounds, access roads and ferries, nature trails, sightseeing boats, glass-bottomed boats at all MPAs and the National Vacation Village at Unzen.


**SPECIAL SCIENTIFIC FACILITIES** None.

**PRINCIPAL REFERENCE MATERIAL**

**STAFF** Total 8 (ranger, Environmental Agency: 3 officers of the Nagasaki Prefectural Government; 4 patrolmen Nagasaki and Kumamoto Prefectural Governments).

**BUDGET** Share of annual allocation by Environmental Agency to National Parks (US$ 700,000); US$ 40,000 annually from Nagasaki and Kumamoto Prefectural Governments.

**LOCAL PARK ADMINISTRATION** Unzen Park Administrative Office, Nagasaki Prefecture, Unzen Hot Spring, Obama, Nagasaki (Ranger Office, Environmental Agency also at Obama), Japan.
NAME Saikai National Park (+MPA)
TYPE NP-M

LEGAL PROTECTION Places of scenic beauty protected as a National Park; development controlled by Art. 17, 18, 18-2 and 20 Natural Parks Law. Special protection for 3 families and 5 species of Osteichthyes (fish); 11 families and 24 species of invertebrate; 1 family, 3 genera and 3 species of seaweed.

DATE ESTABLISHED 16 March 1955, designated by Natural Parks Law; MPA established 16 October 1972

GEOGRAPHICAL LOCATION  Goto archipelago, west of Kyushu. Kujukushima sector: N 33°06'-33°26'; E 129°20'-129°26'; Goto Island sector: N 32°35'-33°18'; E 128°40'-129°16'; Fukue MPA: N 32°42'; E 128°50'; Wakamatsu MPA: N 32°50'; E 129°20'.

ALTITUDE Sea level to 568 metres (maximum depth of MPA, 20 metres)

AREA 24,324 ha (30.4 ha MPA)

LAND TENURE 1233 ha State land, 4769 ha Public land; 18322 ha in private ownership

PHYSICAL FEATURES The Goto archipelago has over 400 volcanic islands of varying size, including rare cinder cone formations. They are characterised by inlets and high cliffs. Fukue MPA at Fukue Island and Wakamatsu MPA at Wakamatsu Island are affected by the warm waters of the Tsushima Current, a branch of the Kuroshio Current. They are islands of tuff and sandstone, the seafloor being sandy mud with stones and white tuffaceous sand respectively. The Kujukushima sector comprises a cluster of nearly 200 islets: Hirado Island is of special interest for its historical links with foreign trade. Mild climate with temperatures varying from 28°C (August) to 5.8°C (January) at Kujukushima and precipitation of 2016-2076 mm. Transparency in the MPAs is 10-17 m.

VEGETATION Coniferous forest with red pine Pinus densiflora, black pine P. thunbergii, Japanese cedar and cypress Cryptomeria japonica and Chamaecyparis obtusa (1.1.9.2). Temperate rain forests with Myrica rubra, Quercus phylliraeoides, pasania oak Castanopsis cuspidata var. sieboldii, Cinnamomum camphora, Camellia japonica var. spontanea and Rhododendron metternichii var. typicum (1.1.6). Other typical species are Ficus Wrightiana, Cycas revoluta and the betel-nut tree Areca catechu. Marine vegetation includes algae such as Codium spp., Halimeda spp., Sargassum spp., Padina arborescens, Dictyopteris spp., and Corallina spp.

NOTEWORTHY FAUNA The Kyushu sika Cervus nippon nippon occurs. Birds include eastern reef heron Egretta sacra, black-tailed gull Larus crassirostris and the ancient murrelet Synthliboramphus antiquus. Marine fauna includes temperate and sub-tropical fish such as Pomacentrus coelestis, Amphiprion xanthus, Pseudolabrus japonicus, Thalassoma cupido, Micromis thetidotus and others. Corals include scleractinians such as Acropora spp., PORITES Tenuis and Favia speciosa; alcyonarians like Nephthea chabroli and Stereonephthya japonica; gorgonians like Melithaea flabellifera, Anthopleura dimorpha and Antipathes japonica. Crinoids like Troplitastra afr.; sea-urchins like Toxopneustes pileatus, sea-cucumbers like Holothuria pervicase and sea-anemones such as Parasicyonis actinostrodes are also found.
ZONING: Two zones proposed: 96.6% (23,500 ha) multiple use and 3.4% (824 ha) wilderness

DISTURBANCES OR DEFICIENCIES The Kujukushima sector is hemmed in by built-up areas and some settlement within Park boundaries has been reported in the past.

TOURISM 4.58 million visitors in 1972, with 100,000 visiting the MPAs. Facilities include hotels, inns, picnic grounds, access roads and ferries, sightseeing boats and an aquarium.

SCIENTIFIC RESEARCH Study of vegetation by the Environmental Agency (1973)

SPECIAL SCIENTIFIC FACILITIES None

PRINCIPAL REFERENCE MATERIAL

STAFF Total 5 (ranger, Environmental Agency; 4 officers appointed by the Nagasaki Prefectural Government)

BUDGET Share of the Environmental Agency's annual subvention to National Parks (US$ 700,000); US$ 45,000 provided by Nagasaki Prefectural Government.

NAME  Iriomote National Park

TYPE  NP

BIOTIC PROVINCE  2.3.3

LEGAL PROTECTION  Places of scenic beauty protected as National Park; development controlled (Art. 17 and 20 of Natural Parks Law)

DATE ESTABLISHED  15 May 1972

GEOGRAPHICAL LOCATION  Ryukyu islands in the South China Sea, 1200 km south of mainland Japan: N 24°12'-24°25'; E 123°40'-124°06'

ALTITUDE  Sea level to 425 metres

AREA  12,506 ha

LAND TENURE  9000 ha State land; the remainder is partly Public land and partly still Privately-owned

PHYSICAL FEATURES  Japan’s southernmost National Park, just north of the tropic of Cancer and covered with subtropical forest. A 20 km long 15 km wide coral reef between Iriomote and Ishigaki islands is the largest such reef in Japan and of great beauty. This is a proposed ‘Marine Park’ area. Nakanougan island, famous for its seabirds, has white sand beaches and steep limestone cliffs commanding magnificent views and topped by stone fenced dwellings. Temperatures vary from 28.7°C (July) to 17.4°C (January); 2630 mm precipitation.

VEGETATION  Thickly covered with broad leaf evergreen tropical forest in which Quercus stenophylla, pasania oak Castanopsis cuspidata var. sieboldii, Neolitsea thumbergii, Diatryum racemosum and Pandanus tectorii var. liukiuensis are dominants (2.1.1.1) and Ptychosperma elegans and Nypa fruticans palms are also characteristic. Coastal mangrove forests of Avicennia marina, Rhizophora mcrconata, Barringtonia racemosa, Bruguiera conjugata and Kandelia candel (1.1.5). Cliff top areas on Ishigaki have a rich coastal flora.

NOTEWORTHY FAUNA  Mammals include the flying fox Pteropus dasymalu yayeyamae, the Iriomote wild cat Mayailurus iriomotensis (only discovered this century) and Dugong dugong, all locally rare, the dugong classified as vulnerable in the Red Data Book. Birds include the streaked shearwater Calonectris leucomeles (on Nakanouganjima), eastern reef heron Egretta sacra, cattle egret Bubulcus ibis coronandus, purple heron Ardea purpurea manilensis, created serpent eagle Spilornis cheela perplexus (considered rare), Japanese fruit pigeon Columba janthina steinigeri (also rare), pygmy woodpecker Dendrocopos kizuki orii and the Ryukyu robin Erithacus komadori subrufa. Other rarities include loggerhead turtle Caretta caretta and Cuora flavomarginata.

ZONING  Two zones are proposed: wilderness areas and multiple-use areas (to be decided shortly, but it is understood that the greater part will be designated as wilderness area).

DISTURBANCES OR DEFICIENCIES  Road construction in progress for access to residential areas in the core of the park.

WDNP  IUCN © 1975  8(1)F  Code: JAP.4.4
TOURISM 30,000 visitors in 1972. Access by boat and hovercraft from Ishigaki Island; inns on Taketomi Island; few roads on Iriomote itself.

SCIENTIFIC RESEARCH Studies of vegetation by the Environmental Agency (1973)

SPECIAL SCIENTIFIC FACILITIES None

PRINCIPAL REFERENCE MATERIAL

STAFF Total 3 (Superintendent, 2 rangers, Environmental Agency)

BUDGET Share of annual allocation of Environmental Agency to National Parks (US$ 700,000)

NAME Ashizuri-Uwakai National Park (+MPA)

TYPE NP-M

LEGAL PROTECTION Places of scenic beauty protected as a National Park; development controlled by Art. 17, 18, 18-2 and 20 Natural Parks Law. Special protection for 6 families, 1 genus and 3 species of fish; 3 genera and 33 species of invertebrate; 1 genus and 5 species of seaweed.

DATE ESTABLISHED 10 November, 1972, designated under Natural Parks Law

GEOGRAPHICAL LOCATION South-west coast of Shikoku. N 32°42'-33°20'; E 132°15'-133°01' (including Tatsukushi, Kashinishi, Okinoshima and Uwakai Marine Park Areas).

ALTITUDE Sea level to 1065 metres (maximum depth of MPAs 20 metres)

AREA 10,906.5 ha (107.3 ha Marine Park Areas)

LAND TENURE 3880.9 ha State land, 1099.9 ha Public land; 5925.7 ha in private ownership

PHYSICAL FEATURES The Ashizuri promontory has many steep granite cliffs facing the Pacific Ocean and includes the MPA of Okinoshima. Groves of camellias give a sub-tropical aspect. The Tatsukushi sector is an indented 'ri'a' coast of shales and sandstones and includes another Marine Park Area. The Daido coast has 140 m granite cliffs with many caves and other erosional features. The western coast is also a 'ri'a' formation with small inlets and islets including Kashinishi and Uwakai MPAs. The inland areas are sharply dissected and mountainous. The warm Kuroshio current influences the MPAs and gives them a sub-tropical aspect. The Nametoko valley with its granite rocks is famous for its forests and waterfalls. Temperatures vary from 27°C (August) to 8°C (January), with annual precipitation averaging 2545 mm. Water transparency is 20-25 m.

VEGETATION Broad-leafed sclerophyll forest occupies 3350 ha with Castanopsis cuspidata var. sieboldii, Quercus phylliraoides, Q. acuta and Neolitsea thunbergii, and Camellia japonica var. spontanea (1.1.6). About 1000 ha of montane coniferous forest of fir Abies firma, red pine Pinus densiflora, hemlock Tauga sieboldii and Japanese cypress Chamaecyparis obtusa. Black pine Pinus thunbergii on the coast. Deciduous forest with beech Fagus granata and Firma platanifolia occupies 310 ha. Small communities of palms Livistona globulosa and grasses such as Sasa spp., Miscanthus sinensis and Arundo donax also occur. Several sub-tropical plants, including Livistona, Chrysantheme japonense var. ashihuriense, Mitratexemon yamamotoi (Rafflesiaceae) and the large herbaceous fern Angiopteris ligodiifolia, are at their northernmost limit and of biogeographical interest. The Marine flora is poor, mainly Codium fragile, Sargassum serratefolium and Dictyopteris.

NOTEWORTHY FAUNA Mammals include Japanese macaque Macaca fuscata, black bear Selenarctos thibetanus japonicus, the raccoon dog Nyctereutes procyonoides viverrinus and the rare Japanese otter Lutra lutra whiteleyi. Birds include a large population of white-faced shearwaters Calonectris leucomelas, copper pheasant Symaticus oemmeringii scintillans, ruddy kingfisher Halcyon coromanda major, fairy pitta Pitta brachyura nipha, red-rumped swallow Hirundo daurica japonica and black paradise flycatcher Terpsiphone atrocaudata. Marine fauna of many species of sub-tropical and temperate fish, including Apogonidae, Chaetodontidae and Ostracionidae. Abundant scleractinian corals include large colonies of Acropora, especially at...
Okinoshima and well-developed Pavona decussata at Tatsukushi. The Uwakai area has colourful alcyonarians such as Nephthea chabroli. Gorgonarians include Melithaea flabellifera and Anthoplexaura dimorpha. Crinoids, starfish and sea-urchins are also present.

ZONING Two zones proposed: 83.8% (9024.5 ha) multiple use and 17.2% (1882 ha) wilderness areas

DISTURBANCES OR DEFICIENCIES Cultivation, logging and hunting are at a fairly sustainable level but disturbance of soil and flora particularly by plantation projects, is increasing. No contamination from freshwater drainage into the sea has yet been deleted.

TOURISM 1.51 million visitors in 1972, 1.10 million of whom also visited the MPAs. Facilities include hotels, inns, picnic areas, access roads, nature trails, visitor centre, glass-bottomed boats at Tatsukushi and Uwakai and an underwater observatory tower at Tatsukushi MPA.

SCIENTIFIC RESEARCH Study of vegetation by the Environmental Agency (1973)

SPECIAL SCIENTIFIC FACILITIES None

PRINCIPAL REFERENCE MATERIAL


STAFF Total 11 (ranger, Environmental Agency; 4 Prefectural officers, Kochi Prefectural Government; 6 patrolmen, Kochi and Ehime Prefectural Governments).

BUDGET Share of Environmental Agency's annual subvention to National Parks (US$ 700,000); US$ 13,500 provided annually by Kochi and Ehime Prefectural Governments.

NAME       Sanin Kaigan National Park (+MPA)

TYPE       NP

BIOTIC PROVINCE 2.3.1, 2.3.2

LEGAL PROTECTION  Places of scenic beauty protected as National Park; development controlled within Park (Art. 17, 18, 18-2 and 20, Natural Parks Law). Special protection for 1 family, 4 species of fish; 8 families, 9 species of invertebrate; 1 family, 16 genera and 4 species of seaweed.

DATE ESTABLISHED  15 July 1963: designated by the Natural Parks Law. Marine Park Areas established 22 January 1971


ALTITUDE  Sea level to 567 metres (maximum depth of MPAs 20 metres)

AREA  8995 ha (46.5 ha MPA and 556 ha SPA)

LAND TENURE  80.7 ha State land, 2878.4 ha Public land, 6036.8 ha Private land

PHYSICAL FEATURES  A 75 km seacoast of granite and basalt where erosion has resulted in 91 large and small islands and reefs, 52 caves and arches and 11 noted cliffs. The overall effect is a much indented cliff coastline. On south-west are sand dunes formed by the strong north-westerly wind. The MPAs are influenced by the warm Tsushima current, a branch of the Kuroshio current. Annual temperatures vary from 26.6°C (August) to 4.4°C (February); 2385 mm annual rainfall. Water temperature averages 18°C or more, transparency 15-25 m.

VEGETATION  The dominant species are black pine Pinus thunbergii, Neolitsea (Machilus) thunbergii and Pittosporum tobira (1.1.9.2, 1.2.5.1). Marine vegetation is temperate with flourishing Sargassum spp., Ulva pertusa, Dictyota dichotoma, Grateloupia filicina and Acrosorium flabellatum among others.

NOTEWORTHY FAUNA  Characteristic species include Japanese macaque Macaca fuscata, Temminck's cormorant Phalacrocorax filamentosus, the highly endangered local race of white stork Ciconia c. boyciana and red-rumped swallow Hirundo daurica. The marine fauna includes temperate fishes such as Chronis notatus, Girella punctata, Pterogobius zonoleucus, Dictrema temmincki and various Labridae. Invertebrates include sea anemones, starfish and sponges such as Solanderia secunda, Euplexaura erecta, Aglaophenia whiteleggei and Comanthus japonica.

ZONING  Two zones are proposed: 90% (8003 ha) multiple-use areas; 10% (892.9 ha) wilderness areas

DISTURBANCES OR DEFICIENCIES  None reported. There is no contamination of the marine areas by polluted freshwater drainage from the land.

TOURISM  Annual visitation 6.32 million with 900,000 to the MPAs (1972). Facilities include hotels, inns, picnic grounds, nature trails, access roads, sightseeing boats, glass-bottomed boats (at Toyooka, Hamasaka and Uradome Kaigan MPAs) and a National Vacation Village under construction.
SCIENTIFIC RESEARCH

Studies of vegetation by the Environmental Agency (1973)

SPECIAL SCIENTIFIC FACILITIES

None

PRINCIPAL REFERENCE MATERIAL


STAFF

Total 11, 1 full-time ranger (Environmental Agency), 10 seasonal patrolmen (Hyogo and Tottori Prefectural Governments).

BUDGET

Support from annual allocation by Environmental Agency to National Parks (US$ 700,000); US$ 9000 per annum from Hyogo and Tottori Prefectural Governments.

LOCAL PARK ADMINISTRATION

NAME  Amami Gunto Quasi-National Park (+MPA)  

TYPE  PP  

LEGAL PROTECTION  Places of scenic beauty protected as a Quasi-National Park; development controlled by Art. 17, 18, 18-2 and 20 Natural Parks Law. Special protection for 7 families and 32 species of fish; 12 families and 5 species of invertebrate; 3 species of seaweed.

DATE ESTABLISHED  15 February 1974, designated by the Natural Parks Law

GEOGRAPHICAL LOCATION  Central islands of the Ryukyu chain, east China Sea, 500 km south-west of Kyushu. Amami Oshima: N 28°03'-28°32'; E 129°10'-129°43' (including Kasagi Hanto, Surikozaki and Setouchi MPAs); Kikaigashima: N 28°17'-28°23'; E 129°55'-130°03'; Tokunoshima: N 27°40'-27°53'; E 128°53'-129°03' (including Kametoku MPA); Okinoerabushima: N 27°19'-27°26'; E 128°31'-128°43'; Yoronshima: N 27°01'-27°04'; E 128°25'-128°28' (including Yoronshima MPA).

ALITUDE  Sea level to 694 metres (maximum depth of MPAs 25 metres)

AREA  7861 ha (MPAs 446 ha)

LAND TENURE  655 ha State land, 2204 ha Public land; 5002 ha in private ownership

PHYSICAL FEATURES  Sub-tropical coasts, abundant sub-tropical forest, coral reefs and coral limestones. The Amami Oshima section includes Mount Uwan and its forests, the indented 'ria' coast of the Oshima channel and the mangrove belt at the mouth of the Yaganske River, together with the 3 MPAs as listed above. The Kikaigashima section includes a 200 m high elevated reef of coral limestone. Tokuno section includes a karstic limestone plateau, Mount Inokawa, sub-tropical forest and a sand dune coast, with one MPA. Okinoerabu section has a limestone karstic plateau, caves and cliffs. Yoron section has some cliffs but also low-lying coasts with barrier and fringing reefs and one MPA. Temperatures range from 28°C (July) to 14°C (January), with 3033 mm of precipitation annually. Water temperature varies between 21°C - 28°C, and transparency 10-25 m.

VEGETATION  Temperate and sub-tropical rain forest composed of cycads Cycas revoluta, Ryukyu pine Pinus luchuensis, pacania oak Castanopsis cuspidata var. sieboldii, figs including Ficus microcarpa, F. superba var. japonica and F. virginata, Schima wallichii, Distyllum racemosum, Eurya emarginata, Myraine sequinii, Symplocos confusa and Pandanus tectoria var. liukiensis (1.1.4, 1.1.6). Other typical species are Quercus miyagii and Musa liukiensis, while the unique Kandelia candel (Rhizophoraceae) is a constituent of the mangroves which occur in some areas (1.1.5). Marine vegetation includes some sub-tropical and tropical seaweeds related to those in Okinawa; species recorded include Sargassum spp., Padina arborescens, Dictyota dichotoma, Halimeda incrassata, Galaxaura sp., and Turbinaria ornata.

NOTEWORTHY FAUNA  Mammals: the white-toothed shrew Crocidura dizi-nezumi orii and horseshoe bat Rhinolophus cornutus orii (both rare and local), two species classified in the Red Data Book as endangered and indeterminate, respectively - the Ryukyu rabbit Pentaglus farnesi and Ryukyu spiny rat Tokudaiya osimensis muenninki (the rabbit is found on Amami and Tokuno islands and the decline of both species is attributed to habitat destruction). A local race of wild pig Sus scrofa (leucosmytaxis) rinukiunus has been described. Birds include the highly restricted Amami woodcock Scolopax mira and at least two other endemic species, the jay.
Garrulus lidthi and the robin Erithacus komadori. Marine fauna includes many species of coral fish such as Amphiprion xanthurus, Chromis spp., Labroides demidiatu, Chaetodon auriga and Acanthurus spp. Well developed stony corals forming the reefs include Acropora spp., Montipora cactus, Porites tenuis, Favia speciosa and Alcyonacea spp. Sea anemones, feather stars and sea-urchins are also present.

ZONING Two zones proposed: 85.1% (6489 ha) multiple use; 14.9% (1372 ha) wilderness

DISTURBANCES OR DEFICIENCIES The marine habitats are reported to be still free from contamination by polluted run-off of freshwater from the land, despite the ever-increasing human populations.

TOURISM 300,000 visitors in 1973, of whom two-thirds visited one or other of the MPAs. Facilities include inns, access roads, and glass-bottomed boats at Setouchi and Amami MPAs. The Park can be reached by boat or air from Kyushu or Okinawa.

SCIENTIFIC RESEARCH Study of vegetation by the Environmental Agency (1973)

SPECIAL SCIENTIFIC FACILITIES None

PRINCIPAL REFERENCE MATERIAL

STAFF 2 patrolmen (Kagoshima Prefectural Government)

BUDGET US$ 1650 annually provided by Kagoshima Prefectural Government

LOCAL PARK ADMINISTRATION Oshima Branch Office, Kagoshima Prefecture, Naze City, Amami-Oshima, Japan.
NAME Muroto-Anan Kaigan Quasi-National Park (+MPA)

TYPE FP

LEGAL PROTECTION Places of scenic beauty protected as a Quasi-National Park; development controlled by Art. 17, 18, 18-2, and 20 Natural Parks Law. Special protection for 6 families and 12 species of fish; 3 families, 3 genera and 36 species of invertebrate; 3 genera and 5 species of seaweed.

DATE ESTABLISHED 1 June 1964, designated under Natural Parks Law; Awa Oshima MPA, 22 January 1971; Awa Takegashima MPA, 16 October 1972.

GEOGRAPHICAL LOCATION South-east coast of Shikoku. N 33°14'-33°56'; E 134°02'-134°49'. Awa Oshima MPA: N 33°38'; E 134°29'. Awa Takegashima: N 33°33'; E 135°19'.

ALTITUDE Sea level to 284 metres (maximum depth in MPAs 3-12 metres)

AREA 7216 ha (25.4 ha MPAs)

LAND TENURE 375 ha State land, 1232 ha Public land; 5627 ha in private ownership

PHYSICAL FEATURES 200 km coastal strip between Tachibana bay (Tokushima Prefecture and Muroto promontory (Kochi Prefecture). The northern end has an indented 'ria' coastline, the central section 200 m seacliffs of tuffs and sandstones and the southern section coastal terraces with groves of oaks. The MPAs are affected by the waters of the warm Kurushima Current and have both temperate and sub-tropical fauna. The Hiwasa coast is of importance as a breeding area for loggerhead turtles. Several famous old temples are also located along this coast. Temperatures vary from 27°C (August) to 8°C (January); annual precipitation averages 2543 mm. Water temperatures vary from 15°C - 17°C, with transparency 13-15 m.

VEGETATION Coniferous and temperate rain forest with black pine Pinus thunbergii (1.1.9.2), fine groves of oak Quercus phylliraeoides, Passia oak Castanopsis cuspidata var. sieboldii, Neolitsea thunbergii, Pittosporum tobira and Camellia japonica var. spontanea (1.1.6). Other typical species are Ficus wightiana and Firmiana platanifolia. Marine vegetation includes species such as Valonia spp., Codium spp., Caulerpa brachypus, Padina arborescens, Amphiroa spp., Grateloupia filicina and Martensia denticulata.

NOTEWORTHY FAUNA The most important feature is the loggerhead turtle Caretta caretta, now an increasingly rare species classified as endangered in the Red Data Book, which breeds on the Hiwasa coast. Marine fauna includes many temperate and sub-tropical fish such as Pomacentrus coelestis, Chaetodontidae and Ostraciidae spp., Franzia squamipinnis, Pterogobius elapides and others. Scleractinian and alcyonarian corals include Acropora spp., Pavona decussata, Porites tenuis, Favites species, Tubastrea aurea, Xenia spp., and others. An especially colourful sea-anemone Parasicyone actinostoloides is a feature.

ZONING Two zones proposed: 95.8% (6912 ha) multiple use; 4.2% (304 ha) wilderness

DISTURBANCES OR DEFICIENCIES A Marine Industrial Zone is being planned and constructed in Tachibana bay at the north of the Park. Up till now no contamination by polluted freshwater drainage from land to sea has been reported.
TOURISM 1.88 million visitors in 1972. Facilities include inns, camp and picnic grounds, nature trails and access roads; sightseeing boats and glass-bottomed boats available at Awa Oshima MPA.

SCIENTIFIC RESEARCH  Environmental Agency studies of vegetation (1973)

SPECIAL SCIENTIFIC FACILITIES  None

PRINCIPAL REFERENCE MATERIAL

STAFF  Total 4 (2 Prefectural officers, Tokushima Prefectural Government; 2 patrolmen, Kochi Prefectural Government)

BUDGET  US$ 7600 per annum provided by Tokushima and Kochi Prefectural Governments

NAME  Okinawa Kaigan Quasi-National Park (+MPA)

TYPE  PP

BIOTIC PROVINCE  2.3.3

LEGAL PROTECTION  Places of scenic beauty protected as Quasi-National Parks; development controlled (Art. 17, 18, 18-2 and 20, Natural Parks Law). Special protection for 86 species of fish, 33 species of invertebrate and the loggerhead turtle Caretta caretta.

DATE ESTABLISHED  15 May, 1972: designated by the Natural Parks Law

GEOGRAPHICAL LOCATION  North-west coast of Okinawa Island: N 26°026'-26°52'; E 127°45'-128°17'. Marine Park Area N 26°32'; E 127°57'.

ALTITUDE  Sea level to 498 metres (maximum depth 20 metres in MPA)

AREA  6701 ha (140 ha MPA)

LAND TENURE  Land tenure currently under adjustment

PHYSICAL FEATURES  Seacoast and mountains. The coast comprises coral limestone cliffs and coral sand beaches. Cape Hedomisaki is of notably karstic topography with a fine grass sward. Mt. Yonahadake is forested. The MPA is the largest in Japan and located at Onna beach, surrounded by a well developed barrier reef on paleozoic basement rock. Average temperatures range from 28°C (July) to 16°C (January); annual precipitation 2118 mm. Water temperature varies from 20°C-28°C with transparency 20 m.

VEGETATION  Original vegetation of sub-tropical and temperate rain forest (1.1.4, 1.1.6) still remains on Mt. Yonahadake. Dominant species include Ryuku pine Pinus luchensis, pasania oak Castanopsis cuspidata var. sieboldii, Neolitsea thunbergii, sago palm Cycas revoluta, Ficus wightiana and Pandanus tectorius var. liukiuensis. The marine flora is poor and of tropical origin, with such species as Hijakia fusiforme, Dictyota spp., Padina arborescens, Halimeda spp., and Turbinaria ornata.

NOTEWORTHY FAUNA  The terrestrial fauna includes the rare Bryer's woodpecker Sapheopipo noguchii, threatened by loss of habitat from forest clearance although it is mainly a ground-feeder. The marine fauna is of tropical origin with many coral fish including Amphiprion frenatus, Pomacentrus coelestis, Chrysiptera hollisi, Chaetodontidae, Zanclidae, Horcipiger semicircularis, Heniochus acuminatus, Leptoscarus japonicus and others. Corals include scleractinians such as Acropora spp., Platysya lamellina, Porites tenuis, Favia speciosa, Pocillopora damicornis, Stylophora pistillata and other types such as Melithaea flabellifera, Certonardoa semiregularis and Echinometra mathaei. Sea anemones and sea cucumbers (Holothuridae) are observed readily.

ZONING  Two zones are proposed: 91.6% (6135.7 ha) multiple-use areas, 8.4% (565.3 ha) wilderness areas

DISTURBANCES OR DEFICIENCIES  The crown of thorns starfish Acanthaster planci has destroyed large areas of coral. However, it appears that there is no contaminated freshwater draining into the sea.
TOURISM  
1.18 million visitors in 1972, with 216,000 to the MPA. Facilities include hotels, inns, picnic grounds, nature trails and access roads as well as glass-bottomed boats and an underwater observation tower at the Marine Park Area.

SCIENTIFIC RESEARCH  
The ecosystem of Acanthaster planci is under study at the Marine Park Centre with support from the Environmental Agency Trust. The Environmental Agency are studying the vegetation (1973).

SPECIAL SCIENTIFIC FACILITIES  
Marine Park Centre

PRINCIPAL REFERENCE MATERIAL
Many other scientific reports on the geology, flora and fauna

STAFF  
None

BUDGET  
US$ 1700 per annum provided by Okinawa Prefectural Government

LOCAL PARK ADMINISTRATION  
None
NAME: Ogasawara National Park (+MPA)

TYPE: NP-M

BIOTIC PROVINCE: 2.3.2

LEGAL PROTECTION: Places of scenic beauty protected as a National Park; development controlled by Art. 17, 18, 18-2, and 20 Natural Parks Law. Special regulations to protect 24 families, 13 species of Osteichthyes (fish); 17 families, 1 genus and 29 species of invertebrate; 1 family, 2 genera and 6 species of seaweed.

DATE ESTABLISHED: 16 October 1972, designated by Natural Parks Law

GEOGRAPHICAL LOCATION: Ogasawara (Bonin Islands) and Kazan Retto (Volcano Islands), north-west Pacific. Chichijima: N 27°02'-27°10': E 142°09'-142°14' (to include Anijima Channel MPA and Minamishima section MPA); Hahajima: N 26°33'-28°36': E 142°07'-142°10' (to include Hahajima section MPA); Twojima: N 26°14'-24°49': E 141°16'-141°27'.

ALTITUDE: Sea level to 918 metres (maximum depth of 20 metres in MPA)

AREA: 6433.7 ha (463 ha MPA)

LAND TENURE: 5424 ha State land; 1009.7 ha in private ownership

PHYSICAL FEATURES: Part of two oceanic island groups, of largely volcanic origin, 1000-1200 km south of Tokyo. Chichijima and Hahashima are composed of andesite and basalt, which forms steeply-eroded cliffs and beautiful seascapes. There are seven designated Marine Park Areas (MPA). The Minamishima section of Chichijima is limestone, with karstic formations above and below sea level, while the Senjinaqua section of Chichijima and Okuzure bay in Hahajima, are noted for their cliffs. Tsojima, in the southern Kazan group, is an emergent volcanic cone, still with solfataras, rising steeply to 918 m. Climatically between temperate and tropical, with temperatures varying from 26°C to 17°C and about 1600 mm annual rainfall. Surface water temperature averages 23.6°C, with transparency from 20-40 m, averaging 26.5 m.

VEGETATION: Sub-tropical rain forest with several endemic elements: dominated by Juniperus taxifolia, Pinus luchuensis, Morus boninensis, Schima mertensiana, Rhaphiolepis integrerrima, Distyllum lepidotum, Leucaena glauca, Hibiscus glaber and Pandanus boninensis (1.1.4, 3.1.1.3) with tree ferns Cyathaea sp., and mertensiana. Other typical species are Ardicia sieboldii, Pouteria obovata, Ochrosia nakaina and Livistona boninensis. Rare species include Photinia wrightiana, Melastoma tetramerum and Dendrocacalia cepidipolia. Marine vegetation includes species of Dictyopteris (observed from ships), Sargassum duplicatum, Caulerpa brachypus, Bryopsis sp., Padina minor and Galaxaura fastigiata.

NOTeworthy Fauna: The only mammal of note is the flying fox Pteropus dasymalus (considered rare). Seabirds are numerous and include black-footed albatross Diomedea nigripes, wedge-tailed shearwater Puffinus pacificus cuneatus, Bulwer's petrel Bulweria bulweri, red-tailed tropic bird Phaethon rubricauda rothschildi, brown booby Sula leucogaster plotus and swift tern Sterna bergii cristata. Other interesting though scarce species are buzzard Buteo butes, fruit pigeon Columba janthina nits, Bonin honeyeater Apaolopteron familiare bonasima and grey-capped greenfinch Carduelis sinica kitiitiz. Marine fauna includes many tropical fishes of the families Pteristidae, Syngnathidae, Labridae, Scorpididae, Zanclidae and others, including Acantthurus olivaceus and Paracanthurus hepatus. Corals include scleractinians such as Acropora leptocephalus, A. pyramidalis and Favia speciosa; alecystorians such as Nephthea charbroi and Xenia spp.; gorgonians such as Melithaea flavellifera; also Holothurids, Echinoids and Moluscs.

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Code: JAP.4.14
ZONING: Two zones proposed: 56.9% (3831.1 ha) wilderness and 40.4% (2602.6 ha) multiple use.

DISTURBANCES OR DEFICIENCIES: None.

TOURISM: 7000 visitors in 1973. Access to Chichijima by ship from Tokyo (45 hours); few small inns and trails on Chichijima and Hahajima only.


SPECIAL SCIENTIFIC FACILITIES: None.

PRINCIPAL REFERENCE MATERIAL:

STAFF: Total 6 (ranger, Environmental Agency; 2 officers and 3 patrolmen, appointed by Tokyo Prefectural Government).

BUDGET: Share of Environmental Agency's annual subvention to National Parks (US$ 700,000); US$ 6000 provided annually by Tokyo Prefectural Government.

NAME Minamiboso Quasi-National Park (+MPA)

TYPE PP

BIOTIC PROVINCE 2.3.2

LEGAL PROTECTION Places of scenic beauty protected as Quasi-National Park; development controlled (Art. 17, 18-2 of Natural Parks Law). Special protection for 8 families, 9 species of fish; 20 species of invertebrate hydrozoa and anthozoa; 7 families and 1 species of seaweed.

DATE ESTABLISHED 1 August 1958: designated by Natural Parks Law. Marine Park Area designated 7 June 1974

GEOPGRAPHICAL LOCATION South-eastern coast of Honshu, tip of Boso peninsula: N 34°55'–35°20'; E 139°46'–140°25'. MPA is off south-east of peninsula: N 35°08'; E 140°17'.

ALTITUDE Sea level to 405 metres (maximum depth of MPA 20 metres)

AREA 5670 ha (MPA 14.5 ha)

LAND TENURE 3105 ha State land, 33 ha Public land, 2532 ha Private land

PHYSICAL FEATURES A 190 km stretch of coast, also Mt Kano and Mt Kiyosumi areas. On the east are cliffs of tuffs and sandstones of the Sakuma group forming a series of coastal terraces and small islets. The west coast has many small sand dunes. Mt Kano (353 m) provides the main viewpoint and it and Mt Kiyosumi are both forested. The Marine Park at Katsuura is at the junction of the warm Kuroshio current and the cold Oyashio current from the north. Temperatures vary from 25.7°C (August) to 6.8°C (January); annual precipitation is 1928 mm; water transparency 6–25 m.

VEGETATION Originally forested with conifers, especially black pine Pinus thunbergii red pine P. densiflora, hemlock Tsuga sieboldii, fir Abies firma, Japanese cedar and cypress Cryptomeria japonica and Chamaecyparis obtusa and Podocarpus macrophyllus (1.1.9.2). Some broadleafed forest have sawtooth oak Quercus acutissima, Cinamomum japonicum, Neolitsea (Machilus) thunbergii and Camellia japonica var. spontanea. The marine flora has boreal elements with flourishing Sargassum spp.

NOTEWORTHY FAUNA Mammals: wild pig Sus scrofa leucomystax. Birds: Temminck's cormorant Phalacrocorax capillatus, night heron Nycticorax nycticorax, grey-faced buzzard-eagle Butastur indicus and siskin Carduelis spinus. Marine fauna includes fish of the temperate zone with some boreal and tropical elements, such as Pomacentrus coelestis, Scaridae, Acanthuridae, Chaetodon spp., Gerilla punctata and Labridae. Invertebrates: hydrozoa such as Allopora boschmai, Solanderia secunda and S. misakiensis and gorgonaria such as Melithaea flabellifera and Echinogorgia rigida.

ZONING Two zones are proposed: 95% (5388 ha) multiple-use areas, 5% (282 ha) wilderness areas

DISTURBANCES OR DEFICIENCIES Overuse of the area through excessive visitation due to easy access from Tokyo. However, it is reported that no contaminated freshwater drains into the sea.
TOURISM 16.44 million visitors in 1972. Facilities include hotels, inns, picnic places, sea bathing areas, yacht harbour, access roads and rail, nature trails, an aquarium and a National Vacation Village in the Tateyama area.

SCIENTIFIC RESEARCH Studies of vegetation by the Environmental Agency (1973)

SPECIAL SCIENTIFIC FACILITIES None

PRINCIPAL REFERENCE MATERIAL

STAFF 50 volunteer seasonal patrolmen (Chiba Prefectural Government)

BUDGET US$ 1000 per annum provided by Chiba Prefectural Government

NAME Nichinan Kaigan Quasi-National Park (+MPA)

TYPE PP

LEGAL PROTECTION Places of scenic beauty protected as a Quasi-National Park; development controlled by Art. 18, 18-2, 20 Natural Parks Law. Special protection for 8 families and 5 species of fish; 4 genera and 23 species of invertebrate; 2 genera and 3 species of seaweed.

DATE ESTABLISHED 1 June 1955, designated under the Natural Parks Law. Marine Park Area 1 July 1970

GEOGRAPHICAL LOCATION South-east coast of Kyushu. N 31°21'-31°49'; E 131°00'-131°29' (including Marine Park Area)

ALTITUDE Sea level to 319 metres (maximum depth in MPA 10-20 metres)

AREA 4643 ha (55.9 ha Marine Park Area)

LAND TENURE 1060 ha State land, 837 ha Public land; 2746 ha still privately owned

PHYSICAL FEATURES A 105 km coastal strip between Aoshima Island (Miyazaki Prefecture) and Shibushi bay (Kagoshima Prefecture), formed of shales and sandstones with many wave-cut benches. Aoshima has sub-tropical vegetation as do other islets; Shibushi bay has thick pine forests and a large sandy coastal area. The Marine Park Area is affected by the warm Kuroshio Current and the geology results in an irregular seabed. Annual temperatures range from 27°C (August) to 6.7°C (January); annual precipitation averages 2594 mm. Water temperature is 18°C, with transparency of 10-20 m.

VEGETATION Dominated by evergreen sclerophyll forest principally Neolitsea thunbergii, Castanopsis cuspidata var. sieboldii and Lithocarpus edulis, with some Cinnamomum camphora, Pittosporum tobira, Camellia japonica var. spontanea, Raphiolepis umbellata and Quercus glauca (1.1.4, 1.1.6). The Shibushi bay area has dense forests of Pinus thunbergii (1.1.9.2); Japanese cedar Cryptomeria japonica is also found in the Park. Sub-tropical and tropical species include the palm Livistona subglobosa, cycad Cycas revoluta and taro-like Alocasia macrorrhiza. The marine flora is poor, chiefly Sargassum spp., Codium spp., and Martensia denticulata.

NOTEWORTHY FAUNA Japanese macaque Macaca fuscata; feral horses Equus caballus roam around the Cape of Toi area. Important populations of wintering birds are reported. Three rare spiders Lyssodaes fuscata, Catopsilia pyranthe and Uminidia livistoni have been found. Sub-tropical fish include Amphiprion xanthus, Pomacentrus coelestis, Chrysiptera hollisi and Chaetodon auriga. Abundant colonies of scleractinian corals include well-developed Acropora leptocyathus at Komeotoura Bay, Pavona decussata, Pocillopora damicornis, Favia speciosa, Platygya lamellina and Tubastrea aerea. Alcyonarians: Nephthea chabroli, Stereonephthya japonica and Xenia spp. Gorgonarians: Melithaea flabellifera and Anthopleura dimorpha. Grinoids, starfish and sea-urchins are also present.

ZONING Two zones proposed: 97.5% (4529.3 ha) multiple use; 2.5% (113.7 ha) wilderness
DISTURBANCES OR DEFICIENCIES  Current activities include cultivation, grazing, selective flora disturbance, plantations, hunting and tourism. However, the freshwater drainage from land to sea is unpolluted.

TOURISM  7.85 million visitors in 1972; 69,047 users of the glass-bottomed boats in the MPA were recorded one year. Facilities include hotels, inns, camp and picnic grounds, access roads, nature trails and botanic garden.

SCIENTIFIC RESEARCH  Study of vegetation by the Environmental Agency (1973)

SPECIAL SCIENTIFIC FACILITIES  None

PRINCIPAL REFERENCE MATERIAL
Many studies of the geology, flora and fauna have been published.

STAFF  5 seasonal patrolmen (Miyazaki and Kagoshima Prefectural Governments)

BUDGET  US$ 3500 annually, provided by Miyazaki and Kagoshima Prefectural Governments

LOCAL PARK ADMINISTRATION  None: the two Prefectures are responsible for running the Park.
JORDAN

AREA 97,643 sq. km

POPULATION 2,660,000 (1974 estimate: about 370,000 on the West Bank)

PARKS AND RESERVES LEGISLATION As far as is known all areas receiving a measure of protection have been established by Royal Decree and it is uncertain whether the legislation, which was being drafted to cover the administration of the reserves, has yet been enacted.

PARKS AND RESERVES ADMINISTRATION Much of the day to day running of the area is vested in the University of Amman. A draft management plan was prepared in 1966 and submitted to the Royal Hashemite Government.

ADDRESS No information

TOTAL AREA UNDER PROTECTION By 1970, approximately 578,000 hectares were receiving some measure of formal protection, while a further 240,000 ha were expected eventually to be accorded National Park Status (Wadi Rum, Petra and Rift Valley).

PROTECTED AREAS

1.1 Azraq Desert National Park 525,000 ha
NAME Azraq Desert National Park

TYPE NP

LEGAL PROTECTION Draft legislation was still under consideration when data were supplied.

DATE ESTABLISHED Declared as a reserve by Royal Proclamation on 25 July 1965

GEOGRAPHICAL LOCATION 80 km east of Amman, south of the Mafraq-Baghdad highway and 20 km NNW of the nearest point of the Saudi Arabian border: N 31°50'; E 36°50'

ALTITUDE 500-928 metres, most of the reserve being at 520 metres

AREA 525,000 ha

LAND TENURE Government ownership

PHYSICAL FEATURES An extensive tract of gently undulating flint and boulder strewn terrain surrounding a shallow elongated basin, the Azraq depression. A complex of freshwater pools and marshes and a large mudflat at the north end of the depression constitute the Azraq Oasis. Over most of the area Cretaceous strata have been eroded into smoothly rounded uplands and gently undulating plains, forming part of an Oligocene peneplain. In the north and east erosion of Miocene lavas has resulted in a scatter of basalt boulders. Temperatures range from an estimated 15°C to 44°C; annual precipitation, occurring from December to February, averages about 50 mm.

VEGETATION The extensive series of drainage channels (wadis) feeding into the Azraq depression are a major topographic feature and the majority of woody plants occur along them, dominant species being the greenweed or broom Genista retama, the wormwood Artemisia herba-alba, shrubby orache Atriplex halimus and Prunus arabicus. Pistacia lentiscus occurs more locally. Elsewhere open scattered dwarf shrub- perennial-herb associations of similar species occur. Rocky or stony areas may have a thin grass cover of species such as Poa sinaica and a few herbs but are otherwise barren. Basalt areas are also partly barren but may support an interesting flora, including such species as Seidlitzia rosmarinus, Anabasis articulata and the tea-tree Lycium arborescens. Wetland areas, mudflats and saline alluvial soils support a variety of plant associations but Typha, Scirpus, Juncus and Haloxylon species and the giant reed Arundo donax are among the more important species.

NOTEWORTHY FAUNA Ten mammalian species are recorded from the area, including the Ethiopian hedgehog Paraechinus aethiopicus, hare Lepus sp., a number of rodents, Asian jackal Canis aureus and a gazelle Gazella sp. There is a surprisingly rich avifauna, with as many as 216 species having been recorded in one April/May period. The 60-70 breeding species include grebes, bitterns, herons, ducks, raptors, partridges, one bustard, waders, sandgrouse and one bee-eater. The bustard Chlamydotis undulata or houbara is a species which has become severely depleted in much of its range and one of the most interesting waders is the greater sandplover Charadrius leschenaultii. The marsh frog Rana ridibunda occurs in the wetlands and 21 reptiles have been recorded. Tilapia are present in the pools.

ZONING None
DISTURBANCES OR DEFICIENCIES There are settlements inside the Park boundaries at Azraq Shishan and Druze. Grazing of domestic livestock in the area has gone on for a very long period.

TOURISM Visited by about 5000 tourists annually

SCIENTIFIC RESEARCH Initial research was undertaken under the auspices of the International Biological Programme. It is planned to continue the scientific study of the area through the University in Amman.

SPECIAL SCIENTIFIC FACILITIES Field station facilities were established for a time in a former Hunting Lodge but at the moment have been discontinued.

PRINCIPAL REFERENCE MATERIAL

STAFF No information available

BUDGET No information available

LOCAL PARK ADMINISTRATION No information available
KENYA

AREA  582,644 sq. km (including 13,530 sq. km of water)

POPULATION  12,934,000 (1976 estimate)

PARKS AND RESERVES LEGISLATION  The former National Parks system set up by
Ordinance No. 9 of 1945 was recently replaced by the Wildlife Conservation and
Management Act 1976, which provided for a merger of that system with the former
Game Department.  Today the main function of the National Parks is to conserve as
far as possible a representative sample of Kenya's fauna and flora for educational,
aesthetic and recreational enjoyment by both visitors to the country and Kenyans.

The National Reserves which may be established on any type of land are declared
by the Minister for Tourism and Wildlife with the consent of the competent
authority.  Their aims are similar to those for National Parks with the exception
that other land uses may be specifically allowed, the conditions controlling such
uses being included in regulations agreed with the authority at the time of
 gazettement.  County Council Game Reserves now have the same status as National
Reserves, except that the County Council (or other local government body)
constitutes the competent authority.

PARKS AND RESERVES ADMINISTRATION  The National Parks, National Reserves and all
other wildlife areas are administered by the Director of the Wildlife Conservation
and Management Department.  In the particular case of County Council Reserves,
the reserve, having been declared by the Minister for Tourism and Wildlife with
the consent of the competent authority, is administered by a representative of the
Director of the Wildlife Conservation and Management Department assisted by a
Management Committee appointed by the County Council concerned.

ADDRESS  Director, Wildlife Conservation and Management Department, Langata Road,
P.O. Box 40241, Nairobi.

TOTAL AREA UNDER PROTECTION  3,876,548 hectares, based on the most recent
information and figures for the size of individual areas as quoted below.  This
compares with the 2,626,912 hectares of the 12 National Parks included in the last
edition of the U.N. List; three of these remain virtually unchanged, and adjust-
ments to three of the remaining nine are comparatively minor.

PROTECTED AREAS

1.1 Tsavo National Park  2,082,114 ha
2.1 Marsabit National Park  208,842 ha
2.2 Losai National Reserve  180,680 ha
2.3 Kora National Reserve  178,780 ha
2.4 Massai Mara National Reserve  167,274 ha
2.5 Sibiloi National Park  157,085 ha
2.6 Boni National Reserve  133,960 ha
2.7 Rahole National Reserve  127,057 ha
3.1 Dodori National Reserve  87,739 ha
3.2 Meru National Park  87,044 ha
3.3 Aberdare National Park  76,619 ha
3.4 Mount Kenya National Park  71,559 ha
3.5 Arawale National Reserve  53,324 ha
3.6 Amboseli National Park  39,206 ha
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<td>Lambwe Valley National Park</td>
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<td>3.9</td>
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<td>Samburu National Reserve</td>
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NAME  Tsavo National Park

TYPE NP

LEGAL PROTECTION Total

DATE ESTABLISHED 1948

BIOTIC PROVINCE 4.11.6

GEOGRAPHICAL LOCATION South-east Kenya, inland from Mombasa: S 02°00'–04°08'; E 38°08'–39°15'.

AREA 2,118,000 ha

LAND TENURE Government expropriated, under Trusteeship

PHYSICAL FEATURES Widely varying physical features although the soils are generally red and lateritic, with only patches of black cotton and recent volcanic types. In the north of the Tsavo East sector, part of the 300 m high Yatta plateau, a peneplain capped by protective lava, extends into the park. Similarly the southeastern end of the Chyulu hills, recent volcanics rising to over 2438 m, obtrudes into Tsavo West. Other older volcanic hills exposed by erosion include those of Ngulia, Ithumba, Murka and the noted vantage point, Mudanda rock. The Athi river from the north-west and the Tsavo from the west join to form the Galana river which flows through the centre of the park, but the extreme north of the park drains via the Tiva river into the Tana. Much of the water of the Tsavo river is derived from the noted Mzima Springs on the western boundary, although part of the flow is carried by pipeline to Mombasa.

VEGETATION Thorn bushland and thicket (Zone V of Pratt, Greenway and Gwynne); a mixture of Acacia and Commiphora woodland and bush. Over-browsing has resulted in large areas being dominated by grasses such as Cenchrus ciliaris and Chloris roxburghiana. Tree species include the boobab Adansonia digitata, doum palm Hyphaene coriacea, Lannea stuhlmannii, Sansevieria ehrenbergiana and the climbing Cissus quadrangularis.

NOTEWORTHY FAUNA Larger mammals include lion Panthera leo, leopard P. pardus, cheetah Acinonyx jubatus (both classified as vulnerable in the Red Data Book), elephant Loxodonta africana, black rhino Diceros bicornis (also vulnerable), hippo Hippopotamus amphibius, lesser kudu Tragelaphus imberbis, eland Taurotragus oryx, cape buffalo Syncerus caffer, waterbuck Kobus ellipsiprymnus, the oryx Oryx gazella beisa, Coke's hartebeest Alcelaphus buselaphus, Thomson's and Grant's gazelles Gazella thomsonii and granti, and the gerenuk Litocranius walleri. Bird life is rich and varied, including for example numerous raptors, 8 species of hornbill, 6 species of nightjar, a dozen starlings including Fischer's starling Spreo fischeri, a species of somewhat restricted distribution, and in fact a very good sample of the avifauna of the arid zone of north-eastern Africa.

ZONING Approximately two-fifths of the park north of the Galana river forms a completely protected reservation with no development except service roads and only limited facilities for occasional private camping.
DISTURBANCES OR DEFICIENCIES The Nairobi-Mombasa highway and railway bisect the park. Over-population of elephant, combined with the effects of recurrent drought, is one of the principal problems.

TOURISM Encouraged except in protected area: 3 fully catering lodges, 3 partially serviced 'bands' lodges, several campgrounds and 4 more fully catering lodges not far from the park boundaries.

SCIENTIFIC RESEARCH Current projects include studies of elephant, birds of prey and vegetation and, with the assistance of various outside organizations, termites, dung beetles and animal distribution and ethology generally.

SPECIAL SCIENTIFIC FACILITIES Research Centre with laboratory, library, offices, workrooms and storage with housing for six scientists.

PRINCIPAL REFERENCE MATERIAL

STAFF 17 wardens (various grades), 2 scientists, 11 general admin., 170 rangers, 310 workers and labourers: total 510.

BUDGET 1975-76 provision for recurrent expenditure: K£ 247,513 (US$ 545,000); and for capital expenditure: K£ 85,050 (US$ 187,000).

LOCAL PARK ADMINISTRATION Tsavo East: Warden, Tsavo East National Park, P.O. Box 14, Voi, Kenya. Tsavo West: Warden, Tsavo West National Park, Private Bag, Mtito Andae, Kenya.
NAME Sibiloi National Park

TYPE NP

BIOTIC PROVINCE 4.11.6

LEGAL PROTECTION Total

DATE ESTABLISHED 7 August 1973

GEOGRAPHICAL LOCATION Northern Kenya, east shore of Lake Rudolf: N 03°40'-04°18'; E 36°03'-36°32'.

ALTITUDE 375-914 metres

AREA 157,085 ha

LAND TENURE Government expropriated, under Trusteeship

PHYSICAL FEATURES The park includes 64 km of the north-eastern shore of Lake Rudolf, the hinterland up to 32 km back from the shore and the volcanic Central Island about 25 km to the south-west. A water area 1.6 km from the shore westwards is protected from fishing and other uses. The foreshore averages 400 m wide and is flat. Inland the relief increases sharply along rift valley fault lines. Old lake sediments capped by lavas form rugged and difficult terrain but rich in fossils, especially those of early man. Alia Bay in the south is shallow, sandy and marshy. The climate is hot and very arid.

VEGETATION Desert thornbush and scrub (Zone VI of Pratt, Greenway and Gwynne, 1966). Grasses of the foreshore include Dactyloctenium sp. and Sporobolus sp. Inland are scattered low Acacia and Commiphora bush and grasses such as Chrysopogon. Other species include Terminalia, Balanites and Delonix elata, the desert grass Chrysopogon aucheri and Aristida sp.

NOTEWORTHY FAUNA Larger mammals include spotted hyaena Crocuta crocuta, lion Panthera leo, cheetah Acinonyx jubatus (both in the vulnerable category of the Red Data Book), common and Grévy's zebras Equus burchelli and E. grevyi, Hippopotamus amphibius, greater kudu Tragelaphus strepsiceros, reticulated giraffe Giraffa camelopardalis reticulata, and topi Damaliscus korrigum. The 400 species of birds recorded include the Somali ostrich Struthio camelus. The area is noted for its crocodiles Crocodylus niloticus (an endangered species). Fish include Nile perch Lates niloticus and the tilapia Tilapia zillii.

ZONING The park has been totally closed for the first two years of its existence, and public entry is expected to be restricted to certain sections.

DISTURBANCES OR DEFICIENCIES Poaching, formerly a problem, now seems to be under control.

TOURISM None at present: entry only with special permission

SCIENTIFIC RESEARCH Fisheries research in Lake Rudolf is being undertaken by the Fisheries Department with the assistance of the Norwegian Government. Anthropological research by National Museum of Kenya.

WDNP IUCN © 1977 (1)F Code: KEN.2.5
SPECIAL SCIENTIFIC FACILITIES  A research centre of the National Museum of Kenya is located at Kobi Fora on the lakeside.

PRINCIPAL REFERENCE MATERIAL  None listed

STAFF  4 wardens (various grades), assistant, 20 rangers, 24 other staff including workers and labourers: total 49.

BUDGET  Recurrent expenditure 1975/76: K£ 64,639 (US$ 142,200); capital expenditure 1975/76: K£ 25,000 (US$ 55,000).

LOCAL PARK ADMINISTRATION  The Warden, Rudolf/Marsabit National Parks, P.O. Marsabit, via Isiolo, Kenya.
NAME    Meru National Park

TYPE    NP

BIOTIC PROVINCE  4.11.6

LEGAL PROTECTION  Total

DATE ESTABLISHED  1966 (as a game reserve), upgraded to national park in 1967

GEOGRAPHICAL LOCATION  East-north-east of Mount Kenya: N 00°18'- S 00°11'; E 38°02'-38°25'.

ALTITUDE  366-914 metres

AREA  87,044 ha

LAND TENURE  Government expropriated, under Trusteeship

PHYSICAL FEATURES  The west of the park is a hilly upland of volcanic rocks, drained by 15 permanent streams and with rich black volcanic soil. The east is an open plain with red lateritic soil, drained by three rivers of which considerable sections dry out seasonally. The Tana river, forming the southern boundary, features Adamson's fall, where the river passes over basement rocks. Several prominent hills of Precambrian rock tower above the surrounding plains. Rainfall is 635-762 mm in the west and 305-356 mm in the east of the park.

VEGETATION  Largely thorn bushland and thicket (Zone V of Pratt, Greenway and Gwynne, 1966) with Combretum prevailing in the north and Commiphora in the south. To the west the Combretum merges into Terminalia wooded grasslands. Dense riverine forests of doum and raffia palms Hyphaene and Raphia spp. along the watercourses. Some riverine swamps with sedges Cyperus sp. and the grasses Echinochloa haplacelada and Pennisetum mesianum. Out on the plains Sehima nervosa, Chloris roxburghiana and other species of Pennisetum are the dominant grasses. In the north of the park a small outlier of rain forest, the Ngaia forest, still exists.

NOTEWORTHY FAUNA  Larger mammals include the lion Panthera leo, the two vulnerable cats leopard P. pardus and cheetah Acinonyx jubatus, elephant Loxodonta africana, zebra Equus burchelli, Grey's zebra E. grevyi, black rhino Diceros bicornis (also a vulnerable species: a few white rhino of the northern race Ceratotherium simum cottoni, classified as endangered, have been introduced), reticulated giraffe Giraffa camelopardalis reticulata, lesser kudu Tragelaphus imberbis, oryx Oryx gazella beisa, hartebeest Alcephalus buselaphus and Grant's gazelle Gazella granti. The Somali race of ostrich Struthio camelus molybdophanes is among the 277 species of birds recorded but many other now rare or of restricted range are to be found including the small brown-backed woodpecker Yungipicus obsoletus and golden-breasted starlings Cosmopsarus regius in big numbers.

ZONING  Managed national park. One section has been designated as a wilderness area.

DISTURBANCES OR DEFICIENCIES  Deforestation although mainly outside the park may bring about erosion and adversely affect water supply and storage capacity within the park.

WDNP IUCN © 1977 (1)F  Code: KEN.3.2
TOURISM Encouraged in all areas: accommodation includes a 140-bed lodge with full catering and a 40-bed 'banda' lodge with partial catering facilities. Private and one public campgrounds.

SCIENTIFIC RESEARCH Study of vegetation by East African Wildlife Society. Study of small mammals also under way.

SPECIAL SCIENTIFIC FACILITIES None

PRINCIPAL REFERENCE MATERIAL

STAFF Warden and 2 assistants: total 3

BUDGET Capital expenditure 1975/76: K£ 60,200 (US$ 132,400); recurrent expenditure 1975/76: K£ 47,525 (US$ 104,500).

LOCAL PARK ADMINISTRATION Warden, Meru National Park, P.O. Box 162, Nanyuki, Kenya.
KENYA

NAME Aberdare National Park
TYPE NP
BIOTIC PROVINCE 4.6.2
LEGAL PROTECTION Total
DATE ESTABLISHED 1950

GEOGRAPHICAL LOCATION Central highlands, west of Mount Kenya: S 00°08'-00°42'; E 36°32'-36°55'.

ALTITUDE 1829-4000 metres
AREA 76,619 ha

LAND TENURE Government expropriated, under Trusteeship

PHYSICAL FEATURES A range of mountains forming part of the eastern wall of the Rift Valley, with two main peaks Oldonyo Lasatiem 3994 m and Kinangop 3906 m separated by alpine moorland of over 3000 m in altitude. Deep ravines cut through the forested eastern and western flanks and there are many clear streams and waterfalls. Heavy rainfall persists through most of the year. Soils are red and of volcanic origin but rich in organic matter.

VEGETATION Governed by altitude, the lower forests from 1829-2590 m dominated by Podocarpus, Olea and cedar Juniperus procera, and in succession at higher altitudes by Podocarpus and bamboo Arundinaria alpina, bamboo and Hagenia abyssinica, and Erica arborea, Festuca pilgeri and Carex moorland. Other characteristic plants of higher levels are tree senecios, giant lobelias such as Lobelia gibberoa, St. John's Wort Hypericum and tussock-grass Eleusine. At lower levels in the forest, cape chestnuts Calodendrum capense, camphor Ocotea usambarensis, the tree fern Cyathea deckeni, the elder Sambucus adnata and wild banana Ensete ventricosa are among the more striking species.

NOTEWORTHY FAUNA Mammals of the forest zone include the blue or Sykes' monkey Cercopithecus mitis, the black-and-white colobus Colobus polykomos abyssinicus lcaard Panter a pardus (in the vulnerable category of the Red Data Book), elephant Loxodonta africana, warthog Phacochoerus aethiopicus, giant forest hog Hylochoerus meinertzhageni, bushbuck Tragelaphus scriptus, buffalo Syncerus caffer, red duiker Cephalophus harveyi and suni Nesotragus moschatus. The open moorlands have several Felis serval, black rhino Diceros bicornis (a vulnerable species), eland Taurotragus oryx, grey and black-fronted duikers Sylvicapra grimmia and Cephalophus nigrifrons and bongo Boocercus eurycerus (a species of restricted distribution of which this park is a stronghold, with a population of an estimated 1000-2000). Bird life is abundant and varied, with sunbirds of four species one of the more conspicuous elements.

ZONING Lower altitudes comprising the so-called 'Treetops Salient' are closed except to licensed safari companies.

DISTURBANCES OR DEFICIENCIES Not considered serious, although the park is bisected by a major road, and exploration of the high moorland on foot and trout-fishing are permitted.

WDNP IUCN © 1977 (1)F Code: KEN.3.3
TOURISM  Encouraged in all areas with special facilities including two fully catering 'night-time wildlife viewing' lodges. Also 2 'banda'-type lodges for fishermen, 11 public campsites and 4 special campsites.

SCIENTIFIC RESEARCH  None at present

SPECIAL SCIENTIFIC FACILITIES  None

PRINCIPAL REFERENCE MATERIAL


STAFF  Warden, 2 assistants and 2 park assistants: total 5

BUDGET  Capital expenditure 1975/76: K£ 43,500 (US$ 95,700); recurrent expenditure 1975/76: K£ 60,934 (US$ 134,000).

LOCAL PARK ADMINISTRATION  Warden, Aberdare National Park, P.O. Box 22, Nyeri, Kenya.
NAME Mount Kenya National Park

TYPE NP

BIOTIC PROVINCE 4.6.2

LEGAL PROTECTION Total

DATE ESTABLISHED 1949

GEOGRAPHICAL LOCATION Summit area of the mountain; 120 km NNE of Nairobi: N 00°02'-S 00°17'; E 37°08'-37°29'.

ALTITUDE 2134-5199 metres

AREA 71,559 ha

LAND TENURE Government expropriated, under Trusteeship

PHYSICAL FEATURES A shield volcano formed at the same time as the Rift Valley, now eroded leaving the central plug forming the present day peaks of Batian (5199 m), Nelion (5188 m) and six other peaks over 4700 m. There are several small lakes at heights of 3900-4500 m; a dozen little glaciers have a total area of 1.2 sq. km. The park begins at around the 3200 m contour except for Naro Moru and Sirimon salients which extend down narrow ridges to 2133 m and 2743 m respectively. Rainfall varies from 762 mm on the north facing to over 2540 mm on south-east facing slopes.

VEGETATION Afro-alpine moorland and grassland (Zones I and II of Pratt, Greenway and Gwynne, 1966), forests and derived grassland. The forest of the lowest 150 m is composed of cedar Juniperus procera and Podocarpus stands, with some olive Olea hochstetteri and elder Sambucus adnata, gradually replaced at higher altitudes by Arundinaria alpina bamboo forest and Hypericum scrub. Higher still the open moorland around the peaks has a remarkable flora in which giant lobelias Lobelia keniensis and L. telekii, heaths of the genera Erica and Philippia growing up to 8 m in height, giant groundsel Senecio keniodendron and brassica, giant thistle Carduus keniensis, everlasting Helichrysum sp. and several ground orchids, are among the more characteristic species.

NOTEWORTHY FAUNA Mammals of the forest zone include the black-and-white colobus Colobus polykomos abyssinicus (albinistic specimens are not uncommon), leopard Panthera pardus (in the vulnerable category of the Red Data Book), elephant Loxodonta africana, zebra Equus burchelli, black rhino Diceros bicornis (another vulnerable species), giant forest hog Hylochoerus meinertzhageni, bushbuck Tragelaphus scriptus, eland Taurotragus oryx, bongo Boocercus eurycerus and three duikers of which the black-fronted Cephalophus nigrifrons is the most unusual. The Hypericum scrub zone features two small endemics, the Mount Kenya mole shrew Sordisorex norae and the Mount Kenya mole rat Tachyoryctes rex.

ZONING The entire park is open to the public but the southern quadrant is undisturbed and is being kept deliberately free of trails or other development.

DISTURBANCES OR DEFICIENCIES Some burning of giant senecios and lobelias has occurred in the moorland but steps have been taken to control this.
TOURISM Encouraged, and special facilities have been provided for hikers and climbers with 9 huts maintained by the Mountain Club of Kenya. Two high altitude cabins, 3 'bands' hostels at 3000 m and 3 fully catering lodges on the park perimeter.

SCIENTIFIC RESEARCH None at present

SPECIAL SCIENTIFIC FACILITIES None; but a Biosphere Meteorological Station is planned.

PRINCIPAL REFERENCE MATERIAL

STAFF Warden and assistant warden: total 2

BUDGET Recurrent expenditure, 1975/76: K£ 35,213 (US$ 77,000); capital expenditure, 1975/76: K£ 36,000 (US$ 79,000).

LOCAL PARK ADMINISTRATION Warden, Mount Kenya National Park, P.O. Box 22, Nyeri, Kenya.
KENYA

NAME Amboseli National Park

TYPE NP

BIOTIC PROVINCE 4.11.6

LEGAL PROTECTION Total

DATE ESTABLISHED 1 November 1974 (formerly a Game Reserve)

GEOGRAPHICAL LOCATION On southern border, NW of Kilimanjaro: S 02°33' - 02°45'; E 37°06'-37°24'.

ALTITUDE 335-366 metres

AREA 39,206 ha

LAND TENURE Government expropriated, under Trusteeship

PHYSICAL FEATURES Formerly a saline lake, partly overrun by lava flows and now normally dry and only seasonally flooded, although there are two large swamps fed by underground springs. Most of the Lake Amboseli basin is very flat with alkaline soils, but two or three prominent hills of volcanic origin rise about 100 m above the ruling level near the southern border and a noticeable fault line forms the north-east shoreline of the seasonal lake basin. The climate is generally hot and dry, with only 305 mm rainfall. The two permanent swamps, Engonyo Naibor and Loginya, in the south-east, are major watering-points for animals.

VEGETATION Thornbush and thicket (Zone V of Pratt, Greenway and Gwynne, 1966). Three types of vegetation can be recognised, each occupying about 30% of the area: 1) Commiphora bushland; 2) salt grass plains with Suaeda monoica and Salvadora persica; and 3) Acacia-wooded grasslands. The remaining 10% swampland supports sedges Cyperus spp. and Papyrus. Grasses include needlegrass Aristida, fingergrass Digitaria, the salt-loving dropseed Sporobolus and stargrass Cynodon dactylon.

NOTEWORTHY FAUNA Mammals include baboon Papio anubis, lion Panthera leo, cheetah Acinonyx jubatus (in the vulnerable category of the Red Data Book), elephant Loxodonta africana, zebra Equus burchelli (several 'negative' examples of this species have been observed), black rhino Diceros bicornis (another vulnerable species), hippo Hippopotamus amphibius, Masai giraffe Giraffa camelopardalis tippelskirchi, buffalo Syncerus caffer, fringe-eared oryx Oryx gazella callotis, wildebeest Connochaetes taurinus, gerenuk Litocranius walleri, impala Aepyceros melampus and Grant's gazelle Gazella granti. Birds are abundant and three species of sandgrouse visit the permanent waters in the dry season, which also support numbers of waterfowl, including several species such as the migrant squacco heron from Madagascar Ardeola idae which is of rare occurrence in Kenya. The everywhere scarce though widespread Taita falcon Falco fasciinucha occurs and altogether over 425 species have been recorded.

ZONING None

DISTURBANCES OR DEFICIENCIES Overuse by tourists and by grazing of Masai cattle during Game Reserve period. Traffic is now restricted to an as yet inadequate road system, to which improvements are planned.
TOURISM  One of the most heavily visited parks, capacity of over 340 beds in 2 lodges and a tented camp with catering facilities, a self-help 'banda' lodge and 2 campgrounds. Capacity to be increased to 400.

SCIENTIFIC RESEARCH  Study of ecology of the Amboseli basin by Nairobi University. A study of tourist use is also underway.

SPECIAL SCIENTIFIC FACILITIES  A small house for a consultant scientist

PRINCIPAL REFERENCE MATERIAL

STAFF  Warden, 2 assistant wardens, accountant, 22 rangers, 13 ranger/guides, 57 workers and labourers: total 96.

BUDGET  Recurrent expenditure, 1975/76: K£ 41,122 (US$ 90,500); capital expenditure, 1975/76: K£ 37,500 (US$ 82,500).

LOCAL PARK ADMINISTRATION  The Warden, Amboseli National Park, P.O. Box 18, Namanga, Kenya.
KENYA

NAME Mount Elgon National Park

TYPE NP

BIOTIC PROVINCE 4.6.2

LEGAL PROTECTION Total

DATE ESTABLISHED 29 March 1968

GEOGRAPHICAL LOCATION On the western border with Uganda: N 01°02'-01°10'; E 34°35'-34°48'.

ALTITUDE 2336-4191 metres

AREA 16,923 ha

LAND TENURE Government expropriated, under Trusteeship

PHYSICAL FEATURES The park is shaped like a figure of eight on the east flank of a massive volcanic cone, 4267 m in altitude, overlooking a huge caldera, which, together with half the mountain, lies in Uganda. At the summit, near the edge of the caldera, a flat-topped basalt column known as Koitoboss (Table Rock) is a noted feature as are the 'lava-tube' caves, some over 60 m in diameter, which are visited by elephants in search of salt. Also near the western boundary are the high basalt cliffs of Endebus Bluffs. Soil is red and lateritic and rainfall over 1270 mm annually.

VEGETATION Altitudinal zoning with transition from olive Olea hochstetteri/Aningueria adolfi-friedericii wet montane forest through olive/Podocarpus gracilior forest, a Podocarpus/bamboo Arundinaria alpina zone, the Hagenia abyssinica zone and finally to moorland with heaths Erica arborea and Philippia trimera, tussock grasses Agrostis gracilifolia, Festuca pilgeri and others, herbs such as Alchemilla, Helichrysum, Lobelia and the giant groundsels Senecio barbatipes and elgonensis. Other species present include cedar Juniperus procera, pillarwood Cassipourea malosana and elder Sambucus adnata. The pure stands of Podocarpus gracilior are especially remarkable.

NOTEWORTHY FAUNA Mammals include the black-and-white colobus Colobus polykomos abyssinicus, leopard Panthera pardus (in the vulnerable category of the Red Data Book), elephant Loxodonta africana, giant forest hog Hylochoerus meinertzhageni, bushbuck Tragelaphus scriptus, eland Taurotragus oryx, buffalo Syncerus caffer, and duikers Cephalophus spp. (the black-fronted nigrifrons being the rarest). Birds of the forest zone include the crested guinea fowl Guttera edouardi sethsmithi, great blue turaco Corythaëula cristata and black-and-white-caqued hornbill Bycanistes subcylinudicus, while the moorland supports most of the species characteristic of such altitudes in eastern Africa, such as the mountain chat Pinarochira sórdida and, an endemic form, the highlands grass-warbler Cisticola hunteri masaba. ZONING None

DISTURBANCES OR DEFICIENCIES None serious, but severe encroachment into the forests and moorlands outside the park, which provide a buffer for the maintenance of these habitats within the park, is a growing threat.

TOURISM Encouraged by several all-weather roads, and 3 public camp sites; a small hotel on the park boundary should by now have been established.

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Code: KEN.4.2
SCIENTIFIC RESEARCH None at present

SPECIAL SCIENTIFIC FACILITIES None

PRINCIPAL REFERENCE MATERIAL

STAFF Warden, 3 assistant wardens, park assistant, 42 rangers, 36 workers and labourers: total 83.

BUDGET Recurrent expenditure, 1975/76: KE 28,005 (US$ 61,600); capital expenditure, 1975/76: KE 37,600 (US$ 82,700).

LOCAL PARK ADMINISTRATION The Warden, Mount Elgon National Park, P.O. Box 753, Kitale, Kenya.
KENYA

NAME Nairobi National Park
TYPE NP
BIOTIC PROVINCE 4.6.2

LEGAL PROTECTION Total
DATE ESTABLISHED 1946

GEOGRAPHICAL LOCATION About 8 km to the south of Nairobi; S 02°21'-02°21'; E 36°47'-36°55'.

ALTITUDE 1533-1760 metres
AREA 11,721 ha

LAND TENURE Government expropriated, under Trusteeship

PHYSICAL FEATURES A sloping plain cut by several deep river valleys. The western portion towards Ngong is dominated by an upland derived from an old lava flow. The Athi river and its tributaries flows south-eastwards through the park and in places forms the southern boundary. Soils are mainly composed of the black loamy clay known as 'black cotton'. Rainfall varies from 889 mm in the upland area to 635 mm on the plains.

VEGETATION Dry transitional savanna (Zone IV of Pratt, Greenway and Gwynne, 1966). The upland areas are forested, stands of Olea africana and Croton dichogamus/Brachylaena hutchinssii accounting for about 20% of the park and croton/Psalidia arabica bushland a further 15%. The lower slopes making up the remaining 65% are grassland composed of such species as Themeda, Cyperus, Digitaria and Cynodon, with a scattering of yellow-barked acacia Acacia xanthophloea. Other tree species present include Apodytes dimidiata, Canthium scriptus, Connochaetes thomsonii, Newtonia sp., Ficus eriocarpa, Aspilia mossambicensis and Rhus natalensis.

NOTEWORTHY FAUNA Noted for its concentrations of larger mammals, including small numbers of three in the vulnerable category of the Red Data Book, the leopard Panthera pardus, cheetah Acinonyx jubatus and black rhinoceros Diceros bicornis; among the other 80 species recorded are Baboon Papio anubis, lion Panthera leo (the prides of which, being accustomed to vehicles, form a particular tourist attraction), zebra Equus burchelli, Masai giraffe Giraffa camelopardalis tippelskirchi, eland Taurotragus oryx, bushbuck Tragelaphus scriptus, Coke's hartebeest Alcelaphus buselaphus, wildebeest Connochaetes taurinus, the dikdik Rhynchotragus kirkii and both the gazelles Gazella thomsonii and granti. This well-watched park is credited with c. 500 species of birds, ranging from the Masai ostrich Struthio camelus massicus to the tiny 'kapok bird' or penduline tit Anthoscopus caroli, with its close-woven felt-like nest. The various ponds, small dams and the Athi river itself attract many waterbirds, the river providing one of the best chances of seeing the finfoot Podica senegalensis in Kenya, in the company of hippos and crocodiles.

ZONING The whole area has managed national park status

DISTURBANCES OR DEFICIENCIES Excessive tourist roads have recently been reduced in numbers. Traces of the former encampments of pastoralists and of army personnel can still be seen. One species has been introduced, the buffalo Syncerus caffer, although some may also wander in from the Ngong hills.
TOURISM Very evident and may present a major management problem if it continues to grow, although it is confined entirely to day visitors from Nairobi, a proportion of whom never go further than the small zoo or 'orphange' near the main gate, with its concomitant visitor facilities.

SCIENTIFIC RESEARCH Many studies have been conducted in the area: current research includes studies of grassland ecology, tourist impact and of various species - Coke's hartebeest, ostrich, Grant's gazelle, etc.

SPECIAL SCIENTIFIC FACILITIES None

PRINCIPAL REFERENCE MATERIAL

STAFF Warden, 2 assistant wardens, 2 park assistants, additional warden, 46 rangers, 91 workers or labourers: total 143.


LOCAL PARK ADMINISTRATION Warden, Nairobi National Park, P.O. Box 42076, Nairobi, Kenya.

©NP IUCN © 1977 (1)B Code: KEN,4,4
KENYA

NAME  Lake Nakuru National Park

TYPE  NP

LEGAL PROTECTION  Total

DATE ESTABLISHED  1967

GEOGRAPHICAL LOCATION  Central Kenya, 140 km NW of Nairobi: S 00°18'-00°24'; E 36°03'-36°08'.

ALTITUDE  1753-2073 metres

AREA  5,763 ha

LAND TENURE  Government expropriated, under Trusteeship

PHYSICAL FEATURES  A shallow alkaline lake in the Central Rift Valley bordered on the west by one wall of the Rift Valley and on the east by a salt-dome hill. In the north beyond Nakuru Town lies a crater and to the south an open plain is the bed of a former lake which once joined Lake Nakuru and Lake Elmenteita to form a single deeper and larger lake. The Rift wall is rugged with volcanic cliffs rising in steps to 2743 m. Soils are volcanic in origin interspersed with alkaloid deposits. The Lake itself is very alkaline with a pH of 10.5, which limits fauna to a few species of algae and zooplankton, but these are present in great abundance giving a green colour to the lake. Rainfall is 965 mm a year. The lake has no outlet.

VEGETATION  The normally water-covered surface of the lake occupies about a third of the park and derives its colour from the blue-green algae Spirulina platensis, the major food source of the flamingo. The surrounding areas support a dry transitional savanna (Zone IV of Pratt, Greenway and Gwynne, 1966), with lake margin grasslands of Sporobolus spicatus salt grass and sedge Cyperus laevigatus grading into grasslands of Hyparrhenia hirta and rhodes grass Chloris gayana in the lower areas. More elevated areas have dry forest with Acacia hochstetteri and Croton dichogamus; Ephorbia candelabrum forest; and bushland dominated by the Composites, mulelechwa Tarchonanthus camphoratus and Psidnia arabica.

NOTEWORTHY FAUNA  Mammals include the rare long-eared leaf-nosed bat Hipposideros megalotis, spring hare Pedetes cafer cafer, clawless otter Ambyx capensis, rock hyrax Heterohyrax brucei, hippo Hippopotamus amphibius, defassa waterbuck Kobus defassa, bohor and mountain reedbucks Redunca redunca and fulvorufa, impala Aepyceros melampus, and Thomson's gazelle Gazella thomsonii. The area is noted for its birds and is probably the only national park established specifically for the protection of birds, and in particular, here, the greater flamingo Phoenicopterus ruber and the lesser Phoeniconaias minor. The great concourse of waterbirds, including in season many migrant species, is made up of such spectacular species as both the local pelicans, but especially Pelecanus onocrotalus, the cormorants Phalacrocorax carbo and P. africanus, night heron Nycticorax nycticorax, African spoonbill Platalea alba and thirty species of Charadriidae and Scolopacidae. Birds of prey are also much in evidence, including the secretary bird Sagittarius serpentarius and Verreaux's eagle Aquila verreauxi hunting over the western scarp. The introduced fish Tilapia grahami (brought from Lake Magadi in 1960) is now extremely abundant when the water level is high.

WDNP  IUCN © 1977 (1)F  Code: KEN.4.7
ZONING  The whole area has managed national park status.

DISTURBANCES OR DEFICIENCIES  Extreme vulnerability to pollution due to closed nature of the lake basin. A lake quality monitoring programme will warn of danger but no preventative system is yet in effective operation. The nearest buildings and drains of Nakuru Town are barely a kilometre from the park gate.

TOURISM  Encouraged throughout the area. Three public campsites are available and a lodge is planned. Hotel accommodation and other facilities are available in Nakuru.

SCIENTIFIC RESEARCH  Limnological study, lake monitoring programme, biochemical analysis of the lake, studies of flamingoes and pelicans.

SPECIAL SCIENTIFIC FACILITIES  Research laboratory for limnological and biochemical analyses, workshop, inflatable boat, housing and central sampling platform in the lake.

PRINCIPAL REFERENCE MATERIAL


STAFF  Warden, assistant warden and junior assistant warden: total 3

BUDGET  Recurrent expenditure, 1975/76: K£ 32,915 (US$ 72,400); capital expenditure, 1975/76: K£ 32,400 (US$ 70,300).

LOCAL PARK ADMINISTRATION  Warden, Lake Nakuru National Park, P.O. Box 539, Nakuru, Kenya.
NAME: Kisite/Mpunguti Marine National Park

TYPE: NP-M

BIOTIC PROVINCE: 4.11.6

LEGAL PROTECTION: Total

DATE ESTABLISHED: 2 November 1973, Gazette Notice No. 215

GEOGRAPHICAL LOCATION: South of Wasini I., off Shimoni on south coast, not far from the Tanzanian border: S 04° 40'-04° 44'; E 39° 21'-39° 26'

ALTITUDE: Sea level to c. 5 metres

AREA: 2301 ha (island area approximately 18 ha)

LAND TENURE: Government expropriated, under Trusteeship

PHYSICAL FEATURES: A trapezoid section of the Indian Ocean encompassing four small coral islands: Kisite, Mpunguti ya juu, Mpunguti ya chini and Jiwe la Jahazi, together with a considerable area of the fringing reefs and sand surrounding them.

VEGETATION: Sea grasses Cymodocea serrulata and Syringodium isoetifolium cover large areas of the sub-littoral zone of the reef. Marine algae include Padina communis, Dictyota bartayresiana, Bostrychia binderi, Ulva lactuca, Dictyosphaera sp., Udotea indica and Halimeda opuntia.

NOTEWORTHY FAUNA: Includes the corals Balaxea sp. and Porites sp., money cowrie Cypraea moneta, starfish Protoreaster lincki, sea urchins Echinometra mathaei, ghost and rock crabs Ocyopode kuhlii and Grapsis maculatus, sergeant-major fish Abudefduf sexfasciatus, butterfly fish Chaetodon lunula and parrot fish Callyodon guttatus.

ZONING: None

DISTURBANCES OR DEFICIENCIES: Damage to the area by past blasting has caused concern. It is hoped that present protection will permit regeneration.

TOURISM: Open to tourism, with accommodation and boats for hire available in Shimoni.

SCIENTIFIC RESEARCH: None at present

SPECIAL SCIENTIFIC FACILITIES: None

PRINCIPAL REFERENCE MATERIAL:

STAFF: Warden, 2 assistants, 20 rangers, 10 labourers or workers: total 33.

BUDGET: Recurrent expenditure, 1975/76: K£ 20,573 (US$ 45,300); capital expenditure, 1975/76: K£ 17,500 (US$ 38,500).

LOCAL PARK ADMINISTRATION: Warden Kisite/Mpunguti Marine National Park, P.O. Box 55, Ukunda, Kenya.

WDNP IUCN © 1977 (1)F

Code: KEN.5.1
KENYA

NAME 01 Doinyo Sabuk National Park

TYPE NP

BIOTIC PROVINCE 4.6.2

LEGAL PROTECTION Total: no exploitation

DATE ESTABLISHED 22 December 1967

GEOGRAPHICAL LOCATION ESE of Thika, 50 km north-east of Nairobi: S 01°07'-01°10'; E 37°13'-37°17'.

ALTITUDE 1524-2146 metres

AREA 1842 ha

LAND TENURE Government expropriated, under Trusteeship

PHYSICAL FEATURES An island mountain (inselberg) rising from the surrounding plains. It is a remnant of a former range and composed of Precambrian granitic rock much exposed. Almost entirely forested except for a small 'bald patch' around the summit. The local Swahili name Kilima Mbogo means Buffalo Mountain.

VEGETATION A remnant of a once common montane forest type dominated by Olea, Podocarpus and Croton.

NOTEWORTHY FAUNA Includes black-and-white colobus Colobus polykomos abyssinicus, leopard Panthera pardus (classed as vulnerable in the Red Data Book), black rhino Diceros bicornis (another vulnerable species), bushbuck Tragelaphus scriptus, buffalo Syncerus caffer, duikers Cephalophus spp. and impala Aepyceros melampus. The great blue turaco Corythaeola cristata is one of the most striking of numerous bird species.

ZONING None

DISTURBANCES OR DEFICIENCIES None reported

TOURISM Encouraged: especially as a place to visit on day-trips from Nairobi. No hotels or campgrounds but two areas where camping is permitted.

SCIENTIFIC RESEARCH None at present

SPECIAL SCIENTIFIC FACILITIES None at present

PRINCIPAL REFERENCE MATERIAL None listed

STAFF Assistant warden, junior assistant, 12 rangers, 11 workers or labourers: total 25.

BUDGET Recurrent expenditure, 1975/76: K£ 11,819 (US$ 26,000); capital expenditure, 1975/76: K£ 23,000 (US$ 50,600).

LOCAL PARK ADMINISTRATION The Warden, 01 Doinyo Sabuk, c/o Nairobi National Park, P.O. Box 42076, Nairobi, Kenya.
KENYA

NAME Malindi Marine National Park

TYPE NP-M  BIOTIC PROVINCE  4.11.6

LEGAL PROTECTION Total

DATE ESTABLISHED 29 March 1968

GEOGRAPHICAL LOCATION Sea coast south of Malindi, 80 km north of Mombasa: S 03°14'-03°25'; E 39°58'-40°09'.

ALTITUDE Sea level

AREA 599 ha

LAND TENURE Government expropriated, under Trusteeship

PHYSICAL FEATURES Areas of shallow reef-protected waters extending from highwater mark to one mile (1.6 km) offshore, both areas being within a Marine National Reserve in which traditional fishing is allowed. Both have an abundance of live coral heads and coral gardens. Malindi, between Chanoni Point and the Leopard Reef, has a coral-sand shoreline, an offshore deep channel and two main reefs. Watamu extends from Blue Lagoon to the entrance to Mida creek, and from the shore to the outer edge of the reef, which is here a mixture of old and active coral heads and patches of coral sand. Two large coral stacks, Whale island and Turtle rock, at the northern Blue Lagoon end, have underwater clefts, or caves, as does the outer edge of the reef. Tropical marine climate with 889 mm rainfall annually.

VEGETATION Sea grasses Cymodocea spp., Syringodium isoetifolium and other species carpet vast areas of the sub-littoral zone. Marine algae include Padina communis, Dictyota bartayresiana, Bostrychia binderi, Udotea indica and Halimeda opuntia. In places along the shore there is a narrow mangrove Rhizophora mucronata fringe.

NOTEWORTHY FAUNA Corals include Balaxea clavus and Porites lutea. Other marine organisms include starfish Protoreaster lincki, sea urchins Echinometra mathaei, ghost crab Cympode kuhlii, rock crab Grapsus maculatus, many cowries Cypraea spp., sergeant-major fish Abudefduf sexfasciatus, butterfly fish Chaetodon lunula, parrot fish Callyodon guttulatus and, haunting the underwater caverns, giant groupers Serranidae running up to 360 kg in weight.

ZONING Entirely within larger National Reserve. No fishing or collecting of any kind permitted in the park areas.

DISTURBANCES OR DEFICIENCIES Silt derived from the Sabaki rivermouth to the north is beginning to have an adverse effect on growth of new coral, the silt load of the river being due to bad land use and erosion in the watershed. One shortcoming of the park is the lack of enough land along the shore for the development of facilities.

TOURISM Encouraged: close relationship maintained with the many local seaside hotels and lodges in the vicinity.

SCIENTIFIC RESEARCH Study of the ecology of the coral reef, and of marine turtles by Nairobi University.

SPECIAL SCIENTIFIC FACILITIES None

WDNP IUCN © 1977  (1)F  Code: KEN 6.1
PRINCIPAL REFERENCE MATERIAL

BROWN, L. 1975. *Natural History of the Kenya Coast.*

STAFF No information; warden indicated under Administration, below. Marine
rangers were said to be employed in 1972.

BUDGET Recurrent expenditure, 1975/76: K£ 27,540 (US$ 60,600); capital expendi-
ture, 1975/76: K£ 22,000 (US$ 48,400).

LOCAL PARK ADMINISTRATION The Warden, Malindi Marine National Park, P.O.
Box 109, Malindi, Kenya.
INTERNATIONAL UNION
FOR CONSERVATION
OF NATURE AND NATURAL
RESOURCES

WORLD DIRECTORY
OF NATIONAL
PARKS AND OTHER
PROTECTED AREAS

VOLUME II

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United Kingdom of Great Britain & Northern Ireland
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