

WORLD HERITAGE NOMINATION

IUCN TECHNICAL REVIEW

IDENTIFICATION NUMBER AND NAME 199 SELOUS GAME RESERVE

LOCATION: Between latitudes 7° 17' and 10° 15' S and longitudes 36° 04' and 38° 46' E, in southeast Tanzania.

NOMINATED BY: The Wildlife Division
Ministry of Natural Resources and Tourism

4. DOCUMENTATION:

- (i) Nomination form
- (ii) Supplementary documentation (IUCN)
 - a) Description and Reports of IUCN/WWF Project 1930: Antipoaching equipment for the Selous and Rungwa Game Reserves (Tanzania).
 - b) Matthiessen, Peter. 1981. Sand Rivers. Collins, London. 213 pp.
 - c) Douglas-Hamilton, I. 1976: Selous Elephant and Wildlife Survey DANIDA/IUCN, 70 pp.
 - d) Consultations: G.K. Makumbule, Game Division, Ministry of Natural Resources and Tourism; Ian R. Grimwood, plus cutting from Africana, December 1981 "Focus on the Selous"

5. BACKGROUND AND SUMMARY

The Selous is Africa's largest protected area. Its 5,120,000 ha is totally devoid of human population and is sufficiently large to provide ecologically viable habitats to all species contained in the reserve. Species of particular interest include elephants, black rhinos, leopards, cheetahs, and wild dogs (all IUCN Endangered Species); other rare species include the sable antelope and Lichtenstein's hartebeest. The area has the world's largest protected populations of elephants, crocodiles, hippos, and black rhinos, and perhaps of buffalo and sable antelope as well. While there are many habitat types, the deciduous Miombo Woodland is dominant, providing the world's best example of this vegetation type; as this is a fire climax formation, it may be the result of human activities in the past. With unproductive soils, Selous has few alternative uses; wildlife management is widely considered to be its most appropriate objective.

6. INTEGRITY

The area is so large that it can absorb all but the most severe pressures on its resources. There are plans to harness the flood waters of the Rufiji River, with a dam to be constructed at Stiegler's Gorge; but this would affect only a relatively small part of the Reserve and should not be a matter of serious concern unless the reservoir draws in large numbers of settlers. Because of difficulties of transportation, the interior of Selous is seldom patrolled, so the numbers of species quoted in the nomination form may be far in excess of the current true situation, if poaching has been as serious a problem as elsewhere in East Africa. Much of the infrastructure of the site (roads, guardposts, water systems, etc.) has deteriorated in recent years, due to lack of sufficient funding.

7. COMPARISON WITH OTHER AREAS

Selous is four times the size of Serengeti, and is in quite a different biogeographic province; being woodland rather than savanna, it lacks the large concentrations of easily-viewed wildlife typical of Serengeti and Ngorongoro. The most comparable Miomo woodland habitat is in the Kafue National Park in Zambia: at 2.2 million ha, Kafue is less than half the size of Selous; Kafue is more accessible and perhaps more scenic; but Kafue has relatively few rhinos and elephants.

8. EVALUATION

Selous meets criteria ii and iv of the Convention. Its vast size has provided its best protection to date, but increasing pressures will require that management be upgraded if it is to continue as a World Heritage-quality site.

9. RECOMMENDATION

Selous should be added to the World Heritage List. Support to Selous from the World Heritage Fund would be entirely appropriate, particularly for equipment which is not obtainable in Tanzania.



International Union for Conservation of
Nature and Natural Resources

15 April 1982

TANZANIA

NAME Selous Game Reserve

MANAGEMENT CATEGORY IV (Nature Reserve)
X (World Heritage Site - Criteria: ii, iv)

BIOGEOGRAPHICAL PROVINCE 3.07.04 (Miombo Woodland/savanna)

GEOGRAPHICAL LOCATION In the Coast, Morogoro, Lindi, Mtwara and Ruvuma regions of south-east Tanzania. 7°17'-10°15'S, 36°04'-38°46'E

DATE AND HISTORY OF ESTABLISHMENT Part of the area was gazetted in 1905 the German colonial administration and four reserves were established in the region by 1912 (total 250,000ha). These were combined to form Selous Game Reserve in 1922, named after Captain Frederic Courtney Selous. Further boundary revisions were made after independence to include elephant migration routes. Accepted as a World Heritage site in December 1982. Designated as a National Project.

AREA 5,000,000ha; contiguous to Mikumi National Park (323,000ha)

LAND TENURE Government

ALTITUDE From 100m in the north-east to 1,200m in the south-west

PHYSICAL FEATURES The reserve is the second largest in Africa and is part of the Selous ecosystem (7,400,000ha) which includes Mikumi National Park and Kilombero Game Controlled Area. A large area of the reserve is drained by the Rufiji River and tributaries which include the Luwegu, Kilombero, Great Ruaha, Luhombero and Mbarangardu (the only permanently flowing streams). The Rufiji is formed by the Luwegu and Kilombero which join at Shughuli Falls. Soils are relatively poor and infertile.

CLIMATE Annual rainfall ranges from 750mm in the east to 1250mm in the west, and falls mainly during the winter and spring months. Temperature ranges from 13°C to 41°C.

VEGETATION There are two main vegetation types in the reserve: the eastern sector (17%) is mainly wooded grassland dominated by Terminalia spinosa and the western sector (about 75%) deciduous miombo woodland with Brachystegia Julbernardia globiflora, Pterocarpus angolensis, and Combretum, a vegetation type thought to be maintained by fire. There are also areas of dense thicket, riverine and ground water forest. More than 2,000 plant species have been recorded, but it is thought many more may be found in the remote forests in the south.

FAUNA Cheetah Acinonyx jubatus (V) and giraffe Giraffa camelopardalis occur in the wooded grassland north of Rufiji River. Elephant Loxodonta africana (V) (maximum 100,000 in 1981 but only 55,000 in 1986), Lichtenstein's hartebeest Alcelaphus lichtensteini and sable antelope Hippotragus niger are more typical of the miombo woodland. Some animal

populations are large due to the size of the reserve including buffalo Syncerus caffer, impala Aepyceros melampus, wildebeest Connochaetes taurinus, sable antelope Hippotragus niger, numbering 5,900 in 1976 but only 2,350 in 1981. Grassland species include Burchell's zebra Equus burchelli, common waterbuck Kobus ellipsiprymnus and warthog Phacochoerus aethiopicus. Selous claims to have the largest concentration in the world of elephant, crocodile Crocodylus sp., hippopotamus Hippopotamus amphibius and black rhinoceros Diceros bicornis (E) (numbering 3,000 in 1981 but only 100 in 1986). Other mammals include leopard Panthera pardus (T) and wild dog Lycaon pictus (V). Rarer species include sassaby antelope Damaliscus lunatus and Sharpe's grysbok Raphicerus sharpei. The rich birdlife includes knob-billed duck Sarkidiornis melanotos, southern ground hornbill Bucorvus leadbeateri and bateleur eagle Terathopius ecaudatus.

CULTURAL HERITAGE No information

LOCAL HUMAN POPULATION No information

VISITORS AND VISITOR FACILITIES The reserve is remote and not easily accessible except by air. Access by the Tazara railway is now a possibility. There are three tented camps (one luxury) and a bungalow-style hotel along the Rufiji River in a tourist area where hunting is prohibited except for meat supply for the camps. Approximately 1,000 to 2,000 visitors come to the park annually.

SCIENTIFIC RESEARCH AND FACILITIES Studies mainly concern ecological and wildlife management problems in the miombo woodlands but research is hampered by a shortage of equipment. Aerial censuses to estimate the number and distribution of mammal species were carried out in 1976, 1980 and 1981. There is a research centre at Kingupira in the east located near all four major habitat types and within easy reach of Dar es Salaam. It has an office block, laboratory, staff accommodation and airstrip, but is cut off in the wet season. There is a substation at Msolwa in the west. Scientific equipment and vehicles are inadequate.

CONSERVATION MANAGEMENT The game reserve derives its legal status from the Wildlife conservation Act (1974), as amended by the Wildlife Conservation (Amendment) Act (1978). It comes under the Wildlife Department of the Ministry of Natural Resources and Tourism for overall control. It was designated as a National Project along with five other game reserves in 1980, thus bestowing on it enhanced status as a special protection area. Its Chief Warden carries the title Project Manager with headquarters at Matambwe. The game reserve is divided into four sectors for decentralised administrative control, each under a Section Manager, namely: northern, eastern, southern and western. There are 47 blocks, primarily for allocating hunting concessions, whilst two are for tourism and two for research (Stephenson, 1987). Hunting is permitted in all but three of the 45 management blocks - two in the north-east and one in the south-west. Existing local management plans include construction of staff quarters and amenities, improvement of the existing ferries, road system and airstrips, construction of new roads in tourist camps and establishment of two

additional sectors with head offices at Mpelembe and Ilonga. Regular anti-poaching patrols are made, in addition to those undertaken by the Anti-poaching Unit, but there is a lack of vehicles, camping gear and radios. IUCN/WWF Project 1930 was set up in 1980 to help this by supplying an aircraft and vehicles and grading roads. Communal wildlife management schemes are being established, preceded by a 'Village Development Programme' north of the Mgeta River in Kisaki, Duthumi and other villages (Baldus, 1989).

MANAGEMENT PROBLEMS The resident population in the area was evacuated when the reserve was established and Selous has therefore remained relatively intact. No forest exploitation has taken place and mineral exploration has as yet failed to find any valuable deposits. A serious threat is the proposed Stiegler's Gorge Dam Project intended to harness the flood waters of the Rufiji River. Both dam and reservoir would be entirely within the reserve and cover some 44,000ha. Seismic roads for oil exploration are being built into 75% of the reserve. The main threat is increased accessibility to the area and the presence of a population within the reserve to maintain these developments. Because of the difficulties of transportation, the interior of Selous is seldom patrolled, and poaching has severely reduced the population of some species. A comprehensive set of management recommendations have been made by Stephenson (1987), but the degree of implementation is not known. A proper management plan is needed for the area. According to Baldus (1989) the most immediate threat to wildlife is commercial poaching for meat and trophies. Communal wildlife management programmes, designed to involve the local community in the management of natural resources, is intended to stem poaching and is regarded as a more effective control method than increased policing.

STAFF Project manager, four sector managers and support staff

BUDGET In 1985 the reserve earned approximately US\$2,000,000 from license game hunting, but only some 10% of this was returned for recurrent and capital budget expenditure.

LOCAL ADMINISTRATION The Wildlife Division, Ministry of Natural Resources and Tourism, PO Box 1994, Dar-es-Salaam

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PATRIMOINE MONDIAL: CANDIDATURE

EXAMEN TECHNIQUE PAR L'UICN

1. NUMERO D'IDENTIFICATION ET NOM: 199 RESERVE DE GIBIER DE SELOUS
2. SITUATION GEOGRAPHIQUE: Entre les latitudes 7° 17' et 10° 15' S et les longitudes 36° 04' et 38° 46' E, dans le sud-est de la Tanzanie.
3. CANDIDATURE PROPOSEE PAR: Le division de la Faune du ministère des ressources naturelles et du tourisme.

4. DOCUMENTATION:

- (i) (i) Formulaire de candidature
 - (ii) (ii) Documentation supplémentaire (UICN)
- a) Description and Reports of IUCN/WWF Project 1930: Antipoaching equipment for the Selous and Rungwa Game Reserves (Tanzania).
 - b) Matthiessen, Peter. 1981. Sand Rivers. Collins, London. 213 pp.
 - c) Douglas-Hamilton, I. 1976: Selous Elephant and Wildlife Survey DANIDA/IUCN, 70 pp.
 - d) Consultations: G.K. Makumbule, division de la chasse du ministère des ressources naturelles et du tourisme; Ian R. Grimwood, et coupures d'Africana, décembre 1981, "Focus on the Selous".

5. DESCRIPTION ET RESUME

La réserve du Selous est la plus grande zone protégée d'Afrique. Elle n'est absolument pas habitée, et sa superficie de 5.120.000 ha. est suffisante pour procurer des habitats écologiquement viables à toutes les espèces de la réserve. Parmi celles présentant un intérêt particulier, on trouve les éléphants, les rhinocéros noirs, les léopards, les guépards, et les chiens sauvages, ces animaux étant tous classés espèces menacées par l'UICN. D'autres espèces rares sont l'hippopotame noir et le Bubale du Lichtenstein. Les éléphants, les crocodiles, les hippopotames, les rhinocéros noirs et peut-être les buffles et les hippotragues noirs de cette zone sont les populations protégées les plus importantes du monde. Bien qu'il y ait de nombreux types d'habitats, la forêt feuillue du Miombo domine largement et constitue le meilleur exemple de ce type de végétation de la planète. La zone est une formation pyroclimacique et pourrait par conséquent avoir pour origine des activités humaines anciennes. Les sols étant improductifs, l'utilisation de la réserve de Selous n'offre guère d'alternatives. La gestion de la faune et de la flore sauvages est largement considérée comme l'objectif le plus approprié.

6. INTEGRITE

La zone est si étendue qu'elle peut supporter beaucoup, excepté une exploitation relativement intense de ses ressources. Il existe des projets de construction pour un barrage à Stiegler's Gorge qui permettrait de maîtriser les crues du fleuve Rufiji. Cependant, le barrage ne devrait avoir d'effets que sur une portion relativement réduite de la réserve, et à moins que le point d'eau n'attire une population importante, il ne devrait poser aucun problème. En

raison des difficultés de transport, on ne pénètre que rarement dans le centre du Selous, aussi le nombre d'espèces mentionnées dans la demande de nomination pourrait-il être supérieur à la réalité, dans le cas où le braconnage serait aussi intensif que dans d'autres régions d'Afrique occidentale. Une grande partie de l'infrastructure du site-routes, postes de garde, points d'eau - s'est détériorée ces dernières années à cause d'une insuffisance de fonds.

7. COMPARAISON AVEC D'AUTRES ZONES

La réserve du Selous est quatre fois plus grande que Serengeti et est située dans une région biogéographique substantiellement différente de celle-ci. Recouverte de bois plutôt que de savanes, la réserve du Selou n'a pas les fortes concentrations d'animaux sauvages facilement observables qui sont typiques du Serengeti et du Ngorongoro. L'habitat dont les caractéristiques rappellent le plus la forêt du Miombo est le parc national de Kafue en Zambie. Cependant, la superficie de Kafue est de 2,2 millions d'hectares, soit moins de la moitié de celle du Selous; le parc national de Kafue est plus facile d'accès et offre peut-être des paysages plus pittoresques. Il possède relativement peu de rhinocéros et d'éléphants.

8. EVALUATION

La réserve du Selous satisfait aux critères (ii) et (iv) de la Convention. Ses vastes dimensions ont été jusqu'à présent sa meilleure protection, mais l'exploitation toujours croissante de ses ressources exige une gestion plus rationnelle pour qu'il reste un site de qualité, selon les critères du patrimoine mondial.

9. RECOMMANDATION

La réserve du Selous devrait être inscrite à la liste du patrimoine mondial. Le soutien du Fonds du patrimoine mondial à la réserve serait tout à fait approprié, surtout en ce qui concerne les équipements qui ne sont pas disponibles en Tanzanie.

Union internationale pour la conservation de la nature et de ses ressources

15 avril 1982