Available from https://tipas.kew.org/site/lobe-falls/
[Accessed 16 June 2026]

Lobé Falls

CMNTIPA016

Country: **Cameroon**
Administrative region: **South (Region)**
Central co-ordinates: **2.88100 N, 9.89760 E**
Area: **3.3km²**

Qualifying IPA criteria

A(i)

IPA assessment rationale

Lobé Falls qualifies as a potential IPA based on the presence of several globally threatened species of rheophytic plant in the family Podostemaceae which depend on waterfall habitats. The site has the highest diversity of this family in Cameroon, with 10 species; three of these are narrowly endemic to the site and at high risk of extinction, while most of the others are threatened and range restricted.

Site description

Lobé Falls is a natural beauty spot and tourist attraction located on the Atlantic coast in Cameroon's South region, a few km south of the port town of Kribi. It is one of few major waterfalls in the world that fall directly into the ocean and has been proposed as a UNESCO world heritage site (UNESCO World Heritage Centre, 2020). The waterfalls and cascades are fed by the river Lobé which originates in the Campo Ma'an national park. The proposed area designated here is bounded to the east by the N7 coastal road, to the south by the bridge where the N7 crosses the river Lobé, to the west by the local road which branches from the N7 just southwest of the bridge, and to the north by the ocean. Within this area the river, which flows broadly and smoothly at the bridge, branches to cascade around small forested islands in multiple channels before reaching the main falls at the edge of the sea.

Botanical significance

The proposed site hosts several endemic species of critically endangered rheophytic plants in the family Podostemaceae (Cheek et al, 2017; Kuetegue et al, 2019). Species in this family are frequently restricted to waterfalls and rapids in fast flowing, clear water, and depend on seasonal variation in water levels for flowering and fruiting (Cheek et al. 2017; Schenk et al, 2015). Lobé constitues the most diverse site in Cameroon for these plants, with ten species present, of which seven are globally threatened (Cheek et al, 2017). The remaining three (Inversodicraea ledermannii, Dicraeanthus africanus and Tristicha trifaria) have also been provisionally assessed as nationally threatened (Kuetegue et al, 2019). An additional rheophytic species, Ixora euosmia in the coffee family, is

also potentially globally and nationally threatened (Kuetegue et al, 2019). Phyllanthus kelleanus is recorded from the falls and one other site in Cameroon. Other threatened species such as Psychotria kribiensis, Allexis cauliflora (VU), Malouetia barbata (EN; Bos, J.J. 3690) and Calpocalyx heitzii (VU; R. Letouzey - 9131) are recorded from the Lobe river margins near to the mouth but it is not known whether they definitely occur within the narrow area proposed here as the IPA. Likewise, Dichapetalum oliganthum (VU) is recorded several times from a few km south of Kribi which would put it within the Lobe Falls area. Cassipourea dinklagei (EN) is also recorded from Bwambe and Grand Batanga, very close to the site.

Habitat and geology

Climate data from nearby Kribi indicates a tropical monsoon climate (Kloeppen climate classification A) with annual precipitation of 2870 mm per year, around 20% less than that of Douala which is located on a coastal estuary 125 km to the north (World Meterological Organization, 2019). Precipitation comes mainly from the south-west on the monsoon winds that are typical in the mornings, while drier trade winds from the north-west blow in the afternoons (Corriol et al, 2008). The dry season runs between November/December and February, and although precipitation and temperature drops slightly in July there is not a proper second dry season between the peaks of precipitation in May and September as there is in much of inland Cameroon. Average annual temperature is around 25 °C and monthly average maxima peak in the dry season around 32 °C, with minima dropping to around 22.6 °C in July (World Meterological Organization, 2019).

Water level in the Lobé river and other streams does, however, follow a four season pattern with two highwater periods, due to greater seasonal precipitation inland (Corriol et al, 2008). This results in two potential flowering and fruiting seasons for the rheophytic species found here, in contrast to other sites at Edea 100 km to the north (Schenk et al, 2015).

Geologically, the area lies within the South Cameroon Plateau. More locally the geological strata are known as the "Ntem complex" which is dominated by Precambrian basement-complex formations; these metasedimentary, foliated, crystaline rocks include gneisses, pyroxenes and schists (Idriss, 2012; Nkoungou et al, 2012; Corriol et al 2008). Soils are predominantly acidic, yellow ferralites with low organic content, low fertility and low exchange capacity because of aluminum and iron hydroxides (Corriol et al, 2008).

Conservation issues

The most immediate threat to the cited plant species of the Lobé falls is probably direct erosion and physical damage to the vegetation by large volumes of visitors (Kuetegue et al, 2019; Cheek et al, 2017). Tourism will probably continue to increase at the site and increased numbers will likely bring further indirect impacts in the form of pollution or sedimentation of the water from nearby development (Tchindjang & Etoga, 2014). However, the site also faces a range of other threats, and well-managed, sustainable tourism is also probably the best opportunity to conserve the site and its flora.

Typically the main threat to rheophytic species in Africa is the development of hydro-electric power stations (Cheek et al, 2017; Schenk, et al 2015) which disrupt water levels or flood habitat. It is likely that the tourist industry at Lobé will save the river from hydro development at the site itself. The rheophytic flora is, however, vulnerable to the impact of habitat change, development or interference with flow within the watershed, because these plants are adapted to clear, aerated water and consistent seasonal variation in water level (Cheek et al, 2017).

There are also potential threats from loss of nearby forest to coastal development, clearance of mangrove swamp and extraction of beach sand, which could expose the falls to pollution, flooding and increased coastal erosion (Corriol 2008; Tchindjang & Etoga, 2014). The site is closely sandwiched between major infrastructure developments to the north and south. To the north the Chad-Cameroon pipeline terminates at Ébomé just 2.5 km up the coast where the bay was excavated and reefs dynamited during development (Enns & Sneyd, 2020). There have been several reported oil leaks and local fish stocks and diversity have reportedly declined (Enns & Sneyd, 2020). To the south, the 26,000 ha Kribi deep sea port development extends 30 km down the coast from Grand Batanga which is located less than 4 km south of the Lobé falls. The project, which will clear large areas of coastal forest, plans to create a residential city accommodating an expected 300,000 new residents, and to serve as a major regional hub for increased mining and other industrial development (Louis Berger, 2020; Romain et al, 2017). Associated with the project, a major roadway, reported to be a "four lane motorway" (Tchindjang & Etoga, 2014), is under construction from north of Kribi to Lolabé, with the section crossing the Lolabé river visibly underway on Google Earth imagery from 2/9/2017 (accessed 6/10/2020; see also OpenStreetMap.org for the planned road route). Major rail connections are also planned (Tchindjang & Etoga, 2014). The construction work, increased population pressure and shipping trade severely threaten the waterfall floral communities.

There are also extensive industrial palm oil and rubber plantations (SOCAPALM and HEVECAM) covering almost the entire coastal hinterland between the mouth of the Lobé and the Campo Ma'an National Park an area which constitutes a large proportion of the river's watershed (Tchindjang & Etoga, 2014; Googe Earth and OpenStreetMap viewed 6/10/2020). The impact of these plantations on the river quality at Lobé falls is not known but they date back to colonial times and, to remain productive given the typically poor soils in the area, may need increasing inputs of fertiliser which would potentially leach into the river system (Tchindjang & Etoga, 2014; Corriol et al, 2008).

Site assessor(s)

Bruce Murphy, Royal Botanic Gardens, Kew

Martin Cheek, Royal Botanic Gardens Kew

IPA criterion A species

SPECIES	QUALIFYING SUB-CRITERION	≥ 1% OF GLOBAL POPULATION	≥ 5% OF NATIONAL POPULATION	1 OF 5 BEST SITES NATIONALLY	ENTIRE GLOBAL POPULATION	SOCIO-ECONOMICALLY IMPORTANT	ABUNDANCE AT SITE
Ledermanniella batangensis (Engl.) C.Cusset	A(i)	✓	✓	✓	✓	–	
Inversodicraea eladii Cheek	A(i)	✓	✓	✓	✓	–	
Ledermaniella bifurcata (Engl.) C.Cusset	A(i)	✓	✓	✓	–	–	
Ledermanniella linearifolia Engl.	A(i)	✓	✓	✓	–	–	
Ledermanniella pusilla (Warm.) C.Cusset	A(i)	✓	✓	✓	–	–	
Ledermanniella variabilis (G.Taylor) C.Cusset	A(i)	✓	✓	✓	–	–	
Calpocalyx heitzii Harms	A(i)	–	–	✓	–	–	
Malouetia barbata J.Ploeg	A(i)	✓	✓	✓	–	–	
Dichapetalum oliganthum Breteler	A(i)	–	–	✓	–	–	
Cassipourea dinklagei (Engl.) Alston	A(i), A(iv)	–	–	–	–	–	
Allexis cauliflora	A(i)	–	–	–	–	–	
Phyllanthus kelleanus Jean F.Brunel	A(iii)	✓	✓	✓	–	–	
Psychotria kribiensis O.Lachenaud	A(iii)	✓	✓	✓	–	–	

IPA criterion C qualifying habitats

HABITAT	QUALIFYING SUB-CRITERION	≥ 5% OF NATIONAL RESOURCE	≥ 10% OF NATIONAL RESOURCE	1 OF 5 BEST SITES NATIONALLY	AREAL COVERAGE AT SITE

General site habitats

GENERAL SITE HABITAT	PERCENT COVERAGE	IMPORTANCE
Wetlands (inland) - Permanent Rivers, Streams, Creeks [includes waterfalls]	–	Major
Marine Intertidal - Rocky Shoreline	–	Major

Land use types

LAND USE TYPE	PERCENT COVERAGE	IMPORTANCE
Tourism / Recreation	–	

Threats

THREAT	SEVERITY	TIMING
Residential & commercial development - Tourism & recreation areas	High	Ongoing - increasing
Energy production & mining - Mining & quarrying	Low	Ongoing - trend unknown
Biological resource use - Logging & wood harvesting	Medium	Ongoing - trend unknown
Pollution - Agricultural & forestry effluents - Soil erosion, sedimentation	Medium	Future - inferred threat
Natural system modifications - Dams & water management/use	Low	Future - inferred threat
Climate change & severe weather - Storms & flooding	Medium	Ongoing - increasing
Pollution - Industrial & military effluents - Oil spills	Medium	Past, likely to return
Residential & commercial development	Medium	Ongoing - increasing

Management type

MANAGEMENT TYPE	DESCRIPTION	YEAR STARTED	YEAR FINISHED
No management plan in place		–	–

Bibliography

Cheek, M., Feika, A., Lebbie, A., Goyder, D., Tchiengue, B., Sene, O., Tchouto, P. & van der Burgt, X. 2017. **A synoptic revision of Inversodicraea (Podostemaceae).** Blumea, Vol 62, page(s) 125–156

Idriss, C. 2012. **Partie Camerounaise du fleuve Ntem (2067). Fiche descriptive sur les zones humides Ramsar (FDR).**

Nkoungou, H.L.E., Nouck, P.N., Bisso, D., Assembe, S. & Dicoum, E.M. 2012. **Geophysical Contribution for the Determination of Aquifer Properties in Memve Ele, South Cameroon.** Journal of Water Resource and Protection, Vol 4, page(s) 885-890

Schenk, J.J., Herschlag, R. & Thomas, D.W. 2015. **Describing a New Species into a Polyphyletic Genus: Taxonomic Novelty in Ledermanniella s.l. (Podostemaceae) from Cameroon.** Systematic Botany, Vol 40(2), page(s) 539-552

Tchindjang, M. & Etoga, M.H. 2014. **The Lobé Waterfall, an exceptional geocultural heritage on the coast of cameroon between**

sustainable tourism and the conservation of cultural identities. Tourism Review, Vol 4-5

UNESCO World Heritage Centre 2020. The Waterfalls of Lobé, Cameroun.

Kuetegue, F.,Sonké, B., Ameka, G.K. 2019. A checklist of rheophytes of Cameroon. PhytoKeys, Vol 121, page(s) 81–131

World Meteorological Organization 2019. World Weather Information Service: Kribi, Cameroon.

Corriol, A., Becqué, R.,Thorborg, R.,Ngapoud, A., Koppert, G., Froment, A., Keukelaar & F. Platenburg 2008. Cameroon - Kribi Gas Power Project : environmental assessment (Vol. 4) : Regional environmental assessment of the Kribi region (English)..

Enns, C. & Sneyd, A. 2020. More-Than-Human Infrastructural Violence and Infrastructural Justice: A Case Study of the Chad–Cameroon Pipeline Project. Annals of the American Association of Geographers, page(s) 1-17

Romain, N.J., Betti, J.L., Emmanuel, D.K., Solefack, M.C.M. & Temgoua, L.F. 2017. Deforestation, biodiversity and biomass losses in Kribi deep sea port area (Cameroon): Some mitigating measures. Journal of Ecology and The Natural Environment, Vol 9(6), page(s) 87-98

Louis Berger 2020. Kribi Port and Industrial Complex, Cameroon.