

World Heritage Sites

Protected Areas and World Heritage



NIKOLO-KOBA NATIONAL PARK SENEGAL

The gallery forests and savannahs of Niokolo-Koba National Park lying along the well-watered banks of the Gambia river, preserve the most pristine Sudanian zone flora and fauna left in Africa and the greatest biodiversity to be found in Senegal. This includes western great elands, the largest of the antelopes, chimpanzees, lions, leopards and elephants, and over 330 species of birds.

Threats to the site: Commercial poaching had destroyed most of the larger mammals by 2006 and cattle grazing was widespread. A dam planned upstream will stop the flooding essential to the site's wildlife.

COUNTRY

Senegal

NAME

Niokolo-Koba National Park

NATURAL WORLD HERITAGE SITE IN DANGER

1981: Inscribed on the World Heritage List under Natural Criterion x.

2007+: Listed as a World Heritage site in Danger due to excessive poaching and grazing.

STATEMENT OF OUTSTANDING UNIVERSAL VALUE

The UNESCO World Heritage Committee issued the following Statement of Outstanding Universal Value at the time of inscription:

Brief Synthesis

Located in the Sudano-Guinean zone, Niokolo-Koba National Park is characterized by its group of ecosystems typical of this region, over an area of 913 000ha. Watered by large waterways (the Gambia, Sereko, Niokolo, Koulountou), it comprises gallery forests, savannah grass floodplains, ponds, dry forests -- dense or with clearings -- rocky slopes and hills and barren Bowés. This remarkable plant diversity justifies the presence of a rich fauna characterized by: the Derby Eland (the largest of African antelopes), chimpanzees, lions, leopards, a large population of elephants as well as many species of birds, reptiles and amphibians.

Criterion (x): Niokolo-Koba National Park contains all the unique ecosystems of the Sudanese bioclimatic zone such as major waterways (the Gambia, Sereko, Niokolo, Koulountou), gallery-forests, herbaceous savanna floodplains, ponds, dry forests -- dense or with clearings-- rocky slopes and hills and barren Bowés. The property has a remarkable diversity of wildlife, unique in the sub-region. It counts more than 70 species of mammals, 329 species of birds, 36 species of reptiles, 20 species of amphibians and a large number of invertebrates. Lions, reputedly the largest in Africa, are a special attraction, as well as the Derby Eland, the largest antelope in existence. Other important species are also present, such as the elephant, leopard, African wild dog and chimpanzee. The wealth of habitats should be noted, along with the diversity of flora, with over 1,500 important plant species.

Integrity

Covering nearly one million hectares, the Niokolo-Koba National Park is sufficiently vast as to illustrate the major aspects of the Guinean savanna-type ecosystem, and to ensure the survival of species therein. However, reports indicate a considerable poaching of elephants. The proposed dams on the Gambia and the Niokolo-Koba are also a concern because they would have disastrous consequences for the ecological integrity of the property.

Protection and Management Requirements

The park is managed by a management administration under the direct supervision of the State through the Ministry of Environment and Nature Protection and the National Parks Directorate. In 2002, a development and management plan was elaborated. This Plan should be updated through regular revisions to strengthen the conservation of the property, and provided with adequate resources to ensure its effective implementation.

The property, inscribed on the List of World Heritage in Danger in 2007, is subject to many pressures such as poaching, bush fires, the premature drying up of ponds and their invasion by plants. To this must be added population growth and poor soil in the surrounds, which has led to encroachment on agricultural land and livestock wandering in the park. The priorities for the protection and management of the property are thus to implement urgent measures to halt poaching, improve the park's ecological monitoring programme, develop a plan for survival of endangered species, address premature drying up of the ponds and their invasion by plants or find alternative solutions, and minimize the illegal movement of livestock. It is also necessary to improve cross-border cooperation and measures to protect buffer zones and ecological corridors outside the park. For the long-term management, protection of the property should be a national policy, project and budgetary priority, with the assistance of development partners.

INTERNATIONAL DESIGNATION

1981: Designated the *Parc National du Niokolo-Koba* Biosphere Reserve under the UNESCO Man and Biosphere Programme (913,000 ha).

IUCN MANAGEMENT CATEGORY

II National Park

BIOGEOGRAPHICAL PROVINCE

West African Woodland/Savanna (3.4.4.)

GEOGRAPHICAL LOCATION

In south-eastern Sénégal, 650 km southeast of Dakar. The Park is bordered by Guinea in the south-west and in the south-east by the River Gambia which bisects the western half of the Park. Location: 12°30' to 13°20' N by 12°20' to 13°35' W.

DATES AND HISTORY OF ESTABLISHMENT

1926: Created a hunting reserve;

1951: Reclassified as a *Forêt Classée* and in 1953 as a *Réserve de Faune*;

1954: Created a National Park; enlarged by decrees in 1962, 1965, 1968 & 1969;

1981: Recognised as a UNESCO Biosphere Reserve;

2005: A transboundary Biosphere Reserve proposed with Badiar Biosphere Reserve in Guinea;

2007+: Listed as endangered by poaching, grazing and dessication by a proposed dam upstream.

LAND TENURE

Government, in the administrative regions of Sénégal-Oriental and Upper Casamance. Administered by the National Parks Directorate under the Ministry for the Environment and Protection of Nature.

AREA

913,000 ha. Adjoins Badiar National Park and Badiar Biosphere Reserve (284,300 ha) in Guinea.

ALTITUDE

16m to 311m (Mont Assirik)

PHYSICAL FEATURES

The Park is a relatively flat region with small lines of hills reaching to about 200m and low plateaus separated by wide floodplains. It is crossed by the River Gambia and its two tributaries, the Niokolo Koba and the Koulountou, which flow through extensive grassland depressions that are flooded during the rains, although these are drying out rapidly. The whole area is underlain by PreCambrian granitic shield bedrock overlain by Cambrian sandstone which outcrops in places, with some metamorphic rocks. The area is covered by surficial formations of laterite (*bowé*) and sediments.

CLIMATE

The climate is of a Sudanian type with a five-month rainy season from late June to late October and a dry season for the rest of the year. The average annual rainfall is 600mm in the north to 900mm in the south, but the rainfall has diminished over the last 25 years. The average summer temperature is 35°C. Dry north-easterly *harmattan* winds can intensify fires in summer.

VEGETATION

The area preserves the most pristine Sudanian zone flora and fauna left in Africa. Despite lately reduced rainfall the vegetation is in good condition, especially in the dominant herbaceous savanna. This varies from southern Sudanian to Guinean in type and changes in character according to the topography and soils from grassland to shrub savanna, woody savanna and savanna woodland. The eastern half of the Park is dry scrub savanna with a varying cover of trees and bushes. On better soils to the west the savanna is more wooded. Along the rivers riparian vegetation and luxuriant gallery forest occur, both somewhat affected by the reduced rainfall of recent years as were shallow rooted trees. At least 1,500 plant species have been recorded, 78% of them being from the gallery forest.

The vegetation differs according to its location on slopes and hills, rock outcrops, alluvial sands or iron pans. In the valleys and plains there are vast areas of *Vetiveria* and herbaceous savannas dominated by *Andropogon gayanus*, occasionally associated with *Panicum anabaptistum*. Seasonally-flooded grassland is typically composed of *Paspalum arbulare* and *Echinochloa* spp. Dry forest is comprised of Sudanian species, such as *Piliostigma thonningii*, *Pterocarpus erinaceus*, *Pericopsis africana*, *Bombax costatum*, *Burkea africana*, *Prosopis africana*, *Sterculia setigera*, *Ficus ingens* and *Anogeissus leiocarpus*. There are also areas of bamboo *Oxytenanthera abyssinica*. In ravines and gallery forests, species indicative of a south Guinean climate are present, with lianas very abundant, and species such as *Raphia sudanica*, *Baisseia multiflora*, *Nauclea latifolia*, *Dalbergia saxatilis*, and *Landolphia dulcis*.

On the edges of rivers, semi-aquatic species, such as *Rotula aquatica*, *Hygrophila odora*, *Cyperus baikiei*, occur, and annuals, which disappear when the water level rises, are found in the periodically-flooded sands. In and around the marshes, most of which are situated in abandoned riverbeds or behind the levées, the vegetation is very variable, depending on the height of the depression, water level, origins, soil structure and sub-soil. Certain ponds are bordered by dry forests, or herbaceous savannas, with species such as *Arundinella ecklonii*, *Eriochrysis brachypogon*, *Hemarthria altissima*, *Hyparrhenia amaena*, *Vetiveria nigriflora*, and *Andropogon gayanus* depending on dampness and soil compaction. Occasionally the centre of a marsh is occupied by thick thorn bushes of *Mimosa pigra*. Marshes on higher ground are smaller, with scanty, very acid and peaty soil. Vegetation includes *Oryza brachyantha* (a wild rice), *Bryaspis lupulina*, *Adelostemma senegalense*, *Berchemia discolor*, and *Genlisea africana*. On high banks *Acacia nilotica*, *Crateva religiosa*, *Diospyros mespiliformis* and *Ziziphus mucronata* are dominant, and localised species, such as *Christiana africa*, *Cola laurifolia*, *Croton scarciessii*, *Cynometra vogelii*, *Diospyros elliotii*, *Syzygium guineense*, *Symmeria paniculata*, and *Ziziphus amphibia* occur on constantly humid low banks. River bank species also include *Khaya senegalensis*, *Erythrophleum suaveoleus*, *Ceiba pentandra*, *Detarium senegalense*, *Syzygium guineense*, *Azelia africana*, and borassus palm *Borassus* species.

FAUNA

The recent disastrous increase of poaching has drastically reduced the numbers of large animals which, in an ORSTOM survey in 1990-1 numbered 46,500. According to a census in 2006 by the African Parks Foundation they now number less than 900 (UNESCO, 2007). When the Park was designated there were some 84 species of mammal, over 330 species of bird, 38 reptiles, 20 amphibians, 60 species of fish and many invertebrate species. Carnivores include African wild dog *Lycaon pictus* (EN), lion *Panthera leo* (VU) and leopard *P. pardus*. About 150 West African chimpanzee *Pan troglodytes verus* (EN: 23 in 2003, Butynski, 2003) lived in the gallery forest of the Park and on Mount Assirik. This is the hottest, driest and most open chimpanzee habitat known and the north-western limit of their distribution. There are Guinea baboon *Papio papio*, green monkey *Chlorocebus aethiops sabaesus*, patas monkey *Erythrocebus patas*, Temminck's red colobus *Procolobus badius temminckii* (EN); also elephant *Loxodonta africana* (VU: 30 in 1990, 10 in 2006) in a remote area near Mount Assirik, hippopotamus *Hippopotamus amphibius* (VU), the last population of western giant eland *Taurotragus derbianus* (-150 in 1990, 171 in 2006), lelwel hartebeest *Alcelaphus buselaphus lelwel* (EN) (5,000 in 1990, now 149), roan antelope *Hippotragus equinus* (6,000, now 710), kob *Kobus kob* (24,000, now 92), waterbuck *Kobus ellipsiprymnus* (3,300, now 10) and West African savanna buffalo *Syncerus caffer brachyceros* (8,000, now 450) (UNESCO, 2007). The area is said to have been the last refuge in Senegal of the western giraffe *Giraffa camelopardalis peralta* (EN), now no longer present. All three African crocodiles occur: Nile, *Crocodylus niloticus*, African slender-snouted, *C. cataphractus* and dwarf, *Osteolaemus tetraspis* (VU) and four species of tortoise. The elephants are a recent reintroduction, after an earlier herd of several hundred was killed off.

Birds include spur-winged goose *Plectropterus gambensis* (2,500 in 1997), white-faced whistling-duck *Dendrocygna viduata*, martial eagle *Polemaetus bellicosus* and bateleur *Terathopius ecaudatus*, Arabian bustard *Ardiotis arabs*, Denham's bustard *Neotis denhami*, violet turaco *Musophaga violacea* and Abyssinian ground-hornbill *Bucorvus abyssinicus*. Beaudouin's snake-eagle *Circaetus beaudouini* (VU) exists nearby.

CONSERVATION VALUE

The gallery forests and savannahs of Niokolo-Koba once preserved the most pristine Sudanian zone flora and fauna left in Africa and the richest faunal diversity to be found in Senegal. This includes western great elands, the largest of the antelopes, chimpanzees, lions, leopards and elephants, and over 330 species of birds, many reptiles and amphibians. The park coincides with a UNESCO MAB reserve.

CULTURAL HERITAGE

The area, though remote, was influenced by the Mali, Songhai and other Islamic empires of West Africa.

LOCAL HUMAN POPULATION

When the Park was established it was inhabited by farmers, cattle herders and some hunters who gathered honey and used fire to control the vegetation. These inhabitants with their traditional livelihoods were relocated outside the Park in the early 1970s where their communities form a transitional zone and were expected to benefit to a small degree from tourism. But their eviction caused lasting alienation and they continue to encroach into the Park. Projects to improve their conditions have not had much effect (UNESCO, 2007).

VISITORS AND VISITOR FACILITIES

There is a luxury hotel at Simenti, which is the most visited part of the Park. There are also small bungalows and a hotel at Niokolo-Koba, lodgings at Badi, and several camping grounds. Animals should be watched from hides or on safaris which must be guided. The state of the tracks requires 4WD access, especially after rain. Animals disperse in the rains, so the best viewing times are from the end of October to the end of June, when most tours are organized. There is an airstrip at Simenti.

SCIENTIFIC RESEARCH AND FACILITIES

Considerable research is recorded in the *Memoirs of the Institut Français d'Afrique Noire* (IFAN) of Dakar, particularly in 1956, 1961, 1969, and 1982. A detailed description of the Park is given in Dupuy (1971). An elephant survey was conducted in 1981 under a IUCN/WWF Project and long-term research on chimpanzees has been funded by Miami University U.S., In 1990-1, the Office of Overseas Scientific and Technical Research (ORSTOM) took a census of the large wild animal populations, an exercise repeated in 2006 by the African Parks Foundation, funded by the Dutch government. In 2007 monitoring programs were restarted for the elephant and giant eland populations (IUCN, 2008).

MANAGEMENT

The Park is managed by the National Parks Directorate under the Ministry for the Environment and Protection of Nature. It has a buffer zone 1km wide and six administrative sections, each containing several surveillance posts but the boundary remained unmarked in 2008 when the main issue had become the destruction of its wildlife by poaching. Before this invasion early season controlled burning was routinely done by the Park Service to preserve the savanna from the degradation which follows very hot late season fires, especially on plateaus and slopes dominated by Poaceae. Fires were set near to the guard posts to increase the visibility of large animals to visitors and of poachers to the guards, exact timing of the fires being crucial to prevent too destructive a result (Mbow *et al.*, 2003). However, fires also clear the land which allows cattle to graze and hunters to poach more easily. A Transboundary Biosphere Reserve was proposed with Badiar Biosphere Reserve in Guinea (UNESCO, 2005). In the 1990s the Park received support from several foreign organisations including three donor-assisted projects by the EU and the French government to improve the infrastructure, surveillance and local participation in a new management plan drawn up in 2000. Despite this, the effectiveness of the National Parks Service declined, the condition of the Park deteriorated, many patrolling tracks became impassable and a survey aircraft was grounded for lack of fuel (UNESCO, 2007).

In 2006 a new approach was taken: a public-private 25-year contract for rehabilitation funded 25% by the Senegal government, 25% by the Dutch government and, it was expected, 50% by outside donors. The management was contracted out to the African Parks Foundation and a 3-year rehabilitation plan started. Long-term continuity and funding independent of bureaucratic delay should provide a more flexible management. An Emergency Action Plan proposed a revised management plan, anti-poaching aerial surveillance, boundary demarcation, more government support and donor-solicitation to finance increased staff and training, communication equipment, selective monitoring and species survival plans. A hunting quota in buffer zones and transboundary cooperation were being sought (UNESCO, 2007). However, in 2008, the State Party reports still provided insufficient information on the anti-poaching measures taken, on numbers of large animals except for elephants and eland, the degree of surveillance, grazing, and on the many other severe threats to the integrity of the property (IUCN, 2008).

MANAGEMENT CONSTRAINTS

During the past decade, decreasing funds, staff and expertise, equipment and little political support at a time of proliferating guns and conflicts in neighbouring countries, made the Park almost impossible to manage. The main Tambacounda - Kedougou road bisects the Park's wildlife corridors and facilitates poaching. Commercial scale poaching for bushmeat, especially from Guinea, is the greatest threat to the fauna, and the taking of rare birds, of which Senegal is the world's largest exporter. The numbers of leopard and elephant in the Park have decreased through heavy poaching over many years: few if any leopards are left and elephants have had to be reintroduced. Great eland, harterbeeste and chimpanzee are also under pressure. Animals are taken for food, and for relocation elsewhere. The bush is encroaching as there no longer elephants to keep it down.

There is illegal tree-felling, especially of borassus palms, destroying the habitat of the larger mammals. Although the people were relocated, they still burn land outside and within the Park. Bush fires are still the main cause of degradation of the forest to savanna and of the savanna itself, especially on plateaus and slopes, resulting in degraded soils and the disappearance of large animals. Agriculture encroaches

along the unmarked borders: in the dry season of 2006 about 5,000 head of livestock were estimated to be grazing the Park. The Park is also threatened by exploration for mining and quarrying and by the Sambangalou dam planned just upstream at Mako on the Gambia and Niokola-Koba rivers which would accelerate the dessication of the floodplains with their wildlife, make the river fordable to a site already seasonally invaded by competing livestock and other species and where flood basins and watering ponds essential to the wildlife are drying up. The site was declared endangered in 2007 and could be de-listed (UNESCO, 2007).

STAFF

In the 1980s over 200 personnel were directed by a conservator and assistant. After a long decline, staff numbers doubled between 2003 and 2006, and staff were moved from office work to the field: 19 of 34 surveillance posts are now manned; but the new staff have to learn on the job and need training and adequate equipment. Since 2008 costly but effective aerial anti-poaching surveillance has been possible using a park service plane and in 2009 a 25-man mobile anti-poaching brigade was set up and was carrying out regular patrols around 17 of the posts (UNESCO, 2010).

BUDGET

The original budgets were: for personnel, 116,570,000 frCFA, for maintenance, 31,201,000 frCFA (undated information) and in the early 1980s, WWF supplied equipment to combat elephant poaching. In the 1990s two major maintenance projects were funded by the EU and one by the French government. Between 2003 and 2006, staff salaries and operational budgets were substantially increased and funding for new vehicles released (UNESCO, 2007). In 2008 it was noted that US\$39,580 had been provided from international sources for technical cooperation and for preparation of a transboundary extension to the property; and UNESCO WHF had provided US\$50,000 from the budget for properties in Danger (IUCN, 2008). In 2009 and 2010 the park's budget was doubled to 122 million frCFA (US\$227,000) though this is still inadequate for effective patrolling (UNESCO, 2010).

LOCAL ADDRESS

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