Laephotis botswanae – Botswana Long-eared Bat


Trevor Morgan

Regional Red List status (2016)	**Least Concern***
National Red List status (2004)	Vulnerable D2
Reasons for change	Non-genuine: New information
Global Red List status (2008)	Least Concern
TOPS listing (NEMBA) (2007)	None
CITES listing	None
Endemic	No

*Watch-list Data

While only known from three localities in 2004, further field surveys have revealed a wider distribution within the assessment region.

Taxonomy

Laephotis botswanae Setzer 1971

ANIMALIA - CHORDATA - MAMMALIA - CHIROPTERA - VESPERTILIONIDAE - *Laephotis* - *botswanae*

Common names: Botswana Long-eared Bat, Botswanan Long-eared Bat (English), Botswana-langoorvlermuis (Afrikaans)

Taxonomic status: Species

Taxonomic notes: Could be the same species as *Laephotis angolensis*, which would make *L. botswanae* a larger race of the latter (Peterson 1973; Kearney & Seamark 2005). Kearney and Seamark (2005) identified four cranial measurements based on a multivariate morphometric analysis to separate *L. botswanae* from the other three congeners. No subspecies are recognized (Kearney 2013).

Assessment Rationale

Although only known from three localities in Limpopo Province from the previous assessment (2004), recent field surveys reveal a wider distribution in the assessment region extending to southern KwaZulu-Natal (KZN) and Eastern Cape provinces with an extent of occurrence of 328,447 km^2. Although it is patchily distributed, there is no evidence for widespread decline (for example, it remains common in the Soutpansberg Mountains in Limpopo Province) and there are no major identified threats. Thus, we list this species as Least Concern. However, further data on subpopulation sizes and trends are needed and this species should be reassessed when such data are available.

Regional population effects: It is not known how wide ranging this taxon is, and if there is exchange between subpopulations occurring outside of the assessment region with those occurring inside the assessment region. It has low wing loading (M.C. Schoeman unpubl. data). Thus, we assume no significant rescue effects occur.

Distribution

This species is near-endemic to southern Africa, occurring marginally beyond this region in the extreme southwest of Tanzania (Kearney & Seamark 2005; ACR 2015). It is known from several apparently disjunct locations in southern and East Africa. It has been recorded from Huila in Angola, northeastern Namibia and adjacent Botswana, central and southern Zimbabwe and adjacent north eastern South Africa, northern Zambia and extreme southern Democratic Republic of the Congo, Malawi (and possibly adjacent Mozambique), and from a single locality in southern Tanzania (ACR 2015). In the assessment region, the species has been recorded from Limpopo and KZN provinces, although it was only known from Limpopo in the previous assessment (Friedmann & Daly 2004). The most southern record, based on re-identified specimens, used to be from Hella-Hella (KZN, South Africa) (Kearney & Seamark 2005). In April 2016, however, it was also recorded (using a harp trap) in the Eastern Cape Province (L. Richards unpubl. data), which increases the extent of occurrence to 328,447 km^2.

Population

The abundance of this species is not well known. Although rarely sampled and possibly naturally rare, recent records suggest the species to be more common than previously thought in specific localities. For example, it is very common in the Soutpansberg Mountains of Limpopo (P. Taylor unpubl. data). Further monitoring is needed to estimate population size and trend. If the number of mature individuals is estimated to be < 10,000, a reassessment may be necessary.

Current population trend: Stable

Continuing decline in mature individuals: No

Number of mature individuals in population: Unknown

Number of mature individuals in largest subpopulation: Unknown

Number of subpopulations: Unknown

Recommended citation: Taylor P, Schoeman C, Jacobs D, MacEwan K, Richards LR, Cohen L, Sethusa T, Monadjem A. 2016. A conservation assessment of *Laephotis botswanae*. In Child MF, Roxburgh L, Do Linh San E, Raimondo D, Davies-Mostert HT, editors. The Red List of Mammals of South Africa, Swaziland and Lesotho. South African National Biodiversity Institute and Endangered Wildlife Trust, South Africa.

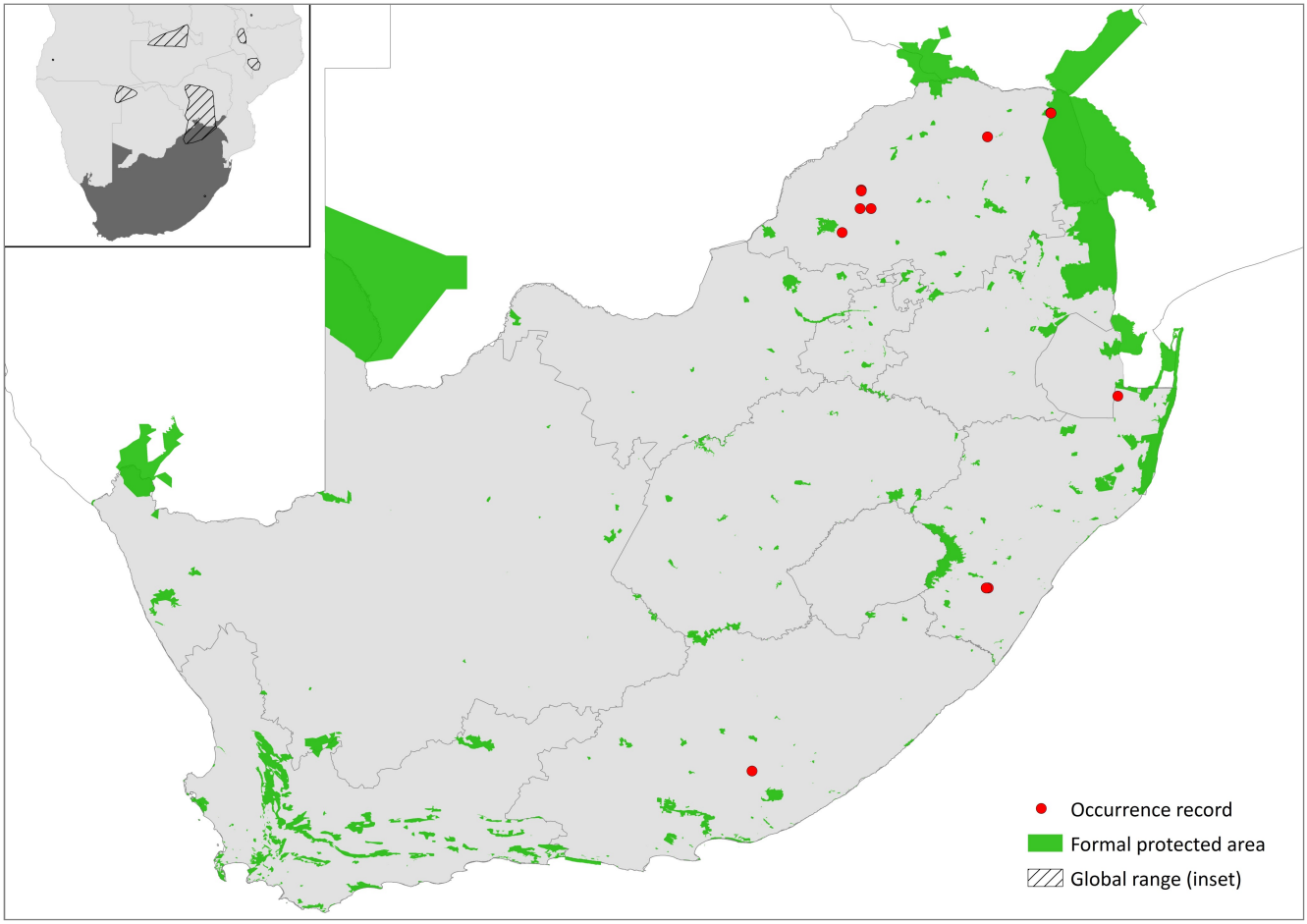

Figure 1. Distribution records for Botswana Long-eared Bat (*Laephotis botswanae*) within the assessment region

Table 1. Countries of occurrence within southern Africa

Country	Presence	Origin
Botswana	Extant	Native
Lesotho	Absent	-
Mozambique	Probably Extant	Native
Namibia	Extant	Native
South Africa	Extant	Native
Swaziland	Probably Extant	Native
Zimbabwe	Extant	Native

Severely fragmented: No

Habitats and Ecology

Animals have been recorded from dry and moist savannah, grassland and heathland habitats. It is often found in the vicinity of rivers (Monadjem et al. 2010; Kearney 2013). Its association with rocky outcrops has also been noted in some localities (Herholdt 1989; Cotterill 1996). This species prefers habitats at higher elevations (Happold & Happold 1997). All specimens have been mist-netted, so there is no information on roosting sites (Monadjem et al. 2010). However, it is reported to occur under the bark of trees in Malawi, usually in pairs (Ansell & Dowsett 1988).

Ecosystem and cultural services: Insectivorous bats are important regulators of insect populations (Boyles et al. 2011; Kunz et al. 2011). Bats feed particularly on arthropods that damage crops, and thus agricultural areas with bats require less pesticides (Kunz et al. 2011).

Use and Trade

Not known to be traded or utilised.

Threats

There appear to be no major threats to this species as a whole. However, the use of pesticides and chemicals in agricultural landscapes may reduce the prey base for this species (Friedmann & Daly 2004).

Table 2. Threats to the Botswana Long-eared Bat (*Laephotis botswanae*) ranked in order of severity with corresponding evidence (based on IUCN threat categories, with regional context)

Rank	Threat description	Evidence in the scientific literature	Data quality	Scale of study	Current trend
1	*9.3.3 Agricultural & Forestry Effluents*: pesticides causing loss of insect prey base. Current stress *1.3 Indirect Ecosystem Effects.*	-	Anecdotal	-	-

Current habitat trend: Stable. Savannah habitats are not threatened within the assessment region (Driver et al. 2012).

Conservation

Recorded from Kruger National Park and Lapalala Wilderness Area (a private nature reserve in the Waterberg Mountains of Limpopo). It may occur in more protected areas, which should be documented. No direct interventions are necessary at present. Rather, studies further detailing the distribution, ecology and taxonomic resolution are needed to better inform conservation plans.

Recommendations for land managers and practitioners:

- Use fewer pesticides and herbicides in agricultural landscapes, or employ bio-control.

Research priorities:

- Further field surveys required to more accurately delimit distribution.
- Ecological studies to determine dietary and spatial ecology.
- Molecular studies to resolve taxonomy between *L. angolensis*, and *L. botswanae*.

Encouraged citizen actions:

- None

References

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Data Sources and Quality

Table 3. Information and interpretation qualifiers for the Botswana Long-eared Bat (*Laephotis botswanae*) assessment

Data sources	Field study (unpublished), Indirect information (expert knowledge)
Data quality (max)	Inferred
Data quality (min)	Suspected
Uncertainty resolution	Best estimate
Risk tolerance	Evidentiary

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Details of the methods used to make this assessment can be found in *Mammal Red List 2016: Introduction and Methodology.*