<table>
<thead>
<tr>
<th><strong>NAME</strong></th>
<th>Tung Yai-Naresuan Wildlife Sanctuary</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>TYPE</strong></td>
<td>NP</td>
</tr>
<tr>
<td><strong>BIOTIC PROVINCE</strong></td>
<td>5.7.2</td>
</tr>
<tr>
<td><strong>LEGAL PROTECTION</strong></td>
<td>Total</td>
</tr>
<tr>
<td><strong>DATE ESTABLISHED</strong></td>
<td>14 April 1974</td>
</tr>
<tr>
<td><strong>GEOGRAPHICAL LOCATION</strong></td>
<td>Western Thailand, near Burmese border and about 95 km south of the provincial capital Tak: N 16°; E 99°</td>
</tr>
<tr>
<td><strong>ALTITUDE</strong></td>
<td>250-1300 metres</td>
</tr>
<tr>
<td><strong>AREA</strong></td>
<td>336,000 ha</td>
</tr>
<tr>
<td><strong>LAND TENURE</strong></td>
<td>Government expropriated lands by law falling partly within Tak and partly within Kanchanaburi Provinces.</td>
</tr>
<tr>
<td><strong>PHYSICAL FEATURES</strong></td>
<td>A tract of undulating highlands and hills. Tung Yai itself is a highland plateau or alpine meadowland of about 1000 ha, surrounded by mountains. The Sanctuary has a sub-tropical humid climate with three distinct seasons which could be categorized as the summer or hot season, the rains and the winter or cool season. The mean annual temperature is about 28°C and annual precipitation amounts to about 2000 mm.</td>
</tr>
<tr>
<td><strong>VEGETATION</strong></td>
<td>The primary vegetation cover at lower elevations is mixed deciduous forest with scattered isolated clumps of bamboo. The trees include Afzelia xilocarpa, Dalbergia dongnaiensis, Lagerstroemia calyculata, L. tomentosa, Lannea grandis, Protium serratum, Tetrameles nudiflora, Dipterocarpus obtusifolius and L. tuberculatus. Deciduous forest also occurs in hilly areas but along the streams the forest is often of an evergreen type. Dry Dipterocarp forest is usual in areas of poor and shallow soils. Evergreen forest is also found at higher elevations and is composed of such species as Dipterocarpus alatus, Hopea odorata, Lagerstroemia spp. and Eugenia cumini.</td>
</tr>
<tr>
<td><strong>NOTEWORTHY FAUNA</strong></td>
<td>Macaques Macaca spp. and gibbons Hylobates spp. are reportedly abundant; barking deer Muntiacus muntjak and sambar Cervus unicolor are the most frequent ungulates.</td>
</tr>
<tr>
<td><strong>ZONING</strong></td>
<td>None</td>
</tr>
<tr>
<td><strong>DISTURBANCES OR DEFICIENCIES</strong></td>
<td>None reported</td>
</tr>
<tr>
<td><strong>TOURISM</strong></td>
<td>No information; presumably undeveloped</td>
</tr>
<tr>
<td><strong>SCIENTIFIC RESEARCH</strong></td>
<td>None</td>
</tr>
<tr>
<td><strong>SPECIAL SCIENTIFIC FACILITIES</strong></td>
<td>None</td>
</tr>
<tr>
<td><strong>PRINCIPAL REFERENCE MATERIAL</strong></td>
<td>None listed</td>
</tr>
<tr>
<td><strong>STAFF</strong></td>
<td>No information</td>
</tr>
<tr>
<td><strong>BUDGET</strong></td>
<td>In 1976 the funds allocated for this Sanctuary amounted to 174,000 baht, then approximately equivalent to U.S. $ 8,700.</td>
</tr>
<tr>
<td><strong>LOCAL PARK ADMINISTRATION</strong></td>
<td>No information</td>
</tr>
</tbody>
</table>

WDNP IUCN © 1977

(1)F Code: THA.2.1
THAILAND

NAME Khao Yai National Park

TYPE NP

AREA 216,875 ha

LAND TENURE Former National Reserved Forest: public ownership

PHYSICAL FEATURES A mainly sandstone mountainous area extending along the Nakhon Nayok and Prachantakam watersheds and with two small rivers flowing from them, the Lam Takong and the Muak Lek. The Park boundaries mostly follow the line of steep escarpments, except to the east, where the landscape is one of more gently rolling hills. There are several spectacular waterfalls along the scarps.

VEGETATION Mostly forest but considerable areas are now covered by secondary growth of Imperata cylindrica or lalang grass, following shifting cultivation. Highland evergreen forest with some admixture of oak occurs above 1000 m and tropical rain forest between 400-1000 m, except that lower and drier slopes between 400 and 600 m tend to be covered with mixed deciduous forest and with bamboo and below that level by drought tolerant evergreens. Typical tree species of the Park are Dipterocarpus gracilis, D. costatus, Shorea sericeiflora, Hopea odorata, Aquilaria crassna, Chinese cedar Cedrela toona, the camphor Cinnamomum siamense, Gymnocalyx arborea, Lagerstroemia spp., Pterocarpus spp., Calamus palms and the Australasian conifer Dacydium.

NOTEWORTHY FAUNA Mammals include white-handed gibbons Hylobates lar, civets Viverridae, at least until recently a few tiger Panthera tigris corbetti, Asiatic elephant Elephas maximus, barking deer Muntiacus muntjak, sambar Cervus unicolor and gaur Bos gaurus, the tiger, elephant and gaur being rated as 'vulnerable' by the Red Data Book. About 200 species of bird have been recorded including wreathed hornbill Buceros rhynchatus, southern pied hornbill Anthracoceros convexus and great hornbill Buceros bicornis, scarlet minivet Pericrocotus flammeus, fairy bluebird Irena puella and hill mynah Gracula religiosa.

ZONING 50,000 ha in the higher levels of the reserve is to be given complete sanctuary status. 30,000 ha in the western sector (mainly grasslands and secondary growth) has been zoned for tourism.

DISTURBANCES OR DEFICIENCIES Recreation centre and golf course disturb a part of the reserve. Some local user-rights remain, mostly in the eastern sector. Until recently part of the summit ridge area was occupied by a military unit and some illegal hunting undoubtedly took place.

TOURISM Free entrance: facilities include motels and hostels maintained by the Tourist Organization and a forest rest house and camping grounds for official use. Golf course, helicopter pad and a hard surface access road from the 'Friendship Highway'. A small museum is being established. Around 100,000 visitors annually.
SCIENTIFIC RESEARCH  No extensive studies: only a few published papers, with particular reference to the ornithology.

SPECIAL SCIENTIFIC FACILITIES  None

PRINCIPAL REFERENCE MATERIAL  A tourist pamphlet published by the Royal Forest Department.

STAFF  10 full time officials, 40 guards and a labour force of 30.

BUDGET  1,510,980 baht were allocated in the 1976 fiscal year (equivalent to U.S. $ 77,500) but did not cover salaries and capital works, for which separate and unspecified funds were made available.

LOCAL PARK ADMINISTRATION  Park Superintendent, c/o Royal Forest Dept. Bangkok 9.
THAILAND

NAME Huay Khakhaeng Wildlife Sanctuary

TYPE NP

BIOTIC PROVINCE 5.7.2

LEGAL PROTECTION Total

DATE ESTABLISHED 26 August 1972

GEOGRAPHICAL LOCATION Western Thailand, partly in the Tak and partly in the Uthai Thani province and about 120 km due west of Muang Nakhon-Sawan: approx. N 15°50'; E 99°

ALTITUDE 500-1649 metres

AREA 163,100 ha

LAND TENURE Government expropriated lands by law

PHYSICAL FEATURES The reserve is located in one of the largest remaining uninhabited regions, and is remote and difficult of access. The Huay Khakhaeng or Mae Khlong River, which with a number of its tributaries originates in the Sanctuary is regarded as critically important for future water sources within the region. It flows south to its junction with the Kwae Yai or Khwae Noi River near Kanchanaburi and so into the Gulf of Siam. The climate is subtropical with three seasons, the hot or summer season, the rains and the cool or 'winter' season. The mean annual temperature is around 28°C, mean annual rainfall about 1800 mm, and high humidity.

VEGETATION Lower slopes and riverine areas have moist evergreen forest, higher elevations a combination of dry evergreen forest and mixed deciduous forest. Deciduous Dipterocarp forest is usually found on ridges where soils are poor and shallow. Fairly extensive open grasslands occur, also bamboo in scattered clumps within the mixed deciduous forest. Tree species include teak Tectona grandis, Terminalia nudiflora, Xylosia kerii, Lagerstroemia calyculata, Afzelia xylocarpa, Dipterocarpus alatus, Hopea odorata and Anisoptera cochinensis, several of which have a high value as timber.

NOTEWORTHY FAUNA Mammals include the leaf monkey Presbytis phayrei, macaques Macaca spp., white-handed gibbon Hylobates lar, tiger Panthera tigris corbetti, leopard P. pardus, wild pig Sus scrofa, barking deer Muntiacus muntjak, sambar Cervus unicolor, the last herd of wild water buffalo Bubalus bubalis remaining in Thailand, gaur Bos gaurus and banteng B. banteng. Of these the tiger, leopard, buffalo, gaur and banteng are classified as 'vulnerable' species by the Red Data Book.

ZONING Strict Nature Reserve status is applied to the whole of the Sanctuary.

DISTURBANCES OR DEFICIENCIES None reported

TOURISM None

SCIENTIFIC RESEARCH None

SPECIAL SCIENTIFIC FACILITIES None

WDNP IUCN © 1977 (1)F Code: THA.2.3
PRINCIPAL REFERENCE MATERIAL  None listed

STAFF  No information

BUDGET  374,000 baht (U.S. $19,180) in 1976, excluding salaries and capital expenditure.

LOCAL PARK ADMINISTRATION  No information
THAILAND

NAME Phu Khieo Wildlife Sanctuary

TYPE NR  BIOTIC PROVINCE  5.7.2

LEGAL PROTECTION Total

DATE ESTABLISHED 24 May 1972

GEOPHYSICAL LOCATION East-central Thailand, Chaiyaphum Province, about 350 km north-east of Bangkok and halfway between the Chi Bon and Ubolratna dams: N 16°20'; E 102°05'

ALTITUDE 300-1242 metres

AREA 141,300 ha

LAND TENURE Government expropriated lands by law

PHYSICAL FEATURES A mountainous region with a very scenic landscape thanks to the interaction of geomorphological features and forests. The Sanctuary is the source of several rivers and small patches of savanna woodland are to be found in their valleys. The climate is subtropical with a distinct dry season between December and March. Mean annual temperature is estimated at around 27°C and total precipitation is at 1800 mm annually.

VEGETATION The forests may be classified as mixed deciduous forest, deciduous Dipterocarp forest and dry or moist evergreen forest. Small stands of Pinus spp. often take over from the normal species of the highlands at elevations of over 700 m. Many of the tree species would rapidly be eliminated because of the value of their timber, were it not for the protection afforded by the Sanctuary: they include several Dipterocarpus spp. as well as representatives of other Dipterocarp genera, such as Hopea odorata, Shorea obtusa and Pentacme suavis, Leguminosae like Afzelia xylocarpa, Xylo kerri and Plumeracrus macrocarpus, Spondias pinnata, Proteus seratam and the pines Pinus khasya and mercusii.

NOTEWORTHY FAUNA Mammals include the Asiatic black bear Selenarctos thibetanus, tiger Panthera tigris corbetti, Asiatic elephant Elephas maximus, Malayan tapir Tapirus indicus, Sumatran rhino Dicerorhinus sumatrensis, mouse deer Tragulus spp., gaur Bos gaurus and serow Capricornis sumatraensis. The tapir, Sumatran rhino and serow are classified as 'endangered' by the Red Data Book, the tiger, elephant and gaur as 'vulnerable'. Among many birds two of the most showy and vocal are the green peafowl Pavo muticus and the white-rumped shama Copsychus malabaricus.

ZONING None

DISTURBANCES OR DEFICIENCIES Settlers in the area have now apparently been moved out.

TOURISM No information; presumably undeveloped

SCIENTIFIC RESEARCH None

SPECIAL SCIENTIFIC FACILITIES None

PRINCIPAL REFERENCE MATERIAL None listed

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Code: THA.2.5
STAFF No information

BUDGET The 1976 budget was 348,000 baht (U.S. $18,300), excluding salaries and capital expenditure.

LOCAL PARK ADMINISTRATION No details provided.
THAILAND

NAME Khao Bantad Wildlife Sanctuary

TYPE NR BIOTIC PROVINCE 5.7.2

LEGAL PROTECTION Total

DATE ESTABLISHED 4 September 1975

GEOGRAPHICAL LOCATION Extreme southern Thailand, where the Trang, Phatthalung, Songkhla and Satun provinces meet and about 65 km south of Phatthalung: N 7°; E 100°

ALTITUDE 50-1322 metres

AREA 128,800 ha

LAND TENURE Government expropriated lands by law

PHYSICAL FEATURES Part of the northern extremity of the great mountain chain which runs down the centre of the Malay Peninsula. The highest point in the Sanctuary is a peak named Khao Rom. The climate is tropical and governed by the monsoons, the mean annual temperature being approximately 26°C and rainfall about 2500 mm.

VEGETATION The whole area is dominated by moist evergreen forest with a few small and scattered patches of savanna woodland. Many of the trees are fine timber species such as Dipterocarpus alatus and grandiflorus, other Dipterocarps such as Cotylelobium lanceolatum, Hopea odorata and Shorea alura, and Dyera costulata and Anisoptera spp.

NOTEWORTHY FAUNA Mammals include leaf monkeys Presbytis spp., gibbons Hylobates spp., binturong Arctictis binturong, tiger Panthera tigris, leopard P. pardus, mouse deer Tragulus napu and serow Capricornis sumatraensis (the tiger and leopard rating as 'vulnerable', the serow as an 'endangered' species in the Red Data Book). Among the birds the peacock pheasant Polyplectron spp. and the great argus pheasant Argusianus argus are said to have been sighted.

ZONING None; entirely strict nature reserve.

DISTURBANCES OR DEFICIENCIES None reported

TOURISM No information: presumably undeveloped.

SCIENTIFIC RESEARCH None

SPECIAL SCIENTIFIC FACILITIES None

PRINCIPAL REFERENCE MATERIAL None listed

STAFF No information

BUDGET 183,000 baht (U.S. $ 9,384) in 1976, excluding salaries and capital works.

LOCAL PARK ADMINISTRATION No details given.
THAILAND

NAME: Klong Saeng Wildlife Sanctuary

TYPE: NR

BIOTIC PROVINCE: 5.7.2

LEGAL PROTECTION: Total

DATE ESTABLISHED: 18 December 1974

GEOGRAPHICAL LOCATION: South-western Thailand, Surat Thani province and about 50 km SSW of Surat Thani: approx. N 9°; E 99°

ALTITUDE: 100-1395 metres

AREA: 108,500 ha

LAND TENURE: Government expropriated lands by law.

PHYSICAL FEATURES: Highland area with an average elevation of around 500 m. Tropical monsoon climate with a definite dry period between December and March. Rainfall is about 3500 mm and mean annual temperature about 27°C. The reserve is regarded as one of the most important watershed areas for the farmers of the province.

VEGETATION: Most of the Sanctuary is covered by moist evergreen forest, in which the dominant trees are Dipterocarpus alatus, D. grandiflorus, Anisoptera spp., Artocarpus lacca, Lagerstroemia tomentosa, Hopea odorata, Shorea alura, Syzygium spp., Fagraea fragrans and the ironwood Mesua ferrea.

NOTEWORTHY FAUNA: Mammals include several species of monkey, binturong Arctictis binturong, leopard Panthera pardus and tapir Tapirus indicus (the leopard and tapir being rated respectively as 'vulnerable' and 'endangered'). Peacock pheasants Polyplectron spp. are among the most notable birds and, in this area, must be the grey species bicarcaratum or the Malaysian malacense or possibly both.

ZONING: None

DISTURBANCES OR DEFICIENCIES: None reported

TOURISM: No information, presumably not yet developed.

SCIENTIFIC RESEARCH: None

SPECIAL SCIENTIFIC FACILITIES: None

PRINCIPAL REFERENCE MATERIAL: None listed

STAFF: No information

BUDGET: The budget allocation for 1976 was 317,000 baht (U.S. $16,250) excluding salaries and capital works.

LOCAL PARK ADMINISTRATION: No details supplied.

WDNP  IUCN © 1977  (1)F  Code: THA.2.7
NAME Khao Sai Dao Wildlife Sanctuary

TYPE NR

BIOTIC PROVINCE 5.7.2

LEGAL PROTECTION Total

DATE ESTABLISHED 26 August 1972

GEORGAPLICAL LOCATION South-eastern Thailand, about 40 km north of the provincial town of Chanthaburi and the same distance from the Khmer border: approx. N 13°15'; E 102°30'

ALTITUDE 200-1633 metres

AREA 102,500 ha

LAND TENURE Government expropriated lands by law

PHYSICAL FEATURES A mountainous massif with steep slopes culminating in the peak of Khao Sai Dao Tai. About 30,000 ha in the northern sector is a fairly flat plateau. The climate is tropical, governed by the monsoons and with a marked dry season between December and March. The mean annual temperature is around 28°C and rainfall about 3000 mm annually.

VEGETATION The forests of this Sanctuary comprise the last evergreen forest in the eastern region. Most of it is of a humid type but there are a few patches of mixed deciduous and deciduous Dipterocarp forest. Several valuable timber species are protected, including Dipterocarpus alatus, Hopea odorata, Tetrameles nudiflora, Anisoptera spp. and other Dipterocarps, such as Shorea obtusa and Pentacme suavis, as well as Xylia kerrii and other species.

NOTEWORTHY FAUNA Mammals include the marbled cat Felis marmorata, golden cat F. temmincki, clouded leopard Neofelis nebulosa, tiger Panthera tigris, leopard P. pardus, Asiatic elephant Elephas maximus, various deer, banteng Bos banteng and serow Capricornis sumatraensis (the clouded leopard, tiger, leopard, elephant and banteng rated as 'vulnerable' species by the Red Data Book, the serow as 'endangered'). Peacock pheasants Polyplectron spp. and the green peafowl Pavo muticus are among the noteworthy birds.

ZONING None

DISTURBANCES OR DEFICIENCIES There are some problems arising from settlements and terrorist hideouts in the area but it is hoped that they will be overcome.

TOURISM No information; presumably not yet developed.

SCIENTIFIC RESEARCH None

SPECIAL SCIENTIFIC FACILITIES None

PRINCIPAL REFERENCE MATERIAL None listed

STAFF No information

BUDGET The annual budget for 1976 was 271,000 baht (U.S. $13,900), excluding salaries and capital works.

LOCAL PARK ADMINISTRATION No details supplied.

WDNP IUCN © 1977 (1)F Code: THA.2.8
THAILAND

NAME Salag Phra Wildlife Sanctuary

TYPE NR

BIOTIC PROVINCE 5.7.2

LEGAL PROTECTION Total

DATE ESTABLISHED 3 February 1972

GEOGRAPHICAL LOCATION Western Thailand, about 50 km WNW of Kanchanaburi, the provincial capital: N 14°20'; E 99°

ALTITUDE 100-1300 metres

AREA 93,620 ha

LAND TENURE Government expropriated lands by law

PHYSICAL FEATURES More than half the reserve is high mountainous country, the remainder a region of undulating lowland, bordered by two rivers. The climate is typical of the humid tropical zone, with three distinct seasons: the hot season, rains and cool season. Total rainfall is estimated to average 1500 mm annually and mean annual temperature is around 28°C.

VEGETATION Of several types of forest the mixed deciduous is the most frequent and includes scattered clumps of bamboo. Where soils are poor and shallow, especially on ridges, deciduous Dipterocarps are dominant, while humid evergreen gallery forest occurs along the rivers. Characteristic tree species are Afzelia xylolarpa, Hopea odorata, Xylio kerii, Butea frondosa, Lagerstroemia floribunda, the so-called white cedar or Indian redwood Chukrasia velutina, Terminalia tomentosa, Shorea obtusa and Pentacme suavis.

NOTEWORTHY FAUNA Mammals include several species of macaque, giant flying squirrels Petaurista spp., Asiatic black bear Selenarctos thibetanus, tiger Panthera tigris, elephant Elephas maximus, gaur Bos gaurus, banteng B. banteng and serow Capricornis sumatraensis. Tiger, elephant, gaur and banteng are in the Red Data Book 'vulnerable' category, the serow in the 'endangered' category.

ZONING None

DISTURBANCES OR DEFICIENCIES Former settlers have been removed from the reserve and a strip along the public road which traverses the reserve has been excised. Some bamboo cutting occurs but is not regarded as serious.

TOURISM Plans exist to develop this reserve as the Nature Education and Wildlife Propagation Centre for the region.

SCIENTIFIC RESEARCH None

SPECIAL SCIENTIFIC FACILITIES None

PRINCIPAL REFERENCE MATERIAL None listed

STAFF No information

BUDGET The annual budget for 1976 was 174,000 baht (U.S. $ 8,920), excluding salaries and capital expenditure on buildings or other development.

LOCAL PARK ADMINISTRATION No information

WDNP IUCN © 1977 (1)F Code: THA.3.2
THAILAND

NAME Phu Luang Wildlife Sanctuary

TYPE NR

BIOTIC PROVINCE 5.7.2

LEGAL PROTECTION Total

DATE ESTABLISHED 16 December 1974

GEOGRAPHICAL LOCATION In the north-east, Loei Province, 85 km SSE of the point where the Mekong River reaches the Laos/Thailand border and turns east along it: N 17°10'; E 101°20'

ALTITUDE 350-1575 metres

AREA 84,800 ha

LAND TENURE Government expropriated lands by law

PHYSICAL FEATURES An undulating plateau with a mean height of around 1000 m. The Reserve is situated on the watershed for the Pa Sak and Loei rivers, which flow south and north respectively, the latter joining the Mekong on the Laotian border, and generally the geomorphology is of considerable interest and creates a pleasantly scenic landscape. The climate is subtropical with hot, rainy and cool seasons. The mean temperature is around 24°C and rainfall averages about 2000 mm annually.

VEGETATION The landscape is dominated by evergreen forest, with small scattered stands of the pines Pinus khasya and mercusii. Characteristic species include Dipterocarpus alatus, Hopea odorata and Afzelia xylocarpa. The forests are notable for the wealth of epiphytic orchids and climbing species they support.

NOTEWORTHY FAUNA Mammals include marbled cat Felis marmorata, golden cat F. temmincki, leopard cat F. bengalensis, clouded leopard Neofelis nebulosa, tiger Panthera tigris, elephant Elephas maximus, various deer and gaur Bos gaurus, the four last-named species all being in the Red Data Book 'vulnerable' category.

ZONING None

DISTURBANCES OR DEFICIENCIES None reported

TOURISM No information: presumably undeveloped

SCIENTIFIC RESEARCH None

SPECIAL SCIENTIFIC FACILITIES None

PRINCIPAL REFERENCE MATERIAL None listed

STAFF No information supplied

BUDGET The 1976 annual budget was 248,000 baht (U.S. $ 12,700), for expenditure other than on staff salaries and buildings or other capital development.

LOCAL PARK ADMINISTRATION No information

WDNP IUCN © 1977 (1)F Code: THA.3.3
THAILAND

NAME  Klong Nakha Wildlife Sanctuary

TYPE NR  BIOTIC PROVINCE  5.7.2

LEGAL PROTECTION Total

DATE ESTABLISHED 24 May 1972

GEOGRAPHICAL LOCATION  West coast of peninsular Thailand, about 100 km south of the southern tip of the Burmese border in the Isthmus of Kra:  N 9°30'; E 98°20'

ALTITUDE  100-1395 metres

AREA  48,000 ha

LAND TENURE  Government expropriated lands by law

PHYSICAL FEATURES  A mountainous area, with steep slopes running down to the Andaman sea and the source of three or four small rivers. The climate is tropical, governed by the monsoons, with a mean annual temperature of around 26°C and an estimated rainfall of 4000 mm, which is the highest average rainfall recorded anywhere in Thailand.

VEGETATION  Moist evergreen forest dominates the area, but there are a few scattered patches of savanna. Dominant tree species include Dipterocarpus alatus, D. grandiflorus, Anisoptera spp., Lagerstroemia tomentosa, Ararocarpus (=Meiogyne) lakoocha, Hopea odorata, Shorea talura, Syzygium spp., the epiphyte Fagraea fragrans and an iron-wood Mesua ferrea, the flowers of which are used for perfume-making.

NOTEWORTHY FAUNA  Mammals include binturong Arctictis binturong, leopard Panthera pardus, tapir Tapirus indicus, barking deer Muntiacus spp. and gaur Bos gaurus (the leopard and gaur classified as 'vulnerable', the tapir as 'endangered' in the Red Data Book). Interesting bird species reported to have been sighted include peacock pheasants Polyplectron spp., great argus pheasant Argusianus argus and hill mynah Gracula religiosa.

ZONING  None

DISTURBANCES OR DEFICIENCIES  None reported

TOURISM  No information: presumably undeveloped

SCIENTIFIC RESEARCH  None

SPECIAL SCIENTIFIC FACILITIES  None

PRINCIPAL REFERENCE MATERIAL  None listed

STAFF  No information supplied

BUDGET  Annual budget for 1976 was 317,000 baht (U.S. $ 16,250), excluding salaries and capital expenditure.

LOCAL PARK ADMINISTRATION  No information
THAILAND

NAME Phu Wua Wildlife Sanctuary

TYPE NP

BIOTIC PROVINCE 5.7.2

LEGAL PROTECTION Total

DATE ESTABLISHED 2 May 1975

GEOGRAPHICAL LOCATION North-east Nong Khai province, about 75 km ENE of Nong Khai: approx. N 18°; E 103°30'

ALTITUDE 100-1000 metres

AREA 18,650 ha

LAND TENURE Government expropriated lands by law

PHYSICAL FEATURES An undulating highland region occupies about 8,400 ha of the north-eastern part of the reserve and is surrounded by a ring of low-lying peneplain of similar size, with a swampy area of about 2,500 ha in the south. The climate is subtropical with a marked dry season between December and March. Mean annual temperature is about 26°C and average rainfall is estimated at 2000 mm annually.

VEGETATION The highlands are dominated by deciduous forests and savannas, the typical trees being Shorea obtusa, Pentacme suavis, Dipterocarpus obtusifolius and D. tuberculatus. The lower slopes support evergreen forest, which also borders some of the swampy region and consists of such species as Dipterocarpus alatus, Hopea odorata and Anisoptera spp.

NOTEWORTHY FAUNA Mammals include several species of macaques, monkeys, elephant Elephas maximus, mouse deer Tragulus napu, barking deer Muntiacus muntjak, sambar Cervus unicolor and gaur Bos gaurus (the elephant and gaur classified as 'vulnerable' in the Red Data Book). There is a good variety of birdlife, ranging from the Asian darter Anhinga melanogaster in the swampland, green peafowl Pavo muticus in the forest to forktails Enicurus spp. along the highland streams.

ZONING None

DISTURBANCES OR DEFICIENCIES None reported

TOURISM No information, but unlikely in the foreseeable future in this somewhat troubled area.

SCIENTIFIC RESEARCH None

SPECIAL SCIENTIFIC FACILITIES None

PRINCIPAL REFERENCE MATERIAL None listed

STAFF No information

BUDGET 298,000 baht (U.S. $15,300) in 1976, for maintenance only.

LOCAL PARK ADMINISTRATION No information

WDNP IUCN © 1977 (1)F Code: THA.4.1
THAILAND

NAME Khao Khieo and Khao Chomphu Wildlife Sanctuary

TYPE NP

LEGAL PROTECTION Total

DATE ESTABLISHED 2 July 1974

GEOGRAPHICAL LOCATION South-east of Chonburi or about 100 km south-east of Bangkok: approx. N 12°45'; E 101°45'

ALTITUDE 100-789 metres

AREA 16,000 ha

LAND TENURE Government expropriated lands by law

PHYSICAL FEATURES The Sanctuary's name refers to the two peaks it embraces, Khao Khieo being the highest and rising 789 m above the sea. The coast is overlooked by this small mountain range, which runs parallel to it and at this point due north and south. It also forms a most important section of the watershed that supplies Bang-Phra reservoir and some of the most productive farming areas of Chonburi Province. The mean temperature is around 28°C and annual rainfall averages 1800 mm.

VEGETATION Lower slopes have a combination of mixed deciduous forest and evergreen forest. In areas above 400 m, the landscape is generally dominated by moist evergreen forest. Characteristic tree species are Xylia kerii, Pterocarpus macrocarpus, Afzelia xylocarpa, Dalbergia spp. and Dipterocarpus alatus.

NOTEWORTHY FAUNA Mammals reported from the area include porcupine Hystrix brachyura, Asiatic black bear Helarctos thibetanus, the small Indian civet Viverricula indica, wild pig Sus scrofa, barking deer Muntiacus muntjak, sambar Cervus unicolor and serow Capricornis sumatraensis, the last being rated an endangered species by the Red Data Book, though still fairly widespread in Thailand.

ZONING None

DISTURBANCES OR DEFICIENCIES None reported

TOURISM Despite the proximity of the Sanctuary to Bangkok and numerous seaside resorts, apparently not yet developed.

SCIENTIFIC RESEARCH None

SPECIAL SCIENTIFIC FACILITIES None

PRINCIPAL REFERENCE MATERIAL None listed

STAFF No information

BUDGET 166,000 baht (U.S. $ 8,500) in 1975 was made available for maintenance, but no figures are quoted for staff salaries or development expenditure.

LOCAL PARK ADMINISTRATION No information
TRINIDAD AND TOBAGO

AREA 5128 sq. km

POPULATION 1,061,850 (December 1974 estimate)

PARKS AND RESERVES LEGISLATION Protected areas are established by Government proclamation, various Acts being applied as appropriate to control entry, the cutting of timber, the taking of fish, birds or other animals, etc. In the case of the only protected area for which full information has been received, the Marine Areas (Preservation and Enhancement) Act, 1970, was the operative Act.

PARKS AND RESERVES ADMINISTRATION In the case just cited, responsibility for administering what is called a 'restricted area', lies with the Tobago office of the Fisheries Division. The Conservator of Forests, ex officio Chief Game Warden, is similarly responsible for the terrestrial reserves, which are classified as Nature Reserves, Game Sanctuaries and Forest Reserves.

ADDRESS No details given.

TOTAL AREA UNDER PROTECTION No up to date review is available of the three categories of Reserves mentioned above, since increased to four by the creation of the Buccoo Reef/Bon Accord Lagoon Restricted Area, which is in effect a marine reserve. In the Second Edition of the U.N. List (1971), figures were given of six Nature Reserves totalling 13,543 ha, and of the network of Forest Reserves totalling 153,800 ha. The grand total, excluding smaller Game Reserves but adding the new marine area, is 168,676 hectares. Listed Areas total 68105 ha.

PROTECTED AREAS (sample only)

3.1 Victoria-Mayaro Forest Reserve 53,263 ha
4.1 Trinity Hills Game Sanctuary 5,672 ha
5.1 Valencia Game Sanctuary 2,784 ha
5.2 Central Range Game Sanctuary 2,064 ha
5.3 Southern Watershed Game Sanctuary 2,023 ha
6.1 Buccoo Reef/Bon Accord Lagoon Restricted Area 650 ha
7.1 Caroni Swamp Reserve 283 ha
7.2 Mora Forest Nature Reserve 235 ha
7.3 Tumana Hill Nature Reserve 131 ha
NAME  Buccoo Reef/Bon Accord Lagoon
Restricted Area (Tobago)

TYPE  NR/M  BIOTIC PROVINCE  3.7.3

LEGAL PROTECTION  Proclaimed as a restricted area by the Government: the taking
of fish and any species of other marine fauna are regulated under Act No. 39 of
1966 (Ch. 25, No. 9). Act No. 1 of 1970 regulated entry.

DATE ESTABLISHED  About 1972

GEOGRAPHICAL LOCATION  A reef located on a shallow shelf extending from the
south-western end of Tobago: N 11°10'; W 60°50'.

ALTITUDE  Sea level and below to one or two metres.

AREA  c. 650 ha

LAND TENURE  Public ownership

PHYSICAL FEATURES  An arc of reef extends from Sheerbird Point, Tobago, north-
wards and westwards, to approximately 1.6 km north of Pigeon Point, Tobago. This
outer windward reef has a shallow rampart facing the prevailing N.E.-S.W. trade
winds, the reef having only one break in the form of a channel near the northern
end. The reef flat behind the breaker zone is extremely shallow with coral
detritus forming islands in places at low tide. Sand-bottomed lagoonal flats with
water averaging 2 m in depth lie in a number of sharply defined basins. These are
devoid of living coral. The best stands of living coral occur on the north-
eastern windward reef facing Buccoo Bay. Bon Accord Lagoon lies between the
eastern end of Sheerbird Point and Pigeon Point and is partly landlocked.

LAND VEGETATION  A remarkable forest of red mangrove Rhizophora mangle fringes
Bon Accord Lagoon and forms a zone up to 70 m wide with some trees being up to
15 m high. This is either due to the age of the forest or to optimum growing
conditions. A zone near Pigeon Point was damaged by Hurricane Flora and a further
area has been cleared for development. The mangrove provides an important habitat
for marine and terrestrial fauna.

MARINE VEGETATION  Extensive patches of turtle grass Thalassia spp. occur in Bon
Accord lagoon. Halimeda opuntia is an abundant alga on the reef and is an
important sand building organism in the Buccoo Reef area.

NOTEWORTHY MARINE FAUNA  The fish fauna is typical of West Indian coral reefs
including representatives of the following families: butterfly and angel fish
Chaetodontidae, surgeon fish Acanthuridae, trigger fish Balistidae and parrot fish
Scaridae. Larval forms of game fish are also common. Invertebrates include the
shiny lobster Palinurus argus and queen conch Strombus gigas. Buccoo reef is
composed of dense elkhorn coral Acropora palmata, with large clumps of fire coral
Millepora complanata. The fore-reef on the windward side has rich and varied
populations of Montastrea, Collophyllia and Siderastrea, together with finger coral
Poritea furcata and extensive stag-horn coral Acropora cervicornis.

ZONING  None; entirely strict nature reserve.

DISTURBANCES OR DEFICIENCIES  None reported

WDNP  IUCN © 1977  (1)F  Code: TRI.6.1
TOURISM  Considerable numbers of visitors throughout the year. Boats (including those with glass bottoms) take visitors from Buccoo Bay and Store Bay to reef areas at low tide.

SCIENTIFIC RESEARCH  General surveys in 1967 and 1969. Studies of reef structure, sedimentation and water movement; also remote sensing data analysis, part of a unique project using this technique for ecological planning.

SPECIAL SCIENTIFIC FACILITIES  These are available through the University of the West Indies, St. Augustine, Dept. of Biological Sciences.

PRINCIPAL REFERENCE MATERIAL

ENVIRONMENTAL SYSTEMS CORPORATION. Remote Sensing Data Analysis for an Ecological and Planning Study for Bon Accord/Buccoo Area, Tobago. E.S.C., P.O. Box 2525, Knoxville, Tennessee 37901.

STAFF  No information
BUDGET  No information

LOCAL PARK ADMINISTRATION  Fisheries Division, Tobago, Trinidad and Tobago.
TURKEY

AREA 780,576 sq. km

POPULATION 40,197,669 (1975 Census)


PARKS AND RESERVES ADMINISTRATION  Vested in a special section of the Forest Service, which enjoys a certain degree of autonomy.

ADDRESS  T.C. Orman Bakanlığı, Orman Genel Müdürlüğü, Ankara

TOTAL AREA UNDER PROTECTION U.N. Listed Areas together with the two sample Areas of which details are given in the following sheets total: 233,569 ha

PROTECTED AREAS (U.N. List with two additions)

3.1 Olympus Beydağları National Park 69,620 ha
3.2 Munzur Valley National Park 42,800 ha
3.3 Köprülü Canyon National Park 36,600 ha
3.4 Gelibolu Peninsula Historical National Park 33,000 ha
4.1 Ulu Dağı National Park 11,338 ha
4.2 Dilek-Yarımadası National Park 10,700 ha
4.3 Karatepe National Park 7,715 ha
4.4 Termessus National Park 6,702 ha
4.5 Kovada Lake National Park 6,534 ha
4.6 Spil Dağı National Park 5,505 ha
5.1 Yedigöller National Park 2,030 ha
5.2 Söğüksu National Park 1,025 ha
NAME  Kôprülü Canyon National Park

TYPE  NP

BIOTIC PROVINCE  2.5.5

LEGAL PROTECTION  Total

DATE ESTABLISHED  1973

GEOGRAPHICAL LOCATION  About 80 km north-east of Antalya and 60 km NNW of Manavgat, in the Beşkonak sub-district of Şerik district, Antalya Province: N 37°15'; E 31°15'

ALTITUDE  150-2500 metres

AREA  36,600 ha

LAND TENURE  Communal and private

PHYSICAL FEATURES  Canyon and valley of the Köprü Irmagi, which rises in the Taurus mountains between Eğdir and Beyşehir lakes and flows 120 km to the Mediterranean not far south of the historic site of Aspendos. Limestone mountains flank the river, the highest peaks being Bozbürun Dağ (2504 m) on the south-west and Dipoyraz or Dedegöl Dağ (2980) on the north-east. There are alluvial benches both below and above the canyon, which have been largely cleared for cultivation. The canyon itself is formed by a rock mass blocking the valley through which the river has carved a passage up to 400 m deep before emerging into a relatively broad valley about 5 km above the village of Beşkonak.

VEGETATION  Apart from land cleared for cultivation and the bare mountain tops, most of the Park is forested, a fine stand of 450 ha of Mediterranean cypress Cupressus sempervirens being particularly notable. Other dominant species are Pinus nigra and sylvestris, cedar of Lebanon Cedrus libani, laurel or sweet bay Laurus nobilis and wild olive Olea europaea. There are some shrubby areas of Rubus fruticosus and other species.

NOTEWORTHY FAUNA  Mammals include the hare Lepus capensis, wolf Canis lupus (classified as a vulnerable species in the Red Data Book), fox Vulpes vulpes, beech mart marten Martes foina, badger Meles meles, otter Lutra lutra, wild pig Sus scrofa, red deer Cervus elaphus and ibex Capra ibex. A very varied avifauna includes eagles Aquila spp., black francolin Francolinus francolinus, rock partridge Alectoris graeca and woodcock Scolopax rusticola. The river carries a stock of trout Salmo trutta and also some carp Cyprinus carpio in the lower reaches.

ZONING  None, but it is proposed to counter the various disturbances noted below by a detailed zoning programme.

DISTURBANCES OR DEFICIENCIES  Over 7000 people are or were until recently living and cultivating within the Park boundaries and most of the more open and accessible areas are grazed by their livestock.

TOURISM  No facilities but camping is permitted and the Park is within range of day visits from the hotels of Antalya and Side (Selimiye), which are being frequented by increasing numbers of tourists with a strong interest in wildlife as well as in the antiquities.

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

SPECIAL SCIENTIFIC FACILITIES  None

STAFF  No details, but will be or may by now have been appointed

BUDGET  Equivalent of U.S. $ 5000

LOCAL PARK ADMINISTRATION  Köprülü Kanyon Millî Parkı Şefliği, Manavgat, Antalya
TURKEY

NAME Gelibolu Peninsula Historical National Park

TYPE AR

BIOTIC PROVINCE 2.5.5

LEGAL PROTECTION Not specified

DATE ESTABLISHED 1973

GEOGRAPHICAL LOCATION In the south of what is also known as the Gallipoli Peninsula, bordering the Çanakkale Bogazi or Dardanelles at the entrance to the Sea of Marmara: N 41° 20'; E 26° 15'

ALTITUDE Sea level to 300 metres

AREA 33,000 ha

LAND TENURE About two thirds of the Park is occupied by State-owned forest, controlled by the Ministry of Forestry. Remainder mainly in private ownership but subject to certain governmental control.

PHYSICAL FEATURES Rather flat calcareous series of terraces, rising in steps to fairly mountainous terrain in the north. Shore varies from sandy beaches and pretty bays to steep rocks and cliffs particularly in the vicinity of Saroz bay. Anafarta (Suvla) Bay on the north-west, between the Small and Great Kemikli promontories is one of the best natural bays along the Thracian sector of the Aegean Sea.

VEGETATION Wooded areas are dominated by Scots pine Pinus sylvestris, stone pine P. pinea, Mediterranean cypress Cupressus sempervirens and the oriental plane Platanus orientalis.

NOTEWORTHY FAUNA The wolf Canis lupus is said still to occur (a Red Data Book 'vulnerable' species), but the commoner mammals are rabbit Oryctolagus cuniculus, fox Vulpes vulpes, beech or stone martin Martes foina and wild boar Sus scrofa. The avifauna is typical of dry eastern Mediterranean coasts, comprising such species as rock partridge Alectoris graeca, blue rock thrush Monticola solitarius, wheatears Oenanthe spp. and rock nuthatch Sitta neumayer.

ZONING None, but envisaged as a future method of maintaining the natural and cultural resources of the Park.

DISTURBANCES OR DEFICIENCIES Cultivation and grazing, exploitation of forest produce, excessive hunting and touristic or recreational pressures are among the problems of the Park.

TOURISM Mainly approached by main road from Istanbul (c. 350 km), the Park is also accessible by ferry from Çanakkale (where there is an airport) and from Lapseki. Lodgings may be found in villages within the Park boundary and there are also camping facilities. Hotel accommodation exists or is planned at Çanakkale, Gelibolu and Saroz Bay.

SCIENTIFIC RESEARCH Most research in the area has been of a historical character since there are at least 8 archaeological sites as well as the cemeteries and other memorials of the great battles of the First World War.

SPECIAL SCIENTIFIC FACILITIES None
STAFF will be or may by now have been appointed.

BUDGET Equivalent of U.S. $14,500

LOCAL PARK ADMINISTRATION Gelibolu Yarımadaşı Tarihi Milli Parkı, Şefliği, Eceabat-Çanakkale.
UGANDA

AREA 233,689 sq. km (42,476 sq. km being covered by open water)

POPULATION 11,172,000 (1974 estimate)

PARKS AND RESERVES LEGISLATION The National Parks Act of 3 April 1952, is a Parliamentary Act providing for the establishment of National Parks for the purpose of preserving wild animal life, wild vegetation and for other matters incidental thereto.

PARKS AND RESERVES ADMINISTRATION Uganda National Parks is a parastatal organization under the Ministry of Animal Resources. A Board of Trustees is appointed by the Minister for the management and control of National Parks. This Board appoints a Director and wardens as full-time officers to run the Parks. Game Reserves and Game Sanctuaries are the responsibility of the Ministry of Animal Resources.

ADDRESS Uganda National Parks, P.O. Box 3530, Kampala, Uganda.

TOTAL AREA UNDER PROTECTION 1,813,488 (includes 107,000 ha of Game Sanctuaries not listed below).

<table>
<thead>
<tr>
<th>PROTECTED AREAS</th>
<th>Area (ha)</th>
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<tbody>
<tr>
<td>2.1 Kabelega National Park</td>
<td>384,000</td>
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<tr>
<td>2.2 Pian-Upe Game Reserve</td>
<td>231,000</td>
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<tr>
<td>2.3 Ruwenzori National Park</td>
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<td>2.4 Bokora Corridor Game Reserve</td>
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<td>2.5 Matcheniko Game Reserve</td>
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<td>2.6 Kidepo Valley National Park</td>
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<td>3.6 Kibale Forest Corridor Game Reserve</td>
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<td>5.1 Gorilla Game Reserve</td>
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</table>
UGANDA

NAME Kabalega National Park

TYPE NP

BIOTIC PROVINCE 4.6.2

LEGAL PROTECTION Total

DATE ESTABLISHED 3 April 1952

GEOGRAPHICAL LOCATION Upstream of the point where the Victoria Nile flows into Lake Mobutu Sese Seko: N 2°00'-2°30' E 31°30'-32°15'

ALTITUDE 500-1292 metres (elevation generally 600-800 metres)

AREA 384,000 ha

LAND TENURE In trusteeship from the government, under overall control of the Uganda Land Commission.

PHYSICAL FEATURES An area of rolling grassland and savanna inclining from the highest point, Rabongo Hill, in the east to the western Rift and Lake Mobutu Sese Seko (formerly Albert). The Victoria Nile bisects the Park from east to west and is forced through a rock cleft some 7 m wide in a spectacular cascade 43 m high to form the Kabalega (ex Murchison) Falls. The Karuma Falls further upstream form the eastern limit of the Park. The Kabalega Falls are an important ecological barrier for aquatic fauna.

VEGETATION Formerly the east and south of the Park were covered by Terminalia woodland and the west by Hyparrhenia grassland but damage by elephant has destroyed much of the woodland and the area has tended to become a uniform grassland with scattered remnants of riparian forests. Areas of Papyrus swamp occur along the river.

NOTEWORTHY FAUNA Species present include the chimpanzee Pan troglodytes (rated as 'vulnerable' in the Red Data Book), lion Panthera leo, leopard Panthera pardus (also 'vulnerable'), elephant Loxodonta africana, white rhino Ceratotherium simum of the northern race cottoni (an 'endangered' subspecies which has been introduced into the Park), black rhino Diceros bicornis (also 'vulnerable'), large schools of hippo Hippopotamus amphibius in the river, giraffe Giraffa camelopardalis rothschildi, buffalo Syncerus caffer and many antelope. Over 350 bird species have been recorded, among them the goliath heron Ardea goliath, open-bill stork Anastomus lamelligerus, saddle-bill stork Ephippiorhynchus senegalensis, the fish eagle Cuncuma vocifer (most conspicuous of the 49 species of raptors recorded), skimmers Rynchops flavirostris below the Falls and pratincoles Galachrysia nuchalis above them, 7 species of kingfisher including the malachite Corythornis cristata and sunbirds. The population of crocodile Crocodylus niloticus between the Kabalega Falls and Lake Mobutu is one of the largest of this 'vulnerable' species now surviving.

ZONING Not yet established

DISTURBANCES OR DEFICIENCIES No information apart from effect of excess elephant population on vegetation. A hydroelectric scheme at Kabalega Falls which would have seriously affected the ecological balance of the area, has not been pursued.
TOURISM Hotels at Paraa and at Chobe below Karuma Falls. Camping areas designated and good access roads available including roads to both falls. Launch trips available to the foot of Kabalega Falls. Sport fishing is permitted in the river, the slack water below the two falls being renowned for the size of the Nile perch.

SCIENTIFIC RESEARCH Studies for management purposes made by the Nuffield Unit of Tropical Animal Ecology (now the Uganda Institute of Ecology).

SPECIAL SCIENTIFIC FACILITIES No information but the barrier to aquatic fauna created by the Kabalega Falls and the barrier of the river itself to animal movements provide factors of especial interest.

PRINCIPAL REFERENCE MATERIAL Studies of the crocodile include:

STAFF No recent information but given as 300 units in 1971 U.N. List

BUDGET No recent information but was given as U.S. $ 103,000 in 1971 U.N. List

LOCAL PARK ADMINISTRATION No details provided
Pian-Upe Game Reserve

Type: MR

Biotic Province: 4.6.2

Legal Protection:
Sporadic settlement and grazing of domestic livestock, as well as some hunting on a quota basis, reduce the amount of effective protection.

Date Established:
1964 by Statutory Instrument No. 220, formerly a Game Sanctuary

Geographical Location:
Area 40-100 km north of Mt. Elgon and 80 km east of Soroti: N 30°-2°15'; E 34°5'-34°50'.

Altitude:
1000-3068 metres

Area:
231,000 ha

Land Tenure:
Public land ownership

Physical Features:
A high plateau area drained by intermittent watercourses flowing westwards into Lake Kyoga. Formerly known as the Debasien Animal Sanctuary, named for Mt. Debasien now known as Mt. Kadam, which is the highest point in the reserve.

Vegetation:
Wooded savanna grasslands with some forest at the northern end on the margins of a higher ridge.

Noteworthy Fauna:
A large variety of mammals includes lion Panthera leo, leopard P. pardus and cheetah Acinonyx jubatus (both rated as 'vulnerable' by the Red Data Book), giraffe Giraffa camelopardalis rothschildi, eland Taurotragus oryx, buffalo Syncerus caffer, waterbuck Kobus defassa, Uganda kob Kobus kob thomasi, mountain reedbuck Redunca fulvorufula chanleri, roan antelope Hippotragus equinus, oryx Oryx beisa, Jackson's hartebeest Alcelaphus buselaphus jacksoni, oribi Ourebia ourebi aequatoria and Grant's gazelle Gazella granti. Eland and zebra migrate into the area to breed from the North Bokora and Matheniko reserves. Ostrich Struthio camelus are still found, also secretary bird Sagittarius serpentarius, and one of the rarer birds present is the yellow-billed shrike Corvinella corvina.

Zoning:
None

Disturbances or Deficiencies:
Settlement and grazing of domestic livestock since the inception of the reserve. Cattle and wildlife share the same habitat during dry seasons. Tourist and resident hunting on a quota basis.

Tourism:
Offers excellent game viewing and photographic opportunities but not yet opened to tourism on a commercial basis. No accommodation nearer than Mbale to the south or Moroto to the north (both c. 100 km).

Scientific Research:
Periodic survey of animal populations

Special Scientific Facilities:
None

Principal Reference Material:
None listed

WDNP IUCN © 1977 (1)F

Code: UGA.2.2
STAFF  2 units
BUDGET  U.S. $7000
LOCAL PARK ADMINISTRATION  No information
NAME Ruwenzori National Park

TYPE NP

BIOTIC PROVINCE 4.6.2/4.8.3

LEGAL PROTECTION Total

DATE ESTABLISHED 3 April 1952 under the National Parks Act

GEOGRAphICAL LOCATION Vicinity of Lake Idi Amin Dada and Lake George, c. 120 km south-west of Fort Portal; S 0°30'-N 0°15'; E 29°30'-30°15'

ALTITUDE 920-1350 metres (estimated)

AREA 220,000 ha

LAND TENURE Held in trusteeship from Government, under overall control of the Uganda Land Commission

PHYSICAL FEATURES Situated within the western branch of the Rift Valley system bounded on the east by its faulted escarpment and on the west by Lake Idi Amin Dada (formerly Edward) and the foothills of the Ruwenzori mountains which dominate the landscape to the north. The rolling plains are pockmarked by numerous Pleistocene volcanic craters, especially in the Kikirondo area. The Kazinga channel between the two lakes is a unique freshwater feature; Lake George which is only 3.5 m deep is of considerable limnological interest and listed in Project Aqua, promoted by the International Biological Programme and IUCN for the conservation of freshwater areas.

VEGETATION The predominant vegetation is thicket which is believed to form the climax. In the north of the Park it is composed of semi-deciduous species, varied by a scatter of Acacia spp. and Euphorbia spp., and in the south it is evergreen and dominated by the wild olive Olea africana, various small-leaved shrubs and Euphorbia dawe and E. candelabrum. The Maramagambo forest in the section to the south of the Kazinga channel is fairly dense rain forest beyond which up to the Zaire border lie the undulating scattered-tree grasslands typical of the Kigezi district in the extreme south-west of Uganda.

NOTEWORTHY FAUNA Mammals include the chimpanzee Pan troglodytes (classified as 'vulnerable' in the Red Data Book), lion Panthera leo, Leopard P. pardus (another 'vulnerable' species), elephant Loxodonta africana, giant forest hog Hylochoerus meinertzhagenii, hippo Hippopotamus amphibius, buffalo Syncerus caffer, blue duiker and red duiker Cephalopus monticola and C. natalensis, reedbuck Redunca redunca and especially topi Damaliscus korrigum, together with other large herbivores but excluding giraffe and rhino. A very rich bird fauna includes a slightly differentiated subspecies of the palearctic cormorant Phalacrocorax carbo patricki, occasionally sighted whale-headed stork Balaeniceps rex, saddle-bill Ephippiorhynchus senegalensis, large flocks of white-winged tern Chlidonias leucophaeta hawking over the lakes during spring migration, no less than eleven species of kingfisher of which the most unusual are the shining blue kingfisher Alcedo quadridibrachys, blue-breasted Halcyon malimbicus and chocolate-backed H. badius, the black bee-eater Melitophagus gularis and seven other bee-eaters, and about twenty species of sunbird including such rarities as the orange-tufted Cinnyris bouvieri.

ZONING No information

DISTURBANCES OR DEFICIENCIES No information

UDNP IUCN @ 1977 (1)F Code: UGA.2.3
TOURISM  Facilities include full hotel accommodation at Mweya, a self-service camp at Ishasha, at the southern end of the Park on the Zaire border, and official camp sites along the Kazinga channel. Kasama at the northern end on the Fort Portal road has an airfield. There is a good network of access roads for viewing the Park.

SCIENTIFIC RESEARCH  Mweya, the Park headquarters, was the site of the Nuffield Unit of Tropical Animal Ecology, now the Uganda Institute of Ecology. Work on the ecology of large mammals and their habitat will continue.

SPECIAL SCIENTIFIC FACILITIES  As above: the former NUTAE facilities include equipped laboratory space and accommodation for scientists.

PRINCIPAL REFERENCE MATERIAL  A considerable body of publications, and many unpublished theses have resulted from the work of the NUTAE unit at Mweya. Some of the more accessible include:


STAFF  No recent information but given as 150 units in 1971 U.N. List.

BUDGET  No recent information but given as U.S. $ 69,000 in 1971 U.N. List.

LOCAL PARK ADMINISTRATION  Park administrative centre is at Mweya.
UGANDA

NAME Bokora Corridor Game Reserve

TYPE MR

BIOTIC PROVINCE 4.6.2

LEGAL PROTECTION Settlement, grazing by domestic animals and hunting, permitted by quota, reduce the effective protection of the reserve

DATE ESTABLISHED 1964 by Statutory Instrument No. 223

GEOGRAPHICAL LOCATION North of the Pian-Upe Reserve (2.2), along the southwestern boundary of Karamoja and thence eastwards towards the Kenya border: N 2°7'-2°45'; E 33°50'-34°50'

ALTITUDE 1000-2100 metres

AREA 205,000 ha

LAND TENURE Public land ownership

PHYSICAL FEATURES A long strip of plateau, varied by two or three 'inselbergs', typical of south-central Karamoja between Moroto and Mount Elgon

VEGETATION Wooded savanna grassland

NOTEWORTHY FAUNA Mammals include spotted hyaena Crocuta crocuta, lion Panthera leo, leopard P. pardus (a 'vulnerable' species), giraffe Giraffa camelopardalis, eland Taurotragus oryx, Uganda kob Kobus kob thomasi, reedbuck Redunca redunca wardi, and mountain reedbuck R. fulvorufula chanleri, roan antelope Hippotragus equinus langhelli, oryx Oryx beisa, topi Damaliscus korrigum, hartebeest Alcelaphus buselaphus jacksoni and oribi Ourebia ourebi aequatoria.

ZONING None

DISTURBANCES OR DEFICIENCIES Settlement and grazing by domestic livestock. Hunting quotas worked out in conjunction with adjoining reserves.

TOURISM Inaccessible but excellent for game viewing, photography and sport hunting

SCIENTIFIC RESEARCH Periodic animal population surveys

SPECIAL SCIENTIFIC FACILITIES None

PRINCIPAL REFERENCE MATERIAL None listed

STAFF 3 units

BUDGET U.S. $ 4000

LOCAL PARK ADMINISTRATION No information

WDNP IUCN © 1977 (1)F Code: UGA.2.4
UGANDA

NAME Matheniko Game Reserve

TYPE MR

BIOTIC PROVINCE 4.6.2

LEGAL PROTECTION Grazing of domestic livestock, settlement and hunting, permitted by quota, reduce effectiveness of protection

DATE ESTABLISHED 1964, by Statutory Instrument No. 219

GEOGRAPHICAL LOCATION A strip of Karamoja country just north of Moroto, running up to the border with Kenya: N 2 40'-3 7', E 34 10'-34 50'

ALTITUDE 1200-1600 metres

AREA 160,000 ha

LAND TENURE Public land ownership

PHYSICAL FEATURES Part of the Karamoja plateau, bordered on the east by the escarpment of the Great Rift, forming the Uganda/Kenya frontier at this point but interrupted in the south by spurs and extensions of high ground.

VEGETATION Thorny deciduous thicket

NOTEWORTHY FAUNA Resident mammals include lion Panthera leo, leopard P. pardus and cheetah Acinonyx jubatus (both rated as 'vulnerable' species in the Red Data Book), giraffe Girafrca camalopardalis rothschildi, eland Taurotragus oryx, roan antelope Hippotragus equinus langheldi, oryx Oryx beisa and Grant's gazelle Gazella granti.

ZONING None

DISTURBANCES OR DEFICIENCIES Grazing by domestic cattle and settlement, also quota hunting

TOURISM Not easily accessible but would be superb for game viewing in the dry season

SCIENTIFIC RESEARCH Periodic animal population surveys

SPECIAL SCIENTIFIC FACILITIES None

PRINCIPAL REFERENCE MATERIAL None listed

STAFF 2 units

BUDGET U.S. $ 3270

LOCAL PARK ADMINISTRATION No information

WDNP IUCN © 1977 (1)F Code: UGA.2.5
NAME  Kidepo Valley National Park

TYPE  NP

BIOTIC PROVINCE  4.6.2

LEGAL PROTECTION  Total

DATE ESTABLISHED  March 1962

GEOGRAPHICAL LOCATION  Extreme north-east along the boundary with Sudan: N 3°45'-4°10'; E 33°30'-34°05'

ALTITUDE  900-2750 metres

AREA  125,000 ha

LAND TENURE  Held in trusteeship from the Government

PHYSICAL FEATURES  The park straddles the Kidepo and Larus Rivers and their tributaries, which flow north into the Sudan during rainy periods, though normally dry apart from some permanent pools in the upper reaches of the Larus. The basin is surrounded by mountains and wooded hills and dominated on the east by Mt. Morungole, the peak of which is the highest point in the park, and by the Lotuke ridge in Sudan, which rises to 2963 m and is a south-easterly extension of the Didinga Hills. The ruling level of the park is between 900 and 1350 m above sea level.

VEGETATION  Predominantly tree and shrub steppe, a mixture of bush or thicket and trees such as Acacia, Combretum, Lannea, Lonchocarpus, Terminalia and Ziziphus, the dominant grasses being Setaria incrassata, Hyparrhenia dissoluta, H. rufa and Cymbopogon afronadus. Morungole and Napore mountain areas in the SE and SW corners, respectively, support high level forest savanna mosaics dominated by trees such as Protea gaguedi, Faurea saligna, Juniperus procera and Podocarpus gracilior with grassy swards of Andropogon distachyus, Cymbopogon validus and Hyparrhenia cymbaria.

NOTEWORTHY FAUNA  In addition to species found in most other Ugandan parks, Kidepo has a number which do not occur elsewhere in the country, some of them subject to definite seasonal migrations. Notable mammals include the bushbaby Galago senegalensis, bat-eared fox Otocyon megalotis, striped hyaena Hyaena hyaena, aardwolf Proteles cristatus, caracal Felis caracal, chestah Acinonyx jubatus (a 'vulnerable' Red Data Book species), Burchell's zebra Equus burchelli, eland Taurotragus oryx livingstonii, greater and lesser kudu Tragelaphus strepsiceros and T. imberbis, Chanler's or mountain reedbuck Redunca fulvorufa chanleri, roan antelope Hippotragus equinus, klipspringer Oreotragus oreotragus, long-snouted dikdik Rhynochotragus guentheri, and a local race of Grant's gazelle Gazella granti brighti. Birds include the ostrich Struthio camelus rothschildi, pygmy falcon Falcoinicteryx semitorquatus, swallow-tailed kite Chelictinia riocourii and Verreaux's eagle Aquila verreauxii among well over 50 species of birds of prey, stone partridge Ptilopachus petrosus, five bustards including the kori Ardeotis kori, ground hornbill Bucorvus abyssinicus, standard-wing nightjar Macrodipteryx longipennis, the endemic warbler Apalis karamojae, fan-tailed raven Rhinocorax hippidurus and piapiac Ptilostomus afer.

ZONING  No information
DISTURBANCES OR DEFICIENCIES
No information, but occasional incursions of poaching parties from the west have been reported.

TOURISM
Road access via Moroto and Kaabong or Gulu and Kitgum; landing strip for light aircraft at Kilabe, just to the south of the park. Self-service safari lodge accommodation at Opoka, the park headquarters.

SCIENTIFIC RESEARCH
Experimental plots to study effect of game and bushfire on habitat were established some years ago by Makerere University; a survey of the avifauna was carried out for the National Park authorities by Oxford University zoologists in 1966.

SPECIAL SCIENTIFIC FACILITIES
No information.

PRINCIPAL REFERENCE MATERIAL
None listed, but for a brief review of this and other well established Uganda parks and reserves, together with fairly detailed lists of mammals and birds, see WILLIAMS, J.G. 1967. A field guide to the National Parks of East Africa. Collins, London: pp. 133-164.

STAFF
No recent information, was stated as 80 units in 1971 U.N. List.

BUDGET
No recent information, given as U.S. $44,000 in 1971 U.N. List.

LOCAL PARK ADMINISTRATION
Park headquarters at Opoka.
UGANDA

NAME Karuma Game Reserve

TYPE  MR  BIOTIC PROVINCE  4.6.2

LEGAL PROTECTION Limited trophy hunting on permit

DATE ESTABLISHED 1964, formerly a Controlled Hunting Area (General Notice No. 352 of 1962); Game Reserve established by Statutory Instrument 248 of 1964

GEOGRAPHICAL LOCATION Adjoining the Kabalega National Park to the north: approximately N 1°30'; E 31°45'

ALTITUDE 900-1300 metres

AREA 82,000 ha

LAND TENURE Public land ownership

PHYSICAL FEATURES No information, but apparently an area of extensive grasslands intersected by watercourses

VEGETATION Savanna dominated by elephant grass Pennisetum purpureum and Hyparrhenia rufa, with isolated forest and savanna trees forming remnants of former forest cover.

NOTEWORTHY FAUNA Species similar to those found in the Kabalega National Park, this including elephant Loxodonta africana, giraffe Giraffa camelopardalis, buffalo Syncerus caffer and a large number of species of antelope, together with a varied avifauna.

ZONING None

DISTURBANCES OR DEFICIENCIES Increased settlement in the areas adjoining the reserve with increased cultivation have resulted in problems of law enforcement and control of game.

TOURISM Accessibility good via all-weather unsurfaced roads and tracks. Bird and game photography and sightseeing permitted, also limited trophy hunting.

SCIENTIFIC RESEARCH Periodic animal population surveys

SPECIAL SCIENTIFIC FACILITIES None

PRINCIPAL REFERENCE MATERIAL None listed

STAFF 10 units

BUDGET U.S. $ 7000

LOCAL PARK ADMINISTRATION No information

WDNP IUCN © 1977 (1)F Code: UGA.3.1
NAME Lake Mburo Game Reserve

TYPE MR

LEGAL PROTECTION Settlement prohibited apart from existing residents when reserve declared. Formerly controlled hunting area.


GEOGRAPHICAL LOCATION About 35 km due east of Mbarara and slightly further from the southern border with Tanzania: approximately N 1° 15'; E 30° 55'.

ALTITUDE 1200-1800 metres

AREA 69,700 ha

LAND TENURE Public land ownership

PHYSICAL FEATURES No information, but this is the smallest of the three sizeable lakes on or near the border of Ankole with Masaka, which form part of an extensive swampland complex.

VEGETATION Dry Acacia and grassland savanna surrounds the lake, the shores of which are lined with extensive belts of papyrus, reed and waterlilies.

NOTEWORTHY FAUNA The mammals are characteristic of the broad belt of high but fairly dry and stony grasslands extending from north-western Tanzania through eastern Ankole to south-east Toro. They include, for example, leopard Panthera pardus, zebra Equus burchelli, warthog Phacochoerus aethiopicus, hippo Hippopotamus amphibius, eland Taurotragus oryx, buffalo Syncerus caffer, reedbuck Redunca redunca wardi, roan antelope Hippotragus equinus, topi Damaliscus korrigum, klipspringer Oreotragus oreotragus and impala Aepyceros melampus.

ZONING None

DISTURBANCES OR DEFICIENCIES Some permanent residents dating from before declaration of reserve. Controlled trophy hunting permitted.

TOURISM Easily accessible from the trunk road between Masaka and Mbarara. No tourist accommodation nearer than these two large towns. A Ministerial Special Permit is required for hunting.

SCIENTIFIC RESEARCH Periodic animal population surveys

SPECIAL SCIENTIFIC FACILITIES None

PRINCIPAL REFERENCE MATERIAL None listed

STAFF 8 units, comprising several Game Guards supervised by a Game Warden also in charge of Kikagati and Kyambura Game Reserves. Duties include law enforcement and cropping.

BUDGET U.S. $ 6300

LOCAL PARK ADMINISTRATION No information

WDNP IUCN © 1977 (1)F Code: UGA.3.2
UGANDA

NAME Toro Game Reserve

TYPE MR

BIOTIC PROVINCE 4.6.2

LEGAL PROTECTION Controlled hunting permitted but livestock grazing forbidden

DATE ESTABLISHED 1929

GEOGRAPHICAL LOCATION Adjoining the southern end of Lake Mobutu Sese Seko, about 60 km by road from Fort Portal; N 1°, E 30°20' (approx.)

ALTITUDE 690-750 metres

AREA 55,488 ha

LAND TENURE Public land ownership

PHYSICAL FEATURES Floodplain of the delta of the Semliki river where it flows into Lake Mobutu Sese Seko (formerly Albert). Dominated on the south by the Rwenzori range, the foothills of which and the equatorial rain forest surrounding them are only about 30 km from the reserve.

VEGETATION Open grasslands of Hyparrhenia dissoluta, Themeda triandra and patches of Heteropogon contortus. Overgrazed areas have Sporobolus pyramidalis. Streams and escarpments are thickly forested.

NOTEWORTHY FAUNA Mammals include black-and-white colobus Colobus polykomos, lion Panthera leo, leopard P. pardus (classified as 'vulnerable' in the Red Data Book), elephant Loxodonta africana, warthog Phacochoerus aethiopicus, buffalo Syncerus caffer, waterbuck Kobus defassa, Uganda kob Kobus kob thomasi (a population of upwards of 18,000), reedbuck Redunca arundinum, hartebeest Alcelaphus buselaphus jacksoni. Among the many interesting birds are brown harrier eagle Circaetus cinereus, banded harrier eagle C. cinerascens, painted snipe Rostratula benghalensis, white-naped pigeon Columba albinucha, white-chiged, black-wattled and pied hornbills Bycanistes albotibialis, Ceratogymna atrata and Tockus fasciatus, yellow-spotted barbet Buccanodon duchailli and the marsh widow-bird Colius passer hartlaubi.

ZONING None

DISTURBANCES OR DEFICIENCIES Fishing village on the shores of Lake Mobutu, but its population is maintained at a constant level by regulation. Hunting confined to holders of Ministerial Special Permits.

TOURISM Hotel accommodation is in process of construction to replace former campsite and lodge. Access by all-weather gravel road from Fort Portal. Hunting arranged on a quota basis through the Uganda Wildlife Development organization.

SCIENTIFIC RESEARCH Periodical surveys of animal populations. This area was the site of the most detailed studies of the Uganda kob ever undertaken.

SPECIAL SCIENTIFIC FACILITIES None

PRINCIPAL REFERENCE MATERIAL None listed, but see -


WDNP IUCN © 1977 (1)F Code: UGA.3.3
STAFF  6 units. Management by a Game Warden who is also responsible for neighbouring Kibale Forest Corridor and Katonga Game Reserves. Game guards resident in reserve responsible for law enforcement.

BUDGET  U.S. $ 6200

LOCAL PARK ADMINISTRATION  No information
NAME: Bugungu Game Reserve

TYPE: MR

BIOTIC PROVINCE: 4.6.2

LEGAL PROTECTION: No settlement permitted, formerly part of a larger Controlled Hunting area

DATE ESTABLISHED: 1968, by Statutory Instrument 20 (controlled hunting area was established in 1963)

GEOGRAPHICAL LOCATION: Between Kabalega National Park and the north shore of Lake Mobutu Sese Seko: N 2°15'; E 31°30' (approx.)

ALTITUDE: 600-1300 metres

AREA: 52,000 ha

LAND TENURE: Public land ownership

PHYSICAL FEATURES: Together with the Karuma Game Reserve (3.1) is designed as a buffer zone on the northwest boundary of the Kabalega National Park.

VEGETATION: Dry thicket with some more open savanna woodland

NOTEWORTHY FAUNA: Mammals include lion Panthera leo, elephant Loxodonta africana, warthog Phacochoerus aethiopicus, buffalo Syncerus caffer, waterbuck Kobus defassa, Uganda kob Kobus kob thomasi, hartebeest Alcelaphus buselaphus jacksoni and many small ungulates.

ZONING: None

DISTURBANCES OR DEFICIENCIES: Permanent fishing villages present on the shore of Lake Mobutu are not considered to threaten the purposes of the reserve

TOURISM: Not yet developed

SCIENTIFIC RESEARCH: Periodic animal population surveys

SPECIAL SCIENTIFIC FACILITIES: None

PRINCIPAL REFERENCE MATERIAL: None listed

STAFF: 4 units, consisting of a staff of Game Guards supervised by a Game Warden who is also in charge of Karuma Game Reserve. Duties include law enforcement and game cropping.

BUDGET: U.S. $ 5000

LOCAL PARK ADMINISTRATION: No information
NAME Kigezi Game Reserve

TYPE MR

BIOTIC PROVINCE 4.6.2

LEGAL PROTECTION No settlement allowed, limited trophy hunting under Special Permit strictly regulated.


GEOGRAPHICAL LOCATION A southward annex to the Ruwenzori National Park, separated by a 7 km wide section of the park from Lake Idi Amin: S 0°30' E 29°50' (approx.)

ALTITUDE 1050 metres

AREA 33,000 ha

LAND TENURE Public land ownership

PHYSICAL FEATURES Acts as a buffer zone between the Ruwenzori Park and the well-populated areas to the south and east; mainly consists of open park-like scattered-tree grassland very similar to the section of the park south of the Maramaganbo forest, part of which the reserve also protects.

VEGETATION Moist deciduous forest and grass savanna with the dominant trees Acacia and Albizia spp. and grasses such as Imperata, Cymbopogon, Hyparrhenia and Beckeropsis.

NOTEWORTHY FAUNA Mammals include black-and-white and a few red colobus Colobus polykomos and badius, the eastern subspecies of chimpanzee Pan troglodytes schweinfurthii (all races are classified as 'vulnerable' in the Red Data Book), lion Panthera leo, leopard P. pardus (also a 'vulnerable' species), elephant Loxodonta africana, warthog Phacochoerus aethiopicus, giant forest hog Hylochoerus meinertzhageni, hippo Hippopotamus amphibius, buffalo Syncerus caffer, Uganda kob Kobus kob thomasi and topi Damaliscus korrigum.

ZONING None

DISTURBANCES OR DEFICIENCIES Settlement and cultivation in areas adjoining the reserve are encroaching on boundaries. Limited trophy hunting by tourists and residents.

TOURISM Special Ministerial Permits required for hunting. One of the roads leading from the Ruwenzori Park to Kabale and providing access to the Kayonza Forest transects the reserve, which is therefore situated on a tourist route of high potential.

SCIENTIFIC RESEARCH Periodic animal population surveys

SPECIAL SCIENTIFIC FACILITIES None

PRINCIPAL REFERENCE MATERIAL None listed

WDNP IUCN © 1977 (1)F Code: UGA.3.5
STAFF  3 units

BUDGET  U.S. $ 4000  

LOCAL PARK ADMINISTRATION  No information
UGANDA

NAME Kibale Forest Corridor Game Reserve

TYPE MR BIOTIC PROVINCE 4.6.2

LEGAL PROTECTION No settlement permitted and very little hunting permitted

DATE ESTABLISHED 1964 by Statutory Instrument No. 221

GEOGRAPHICAL LOCATION Extends northwards from Ruwenzori National Park and Lake George towards Fort Portal: N 0°30'; E 30°20' approx.

ALTITUDE 900-1500 metres

AREA 32,000 ha

LAND TENURE Public land ownership

PHYSICAL FEATURES Part of the volcanic crater region east of the Ruwenzori range and linking up with the main block of the Kibale Forest.

VEGETATION Moist semi-deciduous forest grading through savanna with scattered trees and shrubs to open grasslands.

NOTEWORTHY FAUNA The area is a migratory route for game from Ruwenzori National Park. Animal populations are few and usually non-resident but mammals liable to be encountered include: elephant Loxodonta africana, giant forest hog Hylochoerus meinertzhagenii, hippo Hippopotamus amphibius, bushbuck Tragelaphus scriptus, buffalo Syncerus caffer, grey duiker Sylvicapra grimmia, and Uganda kob Kobus kob thomasi.

ZONING None

DISTURBANCES OR DEFICIENCIES None reported. Only limited hunting permitted due to transient nature of game population.

TOURISM None

SCIENTIFIC RESEARCH Periodic animal population surveys

SPECIAL SCIENTIFIC FACILITIES None

PRINCIPAL REFERENCE MATERIAL None listed

STAFF 3 units

BUDGET U.S. $ 3600

LOCAL PARK ADMINISTRATION No information
UGANDA

NAME Katonga Game Reserve

TYPE MR

BIOTIC PROVINCE 4.6.2

LEGAL PROTECTION No settlement permitted but limited trophy hunting

DATE ESTABLISHED 1964, by Statutory Instrument No. 222

GEOGRAPHICAL LOCATION West of the north-west corner of Lake Victoria, precise position not identified but believed to be about 70 km ESE of Mubende: N 0°20'; E 31° (approx.)

ALTITUDE 1200-1500 metres

AREA 21,000 ha

LAND TENURE Public land ownership

PHYSICAL FEATURES The Katonga river system runs from Lake George to Lake Victoria, entering the latter about 35 km NE of Masaka. It drains extensive rangelands both to the north and south.

VEGETATION Dry savanna with deciduous thickets of Acacia, Combretum and Albizia and perennial grasses such as Cymbopogon, Hyparrhenia and Themeda.

NOTEWORTHY FAUNA Mammals include lion Panthera leo, leopard P. pardus, elephant Loxodonta africana (the reserve takes in part of the migratory route of this species from Kabalega Falls National Park to south-eastern Toro), zebra Equus burchelli, eland Taurotragus oryx, buffalo Syncerus caffer, waterbuck Kobus defassa, the highland race of the bohor reedbuck Redunca redunca wardi, and topi Damaliscus korrigum.

ZONING None

DISTURBANCES OR DEFICIENCIES None reported, but trophy hunting permitted

TOURISM Still very undeveloped with regard to access but limited trophy hunting permitted for elephant, waterbuck, buffalo and zebra. Good potential for game viewing and photography.

SCIENTIFIC RESEARCH Periodic visits to assess animal populations

SPECIAL SCIENTIFIC FACILITIES None

PRINCIPAL REFERENCE MATERIAL None listed

STAFF 3 units

BUDGET U.S. $ 4000

LOCAL PARK ADMINISTRATION No information
UGANDA

NAME Ajay Game Reserve

TYPE MR

BIOTIC PROVINCE 4.6.2

LEGAL PROTECTION Established primarily to protect the white rhino but other resident species accorded same protection; hunting strictly prohibited.

DATE ESTABLISHED 1963 by Statutory Instrument No. 353, formerly an Animal Sanctuary.

GEOGRAPHICAL LOCATION West bank of the Nile, between Pakwach and Nimule, about 10 km north of Inde: N 2°55; E 31°25'

ALTITUDE 700-1000 metres

AREA 15,800 ha

LAND TENURE Public land ownership

PHYSICAL FEATURES An area of riverine swamp and savanna woodland bordering the River Nile and including the so-called Ajay's island.

VEGETATION Wooden savanna in some areas and grassland communities of Loudetia-Eragrostis, and Hyparrhenia in other areas.

NOTEWORTHY FAUNA Mammals include elephant Loxodonta africana, about 85 white rhino Ceratotherium simum which the reserve was created to protect, hippo Hippopotamus amphibius in the R. Nile, Uganda kob Kobus kob thomasi, hartebeest Alcelaphus buselaphus and other smaller ungulates.

ZONING None

DISTURBANCES OR DEFICIENCIES As the reserve is small, the white rhino continually move out of it into open areas in the vicinity, where they are subject to poaching.

TOURISM Not yet developed but an increasing number of visitors are attracted to this area which has a high potential.

SCIENTIFIC RESEARCH The rhino population and other species have been periodically monitored.

SPECIAL SCIENTIFIC FACILITIES None

PRINCIPAL REFERENCE MATERIAL None listed

STAFF 4 units consisting of a Game Warden and Game Guards who are on constant watch for rhino poaching.

BUDGET U.S. $ 6600

LOCAL PARK ADMINISTRATION No information

WDNP IUCN © 1977 (1)F Code: UGA.4.1
NAME Kyambura Game Reserve

TYPE MR

BIOTIC PROVINCE 4.6.2

LEGAL PROTECTION Settlement prohibited; trophy hunting permitted on quota of up to 5% of the population of a species.

DATE ESTABLISHED 1965 by Statutory Instrument No. 147

GEOGRAPHICAL LOCATION Bordering the south shore of the eastern end of the Kazinga Channel and of Lake George, immediately adjacent to the Ruwenzori NP (2.3): S 0° 05'; E 30° 15' (approx.)

ALTITUDE 700-1100 metres

AREA 15,700 ha

LAND TENURE Public land ownership

PHYSICAL FEATURES Terrain characterised by small hills and about ten crater lakes above the east wall of the western Rift Valley (here interrupted by the vast upheaval of the Ruwenzori range). It forms a buffer zone for animals wandering out of the Ruwenzori National Park, the boundary with which is the Kyambura river running into the Kazinga Channel a short distance east of the road bridge.

VEGETATION Savanna grassland and deciduous thickets

NOTEWORTHY FAUNA Similar to that of the Ruwenzori Park, with such mammals as lion Panthera leo, leopard P. pardus, elephant Loxodonta africana, buffalo Syncerus caffer and a variety of antelopes and other small ungulates, and water birds featuring prominently in the avifauna.

ZONING None

DISTURBANCES OR DEFICIENCIES Small fishing villages, existing at the time of the declaration of the reserve, remain, but further settlement prohibited.

TOURISM Access by unsurfaced tracks only passable in dry weather; no accommodation and virtually inaccessible except to hunters, who have to obtain a permit.

SCIENTIFIC RESEARCH Periodic animal population surveys.

SPECIAL SCIENTIFIC FACILITIES None

PRINCIPAL REFERENCE MATERIAL None listed

STAFF 3 units

BUDGET U.S. $4300

LOCAL PARK ADMINISTRATION No information
UGANDA

NAME Gorilla Game Reserve

TYPE MR

Biotic Province 4.8.3

LEGAL PROTECTION Established strictly for the protection of the mountain gorilla and chimpanzee. No settlement allowed.

DATE ESTABLISHED 1964 by Statutory Instrument No. 216; formerly a Game Sanctuary.

GEOGRAPHICAL LOCATION Extreme south-west corner of Uganda, adjoining Rwanda border and 12 km SSE of Kisoro: approx. S 1°30'; E 30°

ALTITUDE 2700-4127 metres

AREA 4800 ha

LAND TENURE Public land ownership

PHYSICAL FEATURES An area including three volcanic mountains: Muhavura, Mgahinga and Sabinio covered with high montane forests, the summit of Muhavura with its small crater lake forms the highest point in the reserve.

VEGETATION The alpine summit zone dominated by St. John's wort Hypericum spp. and dwarf heaths merges into broad montane forest and bamboo zones before giving way to a high level type of savanna woodland on the lower slopes. The forested zone is rich in lichens and mosses.

NOTEWORTHY FAUNA Apart from the chimpanzee Pan troglodytes (classified as 'vulnerable' in the Red Data Book) and the mountain gorilla Gorilla gorilla beringei (classified as 'endangered'), which the reserve was created to protect, the area also includes the distinctive golden monkey Cercopithecus mitis kandti (a rare subspecies of the blue monkey), leopard Panthera pardus (another 'vulnerable' species), elephant Loxodonta africana, giant forest hog Hylochoerus meinertzhageni, bushbuck Tragelaphus scriptus and buffalo Syncerus caffer.

Birds are plentiful and include the Ruwenzori turaco Ruwenzorornis johnstoni, yellow-billed barbet Trachylaemus purpuratus, mountain illadopsis Malacocincla pyrrhopterus, five species of Apalis, Lunder's bush-shrike Laniarius lunderi, six species of sunbirds and four crimson-wing, Cryptospiza, species.

ZONING None

DISTURBANCES OR DEFICIENCIES Increasing deforestation by residents of the surrounding slopes is tending to reduce the habitat of the gorilla and thus its chance of survival in the area.

TOURISM Has great potential once populations of gorilla are well established. Good hotel accommodation available at Kabale, 80 km away. It is uncertain whether the guesthouse at Kisoro or the mountain hut on the saddle between Muhavura and Mgahinga mountains can or will be re-established.

SCIENTIFIC RESEARCH Periodic monitoring of the population of gorillas and other species.

WDNP IUCN © 1977 (1)F Code: UGA.5.1
SPECIAL SCIENTIFIC FACILITIES  None
PRINCIPAL REFERENCE MATERIAL  None listed
STAFF  Game Warden who is also responsible for the Kigezi Game Reserve and is not resident in the area.
BUDGET  U.S. $1000
LOCAL PARK ADMINISTRATION  No information
UNION OF SOVIET SOCIALIST REPUBLICS

AREA 22,327,850 sq. km

POPULATION 255,000,000 (mid-1975 estimate)

PARKS AND RESERVES LEGISLATION The first Decree on 'Protection of Nature Monuments, Gardens and Parks' signed by V.I. Lenin was promulgated in 1921. The recent legislative status of Nature Reserves (Zapovedniki) is based on two Acts of the Supreme Soviet of the U.S.S.R., 'Principles of Land Legislation of the U.S.S.R. and Union Republics' (adopted on 13 December 1968) and 'Principles of Water Legislation of the U.S.S.R. and Union Republics' (adopted on 10 December 1970). In line with these Acts, the existing State regulations entitled 'The Status of State Zapovedniki', enacted by the Council of Ministers of the U.S.S.R. on 27 November 1951, together with the relevant regulations of the Republics, are in the final stages of revision. State Zapovedniki or Nature Reserves are defined as 'scientific institutions aimed at the protection and study of natural complexes and established on the part of the land excluded from economic utilization'.

PARKS AND RESERVES ADMINISTRATION As at 1 January 1975, there were 106 State Zapovedniki, of which 101 are listed here and marked in the Map. They are under the direct (the 14 most important of them) or indirect supervision of the Department of Nature Conservation, Zapovedniki and Game Management of the U.S.S.R. Ministry of Agriculture. The majority of Zapovedniki are managed by the Departments or Committees of Nature Conservation of the Republics, but some fall within the system supervised by the U.S.S.R. Academy of Sciences. Their main objectives are: (1) protection of wildlife and its habitats, including maintenance of entire ecosystems; (2) scientific research, for which each Zapovednik has a scientific staff of, on average, 5 to 20 specialists, additional research being undertaken by the Academy of Sciences, Universities and other institutions; and (3) recreational activities which are strictly limited, although in some cases including controlled scientific tourism. There are projects for establishing six National or Natural Parks in Latvia, Estonia, on Lake Baikal, in the Caucasus and elsewhere, mainly aimed at ecologically oriented recreation and environmental education through organised tourism, bird-watching, etc.

ADDRESS Department of Nature Conservation, Zapovedniki and Game Management, State Zapovedniki Section, Ministry of Agriculture of the U.S.S.R., Orlikov Per., 1/11, Moscow 1-139, U.S.S.R.

TOTAL AREA UNDER PROTECTION 7,600,000 ha: (as listed below 7,427,150 ha; or, Inclusive of all temporary Reserves (Zakazniki) and Nature Monuments, 12,975,000 ha)

PROTECTED AREAS (State Reserves unless otherwise indicated).

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WDNP IUCN © 1977 (1)F Code: UNI(1).C.1
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NAME Kronotsky State Reserve (Russian S.F.S.R.)
TYPE NP
LEGAL PROTECTION Total
DATE ESTABLISHED 1934, but present boundaries were established in 1967
GEOGRAPHICAL LOCATION East coast of the Kamchatka peninsula: 54°N; 160°E
ALTITUDE Sea level to 3528 metres
AREA 964,000 ha
LAND TENURE Government land by law

PHYSICAL FEATURES Coastal mountain ranges of the Pacific with numerous extinct and active volcanoes, geysers, thermal lakes and springs, all resulting from widespread vulcanism. Basalt rock flows are widespread. Mean temperature varies from -8°C on the coast in January to 12°C, coastal temperature in July, with 160-200 days with temperatures below 0°C. Estimated total rainfall is 1000 mm annually. Soils are podsolic, tundra gley and peat.

VEGETATION Russian rock birch Betula ermanii forest (1.2.5.1), dwarf birch Betula pumila scrub and crowberry Empetrum nigrum (3.1.2) are characteristic of both the mountain and coastal tundra, as are thickets of grasses such as Calamagrostis and of meadowsweet Filipendula. Other communities include dwarf shrub moss and lichen tundras (4.4.1; 4.4.2), a relict stand of fir Abies (1.1.9.3) and of larch Larix (1.2.6), each occupying a relatively small area.

NOTEWORTHY FAUNA About 30 species of mammals and 140 of birds recorded. Mammals usually present include pika Ochotona hyperborea, marmot Marmota kamtschatica, arctic ground squirrel Citellus undulatus, numerous brown bear Ursus arctos, sable Martes zibellina, many Steller's sea lion Eumetopias jubatus and ringed seal Phoca hispida in coastal waters, reindeer Rangifer tarandus and big horn sheep Ovis canadensis. Numerous geese, duck and swans, including whooper swan Cygnus cygnus, both breed in the area and visit it on migration. Salmon Oncorhynchus spp. spawn abundantly in the rivers.

ZONING None: entirely strict Nature Reserve

DISTURBANCES OR DEFICIENCIES None

TOURISM Educational tours are arranged in a limited section of the Reserve

SCIENTIFIC RESEARCH Study of the natural ecosystem complex of the Pacific ocean ranges of Middle Kamchatka and its flora and fauna. Research into volcanic phenomena.

SPECIAL SCIENTIFIC FACILITIES Equipment, laboratory and volcanological research station.
PRINCIPAL REFERENCE MATERIAL


STAFF No information
BUDGET No information

LOCAL PARK ADMINISTRATION Oktyabrskaya Street 24, Zhupanovo, Elizovsky Distr., Kamchatka Region.
NAME: Altaisky State Reserve (Russian S.F.S.R.)

TYPE: NP

BIOTIC PROVINCE: 2.8.11

LEGAL PROTECTION: Total

DATE ESTABLISHED: 1932, existing borders since 1963

GEOGRAPHICAL LOCATION: Northern part of the Altai Mountains, bordering Lake Teletsky on the east: 52°N; 88°E.

ALTITUDE: 400-3000 metres

AREA: 863,861 ha

LAND TENURE: Government land by law

PHYSICAL FEATURES: Physiographic conditions vary from high mountain to mountain forest and mountain steppe. Relief is of an alpine type with folded strata subjected to ice and snow action, resulting in glacio-niveal landforms. Timber line is at about 1800-1900 m and soils are of various types with slight podsolization of forest soils. Mean temperature -16°C to -26°C in January and 8°C to 16°C in August, with 180-240 days below 0°C; total rainfall of 200-400 mm annually on the mountain steppe rising to 500-1000 mm elsewhere.

VEGETATION: Predominantly coniferous forest of Siberian silver fir Abies sibirica and pine Pinus sibirica (1.1.9.3; 1.2.4); also larch Larix sibirica (1.2.6) as well as some mixed forests of aspen Populus tremula. Alpine and sub-alpine zones have alpine meadows and thickets of Rhododendron.

NOTEWORTHY FAUNA: Characteristic Siberian forest fauna with 60 mammals, 300 birds, 10 species of reptiles and amphibians and 20 fish species recorded in the reserve. Typical mountain steppe mammals Altai pika Ochotona alpina, arctic ground squirrel Citellus undulatus and Siberian chipmunk Tamias sibiricus. The forests have numerous sable Martes zibellina and red deer Cervus elaphus. High mountain areas have reindeer Rangifer tarandus and wild sheep Ovis ammon and such birds as willow grouse and ptarmigan Lagopus lagopus and L. mutus and the Altai snowcock Tetraogallus altaicus.

ZONING: None: entirely strict Nature Reserve

DISTURBANCES OR DEFICIENCIES: Forest fires are a problem

TOURISM: Limited to occasional guided visits of an educational nature

SCIENTIFIC RESEARCH: Investigation of ecosystem complex by teams of specialists, including geologists, botanists and sylviculturists.

SPECIAL SCIENTIFIC FACILITIES: Laboratory space; riding animals
PRINCIPAL REFERENCE MATERIAL


STAFF No information
BUDGET No information

LOCAL PARK INFORMATION Based at Yaylyu village, Turochatsky District, Altaisky Territory.
NAME  Pechoro-Ilychsky State Reserve (Russian S.F.S.R.)
TYPE  NR  BIOTIC PROVINCE  2.2.1
LEGAL PROTECTION  Total
DATE ESTABLISHED  1930

GEOGRAPHICAL LOCATION  Confluence of the Ilych river with the upper Pechora eastwards to the western foothills of the North Urals, 300 km due south of Pechora township: N 62°; E 58°
ALTITUDE  250-320 metres
AREA  721,300 ha
LAND TENURE  Government lands by law

PHYSICAL FEATURES  The Reserve lies on the Pripechova lowland, a vast plain of sand and morainic loam at the foot of the North Urals and traversed by the Pechora river and its tributary the Ilych both of which rise near the summit ridge of the Ural chain. The hills of this region have traces of Paleolithic camp sites and fossil remains. Mean January temperature is -17°C, July temperature 12°C to 20.5°C. with 180-200 days below freezing point. Rainfall is estimated at 500-550 mm annually.

VEGETATION  The lowland areas are predominantly forests of pine Pinus sylvestris (1.1.9.2, 1.1.9.3) with larch Larix sibirica in higher areas. Ground cover consists of cowberry Vaccinium vitis-idaea, bilberry V. myrtillus and reindeer mosses Cladonia spp.; wetter areas have Sphagnum moss with cranberry Oxycoccus. Valleys have widespread forests of spruce Picea abies, fir Abies sibirica and pine Pinus sibirica. Flood plain islands and terraces have bushy meadows, willow Salix spp., rowan Sorbus aucuparia, blackcurrant Ribes nigrum and Prunus padus being the dominant tree and shrub species. The subalpine meadow plants include Anemone, Paeonia, the Umbellifer Pleurospermum uralensium, Myosotis and Geranium (5.3.2), whilst Saxifraga, Dryas and Thymus (4.4.2) decorate the tundra.

NOTEWORTHY FAUNA  The 43 mammal species include hare Lepus timidus, squirrel Sciurus vulgaris, flying squirrel Pteromys volans, beaver Castor fiber, wolf Canis lupus (rated as vulnerable in the Red Data Book), fox Vulpes vulpes, brown bear Ursus arctos, Mustela spp., otter Lutra lutra, pine martin Martes martes; sable M. zibellina, wolverine Gulo gulo, lynx Felis lynx, elk Alces alces and reindeer Rangifer tarandus. The 205 bird species recorded include capercaillie Tetrao urogallus, black grouse Lyrurus tetrix, willow grouse Lagopus lagopus, hazel grouse Tetrastes bonasia, black woodpecker Dryocopus martius, great spotted woodpecker Dryocopus major, three-toed woodpecker Picoides tridactylus, nutcracker Nucifraga caryocatactes and red-flanked bluetail Tarsiger cyanurus. The 16 fish species include salmon Salmo salar, grayling Thymallus arcticus and whitefish Coregonus spp.

ZONING  None; entirely Strict Nature Reserve status.
DISTURBANCES OR DEFICIENCIES  None reported
TOURISM  is restricted and no details are available

WDNP  IUCN © 1977  (1)F  Code: UNI(1).1.4
SCIENTIFIC RESEARCH Has been mainly centred on studies of mountain tundra and the Upper Pechora River, and on some of the large mammals such as Alces alces, Rangifer tarandus, Martes zibellina; also on Pinus sibirica.

SPECIAL SCIENTIFIC FACILITIES Laboratories and scientific equipment; paddocks for the experimental breeding of tame Alces alces.

PRINCIPAL REFERENCE MATERIAL

STAFF No information

BUDGET No information

LOCAL PARK ADMINISTRATION Troitsko-Pechorsky district, Post Office Yaksha.
NAME  Wrangel Island State Reserve (Russian S.F.S.R.)

TYPE  NR  BIOTIC PROVINCE  2.1.1

LEGAL PROTECTION  Total

DATE ESTABLISHED  1976

GEOGRAPHICAL LOCATION  Wrangel Island, Chukchi sea, Siberian Arctic:  N 71°50';  E 180°

ALTITUDE  Sea level to 1097 metres

AREA  700,000 ha

LAND TENURE  State lands by law

PHYSICAL FEATURES  A polar island almost entirely covered by sea level tundra, mountain tundra and ice. Nine rivers or streams, flowing for the relatively short period of the year when temperatures rise above freezing point and forming alluvial fans on the lower slopes, run down either side of the 150 km long mountain ridge which constitutes the east-west backbone of the island.

VEGETATION  Meadow areas support dwarf birch Betula nana, willow Salix polaris, sedges Carex spp. and cotton grasses Eriophorum spp. (5.3.2). Moss and lichen tundra dominated by reindeer moss Cladonia spp. covers considerable areas (4.4.1, 4.4.2).

NOTEWORTHY FAUNA  The mammals include a population of about 150-250 female polar bears Ursus maritimus (rated a vulnerable species by the Red Data Book), which den on the island from September-October until towards the end of March. Several thousand walruses Odobenus rosmarus inhabit the sea shores and there is a population of 5000 reindeer Rangifer tarandus. The avifauna includes a large breeding colony of snow geese Anser caerulescens.

ZONING  None; entirely Strict Nature Reserve status.

DISTURBANCES OR DEFICIENCIES  None reported

TOURISM  None

SCIENTIFIC RESEARCH  Vegetation studies; also studies of the biology of polar bear Ursus maritimus and snow geese Anser caerulescens.

SPECIAL SCIENTIFIC FACILITIES  Some facilities have no doubt been established for the purpose of the studies mentioned and are known to include fixed stations for the polar bear observations.

PRINCIPAL REFERENCE MATERIAL


WDNP IUCN © 1977 (1)F Code: UNI(1).1.5
STAFF No information
BUDGET No information

LOCAL PARK ADMINISTRATION Ushakovskiy settlement, Schmidtovsky district, Magadan Oblast.
NAME  Sikhote-Alinsky State Reserve (Russian S.F.S.R.)

TYPE  NP

LEGAL PROTECTION  Total

DATE ESTABLISHED  1935

GEOGRAPHICAL LOCATION  Eastern flank of the Sikhote-Alinsky range on the coast of the sea of Japan: 45°N; 137°E.

ALTITUDE  Sea level to 1598 metres

AREA  310,100 ha

LAND TENURE  Government land by law

PHYSICAL FEATURES  A dissected mountainous area with a variety of crystalline rocks. Soils are brown forest podzols. Mean temperature varies from -12°C in January to 18°C in July in the coastal area, with 150-200 days below 0°C; snow cover ranges from 40 cm on western slopes to 12 cm on eastern slopes where in exposed places the winds disperse it almost completely. Rainfall varies from 600 mm annually in the west to 700 mm in the east, where the rainy season is in summer.

VEGETATION  Broad-leaved mixed forest dominated by Quercus mongolica up to 300 m (1.2.5.1), above which up to about 500-700 m there are mixed broad-leaf and coniferous forests with Korean pine Pinus koraiensis (1.2.4; 1.1.9.2). From 700-1200 m spruce-fir forests mainly of Yezo spruce Picea jezoensis and Abies nephrolepis take over (1.1.9.3) and also a mixture of deciduous rock birch Betula ermanii and the larch Larix dahurica (1.2.6); higher again solid stands of B. ermanii occur from 1000-1300 m (1.2.5.1) and thickets of dwarf Siberian pine Pinus pumila (3.1.2) from 1400-1500 m. Above this height are areas of mountain tundra (4.4.1; 4.4.2). The liana and undergrowth flora of the lower mixed forests comprises many interesting species, among them the herb ginseng Panax schinseng. The riverain flora is also rich in species, including, for example, the monotypic Chosenia macrolepis, Populus maximoviczii, Ligustrina amurenensis and Juglans mandshurica.

NOTEWORTHY FAUNA  A mixture of Siberian and Chinese-Himalayan mammals includes the wolf Canis lupus (classified as 'vulnerable' in the Red Data Book), Himalayan black bear Ursus thibetanus, brown bear Ursus arctos, sable Martes zibellina and martin M. flavigula, badger Meles meles, otter Lutra lutra, lynx Felis lynx, leopard Panthera pardus (another 'vulnerable' species) and the 'endangered' Siberian tiger Panthera tigris altaica, of which up to about 10 are believed to survive in the Reserve; Steller's sea lion Eumetopias jubatus, harbour and ringed seal Phoca vitulina and P. hispida are present in the coastal waters; the ungulate species include wild pig Sus scrofa, musk deer Moschus moschiferus, sika Cervus nippon, red deer C. elaphus, elk Alces alces, roe deer Capreolus capreolus and goral Nemorhaedus goral. Altogether over 60 species of mammals, 230 species of birds, 15 species of reptiles and amphibians and 16 species of freshwater fish have been recorded. Invertebrates include many large butterflies and a number of endemic forms, mostly allied to insect species of more southerly distribution.

ZONING  None; entirely strict Nature Reserve

DISTURBANCES OR DEFICIENCIES  Danger of forest fires

U.S.S.R.
TOURISM  None

SCIENTIFIC RESEARCH  Studies of the biology of ungulates and carnivores; ornithological and botanical research; development of new protective measures to safeguard rare species of plant and animal.

SPECIAL SCIENTIFIC FACILITIES  Equipped laboratories

PRINCIPAL REFERENCE MATERIAL

STAFF  No information

BUDGET  No information

LOCAL PARK ADMINISTRATION  P.O. Terney, Terneisky District, Primorsky Territory.
NAME Kavkazsky State Reserve (Russian S.F.S.R.)

TYPE NR

BIOTIC PROVINCE 2.8.5

LEGAL PROTECTION Total

DATE ESTABLISHED 1924

GEOGRAPHICAL LOCATION Inland from Adler, and about 70 km east of Sochi on the Black Sea coast: N 43°30'; E 40°35'

ALTITUDE 700-3360 metres

AREA 263,500 ha

LAND TENURE Government lands by law

PHYSICAL FEATURES The Reserve lies at the western end of the main Caucasus range and includes the upper reaches of the large and small Laba, White, Socha and Mzymta rivers. Its topography is that of a folded mountain region subjected to glacial and snow action, the prevailing rocks being crystalline granites and gneisses. Soils are of mountain forest and brown mountain forest types. The rainfall is 1000-2000 mm annually, decreasing in the east of the Reserve to 800-1000 mm. Snow lies in winter above 800-1000 m but the mountain passes are not clear of snow until June.

VEGETATION About 70% of the Reserve is covered by the fir Abies nordmanniana (1.1.9.3), the belt of forest lying at between 1000-1900 m altitude. Below this, at 900-1200 m, the forests are dominated by beech Fagus orientalis (1.2.5.1), and below this again, at 800-900 m, by deciduous oak Quercus and other species. Above the firs, at 1900-2000 m, shrubby beech and the maple Acer trautvetteri take over, growing to a height of 2-2.5 m only (1.2.5.1); this in turn is succeeded by Rhododendron caucasicum at 2000-2500 m (3.1.1.4) and finally by open meadows between 2300 and 2900 m (5.3.2). The area is the junction of three geobotanical provinces and of great floristic interest. Groves of box Buxus colchica and yew Taxus baccata are especially prized.

NOTEWORTHY FAUNA 59 species of mammal have been recorded, including wolf Canis lupus (rated by the Red Data Book as a 'vulnerable' species), brown bear Ursus arctos, lynx Felis lynx, wild pig Sus scrofa, Caucasian deer Cervus elaphus moral (9000), roe deer Capreolus capreolus, reintroduced European bison Bison bonasus (500), tur Capra caucasica (15,000) and chamois Rupicapra rupicapra (6000). The avifauna includes 192 species of which 132 nest in the area. Among the montane species are bearded vulture Gypaetus barbatus, griffon vulture Gyps fulvus, Caucasian blackcock Lyrurus mlokosiewiczi, Caucasian snowcock Tetraogallus caucasicus and alpine chough Pyrrhocorax graculus.

ZONING None; entirely Strict Nature Reserve status.

DISTURBANCES OR DEFICIENCIES There have been a number of species introductions or reintroductions into the area, including the European bison and the Altai squirrel, some like the bison an unqualified success, others of more doubtful value.

TOURISM None
SCIENTIFIC RESEARCH  Studies of the endemic Caucasian flora and fauna with a view to their preservation; complex ecological studies and reacclimatization studies of the European bison.

SPECIAL SCIENTIFIC FACILITIES  Fully equipped laboratories.

PRINCIPAL REFERENCE MATERIAL


STAFF  No information

BUDGET  No information

LOCAL PARK ADMINISTRATION  Krasnodar Territory, Sochi, Sukhumi highway 7a.
Barguzinsky State Reserve (Russian S.F.S.R.)

**Type:** NR  
**Biogenic Province:** 2.2.2  
**Legal Protection:** Total  
**Date Established:** 1916

**Geographical Location:** From the north-eastern shore of Lake Baikal to the western slopes of the Barguzinsky range, about 360 km NNE of Ulan-Ude: N 54°05'; E 109°

**Altitude:** 400-2800 metres  
**Area:** 263,200 ha

**Land Tenure:** Government lands by law

**Physical Features:** Includes a 60 km stretch of the Baikal shoreline and its adjacent waters and also part of the summit ridge of the Barguzinsky range. The mountainous section is almost inaccessible, being very deeply dissected, with numerous glacial cirques, corries and lakes, the sources of mountain torrents. The climate is severe, with 210 days below freezing point and a mean January temperature of -26°C. The mean July temperature is 12-16°C. Precipitation is 250-300 mm annually. The climate in the west of the Reserve is moderated by the influence of the lake, with cooler summers and milder winters, the water temperature seldom exceeding 12°C.

**Vegetation:** Terraces near the shore have larch Larix dahurica and Rhododendron dahuricum; above this the more fertile taiga is characterized by 'cedar' and larch forests of Pinus sibirica and Larix sibirica (3.1.2), with some spruce Picea obovata, the monotypic willow Chosenia macrolepia, honeysuckle Lonicera, rowan Sorbus aucuparia and currants Ribes rubrum and nigrum. Higher again is dark coniferous taiga of fir Abies sibirica and 'cedar' Pinus sibirica (1.1.9.3). Next come thickets of dwarf pine Pinus pumila (3.1.2) and finally, at the highest levels, Kobresia dominated tundra, pasty meadows with sedges Carex spp., Betula ermanii on stony talus and lichen Cladonia and Cetraria covered rocks and cliffs.

**Noteworthy Fauna:** The 39 species of mammal recorded include pika Ochotona hyperborea, Siberian chipmunk Eutamias sibiricus, marmot Marmota baibacina, flying squirrel Pteromys volans, fox Vulpes vulpes, brown bear Ursus arctos, stoats and weasels Mustela altaia, erminea, nivalis and sibirica, otter Lutra lutra, large numbers of a sable subspecies Martes zibellina princeps, wolverine Gulo gulo, the endemic Baikal hair seal Phoca sibirica, a local race of musk deer Moschus moschiferus, Siberian red deer Cervus elaphus sibiricus, elk Alces alces and reindeer Rangifer tarandus. The avifauna includes 220 bird species, among them the white-tailed eagle Haliaeetus albicilla, black-billed capercaillie Tetrao parvirostris, capercaillie T. urogallus, willow grouse Lagopus lagopus, common ptarmigan L. mutus, oriental cuckoo Cuculus saturatus, three-toed woodpecker Picoides tridactylus, warblers, tits, nuthatches and, in some years, large numbers of crossbills Loxia leucoperta and L. curvirostra. The Reserve was created to protect the sable M. zibellina.

**Zoning:** None; entirely of Strict Nature Reserve status.

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DISTURBANCES OR DEFICIENCIES  
Risk of forest fires

TOURISM  
None

SCIENTIFIC RESEARCH  
Studies of the natural productivity of the main elements of the ecosystem; studies directed to the well-being of M. zibellina populations.

SPECIAL SCIENTIFIC FACILITIES  
Laboratories, scientific equipment and transportation facilities.

PRINCIPAL REFERENCE MATERIAL

STAFF  
No information

BUDGET  
No information

LOCAL PARK ADMINISTRATION  
Buryat Autonomous S.S.R., North Baikal District, Davsha village.
NAME Krasnovodsky State Reserve (Turkmen S.S.R.)

TYPE NR

LEGAL PROTECTION Total

DATE ESTABLISHED 1932

GEOGRAPHICAL LOCATION The south-east coast of the Caspian Sea between Krasnovodsk and Chelekensk: N 38°40'; E 54°

ALTITUDE 28-300 metres

AREA 262,037 ha

LAND TENURE Government lands by law

PHYSICAL FEATURES The Reserve includes the whole of the Krasnovodsk and north Chelekensk bays comprising some 18,000 ha; it also includes 216 ha of salt-pans around the north Chelekensk bay, islands in Mikhailovsk bay and the 200 ha island of Dog-Hola in the north-east corner of Krasnovodsk bay. Another section of the Reserve called Hassa-Kuli is located at the mouth of the Atrek River, 250 km to the south and close to the Iranian border. The mean temperature ranges from 4°C in January to 28°C in July, with 240-260 frost-free days and an estimated 100-200 mm rainfall annually. Soils vary from saline to heavy clay or sandy loam. There are some areas of wetland.

VEGETATION Characteristically composed of an arid scrub of desert ephemerals (5.4.4), interspersed with reedbeds of Typha spp. and Phragmites communis (5.6.2). Among the species present are the meadow grass Poa bulbosa, Alyssum desertorum, the water chestnut Trapa natans, manna Alhagi pseudoalhagi, milk-vetch Astragalus sp., Tamarix, the monotypic genera Halocnemum strobilaceum and Halostachys caspica, saltwort Salsola incanescens, Bromus japonicus, Nitraria schoberi and Convolvulus erinaceus.

NOTEWORTHY FAUNA Mammals include the crested porcupine Hystrix cristata, hare Lepus talai, wolf Canis lupus (classified as 'vulnerable'), jackal C. aureus, fox Vulpes vulpes, honey badger Mellivora indica, wild pig Sus scrofa and goitred gazelle Gazella subgutturosa. Numerous birds winter in the area including cormorants Phalacrocorax spp., grey heron Ardea cinerea, greater flamingo Phoenicopterus ruber, whooper swan Cygnus cygnus, mute swan C. olor, greylag goose Anser anser, pintail Anas acuta, marbled teal A. angustirostris, teal A. crecca, mallard A. platyrhynchos, pochard Aythya ferina, red-crested pochard Netta rufina, golden-eye Bucephala clangula, white-headed duck Oxyura leucocephala, white-tailed eagle Haliaeetus albicilla and coot Fulica atra.

ZONING None; entirely Strict Nature Reserve

DISTURBANCES OR DEFICIENCIES None reported

TOURISM None

SCIENTIFIC RESEARCH Studies of complex shallow water ecosystems and adjacent desert regions; research on wintering flamingo, duck, coot and other waterfowl, including yearly censuses and ecology.
SPECIAL SCIENTIFIC FACILITIES

Laboratories, scientific equipment and transportation.

PRINCIPAL REFERENCE MATERIAL


STAFF
No information

BUDGET
No information

LOCAL PARK ADMINISTRATION
Chapaev Street No. 15, Krasnovodsk, Turkmen S.S.R.
**U.S.S.R.**

**NAME**  Kurgaldzhinsky State Reserve (Kazakh S.S.R.)

**TYPE**  NR

**LEGAL PROTECTION**  Total

**DATE ESTABLISHED**  1958

**GEOGRAPHICAL LOCATION**  North-western part of the Tengiz-Kurgaldzhinsk depression, 275 km west of Karaganda; N 50°57'; E 68°-70°

**ALTITUDE**  300-400 metres

**AREA**  185,200 ha

**LAND TENURE**  Government lands by law

**PHYSICAL FEATURES**  The Reserve includes the lower reaches of the Nura and Kulan-Utpes rivers, Kurgaldzhino and Tengiz lakes and surrounding areas. Chestnut soils have developed on top of loess-like loams in grassland areas. Lower areas have saline soils. Temperature means range from -17°C in January to 20.5°C in July, with 150 days below freezing point. The rainfall is estimated at 250-300 mm annually.

**VEGETATION**  This is bunch-grass steppe (5.2.2). The dominant grasses are *Stipa lessingiana* and *sareptana*, *Agropyron repens*, *Bromus inermis*, *Festuca sulcata* and *Calamagrostis epigeios*. Among other flowering plants are *Pyrethrum achilleifolium*, *Spiraea hypericifolia*, wormworts *Artemisia pauciflora* and *A. schrenkiana*, the monotypic *Halocnemum strobilaceum* and orache *Atriplex cana*.

**NOTEWORTHY FAUNA**  Mammals include hare *Lepus timidus* and wild boar *Sus scrofa*. The Reserve is noted for its avifauna, the lakes being a molting and breeding area for numerous waterfowl and gulls including the greater flamingo *Phoenicopterus ruber*, mute swan *Cygnus olor*, greylag goose *Anser anser*, herring gull *Larus argentatus*, common gull *L. canus* and greater black-headed gull *L. ichthyaetus*. The willow grouse *Lagopus lagopus* also occurs in the vicinity.

**ZONING**  None; entirely Strict Nature Reserve.

**DISTURBANCES OR DEFICIENCIES**  In the past the area was harvested for hay and some cultivation is still practised. The musk rat *Ondatra zibethicus* has been introduced and has spread throughout the area.

**TOURISM**  None

**SCIENTIFIC RESEARCH**  Studies of the ecosystem and of the waterfowl populations.

**SPECIAL SCIENTIFIC FACILITIES**  Laboratories, scientific equipment and water transportation.

**PRINCIPAL REFERENCE MATERIAL**


STAFF  No information
BUDGET  No information

LOCAL PARK ADMINISTRATION  Velinogradsky region, Kurgaldzhinsky district, Kurgaldzhino, Kazakh S.S.R.
NAME: Baikalsky State Reserve (Russian S.F.S.R.)

TYPE: NR

LEGAL PROTECTION: Total

DATE ESTABLISHED: 1969

GEOGRAPHICAL LOCATION: The southern shore of Lake Baikal and part of the Khamar-Daban mountains, 170 km WSW of Ulan-Ude and 100 km across the lake from Irkutsk: N 51°50'; E 104°50'

ALTITUDE: 200-2300 metres

AREA: 165,700 ha

LAND TENURE: Government lands by law

PHYSICAL FEATURES: The south of the Reserve is cut off from the remainder by the Khamar-Daban range which slopes precipitously down to Lake Baikal from the rounded summits of its 2300 m crest, which runs on an east-west axis. Soils are of a mountain tundra type, varied locally by wet podzolic soils and chestnut meadow soils. Lateral ridges extend to the lake shore and beyond, forming rocky promontories. The mean temperatures range from -20°C in January to 16°C in July, remaining below freezing point for 180-210 days per year. Annual precipitation varies from 300 to 600 mm.

VEGETATION: Well marked zonation. Sphagnum bogs (4.3.1.1) and forests of poplar Populus and the monotypic willow-like Chosenia macrolepis (1.2.5.1) occupy low-lying areas. The slopes of the mountains have mountain taiga of spruce Picea and 'cedar' Pinus sibirica (1.1.9.2), with fir Abies sibirica dominant in places and some larch Larix sibirica (1.2.6) and shrubs such as Rhododendron parvifolium. The high altitude meadows support thickets of dwarf Siberian pine Pinus pumila and birch Betula middendorfii (1.2.5.1).

NOTEWORTHY FAUNA: Mammals include brown bear Ursus arctos, badger Meles meles, stoats Mustela altaica, eversmanni and sibirica, wolverine Gulo gulo, lynx Felix lynx, wild pig Sus scrofa, musk deer Moschus moschiferus, roe deer Capreolus capreolus and reindeer Rangifer tarandus. Birds include the swan goose Anser cygnoides, crested honey buzzard Pernis ptilorhynchus, rock ptarmigan Lagopus mutus and great bustard Otis tarda.

ZONING: None: Strict Nature Reserve throughout

DISTURBANCES OR DEFICIENCIES: Danger of fires has been a problem

TOURISM: None

SCIENTIFIC RESEARCH: Studies of the ecosystems of the terraces bordering southern Baikal and of the Khamar-Daban range.

SPECIAL SCIENTIFIC FACILITIES: Laboratories and scientific equipment

STAFF  No information

BUDGET  No information

LOCAL PARK ADMINISTRATION  Tankhoy Post Office, Kabansky District, Buryat Autonomous S.S.R.
U.S.S.R.

NAME Laplansky State Reserve (Russian S.F.S.R.)

TYPE NP BIOTIC PROVINCE 2.1.1/2.2.1

LEGAL PROTECTION Total

DATE ESTABLISHED 1930

GEOGRAPHICAL LOCATION Western part of the Kola peninsula and to west of lakes Imandra and Moucha, south of Murmansk: 68°N; 33°E.

ALTITUDE 300-1119 metres

AREA 161,300 ha

LAND TENURE Government land by Law

PHYSICAL FEATURES An area of plains and low mountains, with glaciated landforms and exposures of the crystalline rocks of the Baltic shield. Boggy podsol soils but tundra soils in upland areas. 220 days annually below 0°C; mean temperature of warmest month 12°C-16°C, mean temperature of coldest month -14°C. Total annual rainfall estimated at 400-500 mm.

VEGETATION Dominant vegetation is pine Pinus sylvestris with reindeer moss Cladonia spp. and fir Picea abies (1.1.9.2; 1.1.9.3), together occupying 48 per cent of the area. Of the remainder, 28 per cent is mountain lichen tundra with willow Salix polaris, mountain avens Dryas octopetala and Rhododendron lapponicum (4.4.2); 12 per cent open forest of silver and downy birch Betula verrucosa and B. pubescens (1.2.4); and 6 per cent bogs and lakes.

NOTEWORTHY FAUNA Mammals include beaver Castor fiber (population estimated at 50) Lemming Lemmus lemmus, brown bear Ursus arctos, pine marten Martes martes, glutton Gulo gulo, otter Lutra lutra, about 50 elk Alces alces and 20,000 reindeer Rangifer tarandus. Birds include several species of raptors such as osprey Pandion haliaetus, golden eagle Aquila chrysaetos and gyrfalcon Falco rusticolus; gamebirds such as willow grouse and ptarmigan Lagopus lagopus and L. mutus, capercaillie Tetrao urogallus, black grouse Lyrurus tetrix, hazel hen Tetrao bonasia; and typical eastern palearctic species such as the Siberian tit Parus cinctus and Siberian jay Perisoreus infaustus.

ZONING None: entirely strict Nature Reserve

DISTURBANCES OR DEFICIENCIES Forest fires have affected about 10 per cent of the area in the past, and logging also took place in about 7 per cent of the area. Muskrat Ondatra spp. were introduced in 1931 and American mink Mustela vison, accidentally, in 1958.

TOURISM None

SCIENTIFIC RESEARCH On biology of the reindeer, fur-bearing animals and fish; investigation of succession after fire and observation of all ecological components of the ecosystem.

SPECIAL SCIENTIFIC FACILITIES Laboratory and scientific equipment

WDNP IUCN © 1977 (1)F Code: UNI(1).2.7
PRINCIPAL REFERENCE MATERIAL
Publishing House Mysl, Moscow.

STAFF No information
BUDGET No information

LOCAL PARK ADMINISTRATION Laplandsy State Reserve, P.O. Box 29, Monchegorsk,
Murmansk Region.
NAME Darvinsky State Reserve (Russian S.F.S.R.)

TYPE NR

BIOTIC PROVINCE 2.2.1

LEGAL PROTECTION Total

DATE ESTABLISHED 1945

GEOGRAPHICAL LOCATION North-western shore and part of the waters of the Rybinsky Reservoir, 325 km north of Moscow and 125 km SW of Vologda: N 58°30'; E 37°20'

ALTITUDE 102-106 metres

AREA 112,600 ha (including 45,400 ha of the Reservoir)

LAND TENURE Government lands by law

PHYSICAL FEATURES Flats adjoining the shore of the Rybinsky Reservoir, geologically composed of fluvo-glacial deposits with swampy depressions. Soils are peaty beneath Sphagnum bogs, podzolic on higher ground and often sandy where a cover of reindeer moss occurs. Mean temperatures range from -11°C in January to 17°C in July, with 150 days below freezing point. Rainfall is estimated at 600 mm annually.

VEGETATION 35,400 ha of the Reserve are Pinus sylvestris woodland (1.1.9.2), the ground layer dominated by reindeer moss Cladonia spp. with an admixture of bilberry Vaccinium myrtillus and cowberry V. vitis-idaea. There are 8800 ha of birch Betula verrucosa and B. pubescens with some alder Alnus (1.2.5.1). Firs and spruce Picea abies occupy another 2200 ha (1.1.9.3) and Sphagnum bogs with cranberry Oxycoccus palustris, cloudberry Rubus chamaemorus, cotton grass Eriophorum vaginatum and E. polystachyon, and sundew Drosera rotundifolia account for the remaining 17,100 ha (4.3.1.1) of the dry-land area.

NOTEWORTHY, FAUNA The fauna of the southern sub-zone of the European taiga is well represented and includes 40 mammals, among them the hare Lepus timidus, bank vole Clethrionomys glareolus, ground vole Arvicola terrestris, squirrel Sciurus vulgaris, brown bear Ursus arctos (40), badger Meles meles (370), otter Lutra lutra (25), pine martin Martes martes, lynx Felis lynx and elk Alces alces (300). The 213 bird species recorded include many geese and duck on the reservoir, white-tailed eagle Haliaeetus albicilla, osprey Pandion haliaetus, capercaillie Tetrao urogallus (2000), black grouse Lyrrurus tetrix (8000), willow grouse Lagopus lagopus (3000), hazelhen Tetrastes bonasia (3000) and a large colony of black-headed gull Larus ridibundus (4000). Reptiles include the adder Vipera berus.

ZONING None; entirely Strict Nature Reserve

DISTURBANCES OR DEFICIENCIES Low-lying areas bordering the Reservoir are affected by variations in water level, including occasional flooding.

TOURISM None

WDNP IUCN © 1977 (1)F Code: UNI(1).2.9
SCIENTIFIC RESEARCH  Studies of the influence of the reservoir on natural ecosystems; hydrological and ichthyological research; studies of the biology of the Tetraonidae.

SPECIAL SCIENTIFIC FACILITIES  Fully equipped laboratories and boats. Experimental farm for breeding Tetrao urogallus.

PRINCIPAL REFERENCE MATERIAL
The results of the research programme are published in a regular series of scientific papers.

STAFF  No information
BUDGET  No information

LOCAL PARK ADMINISTRATION  Borok village, Nikolovysekoje Post Office, Ves'yegonsky district, Kalinin region.
NAME Alma Atinsky State Reserve (Kazakh S.S.R.)

TYPE NP

LEGAL PROTECTION Total

DATE ESTABLISHED 1931

GEOGRAPHICAL LOCATION Central part of the Zailisky Alatau range: 43°N; 78°E

ALTITUDE 400-4951 metres (highest point being the Talgar mountain)

AREA 89,524 ha

LAND TENURE Government land by law

PHYSICAL FEATURES Physic-geographically part of a northern ridge of the Tien-Shan mountains, the Reserve is divided into two sections: first, the mountainous region of the central Zailisky Alatau, characterised by a network of peaks culminating in Mt. Talgar and with strongly dissected relief resulting from intense erosion. The fast-flowing Talgar and Isyk rivers carry abundant water which ultimately drains into Lake Balkash and soils range from degraded chernozems to black earths. Mean temperature varies from -10°C to 24°C, with about 155 days a year above freezing point. Rainfall averages 400 mm. The other section of the Reserve comprises the desert of the Ilinsky depression, a tectonic trough through which the Ili river flows, and also the "Singing Sands" of Kalkany Mountain.

VEGETATION The forest-meadow steppe (from 1300-2600 m) has conifers, mixed forest, grasslands and forest grasslands (1.1.9.3; 1.2.4; 5.3.1; 5.2.2) with the spruce Picea schrenkiana and feather grasses Stipa capillata, Phleum phleoides and Festuca ganeschinii. The sub-alpine belt (2600-3600 m) supports evergreen scrub (3.1.2), Juniperus turkestana steppe and mixed grasslands. The meadows of the alpine zone (3000-3600 m) are composed of mixed herbaceous and grassy associations (5.3.3) between rocky outcrops. Other species present include the apple Malus sieversii, the honeysuckle Lonicera altmanii and representatives of the genera Armeniaca, Crataegus, Rosa, Artemisia, Geranium, Myosotis, Centiana and Cobresia.

NOTEWORTHY FAUNA Mammals include red and large-eared pikas Ochotona rutila and macrotis, marmot Marmota balhacina, vole Clethrionomys frater, birch mice Sicista concolor, wolf Canis lupus, stoat Mustela erminea, stone marten Martes foina, lynx Felis lynx, red deer Cervus elaphus sibiricus, roe deer Capreolus capreolus pyragus and Siberian ibex Capra ibex sibirica. Birds include lammergeyer Gypaetus barbatus, golden eagle Aquila chrysaetus, the Himalayan snowcock Tetracogallus himalayensis sewerzowi and chukar partridge Alectoris chukar. There are many interesting passerines including the Whistling Thrush Myiophonus caerulescens, the grosbeak Mycerobus carnipes and Guldenstadt's, blue-headed and Eversmann's redstarts Phoenicurus erythropogaster, caeruleiceps and erythrornotus.

ZONING None: entirely strict Nature Reserve

DISTURBANCES OR DEFICIENCIES Introduction of the red squirrel Sciurus vulgaris

TOURISM Scientific educational excursions for specialists, with guides drawn from local researchers and using the reserve trails.
SCIENTIFIC RESEARCH  Investigation of methods of preserving montane landscape; research on vegetation belts; research into and protection of the "Singing Sands".

SPECIAL SCIENTIFIC FACILITIES  Laboratories, natural history museum, scientific equipment.

PRINCIPAL REFERENCE MATERIAL


STAFF  No information

BUDGET  No information

NAME  Badkhyzsky State Reserve (Turkmen S.S.R.)

TYPE  NP

LEGAL PROTECTION  Total

DATE ESTABLISHED  1941

GEOGRAPHICAL LOCATION  Southern tip of Turkmenistan, between the Tedzhen and Murgab rivers, near Iranian and Afghan borders: 36°N; 62°E.

ALTITUDE  800-1270 metres

AREA  87,640 ha

LAND TENURE  Government land by law

PHYSICAL FEATURES  Three main types of landscape. 1) The Badkhyz area in the north and west is a deeply dissected plateau with mountain ridges, especially on the west where they enclose deep stony gorges. 2) To the east the mountains fall away to a rolling hilly plateau with desert steppe. 3) In the south the Er-Ollan-Duz depression and salt lake and the Kizyl-Dzhar depression form the limits of the plateau. Soils are sandy with loess-lime loams. Summers are hot and winters hard and with strong winds. January mean temperature is -3°C - 4°C and July mean 23°C - 31°C, with 225 days below 0°C and 250 mm total rainfall.

VEGETATION  Lower levels with sub-tropical semi-savanna (5.2.1) and groves of pistachio Pistacia vera (3.2.4). Desert areas with ephemerals (5.4.4) and meadow-steppe with Artemisia bedhysi (5.2.4). Riverain areas with oleander Nerium oleander and poplar Populus euphratica. Other tree species include almond Amygdalus spinosissima and edible fig Ficus carica. Among many interesting plants are Calligonum arborescens and halophytic Chenopodiaceae such as Haloxylon persicum and H. aphyllum, Salsola paletzkiana and Aellenia subaphylla; and representatives of the following genera: Tulipa, Cousinia, Poe, Carex, Papaver, Malcolmia, Reaumuria, Iris, Eremanostachys, Borema, Delphinium, Allium, Alhagi and others.

NOTEWORTHY FAUNA  Mammals include great gerbil Rhombomys opimus, crested porcupine Hystrix cristata, honey badger Mellivora capensis, caracal Felis caracal, leopard Panthera pardus (classified as 'vulnerable' in the Red Data Book) and Acinonyx jubatus venaticus, the highly endangered Asiatic race of cheetah; also Hyaena hyaena, the onager Equus hemionus (another 'vulnerable' species, for which this is the only locality in the U.S.S.R.), goitred gazelle Gazella subgutturosa and wild sheep Ovis ammon. Birds include: ruddy shelduck Tadorna ferruginea, black vulture Agrypus monachus, booted eagle Hieraaetus pennatus, great bustard Otis tarda, chukar Alectoris chukar, desert lark Ammomanes deserti, bee-eater Merops apiaster, rosy pastor Sturnus roseus and others. Reptiles include the skink Eumeus schneideli, the Central Asian grey monitor Varanus griseus caspius (classified as 'vulnerable' in the Red Data Book), the gecko Gymnodactylus sp. and the Central Asian cobra Naja oxiana (classified as 'endangered').

ZONING  None: entirely strict Nature Reserve

DISTURBANCES OR DEFICIENCIES  None
TOURISM

Scientific field trips for specialists, under guidance of local research staff and using reserve trails.

SCIENTIFIC RESEARCH

Investigation of reasons for reduction in numbers and methods for protection of the onager and gazelle; also into ecology and reasons for decline of pistachio stands.

SPECIAL SCIENTIFIC FACILITIES

Zoological laboratory and photographic laboratory

PRINCIPAL REFERENCE MATERIAL


STAFF

No information

BUDGET

No information

LOCAL PARK ADMINISTRATION

Kushka, Morgunovsky Settlement, Turkmen S.S.R.
U.S.S.R.

NAME Naurzumsky State Reserve (Kazakh S.S.R.)

TYPE NR

BIOTIC PROVINCE 2.10.2

LEGAL PROTECTION Total

DATE ESTABLISHED 1934

GEOGRAPHICAL LOCATION Upper Turgayskaya basin, east of the Urals and south of the Magnitogorsk-Karaganda railway, extending both north and south of the small town of Naurzum: N 51°30'; E 64°30'

ALTITUDE 123.5-304.5 metres

AREA 85,642 ha

LAND TENURE Government lands by law

PHYSICAL FEATURES Much of the valley in which the Reserve is situated is covered by oligocene wind-formed sand dunes but there are several fair-sized lakes such as those of Aksuat and Sarymoin. The terrain is undulating, with chestnut soils on the ridges and peaty soils in the hollows. Mean temperatures range from -15°C in January to 20°C in July, with temperatures remaining below freezing point on about 150 days a year and annual rainfall estimated at the low average figure of 254 mm.

VEGETATION Typically consists of pine forest (1.1.9.2) of Pinus sylvestris and birch forest (1.2.5.1) of Betula pendula and kirghizerum interspersed with bunchgrass steppe (5.2.2) dominated by Stipa lessingiana and pennata, Festuca sulcata, Poa bulbosa and Koeleria gracilis. This is varied by patches of shrubs such as Spiraea crenifolia, Rosa pratorum and Juniperus sabina and of the blue and rose sea lavender Statice gmelini. Saline areas support stands of Artemisia austriaca, pauciflora and arenaria, together with Halocnemum strobilaceum, Salicornia herbacea and the oraches Atriplex verrucosa and candum.

NOTEWORTHY FAUNA The Reserve has a characteristic combination of northern and southern elements including hare Lepus timidus, thick-tailed jerboa Stylodipus telum, suslik Citellus maximus, badger Meles meles and saiga antelope Saiga tatarica. The area is a moulting, nesting and resting place for birds, especially waterfowl. Species include black-throated diver Gavia arctica, whooper swan Cygnus cygnus, mute swan C. olor, greylag goose Anser anser, ruddy shelduck Tadorna ferruginea, shelduck T. tadorna, gadwall Anas strepera, willow grouse Lagopus lagopus, great and little bustard Otis tarda and O. rubr, curlew Numenius arquata, herring gull Larus argentatus and short-toed, white-winged and black larks of the genera Calandrella and Melanocorypha.

ZONING None; entirely Strict Nature Reserve

DISTRUBANCES OR DEFICIENCIES The main problem in the past was grazing but is now uncontrolled burning.

TOURISM None

SCIENTIFIC RESEARCH Studies of the unusual ecosystem and of methods of protecting migratory birds.

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SPECIAL SCIENTIFIC FACILITIES

Laboratories, scientific equipment and water transportation.

PRINCIPAL REFERENCE MATERIAL


Results of research are published in a series of scientific papers.

STAFF

No information

BUDGET

No information

LOCAL PARK ADMINISTRATION

Naurzum, Naurzumsky district, Kustanay region, Kazakh S.S.R.
U.S.S.R.

NAME Zeyisky State Reserve (Russian S.F.S.R.)

TYPE NR

BIOTIC PROVINCE 2.2.2/2.2.4

LEGAL PROTECTION Total

DATE ESTABLISHED 1963

GEOGRAPHICAL LOCATION About 100 km NW of Zeya and 150 km SE of Tyndinsky, to the north-east of the northernmost section of the Amur River: N 54°30'; E 125°50'

ALTITUDE 700-1450 metres

AREA 82,300 ha

LAND TENURE Government lands by law

PHYSICAL FEATURES An area of the Tukuringra mountains between the rivers Gilyuy and Gulska, which flow eastwards to join the Zeya about 500 km from its confluence with the Amur. Geologically composed of gneiss, mica schist, limestones and sandstones with brown forest soils. The mean temperature ranges from -30°C in January to 18°C in July with below zero temperatures on 200 days a year. Precipitation averages 450 mm, 80% falling in the monsoon period May to September and resulting in summer flooding of the rivers. The timber line is at 1000-1300 m.

VEGETATION On the borderline between east Siberian taiga and Manchurian mixed forests, most (85%) of the Reserve features larch, (Larix) (1.2.6) and spruce (Picea) forest (1.1.9.3), replaced by broad-leaf oak (Quercus) forest on south-facing slopes (1.2.5). At the upper margin of the timber line dwarf and procumbent forms of pine Pinus pumila, spruces Picea and larch (3.1.2) take over and finally mountain tundra (4.4.1). The chief species concerned are Larix dahurica, Picea obovata and jeroensis, Betula ermanii and Quercus mongolica.

NOTEWORTHY FAUNA Larger mammals include brown bear Ursus arctos, lynx Felis lynx, musk deer Moschus moschiferus, a local race of red deer Cervus elaphus xanthopygos, elk Alces alces and roe deer Capreolus capreolus. Among the more notable non-passerine birds are the pied harrier Circus melanoleucos, black-billed capercaillie Tetrao parvirostris, Siberian spruce grouse F. falcipennis, a subspecies of eagle owl Bubo bubo assurienis and little cuckoo Cuculus poliocephalus.

ZONING None; Strict Nature Reserve status throughout.

DISTURBANCES OR DEFICIENCIES Forest fires

TOURISM None

SCIENTIFIC RESEARCH Various studies of the flora and fauna

SPECIAL SCIENTIFIC FACILITIES Laboratories

PRINCIPAL REFERENCE MATERIAL


WDNP IUCN © 1977 (1)F Code: UNI(1).3.7
STAFF  No information
BUDGET  No information
LOCAL PARK ADMINISTRATION  Tolstoy str. 26, Zeya, Amuraskaya region.
U.S.S.R.

NAME Berezinsky State Reserve (Byelorussian S.S.R.)

TYPE NP

BIOTIC PROVINCE 2.2.3

LEGAL PROTECTION Total

DATE ESTABLISHED 1925

GEOGRAPHICAL LOCATION Berezina river basin, 125 km south-east of Minsk: 54°8'N; 28°E.

ALTITUDE 100-200 metres

AREA 76,200 ha

LAND TENURE Government land by law

PHYSICAL FEATURES The area is part of the flood plain of the Berezina, with peat deposits over its entire length, and bordered by low hills which are the eroded remains of an end moraine. Its boundary includes a narrow levee rising slightly above the flood plain. Soils are sandy fluvio-glacial deposits alternating with morainic loams. Mean temperatures vary from -9°C in January to 18°C in July, 120-140 days per year being below 0°C. Rainfall amounts to 600-650 mm annually.

VEGETATION Pine forest and heathland with groves of Pinus sylvestris and Picea abies (1.1.9.2; 1.2.4), an admixture of the birches Betula pubescens and verrucosa, groves of oak Quercus robur (1.2.5.1) and other trees, including hazel Corylus avellana, spindle trees Euonymus europaeus and verrucosa and rowan Sorbus aucuparia. In the low lying valley of the Berezina at the south end of the reserve, the aquatic vegetation includes Phragmites communis, Typha latifolia and Scirpus silvaticus, also submerged species such as Glyceria plicata, Stratiotes aloides and Elodea canadensis.

NOTEWORTHY FAUNA The reserve was created to protect the European beaver Castor fiber; other mammals include carnivores such as the wolf Canis lupus (classified as 'vulnerable' in the Red Data Book), pine marten Martes martes, brown bear Ursus arctos and lynx Felis lynx. Wild pig Sus scrofa and elk Alces alces are widespread but roe deer Capreolus capreolus less numerous. Common birds include the buzzard Buteo buteo, capercaillie Tetrao urogallus, black grouse Lyrurus tetrix, hazel hen Tetrastes bonasia, nightingale Luscinia megarhynchos and bullfinch Pyrrhula pyrrhula.

ZONING None: entirely strict Nature Reserve

DISTURBANCES OR DEFICIENCIES None

TOURISM On a small individual scale

SCIENTIFIC RESEARCH Studies of complex ecosystem of coniferous and broad-leaf forests, sphagnum bogs and other landscape elements. Biological studies of Castor fiber, Alces alces and Lyrurus tetrix.
SPECIAL SCIENTIFIC FACILITIES
Laboratory space, research equipment and transportation.

PRINCIPAL REFERENCE MATERIAL


STAFF No information
BUDGET No information

LOCAL PARK ADMINISTRATION Vetebskaya Region, Mepelsky District, Kraytsy Village.
U.S.S.R.

NAME  Astrakhansky State Reserve (Russian S.F.S.R.)
      Named for V.I. Lenin and awarded the order of the Red Banner of Labour.

TYPE  BIOTIC PROVINCE  2.11.1

LEGAL PROTECTION Total

DATE ESTABLISHED 1919

GEOGRAPHICAL LOCATION Volga river delta: N 46°; E 48°-49°

ALTITUDE Sea level to 28 metres

AREA 62,500 ha

LAND TENURE Government lands by law

PHYSICAL FEATURES A system of islands divided by channels of the Volga which discharge into shallow bays. The reserve is in 3 sections: 1) Damchiksky in the western delta; 2) Trekhizibinsky in the central delta; and 3) Obzhorovsky in the eastern delta. Alluvial meadow soils, often saline. Mean January temperature is -6°C, mean July temperature is 24°C and 100 days annually are below 0°C. Precipitation totals 200 mm annually and prolonged flooding is characteristic of the region.

VEGETATION Natural zones formed in succession from channel to shore: water up to 1 m deep with Vallisneria spiralis in dense patches (5.6.1); reed beds with Phragmites communis and Typha angustifolia (5.6.2); salt meadows (5.5.2) and willow forest Salix triandra (1.2.5.2). The shallow bay areas also have submerged vegetation (5.6.1). The lotus Nelumbo nucifera occurs and is protected; other water plants include Salvinia natans, Najas marina and minor, Nymphaea alba and candida, and perfoliate and tassel-leaved pondweeds Potamogeton perfoliatus and pectinatus. The liquorice plant Glycyrrhiza glabra is also to be found.

NOTEWORTHY FAUNA Mammals include wolf Canis lupus (classified as 'vulnerable' in the Red Data Book), fox Vulpes vulpes, badger Meles meles, jungle cat Felis chaus and wild pig Sus scrofa. Waterfowl are especially numerous including white and Dalmatian pelicans Pelecanus onocrotalus and crispus, common and pygmy cormorants Phalacrocorax carbo and pygmaeus, many heron species such as the egrets Egretta alba and garzetta, the squacco heron Ardea ralloides, grey and purple herons Ardea cinerea and purpurea, mute and whooper swans Cygnus olor and cygnus, greylag goose Anser anser, black and whiskered terns Chlidonias niger and C. hybridus and the common tern Sterna hirundo. Large fish populations include pike Esox lucius, carp Cyprinus carpio, catfish or wels Silurus glanis, perch Perca fluviatilis and the zander or pike-perch Stizostedion lucioperca.

ZONING None: entirely strict Nature Reserve

DISTURBANCES OR DEFICIENCIES Some former elements of the fauna have become extinct.

TOURISM None
Complex investigation of the different ecosystems represented

Laboratory with equipment, scientific library and facilities for aquatic transportation.


Astrakhan, Zatsarevo 119.
NAME  Pripyatsky State Reserve (Byelorussian S.S.R.)

TYPE  MR

BIOTIC PROVINCE  2.2.3

LEGAL PROTECTION  Total

DATE ESTABLISHED  1969

GEOGRAPHICAL LOCATION  South bank of the middle course of the Pripyat River, 200 km south of Minsk and 100 km upstream of Mozyr': N 52°03'; E 28°53'

ALTITUDE  100 metres

AREA  60,400 ha (a revised figure of 60,767 has recently been quoted)

LAND TENURE  State lands by law

PHYSICAL FEATURES  Low-lying plain with forests and boggy areas bordering the Pripyat about 250 km upstream of its confluence with the Dnepr.

VEGETATION  Largely coniferous forest dominated by Scots pine Pinus sylvestris (1.1.9.2) and oak Quercus robur (1.2.5.1). Considerable areas of swamp vegetation of the raised bog type, in which Sphagnum and Carex spp. (4.3.1.1) are dominant.

NOTEWORTHY FAUNA  Among the larger mammals and fairly common are lynx Felis lynx, wild pig Sus scrofa, elk Alces alces and roe deer Capreolus capreolus. About 105 bird species have been recorded.

ZONING  None; the whole area has Strict Nature Reserve status but this is to some extent qualified, see below under Tourism.

DISTURBANCES OR DEFICIENCIES  Drainage of neighbouring areas is affecting the water table and the raised bog ecosystems.

TOURISM  Visits to the Reserve are limited to special groups using the area for education and/or training purposes.

SCIENTIFIC RESEARCH  Studies of the ecological effects on the biotopes of the Reserve caused by drainage and other land improvement schemes in the vicinity.

SPECIAL SCIENTIFIC FACILITIES  None


STAFF  No information

BUDGET  No information

LOCAL PARK ADMINISTRATION  Kirov Street 32, Turov, Shitkovitchsky district, Gomel region, Byelorussian S.S.R.
NAME: Tigrovaya Balka State Reserve (Tadzhik S.S.R.)

TYPE: NP  BIOTIC PROVINCE: 2.8.10

LEGAL PROTECTION: Total

DATE ESTABLISHED: 1938

GEOGRAPHICAL LOCATION: Southern Tadzhikistan, in the fluvial plain of the Vakhsh and the Pjandzh rivers, upstream from where they join to form the Amu Darya. Approximately 37°15'N; 68°30'E.

ALTITUDE: 320-330 metres

AREA: 52,212 ha

LAND TENURE: Government land by law

PHYSICAL FEATURES: The reserve is located on the lower reaches of the river Vakhsh and includes the flood plain area and the first terrace. The Vakhsh borders the north and west of the reserve, which is fairly flat except for oxbow lakes and other lakes in small depressions. Soils are alluvial meadow soils with salinization due to a high water table only 0.8 - 3 m below the surface. Features associated with temporary floods are common. The extreme eastern end of the Kara Kum desert borders the reserve to the south. Climate is continental with a very high July mean temperature of 30°C, and very cold winter. There are about 225 days above 0°C per year and an annual rainfall of 200 mm.

VEGETATION: Riverain forest of poplars Populus prunosa and diversifolia, Tamarix hispida and oleaster Elaeagnus angustifolia (1.2.5.2); reed Imperata cylindrica and Saccharum spontaneum and some liquorice Glycyrrhiza glabra (5.6.2). The lakes have an aquatic flora which includes Scirpus, Myriophyllum, Potamogeton pectinatus, crispus and perfoliatus, Najas and others. Saline areas of solonchak soils have the saltwort Salsola richteri (5.5.2) and some ephemeral vegetation (5.4.4).

NOTEWORTHY FAUNA: Mammals include the asiatic jackal Canis aureus, hyaena Hyaena hyaena, Bactrian deer Cervus elaphus bactrianus (classified as 'endangered' in the Red Data Book), goitred gazelle Gazella subgutturosa and Bokhara sheep Ovis ammon boharicus. Birds include whooper swan Cygnus cygnus, gadwall Anas strepera, tufted duck Aythya fuligula, goldeneye Bucephala clangula, goosander Mergus merganser, pheasant Phasianus colchicus, straited scops owl Otus brucei, stone curlew Burhinus oedicnemus, black-bellied sandgrouse Pterocles orientalis and little owl Athene noctua. Reptiles include the grey monitor Varanus griseus (of which the Central Asian sub-species caspius is classified as 'vulnerable'), Lebetina viper Vipera lebetica, the endangered Central Asian cobra Naja oxiana and the little carpet viper Echis carinatus.

ZONING: None: all strict Nature Reserve

DISTURBANCES OR DEFICIENCIES: Before the reserve was established it was subjected to ploughing, grazing and timber felling.

TOURISM: None
SCIENTIFIC RESEARCH  Development of methods for protecting and building up stocks of the Bactrian deer, gazelle, pheasants and migratory birds overwintering in the reserve. Study of the 'tugai' vegetation.

SPECIAL SCIENTIFIC FACILITIES  Laboratory space, scientific equipment

PRINCIPAL REFERENCE MATERIAL
ANON.  Publications relating to research undertaken in the reserve of Tigrovaya Balka are issued by the Academy of Sciences of the Tadzhik S.S.R.

STAFF  No information

BUDGET  No information

LOCAL PARK ADMINISTRATION  Tadzhik S.S.R., Kumbangirsky District, Dusti village.
NAME chatkalsky state reserve (uzbek ssr)

TYPE NP biotic province 2.8.10

LEGAL PROTECTION Total

DATE ESTABLISHED 1947

GEOGRAPHICAL LOCATION The three western spurs of the Chatkalsky range of the Tien Shan mountains, not far to the east of Tashkent: 42°N; 70°E

ALTITUDE 1000-4000 metres

AREA 35,255 ha

LAND TENURE Government land by law

PHYSICAL FEATURES Spurs of the Chatkalsky mountains of medium altitude and alpine relief. Rocky outcrops of Devonian, Permian and Carboniferous age are common and valleys are deeply entrenched. Soils are cinnamonic. Mean temperature of the coldest months, January and February, is -2°C (at 1200 m) and mean temperature of the warmest month, July, is 20-25°C at low altitude. Annual rainfall in low altitude areas is 600-900 mm. The frost free period is 200 days.

VEGETATION Forest of the junipers Juniperus turkestanica, semiglobosa, and seraphsenanica and deciduous trees such as Prunus sogdiana, Acer turkestanicum, Crataegus turkestanica and Malus kirghisorum (2.1.2.1; 2.2.5). South and west facing slopes support mountain steppe and sclerophytic communities, including groves of Pistacia vera (5.6.2). Highland areas have herb and grass meadows (5.3.2).

NOTEWORTHY FAUNA Characteristic species are Menzbier's marmot Marmota menzbieri (classified as 'vulnerable' in the Red Data Book and endemic to the West Tien Shan), snow leopard Panthera uncia (classified as 'endangered' in the Red Data Book) and the Siberian Ibex Capra ibex sibirica. Birds include the snowcock Tetraogallus himalayensis at higher altitudes and numerous chukar partridge Alectoris chukar.

ZONING None - all strictly Nature Reserve

DISTURBANCES OR DEFICIENCIES None

TOURISM None

SCIENTIFIC RESEARCH Biology of wood producing plants; biology of rare animal species such as the marmot and snow leopard.

SPECIAL SCIENTIFIC FACILITIES Equipped laboratories

PRINCIPAL REFERENCE MATERIAL

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STAFF  No information

BUDGET  No information

LOCAL PARK ADMINISTRATION  Uzbek S.S.R., Tashkent Region, Verkhnechirchiksky District, Parkent Village.
U.S.S.R.

NAME Kandalakshsky State Reserve (Russian S.F.S.R.)

TYPE NP

Biotic Province 2.2.1/2.1.1

LEGAL PROTECTION Total

DATE ESTABLISHED 1932

GEOGRAPHICAL LOCATION Western extremity of Kandalaksha Bay, White Sea, including islands off the coast; in three widely separated sections: 1) N 66°; E 33° 2) N 69°; E 36° and 3) N 70°; E 32°.

ALTITUDE Sea level to 200 metres

AREA 35,026 ha

LAND TENURE Government lands by law

PHYSICAL FEATURES Area (1) is an archipelago in the White Sea together with adjoining mainland coasts. The landscape is glacial with outcrops of the crystalline rocks of the Baltic shield; soils are podsolics. Mean temperature varies from -10°C in January to 13-14°C in July. Areas (2) and (3) are the Aina islands and the Seven Islands in the Barents Sea. These are rocky with steep shorelines and their soils are fragmentary, consisting largely of shallow peat deposits. Mean temperature varies from -6° -8°C in January to 10°C in July. In all areas rainfall total is about 400-500 mm annually and there are 180 days above 0°C.

VEGETATION The Kandalaksha Bay and White Sea islands section is taiga, with pine Pinus sylvestris, spruce Picea abies and birch Betula forests (1.1.9.3; 1.1.9.2; 1.2.4). The Barents Sea islands have tundra vegetation, the turf or peat central patches varied with cloudberry Rubus chamaemorus and occasional thickets of willow Salix and birch Betula rotundifolia (4.4.1; 4.4.2). Marine vegetation includes sea grass Zostera and wrack Fucus spp.

NOTEWORTHY FAUNA Many bird species nest on the islands, often in large colonies, including eider Somateria mollissima, arctic skua Stercorarius parasiticus, greater black-backed gull Larus marinus, herring gull L. argentatus, kittiwake Rissa tridactyla, razorbill Alca torda, guillemot Uria aalge, Brunnich's guillemot U. lomvia and puffin Fratercula arctica.

ZONING None: entirely strict Nature Reserve

DISTURBANCES OR DEFICIENCIES No information

TOURISM None

SCIENTIFIC RESEARCH Biology of the eider duck; studies of the seabird colonies and other biological components of the ecosystems.

SPECIAL SCIENTIFIC FACILITIES Laboratory space and equipment; sea transportation is provided for scientists travelling to the islands.
PRINCIPAL REFERENCE MATERIAL
Publishing House Mysl, Moscow.

STAFF  No information
BUDGET  No information
LOCAL PARK ADMINISTRATION  Murmansk Region, Kandalaksha Town, Rechnaya Street 18.
U.S.S.R.

NAME Mordovsky State Reserve (Russian S.F.S.R.)

TYPE NP BIOTIC PROVINCE 2.2.3

LEGAL PROTECTION Total

DATE ESTABLISHED 1936: named for P.G. Smidovitch

GEOGRAPHICAL LOCATION North-western corner of the Mordovskaya ASSR, between the Moksha River and its right bank tributary the Satis, 350 km ESE of Moscow: N 55°; E 43°.

ALTITUDE 110-190 metres

AREA 32,500 ha

LAND TENURE Government lands by law

PHYSICAL FEATURES A sedimentary plain of old alluvial sands with rare outcrops of basic rock. Karst features are characteristic, including karstic lakes. Soils are soddy podsols. Temperatures vary between means of -12.5°C in January and 20°C in July, with 150 days below 0°C. Total annual rainfall is 500 mm.

VEGETATION 96.6 per cent of the reserve is forest, mainly of Pinus sylvestris (1.1.9.2) but some birch Betula pendula and B. pubescens, aspen Populus tremula and lime Tilia cordata are also present. The flood plain of the Moksha has groves of oak Quercus robur and fringing alders Alnus glutinosa (1.2.5.1; 1.2.5.2). Just under one per cent of the reserve is open meadow or marshland. Altogether 947 plant species have been recorded, including 160 lichens or bryophytes, 16 tree species, 9 shrub species and 576 herbaceous plants.

NOTEWORTHY FAUNA The 53 mammal species recorded include desman Desmana moschata (classified as 'vulnerable' in the Red Data Book), mountain hare Lepus timidus, red squirrel Sciurus vulgaris, beaver Castor fiber (population estimated at a thousand), wolf Canis lupus (another 'vulnerable' species), fox Vulpes vulpes, brown bear Ursus arctos, pine marten Martes martes, lynx Felis lynx and elk Alces alces. The 194 bird species include the black stork Ciconia nigra, capercaillie Tetrao urogallus and three-toed woodpecker Picoides tridactylus. Prominent among the 29 fish species are tench Tinca tinca and crucian carp Carassius carassius.

ZONING None: entirely strict Nature Reserve

DISTURBANCES OR DEFICIENCIES Danger of fires. The area has been used for introduction of species such as musk rat Ondatra zibethica, sika deer Cervus nippon, red deer C. elaphus and European bison Bison bonasus.

TOURISM None

SCIENTIFIC RESEARCH Study of all ecosystem components

SPECIAL SCIENTIFIC FACILITIES Laboratories
PRINCIPAL REFERENCE MATERIAL


STAFF No information

BUDGET No information

LOCAL PARK ADMINISTRATION Mordovian Autonomous Soviet Socialist Republic, Temnikov Town, Pushta Village.