Rhinolophus capensis – Cape Horseshoe Bat

Cliff & Suretha Dorse

Regional Red List status (2016)	**Least Concern**
National Red List status (2004)	Near Threatened B2
Reasons for change	Non-genuine change
Global Red List status (2008)	Least Concern
TOPS listing (NEMBA) (2007)	None
CITES listing	None
Endemic	Yes

The Cape Horseshoe Bat gets its name from its distribution along the coastal regions of the Northern, Western and Eastern Cape provinces, where there are many records from coastal caves (Skinner & Chimimba 2005).

Taxonomy

Rhinolophus capensis Lichtenstein 1823

ANIMALIA - CHORDATA - MAMMALIA - CHIROPTERA - RHINOLOPHIDAE - *Rhinolophus* - *capensis*

Common names: Cape Horseshoe Bat, Southern Africa Horseshoe Bat (English), Kaapse Saalneusvlermuis, Kaapse Hoefystervlermuis (Afrikaans)

Taxonomic status: Species

Taxonomic notes: Although records have been reported from Zambia and Malawi, these have been shown to be misidentified (Ansell 1986; Koopman 1993). Considering this species is confined to the Fynbos and Succulent Karoo Biomes, it is unlikely to occur anywhere else on the continent (Monadjem et al. 2010). Together with *R. denti*, *R. simulator*, and *R. swinnyi*, *R. capensis* makes up the *capensis* species-group (Csorba et al. 2003).

Assessment Rationale

This species is endemic to southern South Africa, most often associated with the Fynbos and Succulent Karoo biomes. While possibly declining in parts of its range from roost disturbance and agricultural transformation, the species is listed as Least Concern in view of its wide distribution (estimated extent of occurrence is 639,540 km^2), its known large population (there are many records of this species occurring in colonies of > 1,000 individuals in coastal caves), and because many parts of its range are protected. No specific conservation interventions are necessary at present.

Distribution

This South African endemic is mainly restricted to the coastal belt, typically 100–200 km wide (but possibly further inland, Figure 1), of the Northern Cape, Western Cape and Eastern Cape provinces, and occurs from just south of the border of Namibia in the west, as far east along the coast as the vicinity of East London (Skinner & Chimimba 2005). It occurs mainly in the South West Cape biotic zone (BZ), but extends marginally into the Karoo, Highveld, Coastal Forest Mosaic and Afromontane-Afroalpine BZs (Bernard 2013). We follow Herselman and Norton (1985) and Monadjem et al. (2010) in extending its range to just south of the Orange River on the Namibian border, but it may also occur in southern Namibia (Griffin 1999). As *R. capensis* is difficult to discern from *R. clivosus* and *R. darlingi*, records north of 32°S may need vetting (Bernard 2013). Similarly, one record from northeast Eastern Cape (Lynch 1989) needs vetting. The current estimated extent of occurrence is 639,540 km^2.

Population

This species is common throughout its range (Bernard 2013), and is relatively well represented in museums (Monadjem et al. 2010). Skinner and Chimimba (2005) state that they are abundant in the Western Cape and the Eastern Cape, where there are many records from coastal caves. It can be found in colonies consisting of thousands of individuals (Herselman & Norton 1985; Taylor 2000; Skinner & Chimimba 2005). For example, there are an estimated 19,000 individuals in De Hoop Guano Cave (McDonald et al. 1990a).

Current population trend: Stable

Continuing decline in mature individuals: No

Number of mature individuals in population: Unknown

Number of mature individuals in largest subpopulation: 19,000 individuals have been recorded in the De Hoop Guano Cave (McDonald et al. 1990a).

Number of subpopulations: Unknown

Severely fragmented: No

Habitats and Ecology

This bat has been recorded from a range of habitats, but is closely associated with the Fynbos and Succulent Karoo Biomes (Monadjem et al. 2010). Populations roost in suitable coastal and sea caves, and have been

Recommended citation: Jacobs D, Cohen L, Richards LR, Monadjem A, Schoeman C, MacEwan K, Sethusa T, Taylor PJ. 2016. A conservation assessment of *Rhinolophus capensis*. 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.

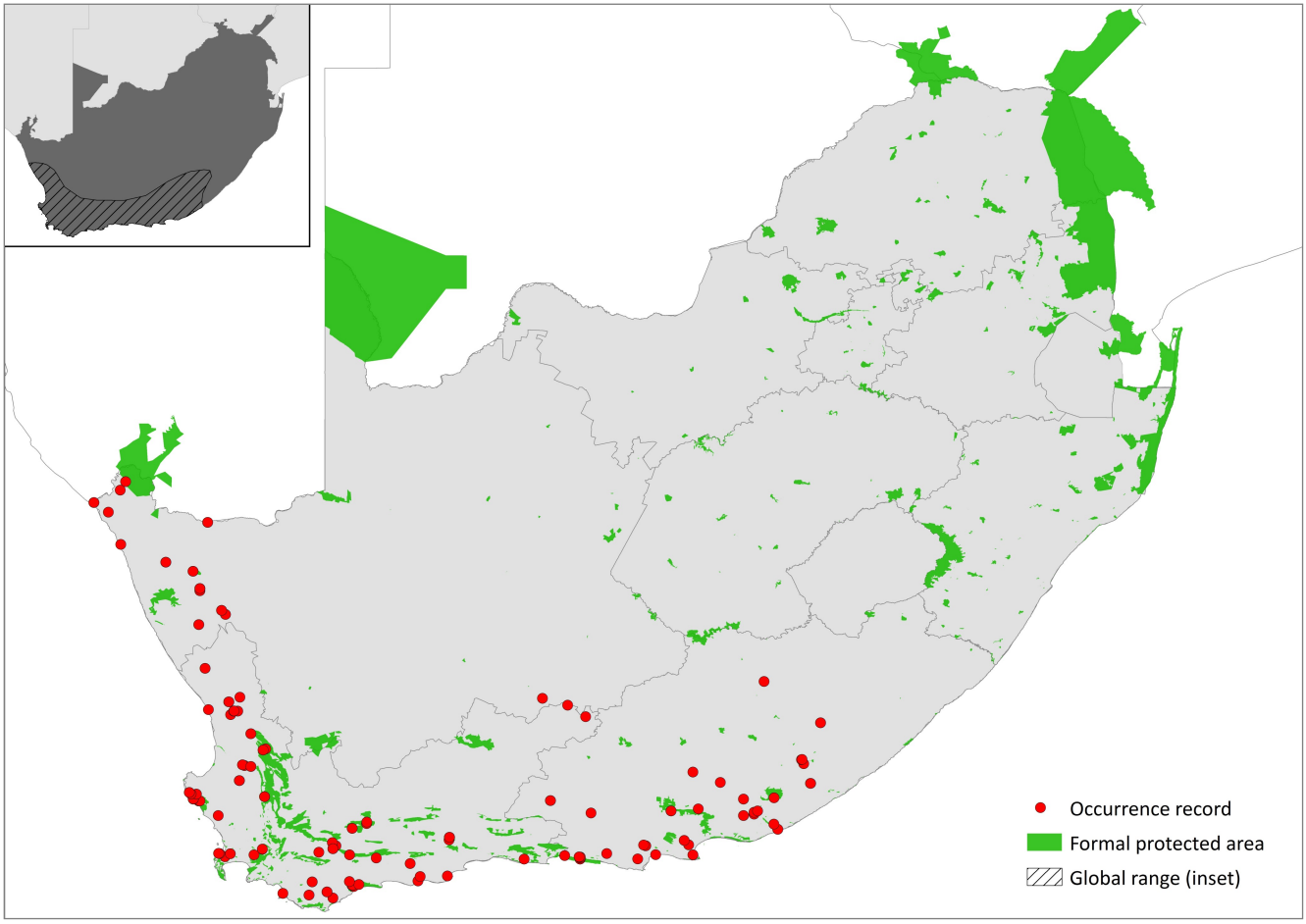

Figure 1. Distribution records for Cape Horseshoe Bat (*Rhinolophus capensis*) within the assessment region

Table 1. Countries of occurrence within southern Africa

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

recorded from dark lofts, and disused mines (Taylor 2000; Csorba et al. 2003), but apparently avoid houses (Bernard 2013). They often share caves with *R. clivosus* and *Miniopterus natalensis* (Herselman & Norton 1985; Stoffberg 2008). They forage predominantly in the canopy of trees (McDonald et al. 1990b), or in orchards surrounding wetlands and over the wetlands themselves (Sirami et al. 2013). They are clutter foragers, feeding primarily on Coleoptera and Lepidoptera (Jacobs et al. 2007; Monadjem et al. 2010). Small-scale migrations of 10 km have been recorded (Taylor 2000). The Cape Horseshoe Bat sometimes hibernates in winter but torpor is not as deep as *R. clivosus* (R.T.F. Bernard pers. obs.).

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

This species is not known to be traded or utilised.

Threats

No major threats have been identified. The species may be declining in parts of its range due to disturbance of cave roosts (often by recreational and tourism activities), and the conversion of suitable foraging habitat to agricultural use.

Current habitat trend: Declining in some areas (Pence 2014), but stable overall. Artificial wetlands are utilised if farms are well managed (Sirami et al. 2013).

Conservation

The species is recorded from more than ten protected areas including: West Coast National Park; De Hoop Nature Reserve; Garden Route National Park; Langeberg Nature Reserve; Addo Elephant National Park; Great Fish Nature Reserve; Kologha Forest Reserve and Kubusi Indigenous State Forest. While no urgent conservation interventions are necessary, the species would benefit from further protected area establishment once key roost sites have been identified; and artificial wetlands in agricultural landscapes should be managed for biodiversity by conserving patches of native vegetation around the waterbodies (Sirami et al. 2013).

Table 2. Threats to the Cape Horseshoe Bat (*Rhinolophus capensis*) ranked in order of severity with corresponding evidence (based on IUCN threat categories, with regional context)

Rank	Threat description	Evidence in the	Data	Scale of	Current
1	*2.1.3 Agro-industry Farming*: habitat loss from agricultural expansion. Current stress *1.3 Indirect Ecosystem Effects*: loss of food resources.	Pence 2014	Indirect	Regional	Ongoing
2	*2.1.2 Small-holder Farming*: habitat loss from agricultural expansion. Current stress *1.3 Indirect Ecosystem Effects*: loss of food resources.	Pence 2014	Indirect	Regional	Ongoing
		Sirami et al. 2013	Empirical	Regional	
3	*6.1 Recreational Activities*: roost site disturbance from tourism activities. Current stress *2.2 Species Disturbance*.	-	Anecdotal	-	Stable

Table 3. Conservation interventions for the Cape Horseshoe Bat (*Rhinolophus capensis*) ranked in order of effectiveness with corresponding evidence (based on IUCN action categories, with regional context)

Rank	Intervention description	Evidence in the scientific literature	Data quality	Scale of evidence	Demonstrated impact	Current conservation projects
1	*1.2 Site/Area Protection*: identify and protect key roost sites.	-	Anecdotal	-	-	-
2	*2.1 Site/Area Management*: manage artificial wetlands by conserving patches of native vegetation.	Sirami et al. 2013	Indirect	Regional	Artificial wetlands ustilised	-

Recommendations for land managers and practitioners:

- Identify and protect important roost sites for this species.

Research priorities:

- Further studies are needed into the distribution of this bat. For example, verifying its occurrence in southern Namibia.
- Quantifying population size and trend.

Encouraged citizen actions:

- Minimise disturbance to caves when visiting.
- Maintain natural vegetation in rural gardens.

Data Sources and Quality

Table 4. Information and interpretation qualifiers for the Cape Horseshoe Bat (*Rhinolophus capensis*) assessment

Data sources	Field study (literature, unpublished), museum records
Data quality (max)	Inferred
Data quality (min)	Inferred
Uncertainty resolution	Best estimate
Risk tolerance	Evidentiary

References

Ansell WFH. 1986. Some Chiroptera from south-central Africa. Mammalia **50**:507–520.

Bernard RTF. 2013. *Rhinolophus capensis*. Pages 314–316 in Happold M, Happold DCD, editors. Mammals of Africa. Volume IV: Hedgehogs, Shrews and Bats. Bloomsbury Publishing, London, UK.

Boyles JG, Cryan PM, McCracken GF, Kunz TH. 2011. Economic importance of bats in agriculture. Science **332**:41–42.

Csorba G, Ujhelyi P, Thomas N. 2003. Horseshoe Bats of the World: (Chiroptera: Rhinolophidae). Alana Books, Shropshire, UK.

Griffin M. 1999. Checklist and provisional national conservation status of Amphibians, Reptiles and Mammals known or expected to occur in Namibia. Page 49. Biodiversity Inventory, Ministry of Environment and Tourism, Windhoek, Namibia.

Herselman JC, Norton PM. 1985. The distribution and status of bats (Mammalia: Chiroptera) in the Cape Province. Annals of the Cape Provincial Museums (Natural History) **16**:73–126.

Jacobs DS, Barclay RM, Walker MH. 2007. The allometry of echolocation call frequencies of insectivorous bats: why do some species deviate from the pattern? Oecologia **152**:583–594.

Koopman KF. 1993. Order Chiroptera. Pages 137–241 in Wilson DE, Reeder DM, editors. Mammal Species of the World: Smithsonian Institution Press, Washington, DC, USA.

Kunz TH, Braun de Torrez E, Bauer D, Lobova T, Fleming TH. 2011. Ecosystem services provided by bats. Annals of the New York Academy of Sciences **1223**:1–38.

Lynch CD. 1989. The mammals of the north-eastern Cape Province. Navorsinge van die Nasionale Museum Bloemfontein **25**:1–116.

McDonald JT, Rautenbach IL, Nel JAJ. 1990a. Roosting requirements and behaviour of five bat species at De Hoop Guano Cave, southern Cape Province of South Africa. South African Journal of Wildlife Research-24-month delayed open access **20**:157–161.

McDonald JT, Rautenbach IL, Nel JAJ. 1990b. Foraging ecology of bats observed at De Hoop Provincial Nature Reserve, southern Cape Province. South African Journal of Wildlife Research **20**: 133–145.

Monadjem A, Taylor PJ, Cotterill FPD, Schoeman MC. 2010. Bats of Southern and Central Africa: a Biogeographic and Taxonomic

Synthesis. University of the Witwatersrand Press, Johannesburg, South Africa.

Pence GQK. 2014. Western Cape Biodiversity Framework 2014 status update: Critical Biodiversity Areas of the Western Cape. CapeNature, Cape Town, South Africa.

Sirami C, Jacobs DS, Cumming GS. 2013. Artificial wetlands and surrounding habitats provide important foraging habitat for bats in agricultural landscapes in the Western Cape, South Africa. Biological Conservation **164**:30–38.

Skinner JD, Chimimba CT. 2005. The Mammals of the Southern African Subregion. Third edition. Cambridge University Press, Cambridge, UK.

Stoffberg S. 2008. *Rhinolophus capensis* (Chiroptera: Rhinolophidae). Mammalian Species **810**:1–4.

Taylor PJ. 2000. Bats of Southern Africa: Guide to Biology, Identification, and Conservation. University of Natal Press, Pietermaritzburg, South Africa.

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