

17. Léconi-Batéké-Léfini Landscape

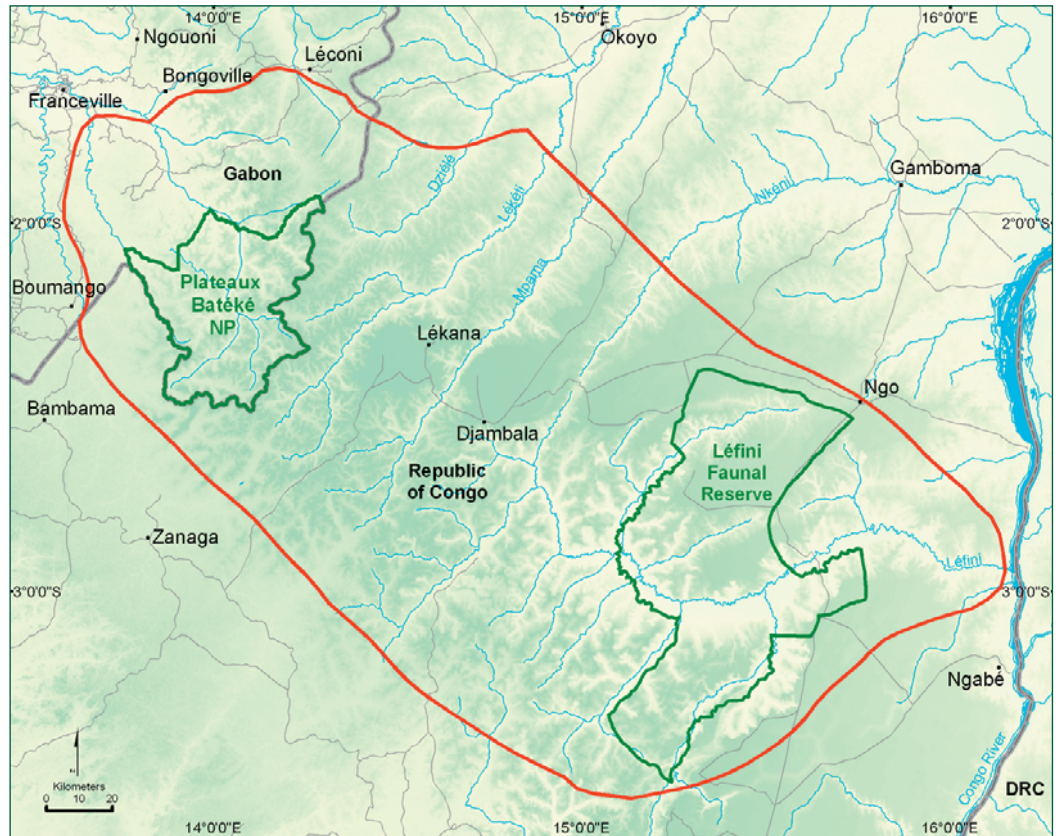


Figure 17.1. Map of Léconi-Batéké-Léfini Landscape (Sources: CARPE, JRC, SRTM, WCS-Congo, WCS-Gabon).

The Landscape in brief

Coordinates: 1°34'49"S – 3°33'42"S; 13°35'39"E – 16°8'57"E

Area: 35,164 km²

Elevation: 300-870 m

Terrestrial ecoregion: Southwest forest-savannah mosaic ecoregion

Aquatic ecoregions: Southwest equatorial coastal ecoregion

Sangha ecoregion

Protected areas: Batéké Plateau National Park, 205,000 hectares, 2002, Gabon
Léfini Wildlife Reserve, 125,000 hectares, 1956, Republic of Congo

Physical environment

Relief and altitude

The relief consists of plateaus that were deeply cut out by the hydrographical network (Figure 17.2) and, particularly in Gabon, are crisscrossed by areas of giant fossilized dunes which appear to be linked to the Kalahari Desert and are locally eroded by spectacular cirques (Figure 17.3). The lowest valley beds are at an altitude of about 350 m and the peaks reach 830 to 870 m.

Geology and soils

The Batéké plateaus form the western edge of the vast sedimentary basin from the Cretaceous to Miocene eras, stretching farther to the east into DRC. The oldest formations belong to the Stanley Pool group, which lies directly on the Precambrian bedrock. The most recent formations belong to the Batéké plateaus group, whose lower strata date from the Eocene and rest on Stanley Pool formations. These are mostly soft friable sandstone. The

Location and area

The Landscape is located in Gabon and the Republic of Congo (Figure 17.1). It covers a total area of 35,164 km², but the activities carried out within the framework of the CBFPP are focused on a priority area of 35,350 km² covering the western part of the Léfini reserve and the Bambama-Lékana area in the Republic of Congo, together with Batéké Plateau National Park (BPNP) in Gabon.

most recent strata are composed of sandy silt or quartzose sand from a local alteration (Hudley & Belmonte, 1970) and eolian sand. The soils are mostly sandy, highly permeable and poor.

Hydrology

In Gabon, the Landscape is drained by the Ogooué River and its tributaries, particularly the Léconi and the Mpassa, whose sources are in the Republic of Congo in the Bambama-Zanaga region, converging in the Franceville region. In the Republic of Congo, most of Landscape is drained by parallel rivers flowing into the Congo River, especially the Leketi, Moama and Nkene, which run towards the northeast, and the Léfini, which runs to the east. The Landscape is also studded with numerous lavakas or fossil valleys. The masses of soft sandstone and sand form a major reservoir of good quality underground water that ensures that the rivers have a regular flow in all seasons (Beaujour, 1971) and which is commercially exploited. That is why the Batéké hills and plateaus, although dry on the surface are called the 'water tower' of the Republic of Congo and Gabon.

Climate

The Landscape as a whole has a tropical transitional climate. Average annual precipitation is around 1,700 to 2,000 mm. The dry season is from the end of May to September and in January-February there is a period of less rainfall.

Vegetation

Savannahs cover around 70% of the area of the Landscape (Figure 17.4). They comprise vast stretches of relatively short and sparse savannah and expanses of bush and tree savannah of *Hymenocardia acida* (Euphorbiaceae) and *Annona senegalensis* (Annonaceae). Valley bottoms are occupied by gallery forests (Figure 17.2) rich in rattan *Laccosperma* and *Eremospatha* (Arecaceae). The undergrowth is dominated by *Palisota* (Commelinaceae) and, among the trees, *Anonidium mannii* (Annonaceae) is common. At the heads of some valleys there are also drier forest formations, relics of an older more extensive cover, but these have not yet been studied. In Batéké Plateau National Park, the flora is being studied by the Missouri Botanical Garden and 800 species of plants have already been listed¹. They include a new species (*Memecylon batekeanum* of the Melastomataceae family), discovered in the buffer zone of the national park in Gabon,



Figure 17.2. The Batéké Plateau in Gabon.



Figure 17.3. Gallery forests in Batéké Plateau National Park, Gabon.

and a second species that is in the process of being described.

Fauna

Mammals

In the savannah, mammals are represented by widely distributed but rare species in the Congo Basin, notably the grey duiker *Sylvicapra grimmia*, the common reedbuck *Redunca arundinorum*², the defassa waterbuck *Kobus ellypsiprymnus*³, the side-striped jackal *Canis adustus*, the Egyptian mongoose *Herpestes ichneumon* and the armadillo *Orycteropus afer*. The serval *Felis serval* and the

¹ Preliminary botanical explorations have been carried out, but more detailed work will begin in 2006 (Walters, 2004 and 2005).

² The common reedbuck now exists only in the Léfini; it seems to have disappeared from BPNP, but according to local hunters it was there previously.

³ A small population of defassa waterbuck survives in the Léfini; along with those in the Nyanga valley in Gabon, it is probably the last existing population of the western form of this species.

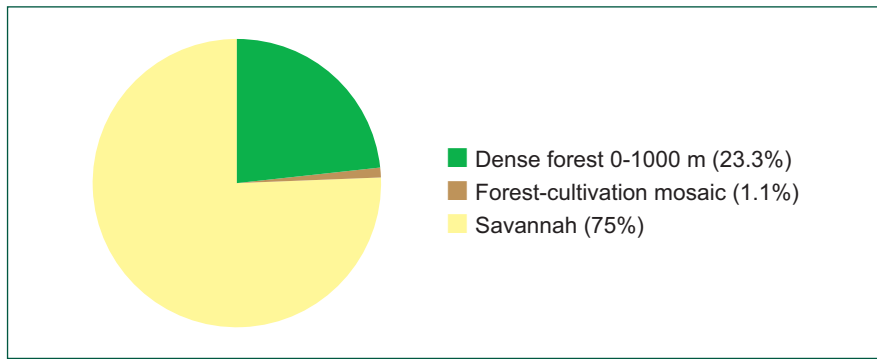


Figure 17.4. The main vegetation types (Source: JRC).

lion *Panthera leo*⁴ could also still be present. In the forest area, live the elephant *Loxodonta africana cyclotis*, the buffalo *Syncerus caffer nanus*, the bush pig *Potamochoerus porcus*, six species of primates including the chimpanzee *Pan troglodytes*, the western gorilla *Gorilla gorilla* and Debrazza's monkey *Cercopithecus neglectus*, three species of pangolins (Manidae) and twelve species of carnivores other than the serval and the lion.

Birds

In terms of avifauna, 267 species of birds have been identified to date (Christy, 2001). They include species linked to very open environments, such as the Stanley bustard *Otis denhami*, the black-bellied korhaan *Eupodotis melanogaster* and the white-bellied bustard *E. senegalensis* (three species with a wide distribution but yet very vulnerable), the red-necked francolin *Francolinus afer*, the coqui francolin *Francolinus coqui*, Finsch's francolin *F. finschi*, the Congo moorchat *Myrmecocichla tholloni*, five species of pipits *Anthus sp.* and the rufous-naped lark *Mirafra africana*. However, the latter could be a species endemic to the Batéké plateau⁵. The Angola buff-back flycatcher *Batis minulla* and the black-chinned weaver *Ploceus nigritum* are endemic or quasi-endemic to the plateau. They like the wooded savannahs and dry gallery forests, which also contain Perrin's bush-shrike *Malaconotus viridis*, the African broadbill *Smithornis capensis* and the olive long-tailed cuckoo *Cercococcyx olivinus*. In the Congolese portion of the Landscape there are some species that have not been recorded in Gabon: Brazza's martin *Phedinopsis brazzae*, a species endemic to the plateau, and the Congo black-bellied sunbird *Nectarinia congensis*, endemic to the central basin and limited to the banks of the Congo River and some of its tributaries. On the savannahs of Gabon, perhaps also in the Republic of Congo, there is an as yet undescribed cisticola *Cisticola sp. nov.* (Christy, pers. comm.).

⁴ In Gabon, a lion was killed and photographed in Moanda in 1969 (Trolez, pers. comm.), several individuals were poisoned when the Lekabi ranch was created in 1980-1981 and another was killed by an officer of the Water and Forests Department at the request of villagers in Léconi in 1996. In 2001 and 2002, no trace could be found (Henschel, 2003), but several tracks closely resembling lion prints were identified in September 2004 (Bout, 2005). Unfortunately, no photo was taken. Following the latest workshop on carnivores in Central Africa, held in Douala at the end of 2005, the presence of lions on the plateaus was classed as probable and studies on it are considered a priority.

⁵ This lark was described by Chapin in 1946 as *Mirafra malbranti*, endemic to the Batéké plateau. It has subsequently become synonymous with *Mirafra africana*, but recent observations of its song indicate that could indeed be a different species of *Mirafra africana*.

Humans in the Landscape

Density and distribution

The average density of the human populations is around 0.2 inhabitants/km², but their distribution is uneven. A rural exodus has led to sizeable concentrations in the main district, departmental or provincial centers: Lekana, Zanaga and Djambala in the Republic of Congo and Léconi and Franceville in Gabon.

Ethnic groups

In the Republic of Congo, the main ethnic groups are the Teke-Kukuya, Teke-Kali (Lekana-Congo), Teke-Lali, Obamba and Ndassa. The Babongo Pygmies, who are in fact 'autochthonous' populations, live in the regions of Zanaga, Bambama, Dziku and Boma.

In Gabon, the savannahs around Léconi are exclusively occupied by Teke while the forests around Boumango are home to Bawoumbou and a smaller population of Teke.

Activities

In the Landscape, 90% of the population are involved in agriculture, 50% in hunting, 5% in fishing and 40% in collecting (Table 17.1).

Land use

As of yet there are no quantitative land use estimates for the Landscape as a whole (Figure 17.5), but a study is being carried out on the use of natural resources in the peripheral area around Batéké Plateau National Park. It should be noted, that pastoralism has never existed in the Landscape.

Logging

For the time being, there is no industrial logging in the Landscape, although logging did exist in the past in the western areas, particularly the Zanaga region of the Republic of Congo and the region in the northeast of Batéké Plateau National Park in Gabon. Presently, there is only small-scale logging in the regions of Lekana, Zanaga and Ngo in the Republic of Congo. The only people involved in logging are local craftsmen.

Reasons for the identification of the Landscape

- (1) The Batéké plateau forms a unique landscape of very open savannahs which are an extension into the heart of the forests of Central Africa of the savannahs of western DRC and Angola.
- (2) Batéké Plateau National Park in Gabon and the adjacent area of Bambama-Lekana in the Republic of Congo still contain fairly representative large fauna.
- (3) The Léconi savannahs and the Léfini reserve have been designated as important areas for bird conservation (Fishpool & Evans, 2001).
- (4) The two protected areas have an interesting and complementary tourist potential, capable of economically supporting a few villages.
- (5) There is perhaps still a very small population of lions that could be protected.
- (6) The Batéké plateau landscape is intimately linked to the kingdom of the Teke, whose population is severely threatened by acculturation; conservation of the Landscape's biological diversity could also permit specific aspects of the culture to be preserved.
- (7) The beauty of the Landscape, particularly the erosion cirques, is largely due to the creation of protected areas.

Conservation

History

In the Republic of Congo, the Léfini reserve with an area of 600,000 ha was classified in 1961 and the Bambama-Zanaga-Lekana site was designated a critical site by the IUCN in 1986 (Hecketsweiler, 1990). There is currently a project to create a new protected area of 360,000 ha in the Bambama-Lekana zone.

In Gabon, the Léconi region had been designated a critical site by the IUCN and was proposed

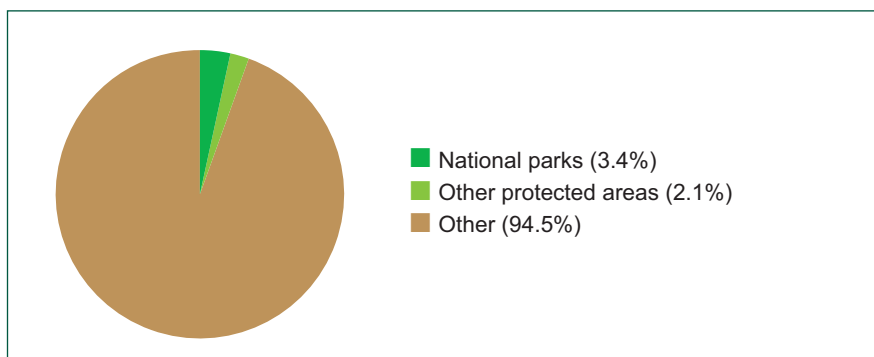


Figure 17.5. The main land use types.

as a protected area in 1990 (Wilks, 1990). Batéké Plateau National Park was created on August 30, 2002 (decree 609/PR /MEFPEPN) farther to the south. It covers an area of 204,854 ha.

Players

In Gabon:

- The national park is managed by MEFEPNN, through the wildlife and hunting directorate, and CNPN.
- WCS carried out preliminary studies within the context of its assessment of the protected areas in 2001 and launched its Batéké project in the national park in April-May 2004.
- The Gorilla Protection Project (PPG) began its activities in the gorilla sanctuary in the national park in 1997.

In the Republic of Congo:

- The Ministry of Water and Forests (mainly the DFAP)
- The PPG, essentially financed by the John Aspinall Foundation, located in Brazzaville in 1987 and Lesio Louna in the Léfini reserve in 1994.
- WCS has been active in the Léfini reserve and since 2003, has been working on the creation of Bambama-Lekana National Park, as well as redefining the limits of the Léfini reserve within the framework of the CARPE-CBFP program.

Table 17.1. Relative importance of the principal activities in the Léconi-Batéké-Léfini Landscape.

Activity	Percentage
Agriculture	49
Hunting	27
Collecting	22
Fishing	2

Direct threats

(1) Poaching and the trade in bushmeat

Cross-border poaching is carried out by Congolese who come to hunt in Gabon and supply food to Brazzaville⁶. Hunters with 4x4 vehicles operate at night from Franceville, sometimes using official vehicles. Their activities are facilitated by the open nature of the terrain.

(2) Fires

Anthropogenic bush fires have probably become too frequent for biodiversity to be maintained: many sections of the national park catch fire at least twice a year.

Indirect threats

(1) Low management capacity

Human and financial resources, infrastructure and equipment are insufficient to be able to manage the national park effectively.

(2) Institutional weaknesses

In Gabon, there is no clearly defined wildlife management policy in the forest law, although the latter has a section entitled 'wildlife planning and management'. There is also no legal executive structure with the capacity necessary to manage the national parks. CNPN is an 'interdepartmental council' that was created for the guidance and supervision of the network of national parks. A bill to create a 'national parks agency' was drafted in 2005⁷.

State of the vegetation

As in many other regions, the areas around the urban centers are subject to growing deforestation. There are extremely frequent fires on the savannahs (at least twice a year) and their plant cover has perhaps suffered irreversible degradation. However, this is very difficult to determine because the savannahs have been burning for centuries, perhaps even millennia⁸.

State of the fauna

The lion and serval are in a critically endangered state and may have already disappeared. The spotted hyena and the African wild dog *Lycaon pictus* have surely disappeared, the latter from a large proportion of all sub-Saharan Africa during the second half of the 20th century⁹ and the black rhinoceros *Diceros bicornis* even longer ago¹⁰. The

hippopotamus *Hippopotamus amphibius* has disappeared from Batéké Plateau National Park¹¹.

Financing and conservation

In Gabon, current prospects for conservation financing are as follows:

- Financing from the John Aspinall Foundation for the PPG is ensured for the next ten years but there is still no cooperative agreement.
- USAID funds are anticipated for another three years.
- FORINFO financing for environmental education for a year is probable.
- GEF will probably provide three years of financing to monitor hunting in the peripheral area of the national park.
- The AFD could be interested in one-off investments in infrastructures and the FFEM in environmental education.

Environmental education and capacity building

Activities in this field have been very dynamic, thanks to the Gabonese official who has been in charge since July 2004 and a partnership forged with the specialized NGO RARE, which has assisted in training and supervision. A good part of the efforts (around 50%) in 2006 will be focused on this activity. On the other hand, there is no local NGO or even a tradition in 'collectivism', so there is no possibility of supporting local NGOs.

The creation of a new association based in Franceville (the '*Maison du tourisme et de la nature*') has received support. It has already organized several events and in 2006 is going to create an ecomuseum in Franceville with a budget from FFEM and the *Coopération française*.

Management of renewable natural resources

(1) At the Landscape level

Outside the protected areas, conservation activities are virtually non-existent. In March 2005, WCS supported a workshop in Franceville to bring together the technical directors of Water and Forests in the Republic of Congo (departments of Plateaus and Lekoumou) and Gabon involved in the Landscape, for an initial consultation to formulate cooperation strategies to address transborder poaching. In 2006, these meetings will continue with the involvement of sub-prefects and prefects from the districts and/or

⁶ In Gabon, the village communities are far from the park; they are small communities with very limited impact on the park or its periphery. The main threat comes from commercial hunters from the towns and cities. Therefore, a plan to mobilize villagers so that they contribute towards the protection of their area and do not themselves pose a threat is set for 2006, within the context of environmental education activities (probably through the GEF project). With the USAID-CARPE budgets, it is impossible to work both within and outside of the park.

⁷ In Gabon, the creation of the network of national parks has been a significant advancement. However, the process of setting up a management agency and recruiting and training personnel for the national parks has been slow. This process includes obtaining financing (governmental, national or international). The absence of a national policy or will to combat poaching is another handicap. The next two years will be critical to assess the progress being made.

⁸ The savannahs of the Batéké Plateau have an edaphic and historical origin. Their present day extension is the result of the last glaciation and it is very difficult to know what they would look like without the long existing fires. An ethnobotanical study of this question (by Gretchen Walters) is to begin in April 2006.

departments concerned (Léconi and Boumango in Gabon; Lekana, Zanaga and Bambama in the Republic of Congo). The next meeting is to be held before the end of the first quarter of 2006. Ecological and socioeconomic studies carried out in the Congolese portion of the Landscape to demarcate the future protected area also constitute a beginning for the introduction of transborder strategies for the management of natural resources. They have allowed village territories to be identified, which over the course of 2006 will make it possible to propose an overall zoning plan. In 2006, additional participatory cartography will allow for more precise zoning around the Léfini reserve.

(2) In the protected areas

In the Léfini reserve, surveillance is very ineffective. In Batéké Plateau National Park, management was not in effect until 2004. It includes close cooperation with PPG, which manages the gorilla sanctuaries in the Republic of Congo and Gabon. On the ground, bases have been identified, platforms for the installation of tents have been laid and three qualified ecoguards have been assigned to surveillance. They are being assisted by three village trackers. Transborder poaching remains the main problem and measures have been taken to work with the authorities on either side of the border to try to stop this practice.

(3) In the rural areas

Discussions with IGAD took place to implement small rural development projects that would offer alternative resources to the populations. Following socioeconomic surveys, however, it emerged that the villagers around Batéké Plateau National Park were not interested in the 'intensification' of agriculture or stock farming (or perhaps aviculture). On the other hand, they welcomed the tourism studies organized in May 2005¹². Community tourism, combined with the development of tourism in the park, may represent the only alternative economic activity in rural areas close to the park.

Natural resources and governance

Technical and administrative coordination of activities at the Landscape level began with a meeting of Gabonese and Congolese partners in Brazzaville in 2004. A technical follow up meeting was held in February 2005. The meeting focused on the monitoring of transborder poaching, which is still absent. Meetings with local communities have also taken place, but their involvement is only in its infancy. Cooperation between the technical support NGOs (WCS and PPG) and the Ministries of Water and Forests of the Republic of Congo and Gabon and the CNPN in Gabon is evolving.

Monitoring of natural resources

Ecological monitoring activities are being carried out at present in the existing protected areas (Batéké Plateau National Park and Léfini), as well as in the proposed protected area of Bambama-Lekana.

Unfortunately, there is still no metadata bank. Numerous data are available, but there is still no comprehensive collection of management information, spatial data or bibliographical references at the level of Batéké Plateau National Park or the Landscape¹³.

⁹ The African wild dog has never been mentioned in the Gabonese part of the Landscape, but it did exist in the Pool region in the 1940s and in the Niari valley. The spotted hyena also existed in the Niari valley and in the Pool region. It survives in Odzala (Henschel, pers. comm.).

¹⁰ Two teeth of the black rhinoceros, dating from 7,000 BP, were found in Ntadi Yomba in the middle valley of the Niari in the 1980s (Van Neer and Lanfranchi, 1985). In addition, the presence of black rhinoceros was reported in the 20th century in the dense moist forests of southeast Cameroon and the Republic of Congo (Lavauden, 1934; Blancou, 1954), but this has never been confirmed. It cannot be ruled out that this species lived on the Batéké plateaus in recent millennia.

¹¹ Hippopotamuses used to live in the Lewou River, but they have since disappeared (Henschel, pers. comm.).

¹² A detailed review has been produced of the tourist studies conducted in the villages and the national park in May 2005 and a feasibility study on several ecotourism products was circulated in November 2005.

¹³ The final ecological monitoring report on Batéké Plateau National Park is expected by March 2006, as is the final sociological report. A first meeting on the management plan for Batéké Plateau National Park could be organized at the end of March 2006 and a first draft could be available during the second half of 2006 for discussion.