

## World Heritage Sites

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Areas and  
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## OKAPI WILDLIFE RESERVE DEMOCRATIC REPUBLIC OF THE CONGO

*The vast Okapi Wildlife Reserve occupies about one fifth of the Ituri Forest in the northeast of the Democratic Republic of the Congo. The Reserve is a Pleistocene refuge of exceptional species richness with a greater variety of mammals than any park in Africa, many threatened species of primates and birds, with an immense flora and some 5,000 of the estimated 30,000 okapi surviving in the wild. Its endemicity of 15 per cent is one of the highest in the world, preserved until recently by its inaccessibility. It also has dramatic scenery including waterfalls on the Ituri and Epulu rivers and is the homeland of nomadic Mbuti and Efé pygmy hunter-gatherers.*

*Threats to the Site: The Committee placed the Okapi Wildlife Reserve on the list of World Heritage in Danger in 1998, a year after giving it World Heritage status, because armed conflict in early 1997 had led to the looting of facilities and of equipment donated by international conservation NGOs, the killing of elephants, incursions by thousands of gold and coltan miners, bushmeat hunters and cultivators. Most of the staff were evacuated. By 2001, exploitation of the Reserve by armed militias, miners and hunters had decimated the animal population around all camps and the Park was too dangerous to visit. That year IUCN, the UN and UNEP responded to pleas from staff and NGOs for international pressure to stop the destruction and help to restore funds, morale and order. But marauding armed groups still dominated a quarter of the area until 2006.*

### COUNTRY

Democratic Republic of the Congo

### NAME

Okapi Wildlife Reserve

### NATURAL WORLD HERITAGE SITE IN DANGER

1996: Inscribed on the World Heritage List under Natural Criterion x.

1997+: Listed as a World Heritage site in Danger because of destruction due to civil conflict and mining.

### 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

Okapi Wildlife Reserve contains flora of outstanding diversity and provides refuge to numerous endemic and threatened species, including one-sixth of the existing Okapi population. The Reserve protects one-fifth of the Ituri forest, a Pleistocene refuge dominated by dense evergreen « Mbau » and humid semi-evergreen forests, combined with swamp forests that grow alongside the waterways, and clearings called locally « edos », and inselbergs.

**Criterion (x):** With its bio-geographical location, wealth of biotopes and the presence of numerous species that are rare or absent in the adjacent low altitude forests, it is probable that the Ituri forest served, during earlier drier climatic periods, as refuge for the tropical rainforest. To the north of the Reserve, the granite rocky outcrops, provide refuge to a plant species particularly adapted to this microclimate, characterised by numerous endemic species such as the Giant Cycad (*Encepholarcus ituriensis*).

The Reserve contains 101 mammal species and 376 species of documented birds. The population of the endemic species of Okapi (*Okapia johnstoni*), a forest giraffe, is estimated at 5,000 individuals. Among the endemic mammals of the forest in the north-east of the DRC identified in the Reserve, are the aquatic genet (*Osbornictis piscivora*) and the giant genet (*Genetta victoriae*). The Reserve provides refuge to 17 species of primates (including 13 diurnal and 4 nocturnal), the highest number for an African forest, including 7,500 chimpanzees (*Pan troglodytes*).

The Reserve also contains one of the most diverse populations of forest ungulates with 14 species, including six types of cephalophus. It also provides refuge to the largest population of forest elephants (*Loxodonta africana cyclotis*) still present in eastern DRC, estimated at 7,500 individuals, and it is important for the conservation of other forest species such as the bongo (*Tragelaphus eurycerus*), the dwarf antelope (*Neotragus batesi*), the water chevratian (*Hyemoschus aquaticus*), the forest buffalo (*Syncerus caffer nanus*) and the giant forest hog (*Hylochoerus meinertzhageni*). It is also documented as one of the most important protected areas in Africa for the conservation of birds, with the presence of numerous emblematic species such as the Congo Peafowl (*Afropavo congensis*), as well as numerous endemic species in eastern DRC.

### **Integrity**

The forests of the Reserve are among the best preserved in the Congo Basin and its area is considered sufficient to maintain its wildlife. The Reserve is part of a larger forestry area, that of Ituri, which remains almost untouched by logging and agricultural activities.

### **Protection and Management Requirements**

The property is protected under a Wildlife Reserve statute. The Reserve contains a large indigenous population, the Mbuti and Efe pygmies, and the forest ecosystem is essential for both their economic and cultural requirements. A management plan covering three management areas in the Reserve has been proposed.

This includes a fully protected core zone of 282,000 ha comprising 20% of the Reserve where all hunting is prohibited, and an area of 950,000 ha for traditional use, where self-regulated hunting; using traditional methods; is authorized to cover the basic needs of the human population of the Reserve in forest products. Permanent installations and agricultural clearing are authorized in the 18,000 ha development area that comprises a narrow band on each side of the No. 4 national road crossing through the central part of the Reserve, and along a secondary road that links Mambasa to Mungbere, at the eastern border of the property. There are plans to make the whole protected area a national park. A buffer zone of 50 km wide has been defined around the entire Reserve.

The primary management challenges facing this Reserve are immigration control in the development area, prohibition of agricultural encroachment within the 10 km wide strip located along the road, and ensuring of the involvement of the indigenous populations, Mbuti and Efe pygmies, in the management of the Reserve. Another key challenge concerns the control of commercial poaching and artisanal mining. While the Reserve benefits from support from various NGOs and additional funding, it is imperative to obtain human and logistical resources to ensure the effective management of the property and its buffer zone.

## **IUCN MANAGEMENT CATEGORY**

II National Park

## **BIOGEOGRAPHICAL PROVINCE**

Congo Rain Forest (03.02.01)

## **GEOGRAPHICAL LOCATION**

In the Ituri Forest of the Congo basin in the northeast of the Democratic Republic of the Congo. It lies between the towns of Mambasa and Wamba and the rivers Nepoko and Ituri, 100km northwest of the Virunga National Park and 300km east-northeast of Kisingani, between 1°00' to 2°42'N and 28°02' to 29°08'E.

## **DATES AND HISTORY OF ESTABLISHMENT**

1952: A captive breeding centre was established at Epulu to supply okapi to zoos around the world;

1992: The Reserve created by Ministerial Decree 045-CM-ECN: the first new protected area in the Congo basin for 22 years. Its governing policy and legislation includes the Nature Conservation Ordinance 69-041 of 1969, Ordinance 78-190 of 1978 and National Law 82-002 of 1982;

1997+: Listed as endangered due to devastation by civil war, invasion by miners and militia, looting of infrastructure and destruction of wildlife especially elephants by hunting for bushmeat and ivory.

## **LAND TENURE**

Government, in Orientale province. Administered by the *Institut Congolais (formerly Zairois) pour la Conservation de la Nature* (ICCN). Temporarily under Rwandan army control.

## **AREA**

1,372,625 ha

## **ALTITUDE**

Varies between 500m in the west to 1000m in the east.

## PHYSICAL FEATURES

The Reserve is composed of two regions: the gently rolling upland plateau of the Ituri forest in the Congo river basin, and savanna foothills behind the Western Rift mountains. To the southwest the plateau drops to the Congo basin, to the northeast the forest rises 500m, changing abruptly, owing to past clearing, to savanna near the foothills. The soils of the forest are acidic, often deeper than two metres although thin patches occur, particularly on hills. Low inselbergs in the north and east are of granite. Underlying the region is Archaean granite, gneiss and mica-schist formations typical of the Congo basin. The Reserve lies between the Nepoko, Takona and Agamba rivers in the north and the Ituri and Lenda rivers in the south, including parts of the Epilu, Nduye and Ngoyu rivers (Sidle & Lawson, 1986). There are deposits of gold, cassiterite (a tin ore) and coltan (columbite-tantalite) ore of a high grade which in 2000 fetched very high prices as a metal used in computer and mobile phone microchips (Redmond, 2001).

## CLIMATE

The mean annual rainfall between 1987 and 1994 was 1680mm, but rainfall at the local scale is highly variable. The rainy seasons last from March through May and August through November with a relatively dry period from mid-December to February, but no months are without at least 50mm of rainfall (T. Hart, pers. comm., 1995). Dry season fogs encourage epiphytes, lichens and mosses (Mbaelele *et al.*, 1994). The mean daily temperature is 24°C with 2°C variability. The region receives on average 2,000 hours of sunshine per annum. A small weather station was established at Epulu (Sidle & Lawson, 1986).

## VEGETATION

Most of the forest is a floristically intact Pleistocene refuge and has a high floral density. Diversity is very high: in 9.1 hectares of mixed forest, 302 tree species, including understorey trees, and 130 species of lianas were recorded; and in a 40 hectare forest area, 670 woody plant species were identified (Hart & Mwinyihali, 2001). The inselbergs of the region are a unique habitat, which harbour an endemic flora.

There are four main forest types: swamp forest, moist semi-evergreen mixed forest, Mbau forest, and secondary forest. Swamp forest occurs in narrow strips along drainage channels throughout the reserve. Mixed forest typically is tall with a crown height of 30-40m, a heterogenous canopy with frequent emergent trees with an open understorey and dense sub-canopy. 111 tree species and 32 lianas have been recorded. Typical canopy tree species include *Julbernardia seretii*, *Cynometra alexandri*, *Cleistanthus michelsonii*, and *Klainedoxa gabonensis*. Large emergent trees include *Irvingia excelsa*, *I. robur*, *I. grandiflora*, *Cannarium schweinfurthii*, *Pachylesma tessmannii*, *Entandrophragma* spp., *Alstonia boonei*, *Celtis adolphi-friderici*, *Pterocarpus soyauxii*, *Parinari congensis* and *Piptadeniastrum africanum*. Mbau forest is 90% dominated by *Gilbertiodendron dewevrei*, which often occurs in pure stands. Tree height is typically 30-40m with a dense even canopy; the understorey is open but a sub-canopy layer is absent; 74 tree species are recorded. Emergents are rarer than in the mixed forest but include *Irvingia excelsa* and *Tessmannia anomela*. Subdominants are similar to those in mixed forest: *Uapaca guineensis*, *Cannarium schweinfurthii* and *Entandrophragma* spp. occur, and, being shade intolerant species, are good indicators of past disturbance. Secondary forest generally occurs in areas that have been deforested. There are two threatened endemic cycads *Encephalartos marunguensis* and *E. schmitzii* (T. Hart, pers. comm., 1995).

## FAUNA

52 mammal species have been recorded including the near threatened okapi *Okapia johnstoni*, which is endemic to the DRC with a wide but localised distribution. Of perhaps 30,000 okapi remaining in the wild, the Ituri Forest had more than 5,000 in 1986 but of 4,650 recorded in the 1995 census 2,000 had been lost by 2008 (IUCN, 2008). The number of elephants *Loxodonta africana cyclotis* (VU) in the forest was estimated in 1998 at 7,375 (T. Hart, pers. comm., 1998) but they have been heavily poached for ivory since then and IUCN reported that since 1995 48% or 3,280 had been lost by 2008. In the Ituri - Okapi - Garamba district over 8,800 eastern chimpanzees *Pan troglodytes schweinfurthii* (EN) were recently recorded by Plumtre. There exist thirteen other primates, the largest number known for an African forest, including Tana River red colobus *Procolobus rufomitratu ousteliti*, Angolan colobus *Colobus angolensis cottoni*, western white-and-black guereza monkey *Colobus guereza occidentalis*, red-tailed monkey *Cercopithecus ascanius*, blue monkey *C. mitis stuhlmanni*, l'Hoest's monkey *C. l'hoesti* (VU), Dent's crowned monkey *C. pogonias denti*, de Brazza's monkey *C. neglectus*, the rare owl-faced guenon *C. hamlyni* (VU), grey-cheeked mangabey *Lophocebus albigena*, crested mangabey *Cercocebus galeritus* and anubis baboon *Papio anubis* (Hart & Mwinyihali, 2001).

Also present are brush-tailed porcupine *Atherurus africanus* and greater cane rat *Thryonomys swinderianus*, black-footed mongoose *Bdeogale nigripes*, the mongoose-relative Alexander's cusimance *Crossarchus alexandri*, and marsh mongoose *Atilax paludinosus*, Congo clawless otter *Aonyx congicus*, African golden cat *Caracal aurata*, giant forest genet *Genetta victoriae*, the endemic aquatic genet *Osbornictis piscivora*, leopard *Panthera pardus*, giant ground pangolin *Smutsia gigantea*, aardvark *Orycteropus afer*, red river hog *Potamochoerus porcus* and forest hog *Hylochoerus meinertzhageni*, the endemic water chevrotain *Hyemoschus aquaticus*, the western bongo *Tragelaphus e. euryceros*, sitatunga *T. spekei*, dwarf antelope *Neotragus batesii* and forest buffalo *Syncerus caffer nanus*. The forest has one of the highest numbers of duiker species in Africa including blue duiker *Philantomba monticola*, black-fronted duiker *Cephalophus nigrifrons*, white-bellied duiker *C. leucogaster*, Peters' duiker *C. callipygus*, bay duiker *C. dorsalis*, and yellow-backed duiker *C. silvicultor* (Hart *et al.*, 1986; Sidle & Lawson, 1986). By 2008, depending on the species, 26% to 59% were reported to have been lost (IUCN, 2008).

Two crocodiles are found: the African slender-snouted crocodile *Crocodylus cataphactus*, and the African dwarf crocodile *Osteolaemus tetraspis* (VU). The site is very rich in butterflies: among uncommon species to occur are the largest African butterfly, the African giant swallowtail *Papilio antimachus*.

Ituri lies within one of the world's Endemic Bird Areas (Stattersfield *et al.*, 1998). It has 376 bird species including spot-breasted ibis *Bostrychia rara*, olive ibis *B. olivacea*, long-tailed hawk *Urotriorchis macrourus*, Nahan's francolin *Francolinus nahani* (EN), black guineafowl *Agelastes niger*, plumed guineafowl *Guttera plumifera*, sandy scops owl *Otus icterorhynchus*, Nkulengu rail *Himantornis haematopus*, white-naped pigeon *Columba albinucha*, Turner's eremomela *Eremomela turneri* (EN), Bate's nightjar *Caprimulgus batesi*, forest ground thrush *Zoothera oberlaenderi*, black spinetail *Telacanthura melanopygia*, bare-cheeked trogon *Apaloderma aequatoriale*, black-collared lovebird *Agapornis swindernianus* and lyretailed honey-guide *Melichneutes robustus*. Endemic to the Ituri, are golden-naped weaver *Ploceus aureonucha* (EN) and yellow-legged weaver *P. flavipes* (VU). Endemic to the region are Sassi's olive greenbul *Phyllastrephus lorentzi*, Bedford's paradise flycatcher *Terpsiphone bedfordi* and Ituri batis *Batis ituriensis*. It is possible that the endemic Congo peafowl *Afropavo congensis* (VU) occurs there. A full species list is given in Lippens & Wille (1976) and for the nearby Itombwe forest, in Mbaelele *et al.* (1994).

## CONSERVATION VALUE

The Congo has one of the largest drainage systems in Africa which has yielded a large number of major evolutionary discoveries. The Ituri forest is a Pleistocene refuge of exceptional species richness with a greater variety of mammals than any park in Africa. Its endemism of 15% is one of the highest in the world, preserved until recently by its inaccessibility (Sayer *et al.*, 1992). It has the highest known density of okapis at approximately 2.5 animals per sq.km. It is listed as one of the five most important forest sites in Africa for bird conservation (IZCN, 1994) and was designated a WWF Global 200 Freshwater Eco-region. The pygmies' unbroken traditional relationship to their environment is of unusual interest.

## CULTURAL HERITAGE

Hunter-gatherers and shifting cultivators have occupied the margins of the Ituri Forest for centuries. In addition to the indigenous pygmies the present populations go back to Nilotic and Bantu migrations. The present pygmy groups in the Ituri forest are the Mbuti and Efé. They follow a semi-nomadic hunter-gatherer lifestyle, depending on wild game and fish caught with traditional fibre nets or archery. Their main game species are small ungulates and primates. When not hunting, they gather insects, fungi, fruits, seeds, plants and honey and they excel in the use and identification of wild plants. Most of the cultivators in the region are Bantu, the dominant ethnic group that includes Lese, Mamvu, Bira, Ndaka, and Budu. Long-standing economic and cultural ties exist between the pygmies and traditional forest farmers, with the pygmies exchanging game for cultivated starch foods to balance their diet (Hart & Mwinyihali, 2001).

## LOCAL HUMAN POPULATION

Until 2000 the human population in the forest was relatively low, with few permanent settlements, mostly along the roads, with some gold-mining in the interior. It was estimated in 1990 at 15,600 people but decreasing owing to the decay of the road system (Doumenge, 1990). Since the disturbances in Kivu to the south, Nande and urban Bantu immigrant cultivators have increasingly encroached on the forest from the southeast. (IZCN, 1994). In 2000-1, due to a brief ten-fold increase in the world price of coltan,

there was an inrush of 4,000 coltan miners needing meat who earned little, often under military coercion (WCPA, 2001). Along with the Rwandan Interahamwe and Congolese Mayi-Mayi armed militias these wiped out the animals around their camps, threatening the way of life of the Mbutu and Efé pygmies. These took the opportunity to replace their traditional sustainable use of the forest with commercial hunting for the miners and the Bantu.

## **VISITORS AND VISITOR FACILITIES**

In the past the Epulu Okapi station was a major regional tourist destination with access from the trans-African highway, but at present the Reserve is too dangerous to visit. There were plans to improve tourist information and establish a visitor registration and monitoring system. It is hoped that eventually the hotels, hiking trails, picnic sites, and guided tours of the Okapi Captive Breeding Centre will be reinstated with perhaps a chance to participate in traditional hunting with pygmies (IZCN, 1994).

## **SCIENTIFIC RESEARCH AND FACILITIES**

Most of the research in the area has been on the okapi, on inventories of flora and fauna, and studies of pygmy populations in their natural environment. The Wildlife Conservation Society (New York Zoological Society + Wildlife Conservation International) have funded the research scientists T. & J. Hart since 1985. They have made a long-term botanical study of the composition of the natural forest and its pharmacological potentials, of the okapi and of the dynamics of the socio-economic impact of human migration. The development of a Landsat map was funded by WWF, WCS, the Eppley and LSB Leakey Foundations, NSF and the Swan Fund. The University of Kisangani carried out research, as did the Université National du Zaïre, for IZCN, IUCN, and WWF, funded by WCS with help from USAID, World Bank, Tabazaire (DRC's largest tobacco company) and the Gilman Investment Company (GIC) (T. Hart, pers. comm., 1995). A research and management centre, the Centre de Formation et de Recherche en Conservation Forestière is located at Epulu (CEFRECOP) (Sidle & Lawson, 1986). In 2001, a re-census of large mammals showed that elephant numbers had not suffered (Hart & Mwinyihali, 2001).

## **MANAGEMENT**

Four management zones have been established in collaboration with local people: one or two protected core zones of 500,000 ha; a large traditional hunting-gathering zone; enclaves of a radius of 5 kilometres around existing villages for hunting gathering, farming and construction and a 50 km buffer zone all round the reserve. GEF funding may eventually establish this zoning and a permanent ICCN presence around the reserve (T. Hart, pers. comm., 1995). A management plan was prepared by IZCN with technical contributions and funding from WWF, the World Bank, IUCN and Tabazaire, (IZCN, 1994). Wildlife safeguard regulations included authorised hunting methods, zoned hunting areas, a ban on commercial hunting and identification of protected species. (T. Hart, pers. comm., 1995). In 2001, after much disruption, the short to mid term potential for recovery of the Reserve was then the best among the five threatened parks in the Congo (UNESCO, 2002). UNESCO's Project "Biodiversity Conservation in Regions of Armed Conflict: Protecting World Natural Heritage Sites in the D.R.C" was set up with the UN Foundation to ameliorate the effects of the war during 2002 to 2004 (UNESCO, 2003). The Wildlife Conservation Society and Gilman International Conservation supported multi-project wildlife research and monitoring, and management, community involvement and education by the ICCN. In 2006 quite effective campaigns were undertaken against both poaching and mining (IUCN, 2008).

## **MANAGEMENT CONSTRAINTS**

The 1994 war in Rwanda began to increase the pressure of invasion from densely populated Kivu province to the south. Refugees and urbanised migrants entered the forest in search of new farmland, often practicing unsustainable levels of shifting cultivation. The forest was also threatened by increased commercial logging concessions near the Reserve boundaries, by gold-mining, by commercial hunting and elephant poaching for ivory (IZCN, 1994). After the 1997 and 1998 rebellions, the Reserve guards were disarmed by the Rwandan army and forbidden to patrol. Facilities and equipment were looted, the staff was evacuated, surveillance stopped and the Reserve passed out of the control of the ICCN into that of a splinter RCD (Rwandan militant) group allied with the Ugandan army. In 2000 there was a recovery for some months when the Reserve came under the control of the Ugandan-backed President of the Front for the Liberation of Congo (FLC). This exploited the forests but ordered the miners to start leaving (Draulens & van Krunkelsven) and enabled the staff of the Reserve to begin to disarm poaching gangs and to improve the prospects for conservation (UNESCO, 2001; WCPA, 2001). Then in 2000-2001, following a major though temporary rise in the price of coltan, a huge influx of some 4,000 miners in 50 camps with bushmeat hunters to supply their food drastically altered and degraded the traditional ecological balance. Continuous hunting for both food and for animals for sale decimated animal

populations around mines and villages, threatening many species with maiming as well as death and menacing the Mbutu pygmy people (Hart & Mwinyihali, 2001).

The impacts of the invasion included forest clearing for fuel, charcoal, construction and cultivation, logging, erosion, siltation and stream pollution, overhunting for meat and sale, killing elephants for ivory, maiming and disruption of wildlife (Hart & Mwinyihali, 2001). The trade in mineral ores however, is legal and supported by foreign governments and large corporations, with most of the profits going abroad (IPIS, 2002). By mid 2000 the DRC Emergency Relief Mission of international NGOs was supplying equipment and creating public awareness of the damage to the eastern D.R.C. (BRD, 2000). In March 2001, the IUCN called for an embargo on buying coltan mined in protected areas in the DRC, source of 70% of the world's reserves (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 the officials in Rwanda, Uganda and Burundi who were profiting from it (United Nations, 2001). The development of the mining was funded, according to a 1999 report by P. Baracyetse, by North American interests. But as mining will continue to be of great economic importance in eastern DRC, a lobbying campaign by the Dian Fossey Gorilla Fund (DFGF) aimed at saving the eastern lowland gorillas therefore proposed not to ban mining but to re-establish controls over the industry along with providing alternative sources of work so that the Congolese people and state could benefit more from their own resources (DFGF, 2001). However, miners banned from the Reserve mined the forest outside it, degrading the homeland of the Efé pygmies instead (Foldvary, 2001). After funding from the UNESCO/DRC/UNF Project, a new guard post was built, guards trained, plants inventoried and a zoning plan was undertaken (Hart & Mwinyihali, 2001). Two-thirds of the Park became accessible to the guards, elephant poaching slowed and the local Governor was very cooperative. However, during later 2002, clashes in the Ituri region between three militia bodies (MLC, RCD-N and RCD-Kisingani-ML) led to looting of the Epulu station, disarming and flight of the guards and an increase in poaching. After a peace treaty, an agreement to resettle the troops in the centre of the Reserve was being resisted.

By 2004, compared with regions further south and east, security became relatively good and the WCS projects were still active. However, Ituri province remained racked by the violence of tribal conflict, making conservation of the Reserve very difficult. The WHC urged the D.R.C. 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, away from the site (UNESCO, 2004). Marauding armed groups from the above and from the national police, still dominated the area though the UNESCO project 'Biodiversity Conservation in Regions of Armed Conflict', with the aid of other organisations, helped to protect its integrity (UNESCO, 2005). By 2006, the Park staff had increased their area of control over 75% of the Park. However, poaching of elephants in particular, was and is heavily practiced by members of the armed forces and police, army deserters, armed groups, former rebel soldiers and some professional civilians. Local communities are obliged to help them and local towns become ivory markets. There is also a flourishing market in both weapons and ammunition. This bushmeat and ivory economy is seriously affecting the wildlife: it was reported that between June and December 2004, some 17 tons of ivory were taken out of the Ituri forest, accounting for 750 to 1000 elephants. There are 16 illegal gold and coltan mine sites in the east and southeast with approximately 700 miners. They are often owned or co-owned by local authorities with government departments providing illegal licences and receiving taxes. In Epulu village, the headquarters of the Reserve, agriculture had increased from 359 ha in 1996 to 1,206 ha in 2006. The ICCN together with its conservation partner WCS, established agricultural zones around Reserve villages and a system to control immigration (UNESCO, 2006).

By 2008, following the campaigns of 2006, the ICCN seemed to have regained control of the Park though elephant poaching, gold mining and destruction of infrastructure still persisted on a reduced scale and by elements of the Congolese army (FARDC), around Nia-Nia in the southwest. These troops continue to be implicated in many instances of illegal poaching and violence. Completion of the Route Nationale 4 through the property with neither night closure nor a toll has also aggravated the destruction of the more accessible forest resources en route (UNESCO, 2010).

## **STAFF**

The Director of Conservation and of the Reserve, Assistant Director, a team of 41 park guards, and 12 general labourers were based at Epulu. UNF is funding the field guards.

## BUDGET

US\$45,000 annually, mostly through NGO projects. 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 to 2004. US\$20,000 was pledged to the Reserve via the Gilman Co. for uniforms and new patrolling equipment (UNESCO, 2000). In 2000 the Belgian government also promised US\$500,000 for the five D.R.C. parks from 2001-2004 (UNESCO, 2001). The U.S. Government proposed at Johannesburg in 2002 to invest up to \$53 million dollars in the Congo Basin Forest Partnership through 2005. The Ituri and Epulu regions were 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 (Zajtmán, 2004).

In 2005, US\$40,000 was received from WHF to combat poaching and in 2005-6 WHF provided US\$23,000 for the preparation of a nomination, guard training and camp construction. Long-term funding has been 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 efforts to address farm management. The first phase (2001-2005) was US\$250,000; the second phase (2005-2008) of US\$300,000 will finance an emergency action plan. Gilman International Conservation has undertaken the payment of guards in this phase (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 at least US\$4.5million from GTZ, and US\$6.5 million from KfW (Germany), shared with the Kahuzi-Biega National Park, was received for capacity building and management between 2008 and 2010, Some US\$6.1million was also received by the region from 12 NGOs for core funding between 2007 and 2011 and a share in US\$20million from the African Development Bank in a regional program from 2009 to 2015 (World Bank, 2006).

## LOCAL ADDRESSES

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M. le Directeur de Conservfation, Reserve de Faune à Okapis, Epulu, Democratic Republic of Congo.

## REFERENCES

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

Anon. (1985). *Rapport d'une Mission au Zaïre et Rwanda*. Report to IUCN/WWF, 20 pp.

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

Berggorilla & Regenwald Direkthilfe Archives (BRD) (2000). *Gorilla Journal*, June, 2000.

Bodmer, R. & Gubista, K.(1990). A note on the social structure of free-ranging okapi. *Nature et Faune International Journal on Nature Conservation in Africa*. Vol 6(4): 24-28.

Caldecott, J., Jenkins, M., Johnson, T., & Groombridge, B. (1994). *Priorities for Conserving Global Species Richness and Endemism* WCMC / IUCN. World Conservation Press, UK. 36 pp.

Chapin, J. (1932). The birds of the Belgian Congo. Part I. *Bulletin of the American Museum of Natural History*, Vol.65, New York.

Dejaifve, J. (1990). *Esquisse sur l'Avifaune de la Forêt de l'Ituri*, Report, 47 pp.

Dian Fossey Gorilla Fund (2001). *Coltan in Congo. Can Grauer's Gorilla Survive?* Dian Fossey Gorilla Fund, London.

Draulens, D. & van Krunkelsven, E. (2002). The impact of war on forest areas in the Democratic Republic of Congo. *Oryx*. 36 (1): 35-40.

Foldvary, F. (2001). Editorial update on pygmies and tantalum. *The Progress Report*, Philadelphia, U.S.A.

- Foose, T. (1978). Demographic and genetic models and management for the okapi (*Okapia johnstoni*) in captivity. *Zoologica et Pathologica*, Antwerpen, Belgium, pp 119-195.
- Hart, J. & Hart, T. (1984). *The Current Status of the Ituri Forest of Zaire: an Overview*. Report to the U.S. Man & Biosphere Program.
- Hart, T. & Hart, J. (1985). The ecological basis of hunter-gatherer subsistence in the African rain forest: The Mbuti of eastern Zaire. *Human Ecology*, 14(1):29-55.
- Hart, J. & Hart, T. (1986). *L'éco-éthologie de l'Okapi dans les forêts du Nord-est du Zaire*. 19pp.
- (1990). A summary report on the behaviour, ecology and conservation of the okapi *Okapia johnstoni* in Zaire. *Nature et Faune, International Journal on Nature Conservation in Africa*. 6 (3):21-28.
- Hart, J. & Hall, J. (1996) Status of eastern Zaire's forest parks and reserves. *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 (DRC)*. Biodiversity Support Program / WWF, Washington, D.C.
- IPIS (International Peace Information Service (2002). *Supporting the War Economy in the DRC: European Companies and the Coltran Trade*. Antwerp, Belgium.
- IUCN (2010). *The IUCN Red List of Threatened Species*. Gland, Switzerland & Cambridge, U.K.
- (2008). *State of Conservation Report Okapi Wildlife Reserve (Democratic Republic of the Congo)* Gland, Switzerland.
- Mbaelele, M., Mandango, M. & Mushenzi-Lusenge (1994). *Rapport de Recueil des Données Ecologiques sur la Reserve de Faune à Okapis (RFO) En Vue de la Formulation du Dossier de Demande d'Inscription de ce Bien Naturel sur la Liste du Patrimoine Mondial*. IZCN, Kinshasa, Zaire. 39 pp.
- Mwinyihali, R. & Tshombe, R. (2001). *The Zoning of Okapi Faunal Reserve in a Time of Crisis: Opportunities and Constraints*. Report, CEFRECOF, Epulu, DRC.
- Lippens, L. & Wille, H. (1976). *Les Oiseaux du Zaire*, Lannoo, Tielt, Belgium.
- Mertens, H., Hall, J., Hart J., Hart, T. & Mbieme, L. (1989). Conservation de la Forêt de l'Ituri au Zaire, *Revue Panda*, WWF-Belgium N° spécial sur le Zaire, pp. 19-22.
- Peterson, R. (2000). *Conservation and Change: Community, Culture and Values in Congo's Rainforests*. Univ. of Nairobi, Kenya / Antioch College, Ohio, U.S.A.
- 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.
- Sayer, J., Harcourt, C. & Collins, N. (1992). *The Conservation Atlas of Tropical Forests - Africa*. IUCN, Gland, Switzerland and Cambridge, UK. 288 pp.
- Sidle, J. & Lawson, D., (1986). *Proposal for the Establishment of the Okapi National Park in the Haut-Zaire Region, Zaire*. Submitted to the IZCN by WWF. 41 pp.
- Stattersfield, A. et al. (1998). *Endemic Bird Areas of the World: Priorities for their Conservation*. BirdLife International, Cambridge, U.K.



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

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

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

----- (2005). *Report of the 29th Session of the Committee*, Paris.

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

----- (2010). *Report of the 34th 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.

United Nations (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.

UNESCO (2003). *UNESCO Alarmed About Situation in Okapi Wildlife Reserve, D.R.C.* UNESCOPRESS, Bureau of Public Information, Paris.

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

Vandenberg, W. (1977). Proceedings of the International Okapi Symposium, Antwerpen in *Zoologica et Pathologica*, Antwerpen, Belgium, Vol. 71, pp. 5-131.

WCMC (1988). *Zaire - Conservation of Biological Diversity*. A draft briefing document prepared for IUCN Tropical Forest Programme. 25 pp.

WCPA (World Commission on Protected Areas) (2001). Coltan mining in World Heritage sites in the D.R.C. *News Digest*, April.

World Bank (2006). *The Forest and Nature Conservation Program*. Project for WB, Washington, USA

Wilkie, D., Curran, B., Tshombe, R. & Morelli, G. (1998). Managing bushmeat hunting in Okapi Wildlife Reserve, Democratic Republic of Congo. *Oryx* 32(2): 131-44.

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

## **DATE**

1995. Updated 10-1995, 11-1996, 2-2002, 7-2003, 10-2005, 2- 2007, 12-2010, May 2011.