Delphinus capensis – Long-beaked Common Dolphin

Regional Red List status (2016)	**Least Concern***
National Red List status (2004)	Least Concern
Reasons for change	No change
Global Red List status (2008)	Data Deficient
TOPS listing (NEMBA) (2007)	None
CITES listing (2003)	Appendix II
Endemic	No

*Watch-list Data

The Long-beaked Common Dolphin is the main dolphin species associated with the Sardine Run off the east coast of South Africa – 'superpods' of up to an estimated 10,000 animals have been reported in the past.

Taxonomy

Delphinus capensis (Gray 1828)

ANIMALIA - CHORDATA - MAMMALIA - CETARTIODACTYLA - DELPHINIDAE - *Delphinus – capensis - capensis*

Common names: Long-beaked Common Dolphin (English), Langbek Gewone Dolfyn (Afrikaans)

Taxonomic status: Species

Taxonomic notes: South Africa is the type locality for *D. capensis*, yet there is an ongoing taxonomic debate about the existence of two species of common dolphins (Best 2007). The genetic differentiation between two sympatric species, the Short-Beaked Common Dolphin *D. delphis* and Long-Beaked Common Dolphin *D. capensis,* has to date only been demonstrated in the eastern North Pacific (Rosel et al. 1994) and subsequent analyses suggest that *D. capensis* is a polyphyletic taxon, with the long-beaked character being a convergent state found in a number of populations globally, probably induced by local ecological conditions (Natoli et al. 2006). Thus, in some regions, Long-Beaked Common Dolphins are genetically closer to Short-Beaked Common Dolphins than to Long-Beaked Common Dolphins elsewhere (Natoli et al. 2006). A recent global analysis of the genus *Delphinus*, which included nine specimens from the west coast of South Africa (southwestern Atlantic), concluded that all specimens analysed from the Atlantic Ocean belong to *D. delphis* and that *D. capensis* is genetically an invalid species (Cunha et al. 2015). However, no specimens from the east coast of South Africa were included in that analysis. In addition, an analysis of specimens from the east coast of South Africa indicated that these animals were the most differentiated of the long-beaked form, possibly reflecting an independent founder event (Natoli et al. 2006).

Morphological data support the presence of *D. capensis* along the south and east coast of South Africa (Jefferson & van Waerebeek 2002; Samaai et al. 2005). Based on cranial morphometrics of 153 common dolphin skulls from the Indo-Pacific region, including 43 from South Africa, all common dolphin specimens from South Africa belonged to the Long-beaked Common Dolphin (Jefferson & van Waerebeek 2002). Samaai et al. (2005) also found the vast majority of the specimens they examined to belong to *D. capensis*, baring two specimens stranded along the west coast with cranial characteristics that fell within the range of *D. delphis* from the North Pacific. The non-concordance of morphological and genetic data for this species results in much confusion and a more rigorous global revision is needed. For this reason the species name *D. capensis* has been retained here for animals found off the south-east coast of South Africa. The presence of a common dolphin in the Indian Ocean with an exceptionally long beak is recognised as a subspecies, *D. delphis*/*capensis tropicalis* (Van Bree & Gallagher 1978; Rice 1998; Jefferson & van Waerebeek 2002).

Assessment Rationale

Although there are minor threats facing this species within the assessment region, we estimate a large overall population size with no observed decline. In the late 1980s, the population size was estimated at 15,000–20,000 and we suspect the population has remained stable over that time as no threats have intensified significantly for this offshore species. Thus, this species remains Least Concern. Ongoing molecular research should help to resolve its taxonomic status and this species should be reassessed once further data are available.

Regional population effects: This is a wide-ranging and common species globally (Hammond et al. 2008), and thus rescue effects are possible.

Distribution

Long-beaked Common Dolphins generally occur within 180 km of the coast. The global distribution of this species remains little known due to the current taxonomic confusion. In African waters the species has been reported from Gabon, Congo-Brazzaville, Angola and South Africa; additional reports of common dolphins from

Recommended citation: Plön S, Cockroft V. 2016. A conservation assessment of *Delphinus capensis 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.

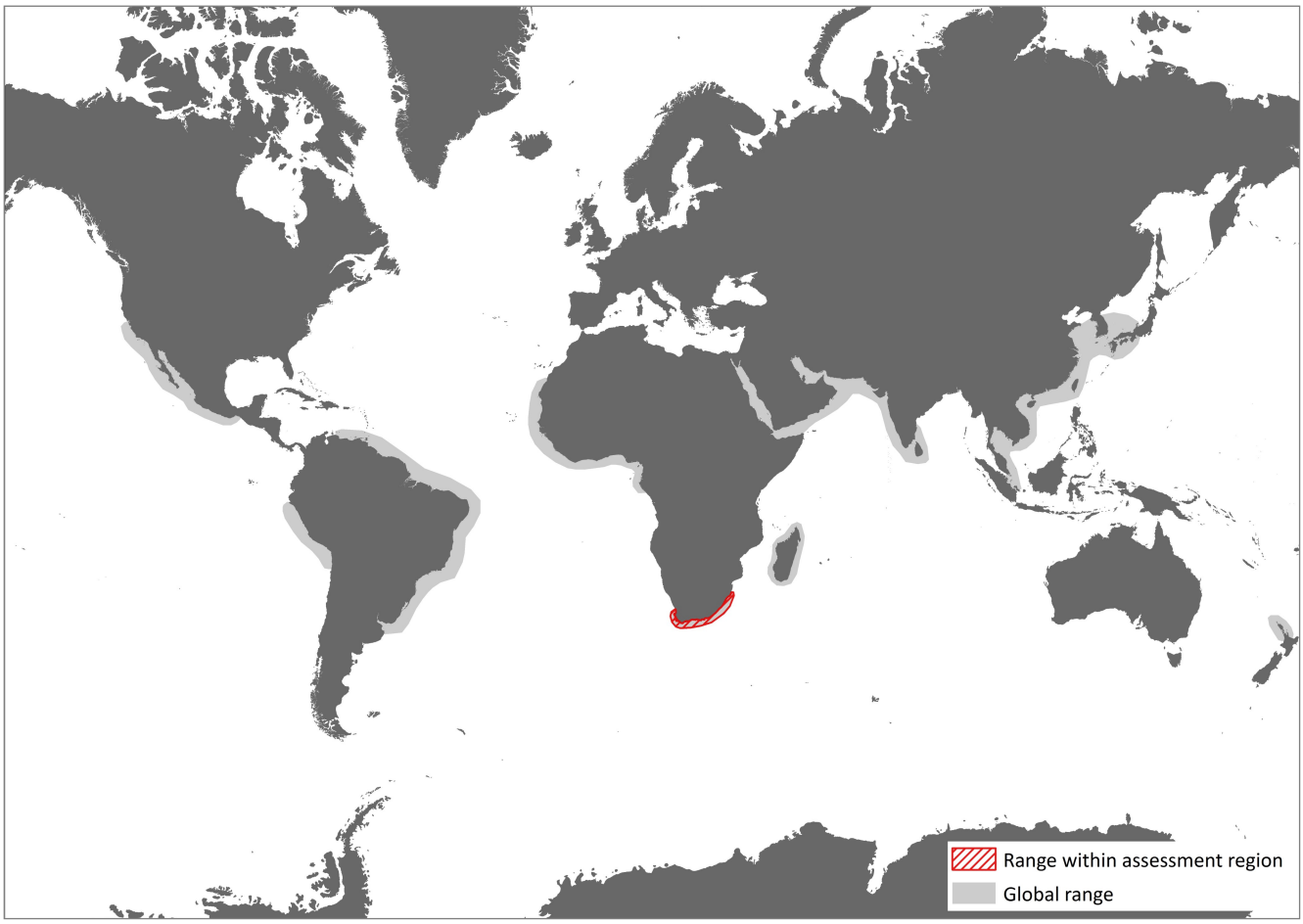

Figure 1. Distribution range for Long-beaked Common Dolphin (*Delphinus capensis*) within the assessment region (IUCN 2008)

Namibia as well as Madagascar, Mozambique and Kenya could not be distinguished to species level (Best 2007).

In South African waters, the species is mainly found along the south coast between St. Helena Bay in the west and Richard's Bay in the east, over the continental shelf within the 500 m isobaths (Findlay et al. 1992; Best 2007). However, the two extremes of the range may only be occupied seasonally (Samaai et al. 2005). The only records of Short-beaked Common Dolphins from the assessment region to date are either strandings (two from near Arniston on the south coast and one from the Cape Peninsula near Cape Town), or sightings far offshore in the southwest Indian Ocean (Samaai et al. 2005) or specimens from the west coast of South Africa (Cunha et al. 2015). Stomach content and parasite data indicate that *D. capensis* is found more inshore than *D. delphis* in the assessment region and this allopatric distribution may well result in the observed loss of genetic differentiation and taxonomic confusion (Best 2007).

Population

There are no estimates of global abundance for *D. capensis* and few local abundance estimates. A population of about 15,000–20,000 was estimated to occur off the south-east coast of South Africa between Port Elizabeth and Richards Bay in the late 1980s (Cockcroft & Peddemors 1990). We suspect the population has remained stable since then, but new population estimates are needed. Model-based estimates of generation time are 16.5 years (Taylor et al. 2007).

Current population trend: Unknown

Continuing decline in mature individuals: Unknown

Number of mature individuals in population: Unknown

Number of mature individuals in largest subpopulation: Unknown

Number of subpopulations: Unknown

Severely fragmented: No

Habitats and Ecology

Long-beaked Common Dolphins inhabit tropical and warm-temperate waters of all three major oceans. *Delphinus capensis* seems to prefer shallower and warmer water and generally occurs closer to the coast than does *D. delphis* (Perrin 2002). It is found mostly over continental shelf water depths (< 180 m), and generally does not occur around oceanic islands far from the mainland (Jefferson & van Waerebeek 2002). It sometimes associates with other species of cetaceans (Young & Cockcroft 1994; O'Donoghue et al. 2010b).

The annual Sardine Run along the south-east coast of South Africa historically has had large aggregations (often thousands of animals) of Long-beaked Common Dolphins associated with it (O'Donoghue et al. 2010b). Their role in the predator aggregations has not been studied in detail, but numerous accounts indicate that common dolphins herd the sardines (*Sardinops sagax*) into 'balls' and force them to the surface, thus making them available to seabirds and sharks (Best 2007). However, both the spatio-temporal distribution and intensity of the Sardine Run appear to have changed considerably in recent years,

Table 1. Threats to the Long-beaked Common Dolphin (*Delphinus capensis*) 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*: chemical pollution/ pesticides affecting reproduction and survival.	Cockcroft et al. 1990; Cockcroft 1999; Gui et al. 2016	Empirical	National	Ongoing
2	*5.4.3 Fishing & Harvesting Aquatic Resources*: accidental bycatch in shark-nets.	-	Anecdotal	-	Unknown
3	*11.1 Habitat Shifting & Alteration*: climate change may exacerbate shifts in prey base.	-	Anecdotal	-	Increasing

with evidence indicating a decrease in the intensity of the Sardine Run between 2002 and 2006, both in terms of sardine presence (O'Donoghue et al. 2010a) and sardine egg abundance on the KwaZulu-Natal south coast during winter (Connell 2010). This is supported by recent data from stomach contents of animals feeding off the south-east coast during the Sardine Run, which indicate a switch in prey from a diet previously dominated by sardine (Young & Cockcroft 1994), to one dominated by Chub Mackerel (*Scomber japonicas*) (Ambrose et al. 2013). However, there were no indications that this diet switch may result in changes of body condition in the animals (Ambrose et al. 2013).

Ecosystem and cultural services: Coastal dolphins, as long-lived, long-term residents along the coast, can serve as important sentinels of the health of coastal marine ecosystems (Wells et al. 2004). As top-level predators on a wide variety of fishes and squids, they concentrate contaminants through bioaccumulation and integrate broadly across the ecosystem in terms of exposure to environmental impacts (Cockcroft et al. 1990; Gui et al. 2016). In a recent study investigating pollutant load in 90 specimens from six species from South African waters, *D. capensis* (n = 50) showed amongst the highest levels of contaminants, with a mean total persistent organic pollutant (POP) concentration of 5,500 mg / g lw (Gui et al. 2016). Dichlorodiphenyltrichloroethane (DDT) levels in South African delphinids were markedly higher than those from other geographical regions and may potentially pose a threat to local populations (Gui et al. 2016).

Use and Trade

There is direct take of this species in certain areas for human food, and as bait in fisheries, but this is not suspected to occur significantly or to be a threat within the assessment region.

Threats

High organochlorine levels on the south-east coast, where agriculture is concentrated, may threaten the lives of first-born calves and may have deleterious impacts on the reproductive rates of the populations (Cockcroft 1999).

Since 2007 the incidental bycatch of Long-beaked Common Dolphins in bather protection nets off KwaZulu-Natal has declined dramatically, from 32 and 12 animals in 2005 and 2006, respectively, to an average of 2.85 dolphins between 2007 and 2014 (Port Elizabeth Museum unpubl. data). This can be largely attributed to a change in the administration of the nets and not a decline in local populations. However, Long-beaked Common Dolphins are known to be taken in gillnets, trawls, and purse seines in Indian Ocean waters. In addition, some common dolphins die annually in the South African purse-seine fishery for pelagic fish off the Western Cape (Best 2007). Although unfortunate, given the size of local populations it is assumed that these incidental mortalities in fishing gear are sustainable (Best 2007).

A significant portion of the diet is squid, especially for lactating females, as a water source (Young & Cockcroft 1994). There has been a decline in the inshore squid fishery, suggesting this may impact Long-beaked Common Dolphins.

Climate change might exacerbate a loss or shift in prey base, especially because of its clumped distribution pattern globally.

Conservation

The species is listed in Appendix II of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) and the Marine Living Resources Act (No. 18 of 1998). The shark nets of KwaZulu-Natal historically caught an annual average of 39 common dolphins, resulting in a total of 1,023 animals between 1980 and 2005 (Best 2007). However, since 2007 this trend has declined to an average of 2.85 dolphins per annum (Port Elizabeth Museum unpubl. data). The decrease in bycatch is most likely due to the removal of the shark nets during the winter sardine range expansion (the Sardine Run). This time-area closure strategy has thus proven to be an effective mitigation measure for this species.

Table 2. Conservation interventions for the Long-beaked Common Dolphin (*Delphinus 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	*2.1 Site/Area Management*: time/ area closures for shark nets.	Port Elizabeth Museum unpubl. data	Empirical	Regional	Time/area closure reduces bycatch.	Natal Sharks Board, Nelson Mandela Metropolitan University

Recommendations for managers and practitioners:

- Systematic monitoring of the abundance and distribution of this species is recommended, particularly with reference to the winter sardine movements up the east coast.

Research priorities:

- Molecular investigations of stock structure would assist in determining the impact of fishery interactions.
- Taxonomic resolution. Taxonomic split in South African waters has not been resolved. There are possibly three different subspecies / species pooled into one.
- Current population size and trend estimates.

Encouraged citizen actions:

- Use information dispensed by the South African Sustainable Seafood Initiative to make good choices when buying fish in shops and restaurants (for example, wwfsa.mobi, FishMS 0794998795).
- Buy fresh produce that has been grown in pesticide-free environments.
- Save electricity and fuel to mitigate carbon dioxide emissions and hence rate of climate change.
- Buy local products that have not been shipped.

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Data Sources and Quality

Table 3. Information and interpretation qualifiers for the Long-beaked Common Dolphin (*Delphinus capensis*) assessment

Data sources	Field study (literature), indirect information (unpublished)
Data quality (max)	Inferred
Data quality (min)	Inferred
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.*