

## World Heritage Sites

### Protected Areas and World Heritage



## GARAMBA NATIONAL PARK DEMOCRATIC REPUBLIC OF THE CONGO

*Immense savannahs, grasslands and woodlands, threaded with gallery forests and swampy depressions, protect a wide range of animals, especially the four large mammals, elephant, giraffe, hippopotamus and the critically endangered northern white rhinoceros. This is much larger than the black rhino, and less than thirty individuals remain in the wild. It is one of the world's twelve most threatened large animals.*

*Threats to the Site: The Park was placed on the List of the World Heritage in Danger between 1984 and 1992 because of a serious decline in the rhinoceros population. After measures taken by the World Heritage Committee, IUCN, WWF, the Frankfurt Zoological Society and the national authorities, the population recovered from 15 to around 35 animals. Since 1996 civil disorder in the east of the country has led to widespread attacks on the Park. Equipment was looted, outposts destroyed and several staff deserted. The site was returned to the in Danger list. Poachers from the Sudan and Uganda are still very destructive but the remaining staff retain control of the southern third of the Park. Threats to the animal populations will not cease until adequate funding permits the enforcement of law and order.*

### COUNTRY

Democratic Republic of the Congo

### NAME

Garamba National Park  
(*Le Parc National de Garamba*)

### NATURAL WORLD HERITAGE SITE IN DANGER

1980: Inscribed on the World Heritage List under Natural Criteria vii and x.

1984-92

& 1996+: Listed as a World Heritage site in Danger due to decline in the rhinoceros population.

### IUCN MANAGEMENT CATEGORY

II National Park

### BIOGEOGRAPHICAL PROVINCE

East African Woodland / Savanna (3.05.04)

### GEOGRAPHICAL LOCATION

In the far northeast of the Democratic Republic of the Congo on the border with Sudan: 3°45'-4°41'N, 28°48'-30°00'E.

### DATES AND HISTORY OF ESTABLISHMENT

1938: Instituted by decree as Garamba National Park to protect giraffe and northern white rhinoceros;

1969: The National Institute for Nature Conservation received responsibility for it by Decree 69/72;

1975: The *Institut Zairois pour la Conservation de la Nature* (IZCN) made responsible for the park under the State Commission for the Environment, Nature Conservation and Tourism;

1984-92 & 1996: Listed as endangered because of increased poaching, and threats to the endangered white rhinoceros and of infrastructure, resulting from the civil war in Sudan.

## LAND TENURE

Government, in Uele district of Orientale province. Administered by the *Institut Congolais* (formerly *Zairois*) *pour la Conservation de la Nature* (IZCN / ICCN).

## AREA

492,000 ha. (500,000 ha, UNESCO,2008). Surrounded by three hunting areas totalling about 1,000,000 ha: Reserve Azande to the west, Reserve Mondo-Missa to the east and Reserve Gangala na Bodio to the south. Contiguous on the northeast with the proposed Lantoto National Park in Sudan.

## ALTITUDE

710m to 1,061m

## PHYSICAL FEATURES

The Park covers a vast undulating plateau parkland, principally long-grass and dense bush savanna, shaped by fire. It slopes southwest from the watershed between the Nile and Congo rivers, part of an ancient peneplain interrupted by mostly granitic inselbergs, threaded by gallery forests, with large marshland depressions. The main rivers are the Dungu on the southern boundary, the Aka along the western boundary and the Garamba within the Park (IZCN, 1980).

## CLIMATE

The tropical climate has a semi-moist rainy season from March to November with a mean annual rainfall averaging about 1260mm. Average annual temperatures are between 20° and 30° C, with a dry period from November to March, when temperatures range from 6°C to 39°C and hot dry north-easterly winds are common (Hillman-Smith, 1989).

## VEGETATION

The Park's position, between the Guinean and Sudanese biogeographic realms, makes it unusually diverse. In fact it is within a WWF/IUCN Centre of Plant Diversity. It covers three biomes: gallery forest with forest clumps and marshland; aquatic and semi-aquatic associations; and savannas ranging from dense savanna woodland to nearly treeless grassland. The densely wooded savanna, relict gallery forests, and the papyrus marshes of the north and west give way in the centre to more open tree-bush savanna, which merges into the long grass savanna that covers most of the Park.

The savanna woodlands are often dominated by *Combretum* spp. and *Terminalia mollis*. Accompanying dominant species include *Hymenocardia acida*, *Bauhinia thonningii*, *Dombeya quinqueseta*, *Acacia*, *Grewia* and *Bridelia* spp., *Albizia glaberrima* and *Erythrina abyssinica*. Gallery forests and forest patches contain *Erythrophleum suaveolens*, *Chlorophora excelsa*, *Irvingia smithii*, *Klainedoxa* sp., *Spathodea campanulata*, *Ficus* spp. and African mahaoganies *Khaya anthotheca* (VU) and *K. grandifolia* (VU). Sudanian woodland grows towards the north-eastern part of the park, which is dominated by *Isoberlinia doka* with scattered *Uapaca somon*. Marshlands are dominated by *Cyperus papyrus* and *Mitragyna rubrostipulacea* (Hillman-Smith, 1989).

The main species of the long-grass savanna are *Loudetia arundinacea* and various *Hyparrhenia* species, which in September can grow over 2m high, with the tallest grass *Urelytrum giganteum* up to 5m. There are occasional scattered *Kigelia africana* and *Vitex doniana* trees. It is dissected by numerous small rivers with valley grasslands and papyrus swamps.

According to Davis *et al.* (1994), there are approximately 1,000 vascular plant species, of which some 5% are endemic. Useful plants found growing in the Park include *Erythrophleum guineense*, *Nauclea latifolia*, *Terminalia mollis* (building material), *Vitex doniana* (medicinal); *Spathodea campanulata* (ornamental); *Cyperus papyrus*, *Thalia welwitschii* (ropes, mats, baskets); *Hymenocardia acida*, *Hyparrhenia diplandra*, *Loudetia phragmitoides*, *L. simplex*, *Pennisetum simplex* (fuel), *P. purpureum*, *Hallea stipulosa*, *Imperata cylindrica*, *Khaya anthotheca* and *Leersia hexandra* (Davis *et al.*, 1994).

## FAUNA

With Manovo in the Central African Republic, the Park is probably the last important habitat of a number of soudano-guinean species. Until recently it contained the last viable natural population of square-lipped or northern white rhinoceros *Ceratotherium simum cottoni* (CR), one of the twelve most threatened large animals in the world, which lived protected in the woods and long grasses of the

southern third of the Park. Its numbers fell from approximately 1,000 animals in 1960 to 490 ( $\pm 270$ ) in 1976 (Hillman-Smith, 1989), to about 15 in 1984 due to intensive poaching. In 2000 there were 30 (UNESCO, 2001), in 2004, 24, of several of which were killed later in the year; only 3 were seen by a survey in 2006, but the denser woodland may hide more (UNESCO, 2006): 13 were reported by a BBC newscast in early 2008. The 2010 IUCN Red List notes that four may remain in situ. The Park's elephants *Loxodonta africana* (VU) are a unique population of an intermediate form between the forest and savanna sub-species, *L. africana cyclotis* and *L. a. africana*. The population was reduced from over 20,000 in the late 1970s to 8,000 in 1984. The 1994 estimate was 11,175 (Said *et al.*, 1995); the 1998 estimate was 5,874. By 2003 the total was said to have dropped to 1,453 due to savage poaching, but the 2006 aerial survey counted 3,839. The Park contained the world's only centre for the domestication of the African elephant (Hillman-Smith, 1998).

Among 42 other mammal species, over 8,800 eastern chimpanzee *Pan troglodytes schweinfurthii* (EN) were recently recorded for the area around the Ituri forest, Okapi and Garamba reserves (Plumtre *et al.*, 2010). There are also northern savanna giraffe *Giraffa c. camelopardalis* which occurs nowhere else in the D.R.C. The site's population is said to be threatened with extinction (Zeller, 2005): only 70 individuals were seen in the 2006 survey. There are also hippopotamus *Hippopotamus amphibius* (VU: 2,292 individuals) and African wild buffalo *Syncerus caffer nanus*, the main target of bushmeat poachers, were reduced from 53,000 in 1976 to 25,000 by 1995 (Farmer, 1996); 8,145 were seen by the 2006 survey. Lelwel hartebeest *Alcelaphus buselaphus lelwel* (EN), kob *Kobus kob* and roan antelope *Hippotragus equinus*, are other targets of bushmeat poaching. There are also olive baboon *Papio anubis*, western guereza monkey *Colobus guereza occidentalis*, green monkey *Cercopithecus aethiops*, De Brazza's monkey *C. neglectus* and four other species of monkey, two species of otter, five species of mongoose, African golden cat *Caracal aurata*, leopard *Panthera pardus*, lion *P. leo* (VU), warthog *Phacochoerus aethiopicus*, bushpig *Potamochoerus porcus*, waterbuck *Kobus ellipsiprymnus* and six other antelope species.

The site has over 300 species of birds typical of the Sudan-Guinean savanna and Guinea-Congo forests, Dutton *et al.* in 1983 listed 15 raptors - two eagles, 3 vultures, one the near threatened white-backed vulture *Gyps africanus*, also 7 egret and heron species and 5 storks, 3 bustards, 6 plovers, 6 doves, 5 bee-eaters, 8 kingfishers and 6 sunbirds, Grey crowned-crane *Balearica regulorum* (VU) and great snipe *Gallinago media* are recorded and Birdlife International in 2000 categorised 33 species as threatened though of least concern. A fuller species list is given in Hillman-Smith *et al.* (1994).

## CULTURAL HERITAGE

No information is available.

## LOCAL HUMAN POPULATION

The Park had no inhabitants in 1989 and the population was sparse outside it (Hillman-Smith, 1989). It is now overrun by Sudani refugees and poachers free to invade since peace was agreed in south Sudan.

## VISITORS AND VISITOR FACILITIES

The Park is remote and its facilities need both renovation and promotion. There was visitor accommodation at both Nagero and Gangala-na-Bodio. Construction of pontoons, improved roads and maintenance, development of the rangers' stations, a controlled grass burning regime to improve visibility and good interpretive material were to facilitate visitors' use of the Park. But after the civil disturbances in both the DRC and Sudan, income from foreign tourists virtually ceased (Karesh, 1996). Garamba is famous for the African Elephant Domestication Centre at Gangala-na-Bodio, in the south-west of the park where four old trained elephants remain. The Garamba Rehabilitation Project caught more young elephants to be trained for visitor use, and a successful tourist operation was tried, using saddles for elephant-back safaris which could become a unique attraction (Hillman-Smith, 1989).

## SCIENTIFIC RESEARCH AND FACILITIES

An expedition in the early 1950s gathered much information, mainly taxonomic, which is available in a series of publications. In the early 1970s, an FAO project to improve the Park gathered information on the rhinoceros and flew an aerial census of large mammal species. In 1983 an aerial and ground census was carried out under the auspices of IZCN along with IUCN, WWF, FZS and UNEP and an FAO project. From 1984 as part of a rehabilitation project the rhino population was investigated and monitored, general ecosystem monitoring was carried out, including aerial counts, vegetation description and habitat mapping, a check list of birds and preliminary studies on the domestic elephants. An experimental burning programme was also tested.

Daily meteorological observations were made in conjunction with the *Institut National pour l'Etude et la Recherche Agronomique*, and a herbarium collection was started. The research team consisted of an expatriate, three Congolese researchers and two research assistants. The research covered a detailed study of rhino behaviour and feeding ecology, feeding and habitat use by wild elephants which was compared with the information gathered in the domestic elephant studies, also research into soil-vegetation-termites relationships. Regular internal reports were produced. An ecosystem resource inventory was compiled to provide data for management, and the material published. A research office existed, though with limited scientific facilities due to shortage of funds (Hillman-Smith, 1989).

## **CONSERVATION VALUE**

This area of savannah, grassland and woodland, interspersed with gallery forest and swampy depressions was established primarily to protect the northern white rhinoceros and northern savanna giraffe, also elephant and hippopotamus. The variety of its habitats is the reason for the wide diversity of other wildlife. It lies within a WWF Global 200 Freshwater Ecoregion.

## **CONSERVATION MANAGEMENT**

The Park is under the overall control of the ICCN headquarters station at Nagero, with a secondary station at Gangala-na-Bodio which also oversees the neighboring southern and western hunting reserves. These three areas which total about 1,000,000 ha, are intended as buffer zones: Gangala-na-Bodio, in the south, Mondo-Missa, southeast, controlled from Nagero Station, and Azande in the east. Park conditions deteriorated during the 1970s and 1980s. In 1984 the site was placed on the List of World Heritage in Danger for fear that the rhinoceros population of 15 animals would be eliminated by poaching. A rehabilitation project sponsored by IUCN, WWF, the Frankfurt Zoological Society and UNESCO with IZCN staff worked from 1984 to restore the infrastructure of the Park and revive anti-poaching activity. For the next eight years the Park's integrity was endangered but the project revived the population to around thirty-five animals and the Park was taken off the Danger List in 1992. After evaluation of the project in 1996, a new project design and draft management plan were produced (Greeff, 1996; WWF, 1996b). This provided equipment and expertise and carried out construction, maintenance, training and monitoring. The collaboration increased the intensity and effectiveness of poaching surveillance. Salaries and other support were subsequently increased and the guards' weapons modernised but the total number of 150 guards is too small to control so large an area.

Previous foot patrols from permanently-manned posts around the edges of the Park had proved difficult to control; the guard force also relied so much on the local people for supplies that it became hard for them to enforce the law against them. A new road network and five new patrol posts were therefore constructed. Most posts are on hills to detect the smoke from poachers' meat-drying fires, and have radio contact with the headquarters. Mobile foot patrols leave from the main stations in rotation, in two patrols of eight guards each at any one time within the rhino area (Hillman-Smith, 1989). In 1996, following renewed poaching, much of it internal, radio-transmitter equipment was installed in each rhinoceros horn to help guide anti-poaching patrols to where they may be needed (Farmer, 1996). In late 2005 the Dutch African Parks Foundation contracted to manage Garamba for five years, spending \$1.2 million a year and poaching began to come under control (Zeller, 2005; UNESCO, 2006). By 2008 a light aircraft had been bought to improve surveillance.

## **MANAGEMENT CONSTRAINTS**

There have been three main reductions in the populations of the Park's commercially valuable species. The first was during the political disturbances in the 1960s, when it was estimated that the rhino population fell from 1,000-1,300 to about 100, and elephants were also poached. Rhino numbers then rose again to about 400-800. The second major loss to poaching was in the late 1970s when the demand and poaching for ivory and rhino horn increased dramatically over most of Africa. The Park was particularly vulnerable, being very far from support by the headquarters in Kinshasa and on the border of three countries suffering civil unrest with the accompanying availability of weapons. In 1984 the rhinoceros population of 15 animals was in danger of being lost to poaching but endangered status alerted conservation authorities and the serious decline in the population was reversed.

However, in 1991, 80,000 well armed refugees from the war in Sudan began to settle in the hunting areas around the Park which greatly increased internal poaching for bushmeat. Buffalo were the main target with giraffe also targeted, while elephants were poached for ivory. Nearly all the game in the north half of the Park was wiped out. After the poaching of two rhinoceros for their horn in early 1996 and the killing of three Park rangers on duty, the Park was again placed on the List of World Heritage in Danger

(WHC, 1996). The recent political and economic instability within the country has placed great strain on the Park staff and infrastructure. In 1997 the guards were disarmed and all the Park's facilities were looted. There were no vehicles, fuel or rations to prevent intensified poaching by the Sudanese, especially the Sudan People's Liberation Army which has recently renewed its poaching of rhinoceros (IUCN, 1997; UNESCO, 2004).

In 1999 some payment of salaries was made and the guards, partially re-armed and re-equipped, were able to begin to restore order once more (Hillman-Smith, 1998). In 2001, the state of the Park's conservation was relatively good. Funded by the UNESCO/DRC/UNF Project, both surveillance and monitoring were regularly carried out, and a total of 300 northern white rhinos were reported (UNESCO 2002). But in 2004 two Park rangers, several of the 22 remaining white rhinoceros and hundreds of elephants were killed during brutal invasions by Sudanese Arab militia poaching for ivory with grenades and rocket-propelled guns to fund their war on negro Sudanis in Darfur (Zajtmán, 2004). The rangers staff lacked trained reinforcements and regular pay, overgrown roads needed reinstatement and border patrols needed the equipment to allow them to resume work. A plan approved by the IUCN to translocate five rhinoceros to a wildlife sanctuary in Kenya for temporary safekeeping was vetoed by the DRC tourism and information ministers (Tattershall, 2005; WCPA, 2004) and the supply of arms and ammunition to rangers was also stopped by the government, despite the fact that nearly 60% of all ranger patrols are involved in a fire-fight with armed insurgents (Zeller, 2005). The WHC urged the government to station its army, *les Forces Armées de la République Démocratique du Congo* (FARDC), including former rebel troops awaiting demobilization or integration into the army, further away from the site (UNESCO, 2004). The remaining staff retained control of the southern third of the Park but the animals remain at risk until there is adequate funding for the enforcement of law and order. In 2006, following a survey of the rhinoceros and large mammal populations by the IUCN/SCC African Rhino Specialist Group, ICCN and the African Parks Foundation, a UNESCO/IUCN Mission confirmed that there were at least 3 northern white rhino in the Park (Sheppard & Debonnet, 2006).

However, in 2005 there were heavily armed incursions from Libya and from Uganda by the Lord's Resistance Army (LRA) which the government was not able to stop. Rebels from the LRA killed 8 UN peacekeepers in 2006, and continued to threaten the adjacent Azande Hunting Area (UNESCO, 2006). The LRA, led by J. Kony ostensibly on behalf of the northern Ugandan Acholi tribe, is an extremely brutal private army which was turned out of Uganda and the Sudan and established itself in the north of Garamba Park. A cease-fire was arranged in 2006 but never observed by Kony who faces international criminal charges. In 2008 the border with Sudan still needed protection, with help from the Sudanese government, by a better equipped ICCN defence force. Disarming of the surrounding population was also necessary, with the help of MONUC (United Nations Organization Mission to the D.R.C.). In December 2008 the U.S.-aided Ugandan air force, with the support of the Sudanese and DRC governments, bombed the LRA camp, dispersing the terrorists who retaliated by mass murdering local villagers (Jones, 2008). In late 2009 another attack again scattered the LRA among villages across the whole Bas Uele district between the D.R.C., the Central African Republic, southern Sudan and Uganda where, since 2008, they have murdered 2,500 people despite the presence of the D.R.C. army. In January 2009, Kony attacked the site again, killing 15 people, destroying a huge amount of equipment, and for four months making the northern 95% of the site inaccessible to patrols, emphasising the urgency of the guards' need for adequate arms, which are denied them by the government. In fact many of the 11,000 soldiers stationed near the park poach widely and harass the local villagers (UNESCO, 2010)

However in the Park, the establishment of 17 Local Committees for Conservation and Development has strengthened cooperation between the National Park and neighbouring populations who now relay crucial information on the movement of terrorists and poachers. The community conservation project prepared in 2008 by the World Heritage Centre and Fauna and Flora International, with Italian funding began to implement a conservation strategy, re-energizing the work of the Park's community conservation team (IUCN, 2008). By mid 2010, A Spanish government initiative funded track maintenance and staff training and opened a 10-lodge tourist camp (Anon., 2010).

## **STAFF**

The original core staff included a Conservateur Principal at Nagero, a Conservateur at Gangala-na-Bodio, and about 150 guards with 50 labourers throughout the Park, with three expatriate advisors for training and research. Advisors from the International Rhino Foundation, the WHC, the UN Foundation, the Frankfurt Zoological Society and the U.S. Fish & Wildlife Service have later given assistance. Since 2006 70 guards have been recruited to a total force of 138 although 75% are not yet sufficiently trained,

nor adequately armed but from 2008 have been under the supervision of a new Conservateur. The military brigade stationed around the park to guard is also a cause of trouble (UNESCO,2010).

## **BUDGET**

The initial annual budget for the park was US\$45,000; and for the Project, Sfr400,000. By 1987 WWF had provided over one million Swiss francs for the protection of rhino. In 1999 the United Nations Foundation promised US\$4,86,600, two-thirds of it outright, to compensate staff and pay salaries and allowances for all five D.R.C. World Heritage sites between 2000 and 2004: US\$30,000 for salaries. New patrolling equipment came to the Reserve via the IRF (UNESCO, 2000). In 2000 the Belgian government also promised US\$500,000 for the five parks from 2001-2004 (UNESCO, 2001). In mid-2004, US\$157,845 was granted for protection, equipment and staff allowances by the US Fish & Wildlife Service (Forest Conservation Portal, 2004), and donors including UNESCO, UNF, the US, Belgium and Italy, pledged a further US\$40 million for protection of the still besieged D.R.Congo parks and to support rangers with monthly salaries (Zajtman, 2004). In 2005 the African Parks Foundation granted \$1.2 million a year for the period 2005-9 (Zeller, 2005). In 2008 UNESCO provided US\$30,000 for the training of Park guards.

Long-term funding was provided through the United Nations Foundation and the Government of Belgium Conservation Programme for the RDC World Heritage Properties, for staff allowances, equipment, community conservation, monitoring and training: first phase (2001-2005), US\$400,000; second phase (2005-2008), ~US\$600,000, half from the UNF for an emergency action plan and half from the Government of Italy for community conservation (UNESCO, 2006). Two additional amounts from the Rapid Response Facility totaling US\$60,000 for training of guards and replacement of communication equipment. Within the framework of the third phase, US\$285,000 was allocated for staff training and track maintenance rehabilitation by the Spanish Government (UNESCO,2010). In 2006 the World Bank listed several large long-term grants to specific sites under the Forest and Nature Conservation Program, several also applying to the region or surrounding areas. Among these were long-term grants for US\$7million from the EU for management between 2007 and 2010 and US\$7million from GEF-3, shared with Virunga, for rehabilitation, capacity building and participatory management between 2009 and 2013 (World Bank, 2006).

## **LOCAL ADDRESSES**

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Project address: IUCN/Parc National de la Garamba, c/o AIM/MAF (via Aba, DRC), Box 21285, Nairobi, Kenya.

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