

Kahuzi-Biéga National Park

2020 Conservation Outlook Assessment

SITE INFORMATION

Country: Democratic Republic of the Congo

Inscribed in: 1980

Criteria: (x)



A vast area of primary tropical forest dominated by two spectacular extinct volcanoes, Kahuzi and Biega, the park has a diverse and abundant fauna. One of the last groups of eastern lowland (graueri) gorillas (consisting of only some 250 individuals) lives at between 2,100 and 2,400 m above sea-level. © UNESCO

SUMMARY

2020 Conservation Outlook

CRITICAL

Finalised on 02 Dec 2020

The values of the park remain, although they are under significant pressure. The presence of armed militia in and around the park, and the related threats of bushmeat hunting, illegal mining and forest clearance for agriculture inside the park, have posed a significant threat to the property and its natural values, impacting the conservation of emblematic mammal species, effective management of the property and the safety of conservation staff. The emblematic Grauer's gorilla has been severely reduced in the lower altitude sector, to the point of being critically endangered, and forest elephants nearly disappeared through poaching for ivory and the bushmeat trade. Illegal mining and agriculture have caused significant levels of habitat degradation and loss, particularly in the ecological corridor linking the low altitude and high altitude sectors. Following significant actions by ICCN and the national army (FARDC) in recent years to remove armed rebel groups, improved security in 2019 is allowing increased surveillance of around two thirds of the property, with the ongoing closure of artisanal mines and reduction of poaching, as well as no further decline in emblematic species recorded since 2016, however given the lack of surveillance of the entire property and potential for continued insecurity, strong law enforcement efforts will need to be continued into the future. The encroachment of illegal farming is being reduced through recent evacuation of 90% of farmers, however an assessment of the impacts of this threat and rehabilitation of the area remain to be undertaken. Furthermore, the issue of the villages in the low altitude sector of the park which existed before the creation of the park and which have remained occupied, remain, as do concerns over the effective engagement of local and indigenous communities. Although progress is being made, key issues remain to be addressed including the removal of all armed militia from the park, increased surveillance, implementation of a comprehensive and effective anti-poaching strategy, adoption of a coherent zoning plan in which the legal status of the villages in the park is clarified, and an assessment of the impacts of farming and rehabilitation in the ecological corridor. Strong political leadership to support and improve park management will be required to address threats and ensure a continued positive trajectory going forward.

FULL ASSESSMENT

Description of values

Values

World Heritage values

- **Mid altitude and montane tropical forests representative of the Albertine Rift, a zone of exceptional biodiversity and endemism.** Criterion:(x)

Kahuzi-Biega National Park is the second most important site (after the Virunga National Park) on the Albertine Rift in terms of biodiversity, endemism and presence of threatened species. Of note are 14 species of primate, including the endemic sub-species Grauer's gorilla (*Gorilla gorilla graueri*), the red face chimpanzee (*Pan troglodytes schweinfurthii*) and 2 extremely rare species of genet: the aquatic genet *Osbornictis piscivora* and the giant genet *Genetta victoriae*. The park lies within an important Endemic Bird Area, with 349 species, including 42 endemics. It also lies within a centre of endemism for plants, with 1,178 species recorded from the park (only the Virunga National Park and Bwindi Impenetrable Forest have more plant species) (World Heritage Committee, 2012). The park is also one of the rare sites in sub-Saharan Africa which includes a continuum of the different vegetation types within the altitudinal range of 600m to 3,308m including rare habitats such as high altitude peat bogs and afro-alpine formations (ICCN, 2011). At present, 51 species are reported in the park including six new species for science awaiting formal description (Kisekelwa et al., 2020).

- **Presence of emblematic and endangered mammal species.** Criterion:(x)

The park's most important emblematic species is Grauer's gorilla. High levels of poaching of gorillas for the bushmeat trade occurred during the wars, including several of the habituated gorilla families used for tourism in the high altitude sector. Following an estimated 77% decline in the population since the mid 1990s (Hall et al., 1999), the species is now considered to be critically endangered on the IUCN Redlist of Threatened Species (Plumptre et al. 2016; 2019), and the KBNP-OCR region is the last stronghold for the species, containing an estimated 84% of the remaining global population. Forest elephants *Loxodonta africana cyclotis* occur, but have been highly threatened by the ivory trade (ICCN, 2009) especially in the low altitude sector (WCS, 2016). Chimpanzees (*Pan troglodytes schweinfurthii*) remain at a level similar to the mid-1990s (Plumptre et al. 2019).

Other important biodiversity values

- **Endemic flora**

Impatiens erecticornis, *irangiensis*, *iteberoensis*, *paucidentata*, *masisiensis*, *warburgiana*, spp, *Dicranolepis incisa*, *Momanthotaxis* sp, *Peddiea kivuensis*, *Phyllobotryum lebruni*, *Polyscias kivuensis*, *Poalystachya babyloni*, *Rinorea* spp, *Schefflera kivuensis*, *Selaginella auquieri*, *Senecio johnstoni* spp. *Kajuzicus*, *Swertia macrosepala*, from the Kahuzi-Biega National Park or surrounding area.

Assessment information

Threats

Current Threats

Very High Threat

The presence of armed militia in and around the park, and the related threats of bushmeat hunting, illegal

mining and forest clearance for agriculture inside the park, has posed a significant threat to the property and its natural values, impacting the conservation of emblematic mammal species, effective management of the property and the safety of conservation staff. Following significant actions by ICCN and the Congolese army (FARDC) in recent years to remove armed rebel groups, a reported improved security situation in 2019 allowed increased surveillance of around two thirds of the property and anti-poaching efforts. However, the property remains infiltrated by armed rebel groups which will require ongoing strengthened efforts to ensure effective management of the property in the longer term. Illegal mining is being addressed through surveillance patrols dismantling active remaining holes, however given the lack of surveillance of the entire property and potential for continued insecurity, strong law enforcement efforts will need to be continued into the future to ensure that mining does not continue. The encroachment of illegal farming communities in the ecological corridor between the high altitude and low altitude sectors is being addressed through the recent evacuation of 90% of farmers, however an assessment of the impacts of this threat and rehabilitation of the area remain to be undertaken. Furthermore, the issue of the villages in the low altitude sector of the park which existed before the creation of the park and which have remained occupied, remain.

► **War, Civil Unrest/ Military Exercises**

Very High Threat

(Presence of armed militia)

Inside site, throughout(>50%)
Outside site

The park has a long history of armed conflict. Armed militia have been involved in hunting, mining and farming inside the park. All sectors were affected but evacuation performed by the Congolese army (FARDC) from 2015 and as a result Kasese and Nzovu-East sectors have been freed of rebel groups (State Party of the DRC, 2017). Their activities have affected and still affect locally the animal biodiversity and endemism values. Habitats are also negatively impacted by mining activities and the cultivation that occurs around the mining camps and occupied former villages. Miners also practice hunting. The insecurity created by their presence has made large areas of the park no-go areas for ICCN.

The 2017 Reactive Monitoring mission noted that ICCN had very limited access to an important part of the property and the World Heritage Committee expressed its deepest concerns regarding the persistent insecurity in a large part of the property due to the presence of rebel groups carrying out illegal activities, such as artisanal mining exploitation and poaching (UNESCO, 2018). In 2018, a team of 27 ICCN and WCS staff was kidnapped by militia while they were carrying out biological inventories in the Lulingu sector. Fortunately, the intervention of ICCN and the provincial government ensured that all were freed (UNESCO, 2018), however this underpins the ongoing threat of insecurity to the safety and lives of conservation staff and their ability to effectively manage the property. Despite the relative improvement in security reported in 2018, the property remains infiltrated by armed rebel groups who carry out illegal mining activities and continue to hamper the surveillance work of the property (UNESCO, 2019). In 2020, the government reported an improved security situation which allowed patrol access to all seven sectors of the Park (Tshivanga, Kasese, Lulingu, Itebero, Nzovu, Mumbili and Nkuku) and a significant increase in overall surveillance coverage (69.2%). The armed forces (FARDC) in collaboration with the park, local leaders and other state services continue to track armed groups observed in the villages around, and those who take refuge inside the Park. This led to the neutralization of several warlords of the Mai-Mai, FDLR, and Nyatura groups (State Party of the DRC, 2020). Although the government's recent report of improved security is encouraging, insecurity remains a significant threat to the property and will require ongoing strengthened efforts to ensure the safety of staff and communities on the ground, and the effective management of the property in future.

► **Mining/ Quarrying**

High Threat

(Mining (coltan, cassiterite))

Inside site, widespread(15-50%)
Outside site

The site has experienced a history of mining pressure. In 2011 it was estimated that there were 918 mining sites, of which 405 had armed groups present (Hollestelle, 2012). The influence of armed groups in mining activities is considerable - charging taxes, providing "security" for the miners, and even digging for gold themselves. Since an operation led by FARDC, most rebel groups have been removed and since 2017, it is reported that no legal mining concessions are active in the property (State Party of the DRC, 2017; UNESCO, 2017). However, illegal mining persists and patrols continue to locate and shut

down active artisanal camps: 14 in 2016; 2 in 2017; 20 in 2018. In 2019, no mining squares were observed inside the property and surveillance patrols found 19 artisanal mining digging holes of which 12 were abandoned and 7 found active but subsequently dismantled by the patrols (UNESCO, 2018 and 2019; State Party of the DRC, 2017-2020).

The recent improvements are encouraging and will hopefully improve further in the short to medium term, however given the lack of surveillance of the entire property and potential for continued insecurity, strong law enforcement efforts will need to be continued into the future to ensure that mining does not continue as a threat.

- **Hunting and trapping, Logging/ Wood Harvesting, Collection of non-timber forest products (NTFPs), Other Biological Resource Use** **High Threat**
(Forest clearance for agriculture) Inside site, throughout(>50%)
Outside site

In 2009, 10% of the low altitude sector and 24% of the corridor and high altitude sectors were affected by deforestation (UNESCO, 2009). The illegal creation of farms (cattle, crops) by wealthy/influential "landowners" in the Nindja ecological corridor constitutes a very serious threat to mid-altitude and montane tropical forests since the continuum of primary habitat types from low altitude to high altitude has been completely severed (UNESCO, 2009). The resolution of this issue has been a high concern for many years, due to the impacts on the ecological connection between the two sectors, and hence the integrity of the site, and the extensive transformation of land (secondary vegetation instead of primary vegetation) in this area. As long as the issue of farms in the ecological corridor was not resolved it would also not be possible to deal with the issue of the many occupied villages in the low altitude sector that existed before the creation of the park and which have always remained occupied. A socio-economic study is on-going to specify the current situation of these villages.

The "National Forum on Governance and Enhancement of the Property" was launched in April 2015 with a special commission that oversees the follow-up of activities. In 2018, the occupation of the ecological corridor was raised as one of the major obstacles for the removal of the PNKB from the List of World Heritage in Danger and the Committee requested that the cancellation of land titles and evacuation of the illegal occupants to be accelerated as a crucial part of guaranteeing ecological continuity between the lowland and highland sectors of the property (UNESCO, 2018). In February 2018, UNESCO addressed a letter to the government, concerning tension between the Park and the local communities. ICCN informed UNESCO that a reconciliatory meeting with the different stakeholders resulted in the signature of a protocol for a resumption of collaboration between the management team and the local populations (UNESCO, 2019). In 2019, the government also reported the evacuation of approximately 90% of livestock farmers from the park's ecological corridor (State Party of the DRC, 2020) and that ICCN-PNKB has strengthened its presence within the limits of the ecological corridor through the organization of surveillance patrols and by the peaceful resolution of the existing conflict between the PNKB and the neighboring communities / Batwa for peaceful coexistence, as well as to limit the impact of encroachment through awareness-raising sessions and a commitment to strengthening the Park-resident population collaboration through a high level dialogue on the process of sustainable protection of the PNKB and of the peaceful coexistence between the park, the Batwa indigenous peoples and the other riparian communities (State Party of the DRC, 2020). In 2019, the Committee welcomed the evacuation and requested the government to develop a rehabilitation plan for this zone to facilitate the regeneration of natural vegetation and to assess the impact of encroachment on the OUV of the property (UNESCO, 2019), however no updates were provided in 2020 (State Party of the DRC, 2020) and this remains to be implemented.

- **Hunting and trapping** **Very High Threat**
(Commercial hunting) Inside site, throughout(>50%)
Outside site

Bushmeat commerce, involving almost all vertebrate species, is very intense and thus affects the biodiversity values of the park. Forest elephants are under intense pressure from ivory poachers with probably only few individuals left in high altitude. Many players are involved including rebel militia (FDLR, Raya Mutomboki, Mai-mai). Elephants are now extremely rare in the low altitude sector. In 1994

the population was estimated at 3.720, but in surveys between 2000 and 2008 no traces were found in low altitude (Amsini, 2008) while in 2015 traces were seen in the extreme North-western part only (WSC, 2015). Gorillas were heavily poached during the wars (mainly for bushmeat) and probably continue to be hunted in the low altitude sector. The population in low altitude sector was estimated to be less than 1000 in 2015 (Plimptre, 2015), a decrease by over 90% since 1994 (Plimptre, 2015). They are also victims of metallic cable traps (used for antelope hunting) in the high altitude. The high altitude population was halved during the wars. Surveillance of the high altitude sector is currently much improved and hunting of gorillas here has been virtually eliminated.

In recent years, anti-poaching efforts have been strengthened, including 1921 surveillance patrols, including 70 tented patrols, 1845 return patrols, 1 aerial patrol, 2 mixed patrols (eco-guards and FARDC) and 3 intelligence patrols. A Center for the Coordination of Operations (CCOPs) for real-time monitoring of property monitoring activities has been established. In 2019, 71 poachers were arrested for trapping, logging and artisanal ore digging, leading to 17 convictions (State Party of the DRC, 2020).

► **Water Pollution**

(Fish Poisoning)

High Threat

Inside site, throughout(>50%)

Outside site

Fish poisoning is another threat affecting the fish diversity in the PNKB. In the low altitude, the river systems inside the park are rich in fish species and some species are abundant. The fishing practice is frequent in the low altitude of the park. So far, local populations no longer use local ichthyotoxin, extracted from local species such as *Tephrosia* spp., rather an acute insecticide Andrine which may have devastating widespread impacts on living beings for a long distance even in a river large than 30 m width. It is likely that some species that remain undescribed will vanish before becoming known. As mentioned previously, the lack of coverage of surveillance across the park, mostly in the lowland, facilitates the proponents of these activities to operate in the park, noting that this fishing is prohibited in general under Congolese policies (IUCN Consultation, 2020).

Potential Threats

Low Threat

Until funding is secured for a new alignment of the RN3 around the north of the park, there is potential that the current road through the high altitude sector of the park will be asphalted and open to high levels of heavy traffic.

► **Roads/ Railroads**

(Rehabilitation of the RN3 through the high altitude sector of park.)

Low Threat

Inside site, localised(<5%)

Outside site

For the past 20 years or more the RN3 highway from Kisangani to Bukavu, which passes through the high altitude sector of the park has been virtually impassable and so there has been very little traffic on it. During 2016, ICCN controlled on the road 15700 cars/trucks/motorbikes showing that traffic is already significant. This will worsen if the section through the high altitude sector will become a major asphalted highway with thousands of vehicles passing through the park every week. However, since 2017, no new information regarding the highway has been reported (UNESCO 2017; 2018; 2019).

Overall assessment of threats

Very High Threat

The presence of armed militia in and around the park, and the related threats of bushmeat hunting, illegal mining and forest clearance for agriculture inside the park, has posed a significant threat to the property and its natural values, impacting the conservation of emblematic mammal species, effective management of the property and the safety of conservation staff. Following significant actions by ICCN and the Congolese army (FARDC) in recent years to remove armed rebel groups, a reported improved security situation in 2019 allowed increased surveillance of around two thirds of the property and anti-poaching efforts. However, the property remains infiltrated by armed rebel groups which will require ongoing strengthened efforts to ensure effective management of the property in the longer term. Illegal mining is being addressed through surveillance patrols dismantling active

remaining holes, however given the lack of surveillance of the entire property and potential for continued insecurity, strong law enforcement efforts will need to be continued into the future to ensure that mining does not continue. The encroachment of illegal farming communities in the ecological corridor between the high altitude and low altitude sectors is being addressed through the recent evacuation of 90% of farmers, however an assessment of the impacts of this threat and rehabilitation of the area remain to be undertaken. Furthermore, the issue of the villages in the low altitude sector of the park which existed before the creation of the park and which have remained occupied, remain. Whilst uncertainty remains as to whether funding will be secured to re-route the RN3 around the north of the park, in the absence of available funding the possible rehabilitation of the RN3 through the high altitude sector and its related environmental pressures remain a potential future threat.

Protection and management

Assessing Protection and Management

► **Management system**

Serious Concern

The latest 2009-2019 management plan was officially approved in 2012 and implemented within the constraints of the security situation and current funding levels (State Party of the DRC, 2017). The implementation of the first phase (2009-2011) of the Management Plan was evaluated using the “Enhancing our Heritage” methodology. The evaluation concluded that while there had been some encouraging results, the global implementation of the work plan of the first three years had been poor, partly because of security problems but also because of insufficient staff numbers and capacity (UNESCO, 2013). An assessment of the management Plan was performed in December 2014, together with the development of an action plan for the last phase in preparation for the end of the Management Plan in 2019 (State Party of the DRC, 2017). The 2017 Reactive Monitoring mission noted that implementation of the plan was hampered by funding constraints (IUCN and UNESCO, 2017). It is unclear whether a new management plan beyond 2019 has been developed.

► **Effectiveness of management system**

Serious Concern

The park receives strong financial and technical support from GIZ and KfW and considerable efforts are being made to improve management effectiveness despite the difficult security, social and political context. Significant areas of the low altitude sector have not been effectively managed because of the security situation, although surveillance is improving. In 2019, the security situation improved and 69% of the site was covered by surveillance patrols (State Party of the DRC, 2020). The high altitude sector, where the highly lucrative tourism activities are based (gorilla viewing), is relatively well managed and regularly patrolled. Corruption at the local government level has proven to be a major constraint to the resolution of the illegal farms issue, although progress has been made recently.

► **Boundaries**

Serious Concern

Most of the parks boundaries are “artificial “ i.e. do not follow natural features. A participatory boundary demarcation of the property is in progress, however will take many years to complete. In 2020, a reported 177 km of limits were demarcated and 91km documented in 2017, an additional 9.2km in 2018, and two missions carried out in 2019 jointly with the Provincial Consultative Commission for the Forests of South Kivu (CCPF) and the high-altitude riverside communities, including one for documenting the boundaries and another for demarcating boundaries (State Party of the DRC, 2020). It is unclear how much of the whole property has been demarcated to date and the full demarcation remains a corrective measure to be achieved for the removal from the List of World Heritage in Danger.

Local population around Itebero in the lowland in Walikale territory criticises the project establishing the north eastern part of the lowland as integral part of the protected area (IUCN Consultation, 2020). This would lead to misuse of the park resources and being a potential threat for the biodiversity. In addition, the park as lacking a buffer zone impedes also the effectiveness trade off between local population and

the strategies developed to the conservation of the PNKB.

Otherwise, recent research proposed to update the conservation strategy in the park considering river basins (Kisekelwa et al., 2020)

► **Integration into regional and national planning systems**

Some Concern

Wherever possible the park's strategy for support for community development takes into consideration the concerns of local "Collectivités". Development initiatives must be compatible with the conservation objectives of the park. However the park community development initiatives must be viewed in the context of the enormous development needs of this province, very weak regional planning capacities, widespread poverty demanding profitable activities, and the general absence or weakness of functioning State structures (communications, schooling, health care, justice, etc...). Kahuzi Biega is included inside the Maiko, Tayna, Kahuzi Biega Landscape (MTKB) for which a management plan was developed by the Dian Fossey Gorilla Fund International together with Conservation International under CARPE II. A landscape wide assessment of priority conservation areas in this landscape was performed in the highland and lowland areas of Kahuzi Biega NP are mentioned as key conservation areas inside the landscape (WCS, 2015).

► **Relationships with local people**

Serious Concern

Given the very high population pressure and the intense competition for agricultural land, relations with local people are often strained since the park is the source of many of the natural resources that local people want but that no longer exist outside the park (agricultural land, wildlife, wood, bamboo, medicinal plants, and other non-timber forest products). Considerable efforts have been made using conflict resolution techniques to improve relations with local populations, but the challenges remain considerable.

The park, with support from GIZ and since June 2012 KfW, has for very many years undertaken a wide variety of activities in favour of local populations aimed at reducing pressures on the park's natural resources and providing alternative sources of revenue. As is the case with all protected areas in central Africa these efforts have met with widely varying degrees of success. Within the framework of its Community Conservation activities the park management plan defines two strategic axes: infrastructures (schools, access roads, bridges, health centres, water sources, micro hydroelectric installations etc) and agro-forestry. A socio-economic study of the villages located inside the park is being carried out and should pave the way for a zoning and management plan of these villages (State Party of the DRC, 2017). Recent efforts were made to improve the relation of local people with the site as the support to economical development projects or to local people scholarship and several actions to raise awareness on the ecological value of the site (State Party of the DRC, 2020).

Local population around Itebero in the lowland in Walikale territory criticises the project establishing the north eastern part of the lowland as integral part of the protected area (IUCN Consultation, 2020). This would lead to misuse of the park resources and being a potential threat for the biodiversity. In addition, the park as lacking a buffer zone impedes also the effectiveness trade off between local population and the strategies developed to the conservation of the PNKB.

In 2018, following tensions between the park authorities and local communities, the authorities reported that a reconciliatory meeting with stakeholders was held and an agreement protocol signed between the management authority and local populations, notably the Batwa, for a resumption of collaboration between the management team and local populations (UNESCO 2019). However, in February 2020, additional concerns were raised that the park authorities have shown no willingness to meet any of the commitments made to communities in previous discussions, resorting to violence and intimidation in order to keep Batwa people out of the Park by force, resulting in the Forest Peoples Programme stating that it will longer invest in efforts to facilitate dialogue between the management and the Batwa communities living around the Park (Forest Peoples Programme, 2020).

► **Legal framework**

Serious Concern

The legal framework (National Park) is inadequate because the villages in the low altitude sector of the

park were never consulted about the extension of the park to this area. Many occupants continue to contest this decision and have remained in their villages. A fully participative process to elaborate a zoning plan (involving possibly a change of status for some areas) is on-going if a permanent and mutually acceptable solution is to be found. This is a planned activity of the Management Plan, but due to the situation in the region the process has slowed down and results of the preliminary socio-economic study are not yet available.

► **Law enforcement**

Serious Concern

ICCN manages the site with technical and financial support from three longstanding partners (GIZ, since 1984 and from 2012 KfW succeeding GIZ, WWF and WCS). Law enforcement is challenging given the vast area of forest that must be patrolled and the insecurity caused by rebel activities actively involved in poaching and mining. Joint patrols with the Congolese army (FARDC) have been regularly deployed in the low altitude sector and in the Nindja ecological corridor over the past years, and in 2019 two joint patrols were carried out (State Party of the DRC, 2020). The surveillance coverage of the Park is improving from 34% in 2015, 52% in 2016 to 69% in 2019 (State Party of the DRC, 2020), although no data were available for the efficiency of these patrols. An operational law enforcement monitoring system, based on MIST and now on SMART, is in place (State Party of the DRC, 2017). The very low security level in eastern Congo has made law enforcement by ICCN challenging (Mission report, 2009; UNESCO, 2010; communication with UN staff), and the 2017 Reactive monitoring mission recommended to improve strengthening surveillance and anti-poaching efforts (IUCN and UNESCO; 2017). In 2019, surveillance measures included a total of 1921 patrols throughout the Park, including 70 tented patrols, 1845 return patrols, 1 aerial patrol, 2 mixed patrols (Eco-guards and FARDC) and 3 intelligence patrols. A Center for the Coordination of Operations (CCOPs) for real-time monitoring of property monitoring activities has been established. In 2019, 71 poachers were arrested for trapping, logging and artisanal ore digging, leading to 17 convictions in 2019 (State Party of the DRC, 2020). Law enforcement is being strengthened, however continued strengthening is required to improve overall conservation and management of the site.

► **Implementation of Committee decisions and recommendations**

Serious Concern

Various Committee decisions and recommendations are being addressed, although certain with limited success given the current social, political and security context. These are:

- Undertake a wildlife survey of indicator species. The survey has been performed by WCS since 2015 and 4 of the 7 sectors have been completed.
- Remove the armed groups from the park and extend the surveillance coverage. This aspect has seen an important improvement since 2015 with help of FARDC and approximately two thirds of the park is now covered by ICCN patrols.
- Stop all illegal mining in the park. With the removal of armed groups from half the park, illegal mines supported by these groups have largely decreased. Only 7 illegal mines were still active in 2019, but data are deficient to assess the situation in the part of the park not patrolled by ICCN Guards.
- Evacuate the ecological corridor by removing the illegal farms. Support has been gained from civil society groups and the Governor's and Environment Ministry's office to identify all farming concessions that encroach on the park. The case is now being discussed following the "National Forum on Governance and Enhancement of the Property" of April 2015 and ad-hoc follow-up committee. Some progress is noted regarding illegal title deeds and Park demarcation. In 2019, the state party mentions that 90% of the farm have been closed (ICCN, 2020).
- Develop a fully participative zoning plan to resolve the issues of villages in the low altitude sector. This is in progress, but the preliminary socio-economic study is still not completed.
- Limit traffic on the road through the park to local traffic only. In the event of rehabilitation of the RN3 highway to Kisangani ensure that a deviation to the north of the park is made. The principal of a deviation to the north of the park has been accepted, but funding is still to be secured. The park is a member of the social and environmental monitoring committee for the new alignment of the RN3. Meantime controls on the circulation of vehicles through the park are in place.
- Finalise the management plan. The current management plan was finalized in 2011, approved in 2012

and will end in 2017. No mention of the development of the next one is available.

► **Sustainable use**

Serious Concern

The only legal sustainable use activity allowed in the park is tourism. Gorilla viewing in the high altitude sector has always been an important revenue earner. Gorilla tourism generates USD 150.000 a year (ICCN PNKB Data, 2012).

► **Sustainable finance**

Serious Concern

The park has received substantial, and uninterrupted, financial and technical support from the German government, through GIZ and KfW, since the early 1980s. KfW is now the main financial partner. WWF and WCS have also mobilised significant technical and financial support over the years (UNESCO, 2010). As with all protected areas in the DRC, for the foreseeable future the park will be dependent on external partners. Sustainable funding is making progress through the establishment of the Okapi Fund, the first national trust fund for conservation in the DRC, which aims to provide a sustainable response to the financing issues of environmental projects. Revenue raised by the fund is expected to finance projects in the two priority sites of Kahuzi-Biega and Garamba from 2022 (Fonds Okapi, 2020). The State Party reports EUR 3 Million is allocated to the management of the Park for the period 2020-2022 with the specific support of the KfW (ICCN, 2020).

► **Staff capacity, training, and development**

Serious Concern

Investments in staff training and development are ongoing, with support from park's partners. Notable achievements are recruitment and training of 120 new guards and the development of guard housing in several posts (to be continued in 2017) (State Party of the DRC, 2017). In 2019, no new ecoguards were recruited but staff training was carried out relating to emergency first aid, human rights, GIS, SMART (etc.) and two administrative staff were hired (State Party of the DRC, 2020).

► **Education and interpretation programs**

Some Concern

Efforts are made doing public awareness activities. These are essentially conducted through the community conservation programme using the community dialogue structures established (Management Council for Community Conservation; Community Conservation Committees). Considerable efforts are also made lobbying at the provincial government level (ICCN, 2009; Mission report, 2010; UNESCO, 2010).

► **Tourism and visitation management**

Serious Concern

Gorilla tourism is in considerable demand from the local and international market (as seen in Rwanda where the daily permit was lately doubled to 1500 US\$ per day per visitor, Rwanda Development Board May 2017) and has great potential to generate significant revenues (see sustainable use above). The current political and security situation is a constraint to the full development of this activity (Mission report, 2010). Tourism development is an objective of the park managers to constitute a source of income for the site (State Party of the DRC, 2020).

► **Monitoring**

Serious Concern

Wildlife monitoring has been very limited due to issues of insecurity in the region. Following a survey of chimpanzees and gorillas in the mid-1990s, census surveys were carried out in 2016 (Plumptre et al. 2016) and 2019 (Plumptre et al. 2019). There has been a dramatic decline in populations of Grauer's gorilla (*Gorilla beringei graueri*) and forest elephant as a result of poaching (Plumptre, 2015). Gorilla populations in the low altitude sector are thought to have declined by over 94% and by 37% in the high altitude sector (ICCN Management Plan, 2012). Chimpanzee levels are thought to have declined by about 60-70%.

In 2016, the population of Grauer's gorilla was estimated to have declined by 77% since the mid 1990s, upgrading its status on the IUCN Red List of Threatened Species to critically endangered (Plumptre et al. 2016). The analysis also identified KBNP and particularly the region to the west of the park as the last major stronghold for Grauer's gorilla. In 2019, the population was estimated at a level similar to 2016,

with 1,223 individuals in KBNP (a total of 3,474 in the wider area including 1,967 in OCR and 284 outside the two protected areas). Importantly, the KBNP-OCR region was estimated to contain between 84-91% of the remaining global population (Plumptre et al., 2019).

The 2019 surveys estimated chimpanzee (*Pan troglodytes schweinfurthii*) at 2,664 individuals in KBNP (of a 4,474 total, including 1,170 in the OCR and 640 outside the protected areas), which is similar to mid-1990s levels and monkeys appear to have declined significantly between 1994-96 and 2013-2017. For elephants, the only place where signs of elephants were seen was in the Kasese sector of KBNP and the far eastern section of OCR where it borders the Kasese sector, noting this as the last place elephant can be found in the region. The report states that KBNP and OCR are both important sites and contribute to the conservation of large mammal fauna (Plumptre et al., 2019).

Overall, although it is encouraging that there appears to have been no further decline in Grauer's gorilla and chimpanzee populations from the 2016 surveys, the overall state of conservation of mammal species remains highly concerning. Specifically, the lack of elephant sightings, significant decline in monkeys and the drastic decline in Grauer's gorilla from the mid-1990s to mid-2000s (i.e. noting the 2013-16 figures estimated the population at only 16% of 1994-6 estimates (Plumptre et al., 2019)), continue to raise significant concern for the conservation status and recovery of threatened and critically endangered mammal species and underpins the importance of ensuring their effective conservation in KBNP and surrounds.

An ongoing monitoring programme should be implemented.

► **Research**

Serious Concern

Although very little conservation related research has been conducted over the past 25 years, recently a large project study of the fish investigation has been undertaken throughout the region of the Kahuzi Biega National Park. In the framework of this program, an important fish diversity paper has been published (Kisekelwa et al., 2020) and further other papers are in preparation such as one in which a list of flagship species is to be published, upon which the awareness of policymakers is increased in favor of the conservation of fish fauna.

Overall assessment of protection and management

Serious Concern

Major insecurity issues related to the presence of armed forces have significantly impacted the property's overall protection and management capacity, such as surveillance, the safety and security of conservation staff, and wildlife monitoring efforts. It is encouraging that following army interventions in 2015, surveillance has improved to now cover two thirds of the park, however significant concerns of insecurity in recent years and the ongoing presence of armed forces in the property still persist. The management of illegal farms in the ecological corridor between the high and low sections of the site is being addressed and engagement strategies with local communities, particularly the Batwa, are underway, however significant concerns remain over human rights issues. The participatory boundary demarcation is in progress but remains to be completed. Recent wildlife monitoring has been very limited due to issues of insecurity in the region and management has not been able to manage the dramatic decline in populations of Grauer's gorilla (*Gorilla beringei graueri*) and forest elephant as a result of poaching, although recent surveys indicate that populations have not continued to decline since 2016, which is encouraging. Financial and technical support is provided by KfW and considerable efforts are being made to improve management effectiveness despite the difficult security, social and political context. The effective management of insecurity in the property going forward, with the support of dedicated long term financial and technical partners, will facilitate the further improvement of park management structures and effectiveness into the future, despite enormous challenges.

► **Assessment of the effectiveness of protection and management in addressing threats outside the site**

Serious Concern

Insecurity issues in the region have significantly affected the property over time, impacting its

overall protection and management, which the management authority has had little control over. It is encouraging that following army interventions in 2015, two thirds of the park can be patrolled by ICCN guards. Progress is also being made to remove 90% of illegal farms from the ecological corridor and prevent further illegal concessions being attributed, following the “National Forum on Governance and Enhancement of the Property” of April 2015.

State and trend of values

Assessing the current state and trend of values

World Heritage values

- **Mid altitude and montane tropical forests representative of the Albertine Rift, a zone of exceptional biodiversity and endemism.**

High Concern
Trend:Improving

An estimated 10% of the low altitude sector and 24% of the ecological corridor are affected by forest clearance as a result of villages, mining camps and illegal farms. Given the size of the low altitude sector significant areas of intact mid-altitude forest therefore remain essentially intact. The situation is much more serious in the ecological corridor since forest clearance for illegal farms has virtually severed the habitat continuum between the low altitude sector and the high altitude sector. Furthermore this is a poorly represented altitudinal range outside protected areas in the rest of central Africa as it has mostly been cleared for agriculture. Recent actions to address encroachment of illegal farming communities in the ecological corridor between the high altitude and low altitude sectors is being addressed through the evacuation of 90% of farmers, however an assessment of the impacts of this threat and rehabilitation of the area remain to be clarified. Furthermore, the issue of the villages in the low altitude sector of the park which existed before the creation of the park and which have remained occupied, remain.

- **Presence of emblematic and endangered mammal species.**

Critical
Trend:Stable

Wildlife monitoring has been very limited due to issues of insecurity in the region. Following a survey of chimpanzees and gorillas in the mid-1990s, census surveys were carried out in 2016 (Plumptre et al. 2016) and 2019 (Plumptre et al. 2019). There has been a dramatic decline in populations of Grauer’s gorilla (*Gorilla beringei graueri*) and forest elephant as a result of poaching (Plumptre, 2015). Gorilla populations in the low altitude sector are thought to have declined by over 94% and by 37% in the high altitude sector (ICCN Management Plan, 2012). Chimpanzee levels are thought to have declined by about 60-70%.

In 2016, the population of Grauer’s gorilla was estimated to have declined by 77% since the mid 1990s, upgrading its status on the IUCN Red List of Threatened Species to critically endangered (Plumptre et al. 2016). The analysis also identified KBNP and particularly the region to the west of the park as the last major stronghold for Grauer’s gorilla. In 2019, the population was estimated at a level similar to 2016, with 1,223 individuals in KBNP (a total of 3,474 in the wider area including 1,967 in OCR and 284 outside the two protected areas). Importantly, the KBNP-OCR region was estimated to contain between 84-91% of the remaining global population (Plumptre et al. 2019).

The 2019 surveys estimated chimpanzee (*Pan troglodytes schweinfurthii*) at 2,664 individuals in KBNP (of a 4,474 total, including 1,170 in the OCR and 640 outside the protected areas), which is similar to mid-1990s levels and monkeys appear to have declined significantly between 1994-96 and 2013-2017. For elephants, the only place where signs of elephants were seen was in the Kasese sector of KBNP and the far eastern section of OCR where it borders the Kasese sector, noting this as the last place elephant can be found in the region. The report states that KBNP and OCR are both important sites and contribute

to the conservation of large mammal fauna (Plumptre et al. 2019).

Overall, although it is encouraging that there appears to have been no further decline in Grauer's gorilla and chimpanzee populations from the 2016 surveys, the overall state of conservation of mammal species remains highly concerning. Specifically, the lack of elephant sightings, significant decline in monkeys and the drastic decline in Grauer's gorilla from the mid-1990s to mid-2000s (i.e. noting the 2013-16 figures estimated the population at only 16% of 1994-6 estimates (Plumptre et al. 2019)), continue to raise significant concern for the conservation status and recovery of threatened and critically endangered mammal species and underpins the importance of ensuring their effective conservation in KBNP and surrounds.

Summary of the Values

► Assessment of the current state and trend of World Heritage values

High Concern
Trend: Stable

The main forest types and biotopes of the low altitude sector of PNKB are mainly intact despite some habitat destruction due to mining and subsistence farming in occupied villages. However, the habitat continuum between the low altitude sector and the high altitude sector has been significantly impacted by illegal farms. The recent evacuation of almost 90% of illegal farmers will likely address this threat going forward, however until an assessment of the impacts and rehabilitation of this area are undertaken, the impact of this farming to date and its current overall state remain of concern.

All large mammal species have been seriously affected by poaching for bushmeat and ivory. The emblematic Grauer's gorilla populations have been seriously reduced in lower altitude but could possibly recover if protection levels can be increased in the low altitude sector. The gorilla population is stable in the high altitude sector and will remain so if current levels of protection are maintained. The same applies for elephants and chimpanzees. However this can only happen if the armed groups are totally removed from the park.

The Grauer's gorilla is estimated to have declined by 77% between the mid-1990s and 2016, upgrading its status on the IUCN Red List of Threatened Species to critically endangered. Although it is encouraging that there appears to have been no significant further decline since 2016, the overall state of conservation of mammal species remains highly concerning and, since the KBNP-OCR region is estimated to contain between 84-91% of the global Grauer's gorilla population, conservation efforts should ensure the recovery of threatened and critically endangered mammal species in KBNP.

► Assessment of the current state and trend of other important biodiversity values

High Concern
Trend: Stable

Overall, ongoing insecurity, threats and management constraints continue to impact the natural biodiversity values of the KBNP.

Additional information

Benefits

Understanding Benefits

► **Carbon sequestration,
Soil stabilisation,
Flood prevention,
Water provision (importance for water quantity and
quality)**

Several large rivers start in the park. The vast area of forest through which they flow ensures regulation of downstream flows. The high altitude sector is an essential water reserve for the farming land around. This is a very mountainous area so the forest covered slopes in the park help reduce erosion of the surrounding agricultural land.

► **Outdoor recreation and tourism**

The park generates annually > USD 150.000 (KBNP data, 2012) with 1551 visitors during 2014 (OFAC, 2015).

Due to the security situation in Eastern DRC and the global lock-down of tourism, the limited benefit from tourism to KBNP will be significantly reduced.

Factors negatively affecting provision of this benefit :

- Overexploitation : Impact level - High, Trend - Increasing
- Habitat change : Impact level - High, Trend - Increasing

► ,
Direct employment

The park is highly valued for its unique biodiversity and endemism resulting from (a) its location on the Albertine Rift and (b) the wide altitudinal range covered by the park (600m-3308m). Grauer's gorilla is the most emblematic endemic species.

The park provides employment (permanent and temporary) for more than 160 people. It also contributes to the socio-economic welfare of local communities through the development initiatives implemented by the Community Conservation programme.

► **Importance for research,
Contribution to education,
Collection of genetic material**

The park has been used as a laboratory of PhD and masters candidates. About three PhD theses orientated in the field of plant ecology and one in the field of ichthyology have been carried out in the region of the PNKB. The practical works of some lectures such as Biogeography, ecology, or plant ecology, systematic and professional trainings are executed into the park.

I have alone sampled considerable samples of genetic materials for fish.

Factors negatively affecting provision of this benefit :

- Overexploitation : Impact level - High, Trend - Increasing

The use of ichthyotoxin may collapse some species and will reduce the availability of genetic materials.

Summary of benefits

The national and global benefits in terms of nature conservation (central African humid forest biodiversity and endemism) and environmental services (water, carbon) are exceptionally important. However these benefits are all at risk because of the inability to resolve the crisis that has a direct influence on the level of all the threats (mining, poaching, agriculture).

Projects

Compilation of active conservation projects

Nº	Organization	Project duration	Brief description of Active Projects
1	German cooperation: KfW in the park and GIZ around.		German cooperation (GIZ and now KfW) has provided uninterrupted support to Park since 1983. The current KfW and GIZ-funded Programme Biodiversité et Forêts supports a wide range of park management related activities including surveillance, capacity building and training, alternative livelihoods, and community assistance. There are indications that German cooperation may be reduced as a result of the global situation and the deteriorating situation in eastern DRC.

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