Lissodelphis peronii – Southern Right Whale Dolphin

Regional Red List status (2016)	**Least Concern**
National Red List status (2004)	Not Evaluated
Reasons for change	Non-genuine change: New information
Global Red List status (2012)	Data Deficient
TOPS listing (NEMBA) (2007)	None
CITES listing (2003)	Appendix II
Endemic	No

Southern Right Whale Dolphins are extremely easy to identify and are unusual, due to the fact that they lack a dorsal fin and have a distinct black and white pattern of colouration (Cruickshank & Brown 1981).

Taxonomy

Lissodelphis peronii (Lacépède 1804)

ANIMALIA - CHORDATA - MAMMALIA - CETARTIODACTYLA - DELPHINIDAE - *Lissodelphis - peronii*

Common names: Southern Right Whale Dolphin, Southern Right Whale Porpoise, Mealy-mouthed Porpoise (English), Suidelike Noordkaperdolfyn (Afrikaans)

Taxonomic status: Species

Taxonomic notes: Two species of Lissodelphis are currently described, the Northern Right Whale Dolphin, *Lissodelphis borealis*, which occurs in the North Pacific, and the Southern Right Whale Dolphin, *Lissodelphis peronei,* from the southern hemisphere (Mead & Brownell 1993). Both species characteristically lack a dorsal fin (Jefferson et al. 1994). There remains some doubt over the validity of these species, however at present they are retained as separate species by most authors (Jefferson et al. 1994).

Assessment Rationale

Although there are no abundance estimates for Southern Right Whale Dolphins. The very low sighting rate is probably due to a lack of sampling effort. It is suspected that the population is robust and there is no reason to believe there is any decline. The offshore distribution of this species suggests no major threats. Thus, this species is listed as Least Concern within the assessment region. However, the possible disturbing effect of seismic activity is a minor threat. This species may require re-assessment if new data emerge, but it is not currently a conservation priority.

Regional population effects: Southern Right Whale Dolphins are widely distributed across the temperate regions of the southern hemisphere, and although their movement patterns are largely undocumented, no barriers to dispersal have been recognised, thus rescue effects are possible.

Distribution

Southern Right Whale Dolphins have a circumpolar distribution across the southern hemisphere, restricted to regions north of the Antarctic Convergence (Rose & Payne 1991) and south of the Subtropical Convergence (Skinner & Chimimba 2005). There are, however, infrequent records of this species extending beyond these limits, for example 58–61°S (Jefferson et al. 1994) and to 12.5°S off the coast of Peru (Van Waerebeek et al. 1991). Strandings have been documented in southern Argentina (Goodall 1978), New Zealand and Australia (Baker 1981).

Presumably this species follows cold-water currents, such as the Benguela and Humbodt (Watson 1985). In southern Africa, this species is known from the west coast, ranging northwards as far as about 23°S, due to the cold counter clockwise Benguela Current; occurring primarily in the region of upwelling off Lüderitz (Rose & Payne 1991). There is just one confirmed record of Southern Right Whale Dolphins off South Africa's coast, just south of the Orange River (Rose & Payne 1991), though there are at least two skulls from the 19th century which are thought to have been collected from South African beaches (Cruickshank & Brown 1981). This species has also been documented in the waters around Marion Island (Cruickshank & Brown 1981). They are predominantly found offshore and there are no documented inshore sightings off Namibia, however rare inshore sightings from Chile have been recorded (Aguayo 1975). Since this species tends to be localised off Lüderitz (Namibia), it is suspected that this group may infrequently extend marginally into South Africa (Rose & Payne 1991). Thus, sightings are expected to occur further south in the Benguela Current but the lack thereof is likely to be due to a paucity of sampling effort.

Population

No global estimates or trends are available for Southern Right Whale Dolphins, and generally, this species seems

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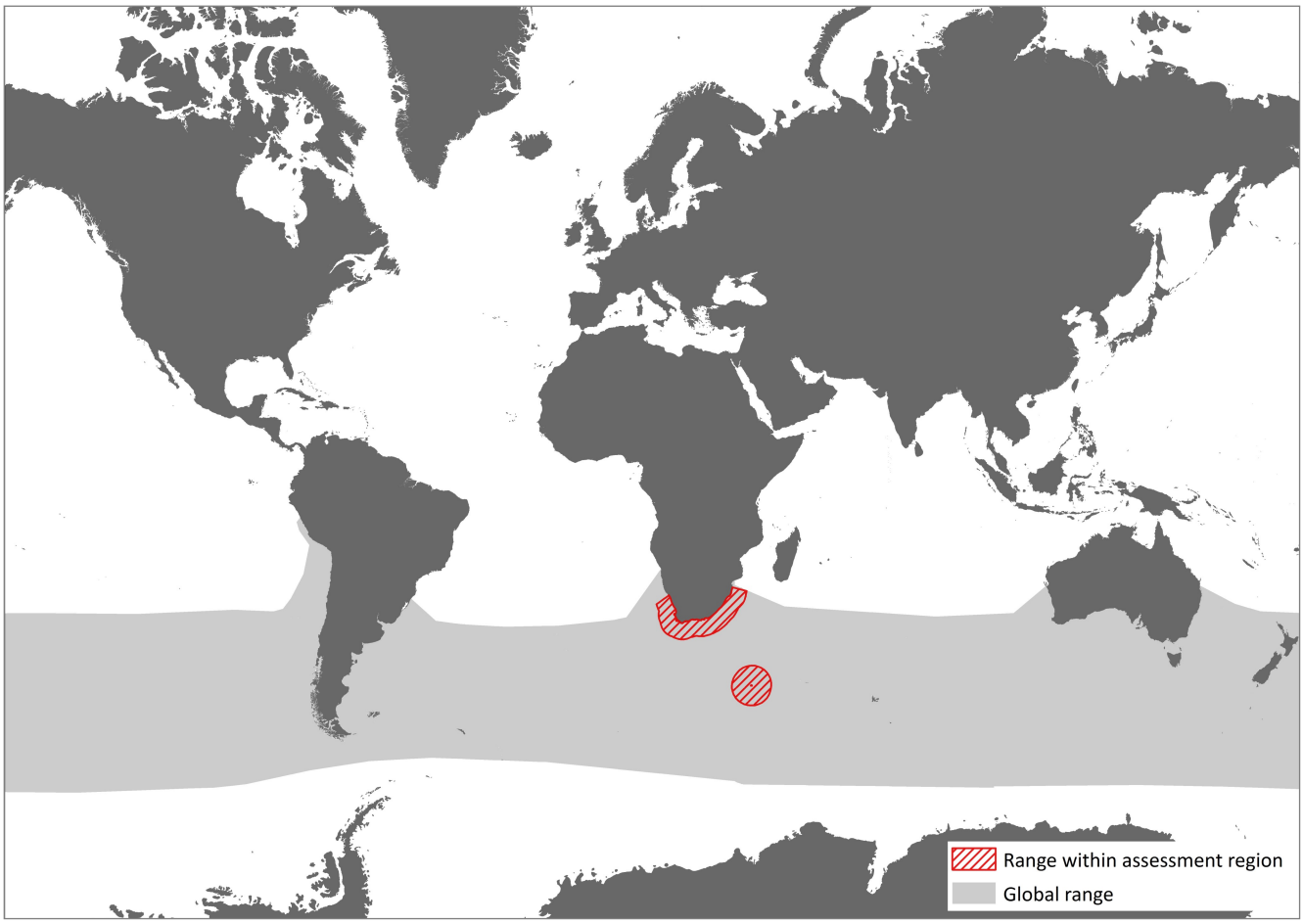

Figure 1. Distribution range for Southern Right Whale Dolphin (*Lissodelphis peroni*) within the assessment region (IUCN 2008)

to avoid contact with oceanic vessels, and their fast-swimming behaviour renders them difficult to spot at sea (Rose & Payne 1991). This species is known from only one confirmed record off South Africa's northwestern coast, as well as around Marion Island, and there are no population estimates for the assessment region. In general, this species is considered to have a robust population and to be fairly common within its range (Jefferson et al. 1994; Lipsky et al. 2002). Additionally, Rose and Payne (1991) suggest that they may be considerably more common in southern African waters than previously believed (Rose & Payne 1991). However, this is only likely to be the case for Namibia, as they are thought to extend only marginally into the waters off South Africa's west coast, thus they are not considered abundant within the waters off northwestern South Africa (Branch et al. 2007). Taylor et al. (2007) estimated a generation period of 18.3 years for this species.

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

Gaskin (1968) suggested that this species typically prefers cooler temperate waters between the Subtropical and Antarctic Convergences, at water temperatures of 9–16°C, thus the lack of sightings in the warmer regions off the southern Indian Ocean is not unexpected (Rose & Payne 1991). However, all of Cruickshank and Brown's (1981) sightings were recorded in waters more than 15.7°C, though subsurface temperatures are likely to have been substantially lower. Thus, it is expected that although this species may be more common in cooler waters (9–16°C), they are certainly not restricted to this temperature range (Rose & Payne 1991). Although generally preferring deep waters, this species does occur in nearshore regions with steep coastal gradients.

Although the feeding ecology of the Southern Right Whale Dolphin is poorly documented, they are believed to feed nocturnally (Torres & Aguayo 1979), predominantly on squid and fish (Jefferson et al. 1994). Laternfish (mostly *Hygophum hanseni*) and squid (primarily *Gonatus antarcticus*) remains were found in the stomach of an individual captured of Chile (Torres & Aguayo 1979). Additionally, the stomach of two individuals stranded in New Zealand contained the fish species *Macruronus novaezelandiae* and the squid *Nototodarus sloanii* (Baker 1981). Rose and Payne (1991) conclude that Southern Right Whale Dolphins are highly gregarious and specialised feeders that, due to their high levels of activity, may be reliant on strong upwelling regions of high productivity in order to meet their energetic demands.

This species has been documented in schools ranging from 4 to 1,000 individuals (Gaskin 1968). Groups of *L. peronii* have been observed traveling at rapid speeds (estimated at about 20 knots, Rose & Payne 1991) usually just below the surface, surfacing only briefly (Cruickshank

& Brown 1981). Southern Right Whale Dolphins occasionally associate with other cetacean species, such as Dusky Dolphins (*Lagenorhynchus obscurus*) and pilot whales (presumably Long-finned Pilot Whales, *Globicephala melas*, due to their west coast distribution) (Cruickshank & Brown 1981). Very little information is known about the reproductive ecology of these species, though they have been recorded as sexually mature at length of 2.18 m and 2.51 m for females and males, respectively (Van Waerebeek et al. 1991).

Ecosystem and cultural services: Marine mammals integrate and reflect ecological variation across large spatial and long temporal scales, and therefore they are prime sentinels of marine ecosystem change; polar cetaceans are useful for assessing the effects of rapid changes in sea ice conditions on food webs in these strongly seasonal ecosystems (Moore 2008).

Use and Trade

There is no trade or use of this species in the assessment region.

Threats

Seismic activity, for oil and gas, might be a minor threat, due to possible disturbance of Southern Right Whale Dolphins. They have been directly taken in gillnets elsewhere in the world but there is no evidence that it occurs in South African waters. Considering the squid-based diet of the Southern Right Whale Dolphin and its distribution in pelagic waters off the west coast of southern Africa, there may be some threat of competition for forage resources with pelagic trawl fisheries.

The impact of global climate change, and the associated effects of increased water temperature and CO2 concentration, on Southern Right Whale Dolphins is largely unknown, however, is likely to have cascading effects on the movements and feeding ecology of these species (Learmonth et al. 2006).

Current habitat trend: Stable

Conservation

Southern Right Whale Dolphins are listed in Appendix II of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) and are protected by the Marine Living Resources Act (No. 18 of 1998) of the national legislation. Although, no specific conservation measures have been identified for this species, it would benefit from continued research into their population dynamics and distribution patterns. Additionally, the impacts of direct threats, such as noise pollution and bycatch in pelagic fisheries, as well as the indirect effects of climate change and competition on food resources should be investigated.

Recommendations for managers and practitioners:

- Sightings, strandings and bycatch data should be recorded, especially during ship-based surveys aimed at other cetacean species, as well as commercial fisheries and marine tour operators.

Research priorities:

- Data pertaining to the species' distribution patterns and the severity of potential threats that could affect the listing of this species.
- Estimates of population size and trends, as well as the distribution of this species within the assessment region are urgently needed.

Encouraged citizen actions:

- Use information dispensed by the South African Sustainable Seafood Initiative (SASSI) to make good choices when buying fish in shops and restaurants, e.g. wwfsa.mobi, FishMS 0794998795.
- Save electricity and fuel to mitigate CO^2 emissions and hence, the rate of climate change.
- Buy local products that have not been shipped.
- Report sightings on virtual museum platforms (for example, iSpot and MammalMAP) to help with mapping geographical distribution.
- Avoid using plastic bags.

References

Aguayo LA. 1975. Progress report on small cetacean research in Chile. Journal of the Fisheries Board of Canada **32:**1123–1143.

Baker SG. 1981. The Southern Right Whale Dolphin *Lissodelphis peronii* (Lacépède) in Australasian waters. Records of the National Museum of New Zealand **2**:17–34.

Branch G., Griffiths C., Branch M., Beckley L. 2007. Two Oceans. A Guide to the Marine Life of Southern Africa. Struik Publishers, Cape Town, South Africa.

Cruickshank RA, Brown SG. 1981. Recent observations and some historical records of Southern Right-Whale Dolphins *Lissodelphis peronii.* Fisheries Bulletin South Africa **15**:109–121.

Table 1. Threats to the Southern Right Whale Dolphin (*Lissodelphis peronii*) 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	*9.6 Noise Pollution*: marine noise pollution through seismic surveys and navy sonar operations. Current stress *2.2 Species Disturbance*.	-	Anecdotal	-	-
2	*5.4.4 Fishing & Harvesting Aquatic Resources*: entanglement and competition with pelagic fisheries, particularly trawl squid fisheries off the west coast. Current stresses *2.1 Species Mortality, 2.2 Species Disturbance* and *2.3.8 Indirect Species Effects on Food Resources*.	-	Anecdotal	-	-
3	*11.1 Habitat Shifting & Alteration*: climate change may exacerbate shifts in prey base. Current stress *2.3.8 Indirect Species Effects on Food Resources.*	-	Anecdotal	-	-

Data Sources and Quality

Table 2. Information and interpretation qualifiers for the Southern Right Whale Dolphin (*Lissodelphis peronii*) assessment

Data sources	Field study (strandings – unpublished, literature), indirect information (expert knowledge)
Data quality (max)	Suspected
Data quality (min)	Suspected
Uncertainty resolution	Expert consensus
Risk tolerance	Evidentiary

Gaskin DE. 1968. Distribution of Delphinidae (Cetacea) in relation to sea surface temperatures off eastern and southern New Zealand. New Zealand Journal of Marine and Freshwater Research **2**:527–534.

Goodall RNP. 1978. Report on the small cetaceans stranded on the coasts of Tierra del Fuego. Scientific Reports of the Whales Research Institute **30**:197–230.

IUCN (International Union for Conservation of Nature). 2008. *Lissodelphis peronii*. The IUCN Red List of Threatened Species. Version 3.1. http://www.iucnredlist.org. Downloaded on 21 February 2016.

Jefferson TA, Newcomer MW, Leatherwood S, Van Waerebeek K. 1994. Right whale dolphins *Lissodelphis borealis* (Peale, 1848) and *Lissodelphis peronii (*Lacepede, 1804). Pages 335–362 in Ridgway SH, Harrison R, editors. Handbook of Marine Mammals. Volume 5: The First Book of Dolphins. Academic Press, New York, New York, USA.

Learmonth JA, MacLeod CD, Santos MB, Pierce GJ, Crick HQP, Robinson RA. 2006. Potential effects of climate change on marine mammals. Oceanography and Marine Biology **44**:431.

Lipsky JD, Perrin WF, Würsig B, Thewissen JGM. 2002. Right whale dolphins *Lissodelphis borealis* (Peale, 1848) and *L. peronii*. Pages 1030–1033 Encyclopedia of Marine Mammals. Academic Press, San Diego, CA, USA.

Mead JG, Brownell RL. 1993. Order Cetacea. Pages 349–364 in Wilson DE, Reeder DM, editors. Mammal Species of the World: A Taxonomic and Geographic Reference. Smithsonian Institution Press, Washington, DC, U.S.A.

Moore SE. 2008. Marine mammals as ecosystem sentinels. Journal of Mammalogy **89**:534–540.

Rose B, Payne AI. 1991. Occurrence and behavior of the Southern Right Whale Dolphin *Lissodelphis peronii* off Namibia. Marine Mammal Science **7**:25–34.

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

Taylor BL, Chivers SJ, Larese J, Perrin WF. 2007. Generation length and percent mature estimates for IUCN assessments of cetaceans. Administrative Report LJ-07-01. Southwest Fisheries Science Center, USA.

Torres ND, Aguayo LA. 1979. Feeding habits of *Lissodelphis peronii* (Lacépède 1804) in central Chile (Cetacea; Delphinidae). Revista Biologia Marina Departamento Oceanologia Universidad Chile **16**:221–224.

Van Waerebeek K, Canto J, Gonzalez J, Oporto J, Brito JL. 1991. Southern Right Whale Dolphins, *Lissodelphis peronii* off the Pacific coast of South America. Zeitschrift für Säugetierkunde **56**:284–295.

Watson L. 1985. Whales of the world. A complete guide to the world's living whales, dolphins and porpoises. Hutchinson, London, UK.

Assessors and Reviewers

Stephanie Plön[1], Fiona Preston-Whyte[2] ,Claire Relton[2]

[1]Nelson Mandela Metropolitan University, [2]Endangered Wildlife Trust

Contributors

Shanan Atkins[1], Matthew F. Child[2] ,Simon Elwan[3], Ken Findlay[3], Mike Meÿer[4] Herman Oosthuizen[4]

[1]Private, [2]Endangered Wildlife Trust, [3]University of Pretoria, [4]Department of Environmental Affairs

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