

World Heritage Sites

Protected Areas and World Heritage



KAHUZI-BIÉGA NATIONAL PARK DEMOCRATIC REPUBLIC OF THE CONGO

A wide expanse of dense primary tropical forest in two zones: high mountain range and a wide area of low mountains, the range dominated by two extinct volcanoes, Mts Kahuzi and Biéga. The Park had a diverse and abundant fauna with a population of eastern lowland gorillas: 258 of these lived in the high mountains; thousands more lived in the less accessible western extension. But disaster has overtaken the Park.

Threats to the Site: The World Heritage Committee placed the site on the List of World Heritage in Danger in 1997. It was badly affected by the influx of Rwandan refugees in 1994 and rebel soldiers from 1997. Park facilities were looted and destroyed and many staff fled. But DRC produces 15% of the world's coltan, a valuable industrial mineral. From 2000, a price rise, rebel militias and lack of central government control created gold-rush conditions. The profits funded the rebellion. Airstrips and dozens of mines were started, attracting more than 10,000 miners to the park which led to massive hunting for bushmeat and ivory, drastic deforestation and social destruction, abandoned farms and schools, epidemic AIDS and ruthless control by well armed gangs. Most profits go abroad.

By 2001, the population of gorillas had dropped from some 8000 to about 800, of elephants from some 3250 to zero, all other edible wildlife had diminished, the ecosystem had been plundered and the Park became too dangerous to visit. The IUCN, the UN and UNESCO responded to the many pleas from the Park staff and NGOs for help and funding to begin to restore order and morale. However, in 2006, despite active government support, 85% of the Park remained out of government control.

COUNTRY

Democratic Republic of the Congo

NAME

Kahuzi-Biéga National Park (Le Parc National de Kahuzi-Biéga)

NATURAL WORLD HERITAGE SITE IN DANGER

1980: Inscribed on the World Heritage List under Natural Criterion x.

1997: Listed as a World Heritage site in Danger because of destruction due to war.

IUCN MANAGEMENT CATEGORY

II National Park

BIOGEOGRAPHICAL PROVINCE

Central African Highlands (3.20.12)

GEOGRAPHICAL LOCATION

In the eastern Democratic Republic of the Congo 30 km west of the Rwandan border. The eastern section is in the Mitumba Mountains west of and parallel to Lake Kivu. The western section in the Congo basin is connected to it by a narrow corridor. The Park entrance is at Tshivanga in the east. The boundary is unmarked in many places. Its location is between 1° 36' to 2° 37'S and 27° 33' to 28° 40'E.

DATES AND HISTORY OF ESTABLISHMENT

1970: Gazetted by Decree 70-316 to protect its gorillas. Part of the area had been a reserve since 1960;

1975: Enlarged from 75,000 ha to 600,000 ha by Decree 75-238.

1997: Listed as endangered due to devastation by civil war, uncontrolled invasion and degradation by miners, militia and refugees, the destruction of wildlife, especially gorillas and elephants for bushmeat and ivory, and the burning and clearing of forests.

LAND TENURE

Government; in South Kivu and Maniema provinces. Administered by the *Institut Congolais* (formerly *Zairois*) *pour la Conservation de la Nature* (ICCN). The area is partly under Rwandan rebel army control.

AREA

600,000 ha: Mitumba Mountains (60,000 ha), Congo basin hills (525,000 ha), corridor (~15,000 ha).

ALTITUDE

Mitumba Mountains: 1800-3308m (Mt. Kahuzi); lowland mountains: 700-1700m (Mt. Kamami) with a mean elevation of 1,500m.

PHYSICAL FEATURES

The Park is largely forested and consists of two distinct parts: a range of rift valley volcanoes and the undulating lower highlands of the Congo basin. The east is part of the Mitumba massif, on the west side of the western Rift Valley. It is late Tertiary or early Quaternary in date with two spectacular extinct volcanoes, Mount Kahuzi (3,308m) and Mount Biéga (2,790m). The western extension in the Congo basin consists of mountains below 1,500m cut by the deep valleys of some of the upper tributaries of the Luka and Lugulu rivers which drain into the river Lualaba, with isolated peaks such as Mount Kamami (1,700m). A connecting corridor between the two zones is in rolling terrain (Wilson & Catsis, 1990; Steinhauer-Burkart *et al.*, 1995). Throughout the Park there are surficial deposits of gold, cassiterite (a tin ore) and 15% of the world's mined coltan (columbite-tantalite) ore of a high grade which in 2000 fetched very high prices as a component of computer and mobile phone capacitors (Redmond, 2001).

CLIMATE

In the Mitumba mountains, the annual maximum and minimum temperatures average 15°C and ~10.4°C. The annual rainfall is about 1900mm with wide variation. June to August is drier (Musiti *et al.*, 1997).

VEGETATION

The Park lies within a WWF/IUCN Centre of Plant Diversity. In the high eastern mountains, there are six primary vegetation types varying with elevation: mountain rain forest, high-altitude rain forest, bamboo forest, swamp forest, sub-alpine heather and peat bog. The western mountain section is lowland equatorial rain forest between 700 and 1,200m, with transitional forest between 1,200 and 1,500m (Wilson & Catsis, 1990). The forests in the eastern mountains and the corridor are being cleared.

The mountain rain forest grows between 1000 and 2000m. From 900 to 1,350m co-dominants are *Michelsonia microphylla* and *Gilbertiodendron dewevrei* and from 1,350 to 2,000m *Pentadesma lebrunii* and *Lebrunia bushaie*. After disturbance the latter becomes open *Hagenia abyssinica* and *Neoboutonia macrocalyx* forest with *Hyparrhenia* savanna and *Imperata* meadows. Other dominant species are *Albizia gummifera*, *Parinari excelsum* and *Chrysophyllum gorungosanum*. The highland rain forest growing above 2,000m is characterised by *Podocarpus usambarensis*, *Chrysophyllum longipes*, *Ficus sp.*, *Parinari sp.*, *Carapa grandiflora* and *Symphonia globulifera*. Clearings are invaded by *Lobelia gibberoa*. Swamp forest grows in poorly drained areas, dominated by *Syzygium rowlandii*, *Podocarpus usambarensis*, *Agauria salicifolia*, and *Anthocleista grandiflora*. Bamboo *Arundinaria alpina* forest grows between 2,350 and 2,600m. It has spread by colonising cleared land and covers approximately one-third of the original eastern park zone (Doumenge, 1990; Musiti *et al.*, 1997).

On level land between 2000m and 2400m swamp and peat bogs occur. They are dominated by *Cyperus latifolius* with *C. aterrimus* or *Hypericum lanceolatum*, *Alchemilla cryptantha*, *Anagallis angustiloba* and *Jussiaea repens*. The peat-bog is formed of *Juncus effusus* with *Spagnum rugegense* (Steinhauer-Burkart *et al.*, 1995). Above the tree line at about 2,600m, the vegetation is subalpine.

Heather *Erica rugegensis* is characteristic, with *Vaccinium stanleyi* and *Breutelia* spp. on the summit of Mount Biéga. On one summit of Mount Kahuzi *Hedythrusus thamnoideus* and *Disa erubescens* grow; on its main summit, between 3,200 and 3,308m, *Erica* spp. grow with *Senecio kahuzicus*, *Helichrysum mildbraedii*, *Huperzia saururus* and *Deschampsia flexuosa*. 48 species with 2 unknown and 24 endemic species are found in the park (Fischer, 1995; Yamagiwa *et al.* 1996). The western lowland equatorial forest is broadly *Michelsoni* - *Gilbertiodendron* forest below 1350m and *Pentadesma* - *Lebrunia* forest above it (Musiti *et al.*, 1997).

FAUNA

A preliminary species lists gives 194 species of mammal living in and around the Park (Steinhauer-Burkart *et al.*, 1995). The section in the Mitumba mountains was first established to protect its 200-300 eastern lowland gorilla *Gorilla g. graueri* (EN), the largest subspecies of gorilla, which lives in the forests there between 2,100 and 2,400m, though many more live in the lower rain forest. The mosaic of biotypes makes the Park excellent gorilla habitat. The lowland gorilla is endemic to the D.R.C. and before the civil wars 86% of the population, some 14,500 animals, lived in Kuhuzi-Biega and the adjoining Kasese forests (Hall *et al.*, 1998). Some 25% of the population is said to have disappeared since (UNESCO, 2008). In the mountain section of the park 223 animals were counted in 1979 (14 families and 5 solitary males); in 1990 there were 258 (25 groups with 9 solitary males) (Yamagiwa *et al.*, 1993) and a 1996 census showed almost the same. In February 2001 only 96 of these mountain-based gorillas remained (BRD, 2000), but in late 2004 168 gorillas were found (UNESCO, 2006). In the western area 94% ($\pm 14,000$) of the 14,900 eastern lowland gorillas estimated to exist in 1984 have been destroyed for bushmeat to feed the thousands of mining laborers, and by the armed militia for sale (Redmond, 2001). Other primates also freely taken for food include eastern chimpanzee *Pan troglodytes schweinfurthii* (EN: 835, Plumtre *et al.* 2005), Anubis baboon *Papio anubis* and ten species of monkey: five *Cercopithecinae* and three *Colobinae* species. Most are found in the western section of the park.

Other mammals include forest elephant *Loxodonta africana cyclotis* (VU), estimated at 3,250 individuals in 1989, but hunted for their meat and ivory were reduced from 350 to 2 families (Redmond, 2001), hippopotamus *Hippopotamus amphibius* (VU), forest buffalo *Syncerus caffer nanus*, leopard *Panthera pardus*, forest hog *Hylochoerus meinertzhageni*, bongo *Tragelaphus euryceros* and seven species of duiker, all taken for food. Endemic mammals include Tana river red colobus *Procolobus rufomitratu*s, western black-and-white colobus *Colobus guereza occidentalis* (VU), owl-faced monkey *Cercopithecus hamlyni kahuziensis*, (VU), spectacled lesser galago *Galago inustus*, giant genet *Genetta victoriae*, aquatic civet *Genetta piscivora*, Carruther's mountain squirrel *Funisciurus carruthersi*, Alexander's bush squirrel *Paraxerus alexandri*, Ruwenzori otter-shrew *Micropotamogale ruwenzorii*, Mount Kahuzi African climbing mouse *Dendromus kahuziensis* (CR) and Maclaud's horseshoe bat *Rhinolophus maclaudi* (EN) (Musiti *et al.* 1997; Steinhauer-Burkart *et al.* 1995; Wilson & Catsis 1990).

The Park is within one of the world's Endemic Bird Areas (Stattersfield *et al.*, 1998). A preliminary list of the avifauna gives 224 species including 42 endemics - 75% of the endemic species of the Central Highlands. Among these are the Congo peacock *Afropavo congensis* (VU), Ruwenzori tauraco *Ruwenzorornis johnstoni*, Albertine owlet *Glaucidium albertinum* (VU), dwarf honeyguide *Indicator pumilio*, African green broadbill *Pseudocalyptomina graueri* (VU), Grauer's cuckoo-shrike *Coracina graueri*, Chapin's mountain babbler *Kupeornis chapini*, Sassi's olive greenbul *Phyllastrephus lorentzi*, Kivu ground-thrush *Zoothera tanganjicae*, Bedford's paradise flycatcher *Terpsiphone bedfordi*, yellow-crested helmetshrike *Prionops alberti* (VU), Rockefeller's sunbird *Nectarinia rockefelleri* (VU), Shelley's crimsonwing *Cryptospiza shelleyi* (VU), and Grauer's swamp warbler *Bradypterus graueri* (EN). Bird species are given in Steinhauer-Burkart *et al.* (1995) which also lists 48 reptile species and 31 amphibians, in Musiti *et al.* (1997) and Fishpool & Evans (2001).

CULTURAL HERITAGE

No information is available except on the Bakwa pygmies, the forest aboriginals, whose life continues to be based on hunting and gathering within the forests, and the exchange of game for cereals grown by forest margin cultivators to balance their diet.

LOCAL HUMAN POPULATION

The Park is in one of the most densely populated areas of the country, surrounded by over 300 people per sq.km, some 90% of whom depended mainly on agriculture (Basabose & Yamagiwa, 1997). Seven separate tribal groups, originally some 9,000 people, lived in and around the Park including the

Baregha, Batembo and Bashi peoples (Musiti *et al.*1997). Slash and burn farming and tea-growing occurs on the forest margins. Banana beer is locally important, and the demand for land for banana plantations is high, as it is also now for cattle raising. Fifteen existing villages of shifting cultivators, and mining settlements for gold, cassiterite and coltan were located in the west section of the Park, though neither they nor the indigenous Bakwa pygmies were consulted when it was created; and several villages in the buffer zone, where the boundary had never been defined, were sources of conflict. (Hart & Hall, 1996; Steinhauer-Burkart, *et al.*, 1995). Although expelled from the Park in 1970 and 1980, the Bakwa received no compensation and continue to hunt in the Park; most are camped wretchedly on the shore of Lake Kivu.

The drastic effect of the refugee influx and the Rwandan Interahamwe and Congolese Mayi-Mayi militias on the wildlife and forests of the Park increased disastrously in 2000 with a brief ten-fold increase in the world price of coltan. This created a gold-rush of thousands of peasant miners who abandoned farms and schools to mine in the Park, an area now controlled by the rebel Rwandan Congolese Rally for Democracy (RCD) based in Goma, spreading devastation, drugs, delinquency and AIDS (BRD, 2001; Redmond, 2001). The miners work for very low pay, usually under military coercion (DFGF, 2001).

VISITORS AND VISITOR FACILITIES

The gorilla population of about 250 animals in the high mountains was the great attraction which before the war attracted 3,000 well-paying tourists a year. It included four groups accustomed to being watched. From 1998 to 2000 the highlands were closed. In February 2001 only 96 animals remained, none being those which had been habituated to people, which were the easiest to kill. An asphalt road crosses the eastern park and some paths were kept open to facilitate gorilla viewing but mass tourism to sites was not encouraged: visitors on gorilla tracking tours were admitted in groups of 8 people, paying US\$120 each in 1992. A tourist hut and camping facilities were available at Tshivanga. But in 2002 the Park was unsafe even for its rangers and tourism was impossible (IZCN/GTZ, 1995).

SCIENTIFIC RESEARCH AND FACILITIES

Inaccessibility, especially in the western lowland forest, preserved an incompletely known range of natural resources but also made them difficult to study. At present research there is too dangerous to conduct. The *Institut Zairois pour la Conservation de la Nature* (IZCN) established a small research centre at Tshivanga. From 1987 the IZCN with German Technical Assistance (GTZ), Kyoto University, the Centre de Recherches en Sciences Naturelles (CRSN) and the Dian Fossey Gorilla fund (DFGF) have worked on gorilla census and primate research programs (BRD, 2000; Basabose & Yamagiwa, 1997).

CONSERVATION VALUE

The Park comprises a substantial area of tropical rain forest on both low and high mountains, the latter dominated by two extinct volcanoes. It is designated a WWF Global 200 Freshwater Ecoregion. The Park was populated with a diverse and abundant fauna including one of the last aggregations of eastern lowland gorillas, now an increasingly endangered species.

CONSERVATION MANAGEMENT

The Park was established primarily to protect the gorillas. A system of four zones was proposed: forested buffer zone with administration, tourism zone, extensive use zone and strict conservation area (Anon., 1989). There is a secondary station at Itebero on the northern boundary. An IUCN/WWF Project to conserve the mountain gorillas was proposed and a program funded by the governments of Zaïre and West Germany (GTZ) to reduce pressure on the park's resources by improving the conditions on its borders (IZCN/GTZ). The Park was managed by the ICCN supported by GTZ, but the latter withdrew after the civil war leaving protection to a few dedicated rangers in the northeast (BRD, 1999; Steinhauer-Burkart *et al.*1995). In May 2001, UNEP launched the Great Apes Survival Project (GRASP) to protect the threatened species which has focussed international attention and funding towards the survival of all these apes (UNEP, 2001). In 2006, relations between the Park and the provincial DRC army command were good with the Park receiving active support from the government, provincial and local authorities and local traditional chiefs. Relations with the local communities had also improved in face of their common devastation by armed groups (UNESCO, 2006).

MANAGEMENT CONSTRAINTS

The 1994 war in Rwanda caused an influx of an estimated up to 2 million refugees into Zaïre. A refugee camp for 50,000 was sited next to the Park, effectively transferring the war into Zaïre, followed by

deforestation and poaching; elephants soon started to die (Biswas *et al.*, 1996; Hart & Mwinyihali, 2001) and by 2001 only 2 out of 350 families survived IUCN, 2001). Their poaching seems to have been highly organised. The main Kisingani-Bukavu road facilitated invasion and split animal populations in the mountains (Michel & Kabemba, 1986). The corridor between the two sections was illegitimately acquired by a highly placed official for raising cattle, and a boundary-marking team was attacked. This obstacle divided the Park in two, preventing animal populations moving between its different sections. (BRD, 1998; Hart & Mwinyihali, 2001). Tracks in the western section so deteriorated that guards were unable to patrol it properly; they were also unpaid, inadequately equipped and trained and regularly intimidated by militia gangs (Michel & Kabemba, 1986). The collapse of the transport system increased reliance on bushmeat to about 80% of protein consumed (Draulens & v.Krunkelsven).

The Park was further degraded after the 1997 coup and the 1998 invasion in former Zaire when the Goma-based Rwandan RCD (*Rassemblement Congolais pour la Democratie*) and the Ugandan and Burundian armies challenged the government for control of the resource-rich east of the country. Many facilities were looted or destroyed, including the main Park station at Tshivanga where valuable plant genetic stocks were lost. The Park guards were disarmed by the Rwandan army and forbidden to patrol; most were evacuated and many left the area. Conservation monitoring and nearly all surveillance stopped (Basabose & Yamagiwa, 1997). By 1999 the ICCN had lost control of much of the Park. Since then, 16 live chimpanzee trafficking networks have been uncovered in the Park (BRD, 2002). The problems caused by the civil war: looting, destruction of communities, displacement, hunger and poverty, led to a free-for-all, stopping the tourism which had provided income for the region. That year a United Nations Foundation project working with the DRC and UNESCO arranged for major funding for park equipment and salaries from 2000 to 2004. In 2000 the Belgian government promised similar assistance (UNESCO, 2000).

The DRC has 70% of the world's reserves of coltan. During 2000 intensive coltan mining under the aegis of RCD Goma opened the Park up to systematic exploitation as a result of a rise in the price of ore from US\$90/kg in 1999 to US\$830/kg in Dec. 2000. Continuous hunting for both food and for animals for sale decimated animal populations around mines and villages, threatening all edible species with maiming as well as death. By mid 2000 as few UNF funds seemed to be reaching the field, a DRC Emergency Relief Mission of international NGOs was supplying equipment and creating public awareness of the damage (BRD, 2000). By 2001 95% of the Park was in the hands of militia gangs subsidised by the trade in coltan, with 15 airstrips and up to 15,000 peasant miners and the bushmeat hunters supplying them. A report by I.Redmond was commissioned by the Dian Fossey Gorilla Fund (DFGF) and others. It noted that soldiers, dealers, army commanders and officials, local and foreign, were the immediate beneficiaries, and that local authorities were unwilling to ban poor people from making a living after the previous unemployment and poverty. It also noted the needs to determine Park boundaries, to release funds to equip and pay guards, to coordinate the many NGOs and agencies concerned and for economic help to surrounding communities (Redmond, 2001).

Observers spoke of an ecological catastrophe: thousands of settlements in the Park, clearing of forest for fuel, charcoal and construction, destruction of agricultural and grazing land, wildfires, erosion, diversion of streams, siltation and pollution effecting fisheries, continuous overhunting for meat and sale to collectors, destruction of the elephant and gorilla populations, maiming and disturbance of wildlife (Redmond, 2001). The coltan trade was legal and supported by foreign governments and large corporations (IPIS, 2002) and, according to a 1999 report by P Baracyetse, the development of the mining had been funded by North American interests. Nevertheless, in March 2001, the IUCN called for a ban on buying coltan mined in protected areas in (IUCN, 2001). In April, the UN Security Council released a report damning the trade from protected areas, its role in financing the Rwandan occupation, citing the World Bank and Citibank as passive participants and naming army and government officials in Rwanda, Uganda and Burundi and European firms profiting from it (UN, 2001). By mid 2000, after the U.S. government had released some of its stocks, the price of the ore dropped to US\$10/kg, forcing miners to become more dependent on poaching and gold-mining again.

However, as mining will continue to be of economic importance in the area, a DFGF report proposed not to ban it but to establish strict controls on the industry along with the provision of alternative work so that the state and people are better able to benefit from their own resources (DFGF, 2001). In 2001, with the help of the UNESCO/DRC/UNF Project, RCD and GTZ, the Park guards, although not armed, were able to reassert some control over 10% of the Park though only in the east, not over the corridor or the western lowlands (Hart & Mwinyihali, 2001; UNESCO 2002). In October 2002 the Tshivanga station was captured by Mai-Mai, and retaken by the RCD. By mid 2002 the DRC Parks Relief Mission

through the Gorilla Haven Project had delivered many necessary supplies to the Park and helped to restore the morale and effectiveness of the guards. In 2004 there were 8,000 illegal workers in the Park. By 2004 DEFRA (U.K.) granted \$25,000 towards defining a new mining code, the creation of a model mine, reinforcement of patrolling staff and supplying microcredit for alternative developments (GRASP, 2004).

In early 2003, most of the area was held to be out of government control with 99 mines and 8,000 miners still active inside the Park. But by mid 2003, due to an intensive public-awareness campaign and the withdrawal of warring militia, a general agreement to safeguard the survival of the gorillas was reached, the Tshivanga station and two patrol posts were put into working order and monitoring slowly started again (BRD, 2003). In 2004 UNESCO, UNF, DFGF and the US, Belgium and Italy pledged funds and support to conservation and community projects. By March, the *Gorilla Journal* reported the Principal Conservateur saying that his staff had regained control over the whole Park for the first time in eight years, except for small pockets of insecurity. Seven gorilla families totalling 73 animals were being monitored, and two could be visited by tourists (BRD,2004).

By June 2004 however, there was a re-eruption of destruction by the Mai-Mai and dissident militants, the Tshivanga station was wrecked again and a bush fire started in the highlands (Born Free Foundation, 2004). A new threat to gorillas outside protected areas came from a World Bank and FAO policy supporting new national forestry laws within zones for industrial-scale logging which would allow a 60-fold increase in the country's timber production (WRM, 2004). The national forestry laws were duly amended to create zones for industrial logging up to Reserve boundaries. Later in the year, Rwandan pursuit of Hutu rebels over the border in the D.R.C. re-ignited the civil conflict. The WHC urged the D.R.C. Government to station its army, including former rebel troops awaiting demobilization or integration into the army, a reasonable distance from the site, to evacuate all illegal settlements and halt all illegal resource extraction, poaching and ivory trafficking (UNESCO, 2004).

By 2006 only 15 percent of the Park was covered by ICCN patrols and the funds available for its management were inadequate. The major threats remained the presence of marauding rebel FDLR (*Forces Démocratiques pour la Libération du Rwanda*), encroachment by large scale well-connected farmers, especially in the ecologically important corridor between the highland and lowland sectors, mining, deforestation, population pressures and conflicts with local people. After mid 2004, security in the eastern highland sector had improved considerably, stabilising the gorilla population - 168 gorillas were found late that year - and improving cooperation between the Park and local communities. But in the lowland sector security remains poor. There the DRC army (FARDC), with troops from the U.N. Organization Mission to the DRC (MONUC), regularly clash with the FDLR. A 2005 survey found gorillas but no elephants there. Despite good official relations with the authorities, the government's troops are said to be poorly disciplined, badly paid, if at all, lacking equipment, and involved in poaching, mining and bamboo harvesting. The armed militia also live on poaching, mining and often savage looting. The strategic aim of the Park management is to drive them out of instead of into the property, as at present (UNESCO, 2006). In early 2007 a German mission established that deforestation, mining and wild meat traffic had all increased.

By 2008 much of the Park was still inaccessible to park guards and several armed groups still had to be evacuated, farms were still established in the corridor, and seven villages elsewhere; the headquarters of the marauding Rwandan FDLR rebel army had also been set up in the Park. However, in 2005 only about 10% of parts of the Park had been open, now 30% was accessible and the Act of Engagement signed in January 2008 at the end of the Goma Peace and Development Conference in Kivu foresaw the disarmament of the national and foreign armed groups in the region. There was still need for a better equipped ICCN defence force and for disarming of the surrounding population with the help of MONUC. A Wildlife Conservation Society mission to the Itabero and Nzova areas in the lowlands where stations had been reopened and most of the flagship species live, stated that most species seemed to be surviving though the gorilla and chimpanzee populations had fallen by 25% since 1996 and no elephants remained in the areas visited. In the highlands increased traffic along the road from Kisangani to Bukavu threatened further disturbance (IUCN, 2008). By 2009 repatriation of the Rwandan FDLR militia had begun but a large part of the property remained beyond control and impossible to monitor, the corridor was still illegally occupied, poaching and deforestation continued and armed groups and illegal mines persisted (UNESCO,2009).

STAFF

The official establishment was a Chief Curator, Assistant Curator and a resident biologist at Tshivanga with 45 game scouts. In the western area they operated from the northern substation at Itebero.

However, the service has been totally disrupted by rebel militia and invasion by miners. ICCN staff had to abandon the western section of the Park and accept limited action in the east, which they defend at the risk of their lives. During the wars, over 80 ICCN park rangers have been killed nationwide.

BUDGET

Little information is available about funding before 1999, but visitors were an excellent source of revenue until the war, bringing in some US\$50,000 a year. In 1999, working with UNESCO and the DRC, the World Heritage Fund promised US\$ 4,186,600, two-thirds of it outright, to compensate staff and pay salaries and allowances for the five D.R.C. World Heritage sites between 2000 and 2004. US\$20,000 was pledged to the Park via GTZ, for uniforms and new equipment (UNESCO, 2000), and in 2000 the Belgian government also promised US\$500,000 for the same parks and period (UNESCO, 2001). After initial delays this began to improve conditions and morale in all five sites. In 2002, the U.S. Government at Johannesburg was to invest up to US\$53 million dollars in the Congo Basin Forest Partnership through 2005. Kahuzi-Biega Park being among the beneficiaries (USDS, 2003). In 2004 Conservation International pledged some US\$3 million and DEFRA (U.K.) granted US\$600,000 towards GRASP including US\$25,000 towards realising practical economic benefits for the Park (GRASP, 2004). In 2004 donors at a UNESCO conference, including UNESCO, UNF, the US, Belgium and Italy, pledged a further US\$40 million for protection of the still besieged D.R.Congo parks (Zajtman, 2004).

In 2006 the WHF provided US\$ 64,848 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 and anti-encroachment activities: first phase (2001-2005), approximately US\$300,000; second phase (2005-2008) US\$300,000 from the Government of Belgium towards an emergency action plan (UNESCO, 2006). 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. Recently US\$60million, shared with four other forest regions, was granted by USAID/CARPE for participatory management to run between 2006 and 2011, US\$3.1 came from WHF (mainly Belgium) for management during the 2006-2009 period, and at least US\$4.5million from GTZ, and US\$6.5 million from KFW (Germany), shared with the Okapi Faunal Reserve, for capacity building and management between 2008 and 2010, and US\$80million from the African Development Bank shared between five Congo Basin forests, including Kahuzi-Biega, for institutional and community support, conservation & management between 2009 and 2015. A shared US\$20million was received from the ADB in a regional program for the period 2009 to 2015, and some US\$6.1million was also received by the region for core funding between 2007 and 2011 from 12 NGOs (World Bank, 2006).

LOCAL ADDRESSES

M. le Président Délégué General, Institut Congolais pour la Conservation de la Nature, Kinshasa/Gombe, Ave. des Cliniques 13, BP 868, Kinshasa 1, Democratic Republic of Congo.

M. le Conservateur Principal, Parc National de Kahuzi-Biega, Institut Congolais pour la Conservation de la Nature, Ave. des Cliniques 13, BP 868, Kinshasa 1, Democratic Republic of Congo.

REFERENCES

The principal source for the above information was the original nomination for World Heritage status.

Anon. (n.d.). Integrated nature conservation in Zaïre. Manuscript submitted to *Parks*. 5 pp.

Baracyetse, P. (1999). *The Geopolitical Stakes of the International Mining Companies in the D.R.Congo*. SOS Rwanda-Burundi, Buzet, Belgium.

Biswas, A. & Tortajada-Quiroz, H. (1996) Environmental impacts of the Rwandan refugees on Zaire. *Ambio* 25(6):403-408.

Basabose, A. & Yamagiwa, J. (1997) Present situation of conservation and wildlife in Kahuzi-Biéga National Park, eastern Zaire. *Gorilla Conservation News*. 11:10-12.

- Berggorilla & Regenwald Direkthilfe Archives (BRD) (1998). *Gorilla Journal*, Dec., 1998.
- BRD (1999-2004). *Gorilla Journal*. Annual reports.
- Born Free Foundation (2004). Kahuzi-Biéga National Park: The PNKB and the "14-day war". July. www.bornfree.org.uk/primate.
- Dian Fossey Gorilla Fund, (2001). *Coltan in Congo. Can Grauer's Gorilla Survive?*. Campaign Report, Dian Fossey Gorilla Fund, London.
- Doumenge, C. (1990). *La Conservation des Ecosystemes Forestiers du Zaïre*. IUCN/ EEC, Gland, Switzerland & Cambridge, U.K.
- Draulens, D. & van Krunkelsven, E. (2002). The impact of war on forest areas in the Democratic Republic of Congo. *Oryx*. 36 (1): 35-40.
- Goodall, A. (1974). *Studies on the Ecology of the Mountain Gorilla of the Mt Kahuzi-Biéga Region (Zaïre) and Comparisons with the Mountain Gorillas of the Virunga Volcanoes*. Unpublished Ph.D. Thesis, University of Liverpool, U.K.
- GRASP (2004). *Newsletter* No.3, UNEP, Nairobi.
- Fischer, E. (1995). *La Vegetation du Parc National de Kahuzi-Biéga*, Rapport dans le cadre du projet. IZCN / GTZ, Bonn. 160 pp.
- Fishpool, L. & Evans, M. (eds) (2001). *Important Bird Areas in Africa and Associated islands. Priority Sites for Conservation*. Pisces, Newbury / BirdLife International, Cambridge, U.K.
- Hall J., Saltonstall, K., Inogwabini, B. & Omari, I. (1998). Distribution, abundance and conservation status of Grauer's gorilla. *Oryx* 32(2):122-130.
- Hart, J. & Hall, J. (1996) Status of eastern Zaïre's forest parks and reserves. *Conservation Biology*. 10(2).
- Hart, T., Hart, J. & Hall, J. (1996) Conservation in the declining nation state: a view from eastern Zaïre. *Conservation Biology*. 10(2).
- Hart, T. & Mwinyihali R. (2001). *Armed Conflict and Biodiversity in Sub-Saharan Africa: The Case of the Democratic Republic of Congo*. Biodiversity Support Program / WWF, Washington, D.C.
- IPIS (International Peace Information Service) (2002). *Supporting the War Economy in the DRC: European Companies and the Coltan Trade*. Antwerp, Belgium.
- IUCN/WWF Project 1613 (1999). Primate Action Fund. IUCN, Gland.
- IUCN (2008). *State of Conservation Report Kahuzi-Biéga National Park (D.R.Congo)*. Gland, Switzerland.
- IUCN (2007). *The IUCN Red List of Threatened Species*. Gland, Switzerland & Cambridge, U.K.
- (2001a). *Call for a Ban: Coltan Mining Threatens World Heritage Sites in the DRC*. News Release.
- (2001b). *Report on the State of Conservation of Natural and Mixed Sites Inscribed on the World Heritage List and the List of World Heritage in Danger*. Gland, Switzerland.
- IZCN/GTZ (1995) *Kahuzi-Biéga National Park*. Tourist information brochure. IZCN, Kinshasa, D.R.C.
- Michel, F. & Kabemba, A. (1986). Enquête sur la chasse aux alentours du parc de Kahuzi-Biéga (Zaïre). *La Lettre du Réseau Arbres Tropicaux*. April. 20 pp.

Musiti, B., Ma-Oyisenzo, M., & Dorken, G. (1997). *Le Parc Nationale de Kahuzi-Biéga, Future Reserve de Biosphere*. Document de Travail No.20, UNESCO / MAB.

Plumtre, A. et al. (2010). *Eastern Chimpanzee (Pan troglodytes schweinfurthii). Status Survey & Conservation Action Plan 2010-2020*. SSC, IUCN, Switzerland.

Redmond, I. (2001). *Coltan Boom, Gorilla Bust. The Impact of Coltan Mining on Gorillas and Other Wildlife in Eastern D.R. Congo*. Report for the Dian Fossey Gorilla Fund Europe & the Born Free Foundation.

Said, M., Chunge, R., Craig, G., Thouless, C., Barnes, R. & Dublin, H. (1995). *African Elephant Database 1995*. IUCN, Gland, Switzerland. 225pp.

Schaller, G. (1963). *The Mountain Gorilla: Ecology and Behavior*. University of Chicago Press, Chicago, U.S.A.

Shalukoma, C. (2000). News from Kuhuzi-Biega. *Gorilla Journal* 21:3-4.

Stattersfield, A. et al. (1998). *Endemic Bird Areas of the World: Priorities for their Conservation*. BirdLife International, Cambridge, U.K.

Steinhauer-Burkart, B., Mühlenberg, M. & Slowik, J. (1995) *Kahuzi-Biéga National Park*. IZCN/GTZ. 54pp.

UNEP (2001). *International Initiative to Save Great Apes*. Press Release, May, Nairobi, Kenya.

UNESCO (1997). *State of Conservation of Natural World Heritage Properties*. A report prepared for the World Heritage Bureau 21st session, 23-28th June 1997.

UNESCO World Heritage Committee (2000). *Report on the 23rd Session of the Committee*. Paris.

----- (2001). *Report on the 24th Session of the Committee*. Paris.

----- (2002). *Report on the 25th Session of the Committee*. Paris.

----- (2004). *Report on the 28th Session of the Committee*. Paris.

----- (2006). *Report on the 30th Session of the Committee*. Paris.

----- (2008). *Report on the 32nd Session of the Committee*. Paris.

----- (2009). *Report on the 33rd Session of the Committee*. Paris.

United Nations (2001). *Report of the Panel of Experts on the Illegal Exploitation of Natural Resources and other Forms of Wealth of the Democratic Republic of Congo*. U.N. Security Council, New York.

----- (2001). *Addendum to the Report of the UN Expert Panel on the Illegal Exploitation of Natural Resources and other Forms of Wealth of the D.R.C*. U.N. Security Council, New York.

United States Department of State (USDS), Bureau of Oceans and International Environmental and Scientific Affairs (2003). *Congo Basin Forest Partnership - U.S. Contribution*.

Wilson J. & Catsis, M. (1990). *A Preliminary Survey of the Forests of the 'Itombwe' Mountains and the Kahuzi-Biega National Park Extension, East Zaire, 1989*. WWF Project 3902 with FFPS, IZCN & the Co-ordination Régionale du Kivu de l'Environnement, Conservation de la Nature et Tourisme.

World Bank (2006). *The Forest and Nature Conservation Program*. Project for WB, Washington, USA
World Heritage Bureau (1979). *Nomination to Unesco for Kahuzi-Biéga National Park*. UNESCO, Paris.

World Rainforest Movement (2004). Democratic Republic of Congo: World Bank behind logging interests. *WRM Bulletin* No.80, March.

Yamagiwa, J., Mwanza, N., Spangenberg, A., Maruhashi, T., Yumoto, T., Fischer, A. & Steinhauer-Burkart, B. (1993). A census of the eastern lowland gorillas *Gorilla gorilla graueri*, in Kahuzi-Biega National Park with reference to mountain gorillas *G.g. beringei* in the Virunga region, Zaire. *Biol. Conservation* 64 (1): 83-89.

Zajtman, A. (2004). The battle for D R Congo's wildlife. *BBC News*, September 17. London.

DATE; 1984. Updated 5-1990, 10-1990, 7-1997, 10-1998, 2-2002, 7-2003, 2-2005, December 2009, May 2011.