

United Nations Environment Programme World Conservation Monitoring Centre



World Heritage Sites

Protected
Areas and
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SALONGA NATIONAL PARK DEMOCRATIC REPUBLIC OF CONGO

Salonga is the world's second largest tropical rainforest national park and the largest in Africa. It is isolated in the centre of the Congo river basin, accessible only by water or air and is the habitat of many endemic endangered species, notably the bonobo (pygmy chimpanzee), the Zaire peafowl, the forest elephant, the white rhinoceros and the African slender-snouted crocodile.

Threats to the Site: The site was endangered in the 1980s by threats to the white rhinoceros which were averted by international conservation organisations. But recent invasion by militias has brought heavy poaching for bushmeat and ivory. With the four other World Heritage sites in the D.R.C., Salonga now benefits from a UNESCO project financed largely by the United Nations Foundation, to provide for the training and equipment of staff as well as for protection of the country's bio-diversity. The U.S.State Department has also pledged massive funding. However, in the face of the huge size of the Park, the inadequacy of the guard force and of means of communication are serious problems.

COUNTRY Democratic Republic Of Congo

NAME Salonga National Park (Le Parc National de la Salonga)

NATURAL WORLD HERITAGE SERIAL SITE IN DANGER

1984: Inscribed on the World Heritage List under Natural Criteria vii and ix. 1984-92 & 1999+: Listed as a World Heritage site in Danger because of destruction due to civil conflict.

IUCN MANAGEMENT CATEGORY

II National Park

BIOGEOGRAPHICAL PROVINCE

Congo Rain Forest (3.02.01)

GEOGRAPHICAL LOCATION

Situated in the central Congo River basin, 100 km south of Boende, midway between Kinshasa and Kisingani, in a very isolated region accessible mainly by water or air: 1° 00' to 3° 20'S x 20°00' to 22°30'E

DATES AND HISTORY OF ESTABLISHMENT

- 1970: Designated a National Park by Ordinance 70-318. It is defined in law as a *Réserve Naturelle Intégrale* in the sense of the 1933 London Convention.
- 1984-1992: Listed as an endangered site because of the threat of poaching to the white rhinoceros population;

1999: Again listed as endangered because of incursion by militias and poaching, especially of bonobos.

LAND TENURE

Government in the provinces of Equateur, Bandundu, Kasaï Oriental and Occidental. Administered directly by the *Institut Congolais pour la Conservation de la Nature* (ICCN).

AREA

3,656,000 ha in two blocks separated by a 40-45 km-wide corridor. The north block, in Equateur province, is over 1,700,000 ha, the south block in Equateur, Bandudu and Kasaï Occidental provinces is over 1,900,000 ha (J.Thompson, *in litt*, 2003).

ALTITUDE

350m to 700m rising from west to east.

PHYSICAL FEATURES

Salonga is the world's second largest tropical rainforest national park and the largest in Africa. The Park's two sectors run along a series of parallel southeast-northwest trending river watersheds, covering three types of landscape: low swamp-forested plateaux, river terraces and high dry-forest plateaux, each with its distinct vegetation. In the northern block, between the Lomela and Loile rivers, valleys in the west are large and meandering with marshy banks. In the higher land in the east, the valleys are deeper and rivers may run below cliffs up to 80m high. The southern block lies between the Luilaka and Lula rivers. Soils are a thin humus layer over clayey sands with several lateritic flushes. In the lower western valleys up to half the soil cover is hydromorphic.

CLIMATE

Typically continental equatorial: hot and humid with a mean annual precipitation of 2000mm over most of the reserve, falling to 1700m in the south, and with a slightly drier season from June to August. Rains are mostly downpours and on only 30 days in the year is precipitation less than 20mm. Seasonal flooding is normal. The average relative humidity is 86%, regularly reaching saturation at night, but maintaining an average of 77% during the day. Temperatures are stable with daily mean variations between 20°C at night and 30°C during the day. The mean annual temperature is 24.5°C. Cloud cover is often complete until 10 a.m. and is associated with fog and storms from midday to 3 p.m., but skies are often clear at night to 4 a.m.

VEGETATION

The National Park covers over a third of the immense Salonga-Lukenie-Sankuru forest block and is the second largest almost intact tropical rainforest reserve in the world. It is also within a WWF/IUCN Centre of Plant Diversity. Its high (to 45m) equatorial forest trees cover most of the area, varying in composition according to the geomorphology. The principal forest types are swamp, riverine, and dry-land forests. Lowland evergreen ombrophile forest is dominated by well-developed stands of Gilbertiodendron dewevrei with G. ogoouense and Brachystegia laurentii. Semi-deciduous forest covers almost all the areas between the rivers, most frequently comprising Staudtia stipitata, Polyalthia suavaeolens, Scorodophloeus zenkeri, Anonidium mannii and Parinari glaberrimum. Pioneer or transitory communities are found along river banks, including Macaranga lancifolia, Harungana madagascariensis, Uapaca heudelotii and Parinari congensis. Flood-liable forest species are Oubanguia africana, Scytopetalum pierrianum and Guibourtia demeusei. Swamp forest species are Entandophragma palustre, Coelocaryon botryoides and Symphonia globulifera. Grassland covers less than 0.5% of the park's area; in the northern block it is known locally as botoka-djoku or elephant's bath. Poaceae and Cyperaceae occur in wet soils. In the south there are natural but man-maintained savanna-like clearings termed esobe. There is some secondary forest on disturbed land. Species composition is yet little studied.

FAUNA

Systematic faunal surveys have begun, and most Congo forest animals seem to be present. There are more than 50 large to medium sized mammals. The most important of these is the bonobo or pygmy chimpanzee *Pan paniscus* (EN) which is endemic to the Democratic Republic of Congo where the population in 2002-3 was estimated at 14,800 (deviation 8,000-28,500), most remaining in the southeast of the south block and the northeast of the north block (UNESCO/IUCN, 2007). However, it has been seen in the northwest, northeast and southeast margins of the Park (Van Krunkelsven *et al.*,2000). Other primates include Angolan black and white colobus *Colobus polykomos angolensis*, western red colobus *C. badius* (VU), Thollon's red colobus, *Procolobus badius tholloni*, the endemic black mangabey *Lophocebus aterrimus*, and numerous *Cercopithecus* species: including redtailed guenon *Cercopithecus ascanius*, Salongo guenon *C. dryas*, golden-bellied mangabey *C. galeritus chrysogaster*, Wolf's mona *C. mona wolfi*, Allen's swamp monkey *Allenopithecus nigroviridis*, Bosman's potto *Peridicticus potto* and dwarf galago *Galagoides demidovi*. In savanna-like areas in the south there are several grassland-dependent species including side-striped jackal *Canis adustus*, serval *Felis serval*,, Grimm's duiker *Sylvicapra grimmia* and black-bellied bustard *Eupodotis melanogaster*.

Both subspecies of elephant *Loxodonta africana cyclotis* (VU) and *L. a. africana* (VU) used to be very common in the Park. By 2003 only 2,000 had survived years of savage poaching (UNESCO/IUCN, 2007). Other animals include long-tailed pangolin *Manis tetradactyla*, giant ground pangolin *M. gigantea*, tree pangolin *Manis tricuspis tricuspis*, Congo clawless otter *Aonyx congica*, spotted-necked otter *Lutra maculicollis*, leopard *Panthera pardus iturensis*, African golden cat *Felis aurata*, Angolan mongoose *Crossarchus ansorgei*, Congo water civet *Osbornictis piscivora*, white rhinoceros *Ceratotherium simum*

cottoni (CR:25-30), red river hog *Potamochoerus porcus ubangensis,* hippopotamus *Hippopotamus amphibius* (VU), blue duiker *Cephalophus monticola,* yellow-backed duiker *C. sylvicultor,* bay duiker *C. dorsalis,* water chevrotain *Hyemoschus aquaticus,* sitatunga *Tragelaphus spekei,* bushbuck *T.scriptus,* bongo *T. euryceros,* and pygmy Cape buffalo *Syncerus caffer nanus.* Reptiles include African slender-snouted crocodile *Crocodylus cataphractus*

101 species of birds have been recorded and 153 may be expected (Fishpool & Evans, 2001). Birds include cattle egret *Bubulcus ibis,* black stork *Ciconia nigra* (migrant), yellow-billed stork *Mycteria ibis,* the African grey parrot *Psittacus erithacus,* a popular species for sale, and the endemic Congo peafowl *Afropavo congensis* (VU). A list of birds from the Park has recently been compiled by Van Krunkelsven (2000). There are probably more than 400 species of fish (UNESCO/IUCN,2007).

CULTURAL HERITAGE

The native lyalima are gradually losing their young to out-migration and their ancient independent culture with its low-impact on the forest may decline (J.Thompson, *in litt*, 2003).

LOCAL HUMAN POPULATION

Population in the property is low, except in two areas. Some 3-4,000 Kitawaliste live in a village complex, Kitawala, in the north, estimated at 3-4000 people (UNESCO/IUCN,2007) and in 2003 a group of about 800 lyalima, the original inhabitants, lived in the western Dekese zone in the southeast of the Park in eight villages, in harmony with the forest. Since the Park's designation, their occupation of their own lands has been officially illegal but has been assumed as a right and has led to conflict with the Park authorities. In 2003, the Lukuru Wildlife Research Project (LWRP) initiated a move to formalise their status under newly revised conservation laws (J.Thompson, *in litt*, 2003). In recent decades, Bantu groups from independent African Christian movements, some seeking refuge from state pressures, have moved into the Park: the Kimbangistes in the south and Kitawalistes in the north near Lomela. Both are in contact with poachers and it has been proposed to relocate them outside the central zone. The Bianga community in the south survives by poaching and farming within the Park. Local farming is based on manioc, maize and banana, with coffee, rice, oil palms and rubber trees and, with traditional fishing, hunting and gathering, continues in the buffer zone.

VISITORS AND VISITOR FACILITIES

There is potential for virgin forest tourism, but there have been very few visitors in the past because of the lack of infrastructure and access, and more recently, civil war. However, the post at Mundja is regularly accessible by air. In 2002 the LWRP funded clearance and maintenance of the airstrip at Anga and in 2003, the airstrip at Monkoto, with the Wildlife Conservation Society (WCS) and MIKE-IUCN (elephant-monitoring program). All are in the south block (J.Thompson, *in litt*, 2003).

SCIENTIFIC RESEARCH AND FACILITIES

Much of the Park is unexplored but as early as 1973-1977 an inventory of the flora and fauna was compiled by the Canadian International Development Agency. In 1987 a University of Freiburg expedition from Germany observed bonobos on the northeastern edge of the Park. In 1989 the Wildlife Conservation Society led the first large mammal survey in the north block, focussing on elephants. In 1987 Salonga was selected for a forest ecosystem conservation project for Central Africa (Écosystèmes Forestiers d'Afrique Centrale, ECOFAC) funded by the European Economic Community For this, M.Colyn (University of Rennes, France) established a research station at Botsima at the eastern edge of the north block where university teams worked during 1990-1. In 1994, collaboration began between the Lukuru Wildlife Project and ICCN in the Dekese zone in the southeast of the south block to study the flora and fauna, focussing on the distribution of bonobos and large mammals, community relations and conservation education (J.Thompson, *in litt*, 2003). However, during the late 1990s all research was seriously impeded by armed poachers and civil war.

Since 1988 the Zoological Society of Milwaukee County (ZSM) has been the headquarters of the Bonobo Species Survival Plan. In 1995 it published an *Action Plan for Pan paniscus* (ZSM,1995) and since 1996 when not interrupted by war, ZSM under its field program the Bonobo and Congo Biodiversity Initiative, has assisted ICCN with training of Congolese field researchers and wildlife population assessment and monitoring. In 1997-8 it part funded a two-month reconnaissance survey from Watshi-Kengo on the northern margin of the north block run by E. Van Krunkelsven (Société Salonga, and Royal Zoological Society of Antwerp) to begin to determine the status and distribution of the bonobo and other large mammals in that area (Van Krunkelsven *et al.*, 2000). Subsequent wildlife surveys were conducted by B. Inogwabini (ICCN/ZSM) from Watshi-Kengo between December 2000 and May 2002 to evaluate the impacts of war on large animal populations.

During March-April 1998 an LWRP-ICCN team led the first reconnaissance and bonobo/large mammal distribution survey in the south block and collected data on human activities. In 1999 the WCS with the IUCN-MIKE program contracted under a UNESCO World Heritage Site/United Nations project to coordinate a long-term large-scale survey of and bio-monitoring program for the National Park. In 2000 the Max-Planck-Institut (MPI, Jena, Germany) with the ICCN Mundja Post, established a long-term bonobo study site outside the western boundary of the south block at lpope. From 2001 the Institut and the LWRP have collaborated with the MIKE-IUCN program, and with the WCS, have conducted surveys along 948 km of transects between June and December 2003 to provide a systematic and replicable assessment of data on wildlife and threats to conservation in the National Park and surrounding areas. These data are used to evaluate the distribution and abundance of identified species in relation to human access by roads and rivers, human settlements, the impacts of forestry, mining and agriculture, anti-poaching and hunting activity, microhabitats, and areas of past species distribution and abundance.

In 2003 the Lukuru Project travelled overland to map the east and south limits of the south block frontier in the first attempt to cross this region and demarcate the limits of rebel occupation. This information was integrated into the ICCN database, including habitat description, animal signs, human activity, geography, and photographs. In 2003 MPI and GTZ (Germany) took satellite imagery, checked in the field and by aerial photography, of the entire Park. This will be repeated every two years for monitoring and the map is available through ICCN to its partner organizations (J.Thompson, *in litt*, 2003). In the past, scientific study has been limited by lack of facilities but in the north block, ZSM has now set up a research station in an old poachers' camp, called Etaté. There is accommodation for scientists at Monkoto and Anga in the south block.

CONSERVATION VALUE

The Park is the largest nearly intact tropical rainforest national park in Africa and the second largest in the world. It is designated a WWF Global 200 Freshwater Ecoregion. It is the habitat of a very diverse flora and fauna and many endemic endangered species, such as the bonobo (pygmy chimpanzee), for which it was partly founded to protect, the Congo peacock, the forest elephant and the African slender-snouted crocodile.

CONSERVATION MANAGEMENT

This is the only part of the Congo basin where the bonobo is nominally protected. For many years the management of Salonga was not paid much attention. Civil wars in 1996 and from 1998 on created crises which paralysed conservation but publicised the need for it. As war subsided, effective ICCN activity and help from outside the country began to be restored. In 1985 IUCN and WWF representatives suggested that increased effort should go towards improving knowledge of the region: making the area's people more aware of the value of the park, and if possible involving them in management activities; improving the information on the relationship between the local people and the park's ecosystems, such as studies in ethno-botany; improvement of the park's infrastructure and building a research station (IUCN/WWF,1985). In the north, from 2001 only government soldiers ensured the safety of expeditions (Draulens & Van Krunkelsven, 2002). The Rwandan RCD-Goma militia (Rassemblement Congolais pour la Democratie), based in Goma) controlled Zone Dekese, the southeastern sector of the Park. This is within the area of the Lukuru Project which negotiated authorisation to work in the sector from both the government and from the rebel authorities. The ZSM in the north block and LWRP in the south block hired local staff who braved long distances and insecure conditions to pay guards, labourers and other staff. The funds came from the DRC Parks Emergency Relief Mission which was created and administered by LWRP since 1997, with the long established NGO Nouvelles Approches, and has assisted UNESCO, UNF and ICCN in the field since 2001. This helped to restore the morale and effectiveness of the guards by securing uniforms (J.Thompson, in litt, 2003).

By mid 2002 the programs of the ZSM and the Lukuru Project assisted ICCN with emergency supplies of equipment, medicines, household materials and educational resources; also with guard training, training of Congolese field researchers, assessment and monitoring of wildlife populations; and by working with grassroots conservation groups. Both have distributed the grants from UNESCO and supplies funded by USAID to ICCN guardposts. ZSM created an anti-poaching program in which river patrols and cable barriers across the Yenge river proved very effective. The Park headquarters at Anga which collapsed in 1999, has been reconstructed by the Project and airstrips cleared at Anga and Monkoto posts. ZSM and LWRP are actively engaged in fieldwork with the Wildlife Conservation Society, the *Max-Planck-Institut* at Lui-Kotal and GTZ in biodiversity surveys and inventorying wildlife abundance, distribution and threats, in capacity building and contribution to the ICCN management plan, in increasing ICCN's capacity for surveillance and security, in building relations between the people and ICCN throughout the region, and in continued exploration of the Park (J.Thompson, *in litt*, 2003).

A management plan for each guard block was developed in 2001 and a Park-wide plan, in 2003. Aid and assistance in most aspects of management and conservation have been given since 1999 by UNESCO and UNF; since 2003, by WWF, the Wildlife Conservation Society and USAID through the Congo Basin Forest Partnership of the Central African Regional Program for the Environment; and since 2004 by the EU. A management plan for each guard post was developed in 2002 and for the whole Park in 2003 when the IUCN-MIKE program and collaborators undertook training for bio-monitoring inventory and survey work for park guards at the Lokofa camp. A scientific management strategy has been adopted to provide technical and scientific assistance to the management and monitoring of the Park and promote the integrated development of peripheral areas. But in 2006 there was still no unified management of the Park. To avoid unexpected disturbance to the ecological balance and to allow natural evolution of the ecosystems date, a policy of non-management has been followed. Exploitation of the natural forest occurs, but there is no plan for its reforestation or management. Consultations between ICCN and the four local provincial political and military authorities have to be set up to help combat illegal activities by implementation of the existing anti-poaching strategy and by improving staff efficiency through training and monitoring of law enforcement. It is also necessary to resolve the longstanding conflicts with villagers in the Park on their use of its natural resources by building on traditional methods of control and clear demarcation of park boundaries (UNESCO,2006, UNESCO/IUCN,2007)

MANAGEMENT CONSTRAINTS

The Park suffers from large scale commercial poaching by armed gangs and heavy illegal fishing especially in the northeast and northwest of the Park. It increased as a result of disruption by war, from the impact of the villagers living within the Park, and through the granting of permits for such activities by the authorities. Though the Park was originally far from the conflict in the east, it has many navigable rivers, and has therefore long been open to uncontrolled poaching, especially for ivory and bushmeat. Civil war in 1996 and from 1998 onward, paralysed transport, caused major economic collapse and poverty throughout the D.R.C. leading to an increased reliance on bushmeat, especially by the militia, and for sale outside the Parks. In Salonga, no river patrols were run between 1990 and 1997 and infrastructure was destroyed. Guards were killed by armed poachers seeking ivory and bushmeat and went unpaid for years. They were undertrained, under-equipped, drastically understaffed and stripped of their arms and uniforms by the militia. Heavily armed soldiery have reinforced native poachers using both traditional and modern methods to considerably reduce the numbers of elephant, grey parrot and bonobos. Eating these was tabu in the region until the war. Young bonobos are also taken as pets: the mother is usually killed and perhaps only one infant survives out of ten taken for the trade. Bonobos are also taken for their body parts and many are caught in snares set for other animals (Van Krunkelsven et al., 2000; J.Thompson, in litt, 2003).. There are also impacts from invading Bantu groups, and, in the north, local population pressures from shifting cultivation, tree cutting and honey gathering and, in the south, habitat destruction by fire.

The number of staff working in the Park is totally inadequate for the huge area where access is extremely difficult. There is little cooperation with the army who have recently killed two guards, and poach extensively (UNESCO, 2006). The ability of ICCN Kinshasa, to manage this and other protected areas under its authority is low. There is a lack of sufficient management, management planning, infrastructure, professional trained staff and equipment for patrols and communications and 65% of the guards are over 40. Conditions improved after a GTZ project re-started in 2002 which recommenced payments to several ICCN-Kinshasa staff and provided other basic needs such as vehicles and travel allowances that would enable ICCN to better protect Salonga and other protected areas under its direct supervision. Five ZSM/ICCN missions in late 2002 confirmed heavy poaching for bushmeat by local people displaced from their farms and, in the southern block, by commercial gangs killing elephants for ivory which the guard force could not prevent. However, fighting ceased in January 2003 and the Dekese zone, which is 20% of the Park, remained under the control of RCD-Goma which supports the Lukuru Project (J.Thompson, 2003).

STAFF

In 2006 there were 162 guards plus 18 workers with 7 officers under the Chief Conservator at Anga and his deputy, the Conservator. There are now six staff posts staffed by ICCN: 3 in the north block, at Watshi-Kengo, Mondjoku and Lomela, three in the south block, Monkoto, Mundja and Anga, and 22 patrol posts. Of the guards 129 were ICNN, 20 were from ZSM and 13 from a UNF project. 50 other unofficial guards were employed. There were no vehicles except for 15 dug-out canoes, 11 bicycles and very limited equipment (UNESCO 2006).

BUDGET

In 1987 this was approximately 300,000 zaïres. From 1997 LWRP organized and delivered supplies and resources of every kind to ICCN posts (J.Thompson, 2003). In 1999 the United Nations Fund promised US\$ 4,186,600, two-thirds of it outright, to compensate staff and pay salaries and allowances for all five D.R.C. World Heritage sites from 2000-2004. Almost US\$200,000 was pledged for the protection of the bonobo by the ZSM. In 2000 the Belgian government also promised US\$500,000 for the five D.R.C.parks from 2001-2004 (UNESCO, 2001). In 2002 at Johannesberg the U.S.Government proposed to invest up to \$53 million dollars in the Congo Basin Forest Partnership through 2005. The Salonga region will be among the beneficiaries (USDS, 2003). In 2004 donors at a UNESCO conference, including UNESCO, UNF, the US, Belgium and Italy, pledged a further \$40 million for protection of the still besieged D.R.Congo parks (Zajtman, 2004).

In 2006 international assistance provided USD 85,000 for equipment and staff. Long-term funding was provided through the United Nations Foundation and the Government of Belgium program for the Conservation of the DRC World Heritage properties for staff allowances, equipment, community conservation, monitoring and training: first phase (2001-2005), approximately US\$350,000; second phase (2005-2008): not stated (UNESCO, 2006).

LOCAL ADDRESSES

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- M. le Conservateur Principal, Parc National de Salonga, BP 10 à Monkoto (via Boende), Region de l'Equateur, Democratic Republic of Congo.

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