IUCN Conservation Outlook Assessment 2017 **(archived)**
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# Salonga National Park

## SITE INFORMATION

Country:
Democratic Republic of the Congo
Inscribed in: 1984
Criteria:
(vii) (ix)

Site description:
Salonga National Park is Africa's largest tropical rainforest reserve. Situated at the heart of the central basin of the Congo river, the park is very isolated and accessible only by water. It is the habitat of many endemic endangered species, such as the dwarf chimpanzee, the Congo peacock, the forest elephant and the African slender-snouted or 'false' crocodile. © UNESCO

# SUMMARY

# 2017 Conservation Outlook

**Critical**

The values of the Salonga National Park remain, although they are under significant pressure. Bonobos and forest elephants have been severely reduced through poaching for ivory and the bushmeat trade. Habitat diversity remains intact, despite some locally restricted deforestation though slash and burn agriculture. If the devastating impacts of the commercial bushmeat trade are to be reversed, law enforcement will have to be significantly improved. This will require more and better trained and equipped staff, greatly increased funding levels and strong political leadership.

## Current state and trend of VALUES

**High Concern**
**Trend: Data Deficient**

The faunal and floral values of the park are seriously threatened by poaching for the bushmeat trade. Forest cover, habitat diversity and floral diversity values are still intact despite some local deforestation by subsistence agriculture in the two enclaves in the park, and along disputed park boundaries. The long-term effect on the flora of large seed-dispersers becoming extinct would be serious.

## Overall THREATS

**High Threat**

Bushmeat commerce, involving elites and the military, is the most important threat to the values of the park. Emblematic species (forest elephant, bonobo) have already been seriously affected and continue to be so in several areas of the park. All large to medium-sized mammal populations are being impoverished by the intensity of the commercial bushmeat trade. Illegal and unsustainable fishing activities threaten a) the fish diversity and b) the livelihoods of both riverine communities close to the park and people living downstream who are

highly dependent on fish as a food source. Forest clearance for slash and burn agriculture has locally affected 6% of the park and continues. The recent reduction in manpower of ‘Operation Bonobo’ risks intensifying poaching involving highly equipped and financed individuals. Although the presence of uncontrolled elements of the Congolese army involved in poaching threatens the security of the site per se, a complete removal of the FARDC from the area is of larger concern. The long-term ecological integrity of the site is threatened by the fact that much of the corridor between the northern and southern blocks no longer acts as a viable ecological link given the presence of numerous villages. Only in the south-eastern section does an ecological link remain mostly intact. Moreover, concession blocks for oil exploitation cover the Salonga National Park. Although it is thought that no concessions have yet been granted, the possibility exists that this will happen in the near future.

## Overall PROTECTION and MANAGEMENT

**Serious Concern**

Protection and management are still very weak, although it should be recognised that slow progress is being made to improve this. This is, in part, due to the vast size of the park, the extraordinarily difficult infrastructure, and the challenge of having to deal with four Provincial governments. Staff levels and funding levels remain short of what is needed for effective management and protection of such a large area. The 2016 co-management agreement between ICCN and WWF has leveraged new funding sources and enabled an increase in national park staff as well as improved management capacities.

# FULL ASSESSMENT

## Description of values

### Values

### World Heritage values

► **Vast area of intact lowland tropical rainforest covering a wide range of habitats with high biodiversity.**
**Criterion:(vii)**

Salonga National Park, situated in the Democratic Republic of the Congo, represents Central Africa's last and biggest fully intact block of evergreen lowland rainforest. With its 36,000 km², divided into two blocks separated by an inhabited 25-50 km-wide corridor, Salonga National Park is not only Africa's largest protected area of tropical rainforest, it also includes vast marshland areas and almost inaccessible gallery forests, which having never been explored can be considered as practically virgin (World Heritage Committee, 2012). Its wide range of habitats (primary forest, secondary forest, periodically and permanently flooded forest, savannah islands, dense river network) results in high biodiversity. The headwaters of some of the Congo basin's most important rivers, containing fish stocks that millions of people depend on downstream, are protected within the Salonga National Park. Fish diversity is very high. Because of its vast size it likely plays a critical role in the regulation of local climates and constitutes a very significant carbon sink.

► **An example of biological evolution and the adaptation of life forms in a complex equatorial rainforest environment**
**Criterion:(ix)**

The plant and animal life in Salonga National Park constitute an example of

biological evolution and the adaptation of life forms in a complex equatorial rainforest environment. The large size of the park ensures the continued possibility for evolution of both species and biotic communities within the relatively undisturbed forest (World Heritage Committee, 2012). Salonga National Park is likely to be the most important site for emblematic species such as the endemic bonobo (Pan paniscus), Congo peacock (Afropavo congensis) and one of the last strongholds of forest elephant (Loxodonta cyclotis) in the Congo basin, despite their low densities resulting from poaching (Hart et al., 2008). The vast size of the park makes it an important source area not only for these flagship species, but also for all other organisms living therein. The value of Salonga National Park resides in its ecosystem as a whole: a critically important reservoir of a peculiar, interdependent biodiversity that may serve as reservoir benefitting local communities outside due to the spillover effect replenishing adjacent areas. Similar to the elephant, the bonobo is important for maintaining the forest composition due to seed dispersal. Being mega-gardeners, these species guarantee the long-term viability of the forest that all other organisms depend on, while at the same time they contribute to this highly interconnected biological web (Beaune et al., 2013a; 2013b; 2013c).

## Other important biodiversity values

### ► A source for the discovery of new species

The huge size of the park, its remoteness, as well as past political insecurity have contributed to Salonga National Park being one of the least known and explored parks in Central Africa. Although vertebrates are said to be relatively well known (with the exception of some mammals such as rodents and bats; and some amphibians, fishes and reptiles), recent investigations in other parks have revealed new species even among primates (Hart et al., 2012). All other taxa are mostly, if not completely, unexplored by science. This peculiar situation allows plenty of space for the discovery of new species.

# Assessment information

## Threats

### Current Threats

**High Threat**

Bushmeat commerce is the most important threat to the values of the park. Emblematic and endemic species (forest elephant, bonobo) have already been seriously affected and continue to be so. All large to medium-sized mammal populations are being impoverished by the intensity of the commercial bushmeat trade. Illegal and unsustainable fishing activities threaten a) the fish diversity and b) the livelihoods of people living downstream who are highly dependent on fish as a food source. Forest clearance for slash and burn agriculture affects about 6% of the park and is likely to be increasing. The enormous demand for bushmeat from the big centres around the park contributes in maintaining the traffic. In 2011, an armed rebellion set up a quasi-independent administration in the park creating insecurity and no-go areas for the Congelese Institute for the Conservation of Nature (ICCN). An ongoing joint operation with the Congolese army FARDC entitled ‘Operation Bonobo’ has had success in restoring the rule of law and in acting as a strong deterrent for further insecurity. The long-term ecological integrity of the site is threatened by the fact that much of the corridor between the northern and southern blocks no longer acts as a viable ecological link. Only in the south eastern section an ecological link remains intact and may serve animal migration. The co-management agreement between ICCN and WWF signed in 2016 provides more consistent park management. Additionally, increased funds for park management and development activities in the periphery are available and being used to reduce threats.

#### ▶ Fishing / Harvesting Aquatic Resources

**High Threat**

**Inside site, throughout(>50%)**
**Outside site**

Illegal fishing is widespread in the park, and destructive methods are used (particularly small mesh size, dynamite and poison) (ICCN, 2011). The rivers are easily navigable for great distances into the heart of the park. Bushmeat hunting and elephant poaching are often associated with illegal fishing activities.

### ► Other

**High Threat**
**Inside site, extent of threat not known**
**Outside site**

According to the latest UNESCO/IUCN monitoring mission report (IUCN and UNESCO, 2012), the only remaining part of the corridor that fulfils the role of providing an ecological continuum between the northern and southern blocks of the park is in the south-east part of the corridor, designated as the Luilaka Community Based Natural Resource Management area (CBNRM). This area benefits from lower human density and an intact forest, not very different from the interior of the park.

### ► Hunting (commercial/subsistence)

**Very High Threat**
**Inside site, throughout(>50%)**
**Outside site**

Poaching for ivory and bushmeat commerce (involving the majority of vertebrate species) is very intense and thus affects the biodiversity values of the park. The Congolese military have been heavily involved in this illegal activity for many years (since the late 1970s for ivory). Local elites (administrative and traditional authorities) are also often involved (ICCN, 2011; IUCN and UNESCO, 2007, 2012). The demand for bushmeat comes from cities outside the park, such as Mbandaka and Boende to the north; Lodja, Kole and Kananga to the south; as well as cities all the way to the capital, Kinshasa.

### ► Crops

**Low Threat**
**Inside site, localised(<5%)**

**Outside site**

The evaluation of five Landsat ETM images acquired between January and August 2002 showed that the forests were in very good condition. A total of 98.2% of the area was covered with undisturbed, pristine evergreen lowland and swamp forests (RSS – Remote Sensing Services GmbH, 2003). In 2003, six per cent of the park was affected by slash and burn agriculture (ICCN, 2011). Surprisingly, bonobo numbers appear to be significantly higher near the Kitwaliste and Lyaelima villages as a result of taboos against killing these animals held by these populations (Grossmann et al., 2008).

### ► War, Civil Unrest/ Military Exercises

**High Threat**
**Inside site, throughout(>50%)**
**Outside site**

In 2011, an armed rebellion set up a quasi-independent administration in the park creating insecurity and no-go areas for ICCN. An ongoing joint operation with the Congolese army FARDC entitled ‘Operation Bonobo’ has had success in restoring the rule of law and in acting as a strong deterrent for further insecurity. Overall, the situation has been improving. Operation Bonobo is quasi terminated, only a small military force (around 50 people) are seconded to the park. There are no longer any zones with restricted access due to rebel activities (IUCN Consultation, 2017).

## Potential Threats

**Low Threat**

Concession blocks for oil exploitation cover the Salonga National Park. Although it is thought that no concessions have yet been granted, the possibility exists that this may happen in future. The environmental effects could be serious (pollution, forest clearance, immigration of people).

### ► Oil/ Gas exploration/development

**Low Threat**
**Inside site, not applicable**
**Outside site**

Concession blocks for oil exploitation cover Salonga National Park. Although

it is thought that no concessions have yet been granted, the possibility exists that this will happen in the near future. The environmental effects could be serious (pollution, forest clearance, immigration of large numbers of people).

### ► Tourism/ visitors/ recreation

**Low Threat**
**Inside site, extent of threat not known**
**Outside site**

The presence of researchers/visitors/tourists may enhance disease transmission and pose a risk to ape populations. LuiKotale Bonobo Project (LKBP) uses surgical masks in order to prevent transfer of human respiratory diseases to bonobos. Within the framework of the LKBP in collaboration with RKI and INRB, reversed disease pathways were investigated. Other threats, such as the zoonotic transmission of blood-borne pathogens from animals to humans, were identified, with local young men and mature women handling bushmeat being a risk group (Mossoun et al., 2017).

## Protection and management

### Assessing Protection and Management

### ► Relationships with local people

**Some Concern**

Relations with local populations have generally been conflictual for most of the park's history. As the region is extremely poor and isolated, 95% of local peoples' activities are based on natural resource use. As these resources become impoverished in the periphery of the park, people move inside the park to exploit them. Only relatively recently have community conservation and environmental education activities been conducted, and these are essentially limited to the corridor between the two blocks, at Mundja (ICCN, 2011), and in the Groupement de Bolongo, where LKBP has been operating since 2002 (Fruth, 2011). These need to be extended to other areas, although the challenges are immense given the size of the park and the logistical transport difficulties.

### ► Legal framework

**Some Concern**

The legal framework (National Park) is inadequate due to the fact that the concerns of the Lyaelima people living in the area that became the National Park were not properly addressed, the result being that they have always refused to leave and their (illegal) presence is tolerated by ICCN. Since 2016, the park has been co-managed by ICCN and WWF and a substantial increase in management effectiveness is expected. Technical and financial support still comes from several partners. Key financial partners are USAID (CARPE), KFW (German Development Bank) and the EU. Technical implementing partners include Milwaukee Zoological Society (ZSM), LuiKotale Bonobo Project (JMU/MPI), Wildlife Conservation Society (WCS), Cellule d'Appui a l'Ordonnateur National du FED (COFED), Oxford Committee for Famine Relief (OXFAM) and the Integrated Civil Society Organizations System (ICSO). Enforcement is challenging given the vast size of the park and the logistical and transport difficulties. Approximately 40% of the park is more than 30 km from an ICCN station. Management is also constrained by corruption at the local and provincial levels and by a perceived lack of good governance and transparency at the national level of ICCN with respect to the management of Salonga National Park.

### ► Enforcement

**Serious Concern**

Law enforcement is limited due to understaffed and underequipped ICCN guards. Private activities joining knowledgeable villagers with ICCN park guards have contributed to a decrease in the poaching impact around the LKBP site.

### ► Integration into regional and national planning systems

**Some Concern**

Given the extreme poverty and isolation of the region, and the current absence of effective regional planning and development structures, there is little integration of park management into regional and national planning systems. The situation is further complicated by the fact that the park lies astride four Provinces. This aspect is expected to be strongly implemented

by the present administration.

### ► Management system

**Some Concern**

A new management plan has been approved by the new ‘Co-gestion’ for the year 2017 and several components are being implemented even within the constraints of the area (difficulties of access, local corruption, involvement of political and military stakeholders in illegal activities, lack of political support at a national/provincial level, etc.)

### ► Management effectiveness

**Serious Concern**

Management effectiveness has greatly improved recently following the establishment of co-management between WWF and ICCN and the appointment of numerous senior staff. Large areas of the park are nevertheless rarely visited by patrols and controls on the river access routes into the park used by poachers and fishers requires considerable improvements as foreseen by the new management plan. A centralised system for law enforcement data collection is now established and based on the SMART system. Corruption at the local level prevents successful prosecution of poachers, hindering progress in reducing poaching. The involvement of the Congolese army in poaching is also a serious constraint even though recent collaboration with disciplined elements of the army involved in anti-poaching has had considerable success. Lack of strong political support at the national level is of serious concern.

### ► Implementation of Committee decisions and recommendations

**Some Concern**

A number of requests and recommendations have been made by the World Heritage Committee every year since the inscription of the property on the List of World Heritage in Danger. At the time of this report, the most recent ones are included in Decision 41COM 7A.10 (World Heritage Committee, 2017). Over these years, the State Party has addressed some of these requests, however, many remain to be addressed.

### ▶ Boundaries

**Some Concern**

According to the management plan only about 64 km, out of a total of 640 km of park boundary, are officially marked. WCS and WWF have been involved in mapping the park boundaries (IUCN Consultation, 2017).

### ▶ Sustainable finance

**Serious Concern**

A number of requests and recommendations have been made yearly by the World Heritage Committee since the inscription of the property on the List of World Heritage in Danger. At the time of this report, the most recent ones are included in Decision 41COM 7A.10 (World Heritage Committee, 2017). Over these years, the State Party has addressed some of these requests, however, many remain to be addressed.

### ▶ Staff training and development

**Serious Concern**

Senior management capacities have been greatly improved with the hiring of new qualified personnel. The current guard force of 350 remains far short of the 600 that would ideally be needed and capacities remain generally low despite the previous training of 90 guards.

### ▶ Sustainable use

**Some Concern**

The only legal use of natural resources is fishing on the rivers that form the boundary of the park. For many years, this has been a source of conflict between the park and the communities, but over the past three years, progress has been made to clarify rules and regulations and co-management agreements have been signed (see above). However, no protection zones were defined, and there are strong indications that current methods employed are no longer sustainable.

### ▶ Education and interpretation programs

**Some Concern**

Education and sensitisation activities are conducted by the various partners in the areas where they work. A programme of environmental education financially supported by USFWS has been conducted in secondary schools in the sector of Lokolama, including teachers, pupils and the population of adjacent villages (Fruth, 2014).

### ► Tourism and visitation management

**Some Concern**

There are currently no tourism activities in Salonga National Park, nor are any foreseen in the park's current management plan. However, with funding from the ARCUS Foundation, LKBP (MPI) carried out an evaluation for bonobo ecotourism in 2011, and conducted a viability analysis thereafter. Areas such as LuiKotale forest with ongoing research and conservation activities have a high potential for ecotourism that may promote community development, however the high costs of investment have to be balanced against the profit for conservation and community development (Hohmann & Fruth, 2013; Fruth, 2016). Even though tourism is not mentioned in the management plan, identification of ecotourism opportunities is part of the co-management agreement with WWF (IUCN Consultation, 2017).

### ► Monitoring

**Some Concern**

The last survey covering almost all the park dates from 2003 (Grossmann et al., 2008). Ever since, local surveys have been conducted by different partners including ZSM (Reinartz et al., 2006), MPI (Fruth & Mohneke, 2008) and WCS (Fruth, 2016). Currently (2017/18), ICCN's partners are carrying out a new survey of the whole park. Max Planck Institute (MPI) and Ludwig Maximilian University Munich (LMU) in collaboration with ICCN and WWF are currently surveying Block South. The Wildlife Conservation Society has been operating in part of Block North (Lomela) and is supposed to survey the corridor. The Zoological Society of Milwaukee (ZSM) is surveying the remaining area of Block North (Watsi Kengo). Taken together, the entire park will be inventoried, providing the base for regular monitoring in the future. In addition, specific sites, such as the areas where ZSM and MPI/LMU are active, benefit from systematic monitoring.

### ▶ Research

**Some Concern**

ZSM conducts research in the northern block in the Watsi Kengo sector, between the Salonga and Yenge Rivers. Research focuses on bonobo ecology, forest elephants and the impact of human activities on their distribution. MPI and LMU are conducting research on three habituated groups of bonobos in two research camps (LuiKotale and Ekongo) close to the fringe of Block South. Research focuses on all aspects of bonobos' ecology, physiology, behaviour and evolutionary history as well as on ethnobotany. MPI and RKI (Robert Koch Institute, Germany) conducted studies focusing on zoonotic diseases and the threat of transmission of human diseases to wild bonobos and vice versa. The presence of research activities contributes significantly to the protection of the sites where research is ongoing.

## Overall assessment of protection and management

**Serious Concern**

Protection and management are still very weak, although it should be recognised that slow progress is being made to improve this. This is, in part, due to the vast size of the park, the extraordinarily difficult infrastructure, and the challenge of having to deal with four Provincial governments. Staff levels and funding levels remain short of what is needed for effective management and protection of such a large area. The 2016 co-management agreement between ICCN and WWF has leveraged new funding sources and enabled an increase in national park staff as well as improved management capacities.

### ▶ Assessment of the effectiveness of protection and management in addressing threats outside the site

**Some Concern**

Given the lack of functional governance at the national and provincial levels, the park's management system has very little leverage to influence the outcome of threats originating from outside the site. Most management efforts are therefore concentrated on tackling the threats inside the site. However, there have been some, albeit limited, successes. For example, the establishment of CBNRM areas in the corridor, and the mobilisation of joint

FARDC-ICCN patrols to deal with the rebellion (although the government's motivation for the latter was to quell a rebellion that threatened to upset the presidential elections, rather than out of a concern for the ecological integrity of the site). The prospect of oil exploration/exploitation in and around the park remains a major worry. In the event of discovery of major oil deposits in Salonga National Park, it is likely that oil exploitation will take precedence over biodiversity conservation concerns. A major concern is a considerable population growth in the park's immediate surroundings.

► **Best practice examples**

Small-scale projects, operating permanently and long-term in the area, such as LKBP, provide good examples for evolved project–stakeholder relationships, communal development, conservation measures and conservation success. They generate data crucial for large-scale management plans due to generation of detailed knowledge on species concerned.

## State and trend of values

### Assessing the current state and trend of values

#### World Heritage values

► **Vast area of intact lowland tropical rainforest covering a wide range of habitats with high biodiversity.**

**High Concern**
**Trend:Improving**

Two main areas of deforestation occur in the park linked to the Kitwaliste and Lyaelima enclaves. Deforestation also occurs along the boundaries, particularly where these are disputed and participatory boundary marking has not yet been carried out. In 2003, about 6% of the park was affected by deforestation, likely to have increased since. Faunal biodiversity is highly threatened by the massive scale of the bushmeat trade, although bonobo densities are highest near the Kitwaliste and Lyaelima enclaves, probably because of taboos against hunting this species. Given the size of the park,

forest cover and floral diversity are essentially intact (IUCN and UNESCO, 2012).

► **An example of biological evolution and the adaptation of life forms in a complex equatorial rainforest environment**

**Critical**
**Trend:Deteriorating**

Loss of emblematic species such as the forest elephant and the bonobo to poaching is one issue, another issue being the consequences for the ecosystem: elephant and bonobo are the two largest seed dispersers. They are responsible for maintaining the forest's current floral diversity. When they are gone, many of the big trees bearing large, fleshy fruit needing animal dispersal (endozoochory) will disappear and likely be replaced by wind dispersed species. The complexity of this system, including insight into primary and secondary dispersers, has been researched by Beaune and colleagues (Beaune et al., 2012a; b; 2013a; b; c) and gives insight into the complexity of this fragile ecosystem.

### Summary of the Values

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

**High Concern**

**Trend: Data Deficient**

The faunal and floral values of the park are seriously threatened by poaching for the bushmeat trade. Forest cover, habitat diversity and floral diversity values are still intact despite some local deforestation by subsistence agriculture in the two enclaves in the park, and along disputed park boundaries. The long-term effect on the flora of large seed-dispersers becoming extinct would be serious.

## Additional information

### Benefits

## Understanding Benefits

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

Several very large rivers start in the park or flow through it. The vast area of forest through which they flow ensures regulation of downstream flows. The 36,000 km² of dense tropical rainforest also constitutes an important carbon sink. This vast area of intact and continuous rainforest almost certainly has an important regulating effect on regional and continental climate systems.

### ► Outdoor recreation and tourism

A first ecotourism assessment made in 2011 highlights the potential for tourism. Further evaluations provide detailed assessments of benefits and risks (Hohmann & Fruth, 2013; Fruth, 2016).

### ► Fishing areas and conservation of fish stocks

Salonga National Park is highly valued for its fish diversity on which millions of people depend directly or indirectly. The park acts as a reservoir for fish stocks downstream.

## 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, climate regulation) are exceptionally important. However, the nature conservation benefits are at risk because of the scale of the poaching of wildlife.

## Projects

## Compilation of active conservation projects

| № | Organization/ individuals | Project duration | Brief description of Active Projects |
|---|---|---|---|
| 1 | UGPNS- WWF/ICCN | | In charge of park management, improvement of ICCN infrastructures and accessibility, support to capacity development of rangers and social benefits. Community forest development – eco corridors, development planning in periphery. |
| 2 | Wildlife Conservation Society | | WCS implements CARPE funded activities in the Salonga landscape. Works on conflict resolution issues in and around the park, participatory boundary marking, and wildlife surveys and monitoring. |
| 3 | Milwaukee Zoological Society | | Conducts research on the ecology of bonobos, undertakes monitoring, and supports anti-poaching, staff training, education and various development initiatives. |
| 4 | LuiKotale Bonobo Project (Projet MPI) | | Research on ecology and social behaviour of bonobos at the LuiKotale research site at the outside fringe of Block South of Salonga National Park. Focus on research and conservation on biodiversity, ethnobotany and medicinal plants; environmental education, biomonitoring and longitudinal studies. |
| 5 | Gottfried Hohmann; Barbara Fruth, Directors LuiKotale Bonobo Project (LKBP) | | Operates in community development and agricultural projects. |
| 6 | Impresa Servizi Coordinati - ISCO | | Supports the park with regards to the improvement of infrastructures and accessibility. |
| 7 | Oxford Committee for Famine Relief OXFAM, Integrated Civil Society Organizations System | | Operates in community development and agricultural projects. |

## Compilation of potential site needs

| № | Site need title | Brief description of potential site needs | Support needed for following years |
|---|---|---|---|

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|---|---|---|
| 1 | . | As for all parks in the DRC, all park management activities require sustained funding for many years to come. |

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