

Grampus griseus – Risso’s Dolphin



Regional Red List status (2016)	Least Concern
National Red List status (2004)	Data Deficient
Reasons for change	Non-genuine change: New information
Global Red List status (2012)	Least Concern
TOPS listing (NEMBA) (2007)	None
CITES listing (2003)	Appendix II
Endemic	No

Extensive lines of white scar tissue stretch down the sides of Risso’s Dolphins, which may be acquired while playing or fighting, or may be the result of squid bites (Baird 2002).

Taxonomy

Grampus griseus (Cuvier 1812)

ANIMALIA - CHORDATA - MAMMALIA -
CETARTIODACTYLA - DELPHINIDAE - *Grampus - griseus*

Synonyms: *Grampus rissoanus* (Gray 1850)

Common names: Risso’s Dolphin, Grey Dolphin
(English), Risso se Dolfyn (Afrikaans)

Taxonomic status: Species

Taxonomic notes: A skull belonging to a South African specimen, previously ascribed to *G. richardsonii* (Gray 1865) from the South African Museum was later found to belong to the North Atlantic species *G. griseus* by True (1889). This species is now recognised throughout the tropical and temperate regions of all major oceans. Though there is evidence of morphological and genetic variation between and within oceans, these population divisions remain unclear, and no subspecies are currently recognised (Baird 2002). Much geographic variation in body size has been documented, for example, North Atlantic specimens reach lengths of approximately 4.0 m, while individuals from South Africa are recorded to average 3.41 m (Ross 1984).

Assessment Rationale

Although no data on population dynamics are available for Risso’s Dolphins, there are no major threats that could cause a range-wide decline and this species is not a conservation priority. The biggest threat within the assessment region, the Chokka fishery, is localised and is not suspected to impact the population negatively. However, this threat should be monitored. Currently, they are listed as Least Concern, in line with the global assessment.

Regional population effects: Risso’s Dolphin is a wide-ranging, pelagic species, and although their movements and seasonality are largely unknown, no barriers to dispersal have been recognised, thus rescue effects are possible.

Distribution

Risso’s Dolphins are located extensively throughout tropical and temperate regions of both the southern and northern hemisphere, predominantly in waters more than 1,000 m deep on the continental slope, but also have an apparent preference for the steep continental shelf edges between 400–1,000 m deep (Kruse et al. 1999; Baird 2002). Within the assessment region, this species has been recorded along the shelf edge, between 31°S on South Africa’s west coast, and 29°S on the east coast (Skinner & Chimimba 2005). Along the west coast, sightings have been reported from Saldanha Bay, and strandings between 23°S and 21°S have been recorded from Namibia (Findlay et al. 1992). On the east coast, Risso’s Dolphins have been documented well offshore, along the 1,000 m isobath (Ross 1984).

Population

No global population estimates or trends are available for Risso’s Dolphins, and although some regional estimates exist for other areas (Baird 2002), there are none for the assessment region. However, based on the frequency of strandings (approximately 8 per year on South Africa’s east coast), a relatively high population abundance is expected in South African waters. Generally, in regions where their ranges overlap, Risso’s Dolphins are more abundant than other closely related cetaceans, including pilot whales (*Globicephala* spp.), False Killer Whales (*Pseudorca crassidens*), Melon-headed Whales (*Peponocephala electra*) and Pygmy Killer Whales (*Feresa attenuata*) (Baird 2002). Taylor et al. (2007) estimated a generation period of 19.6 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

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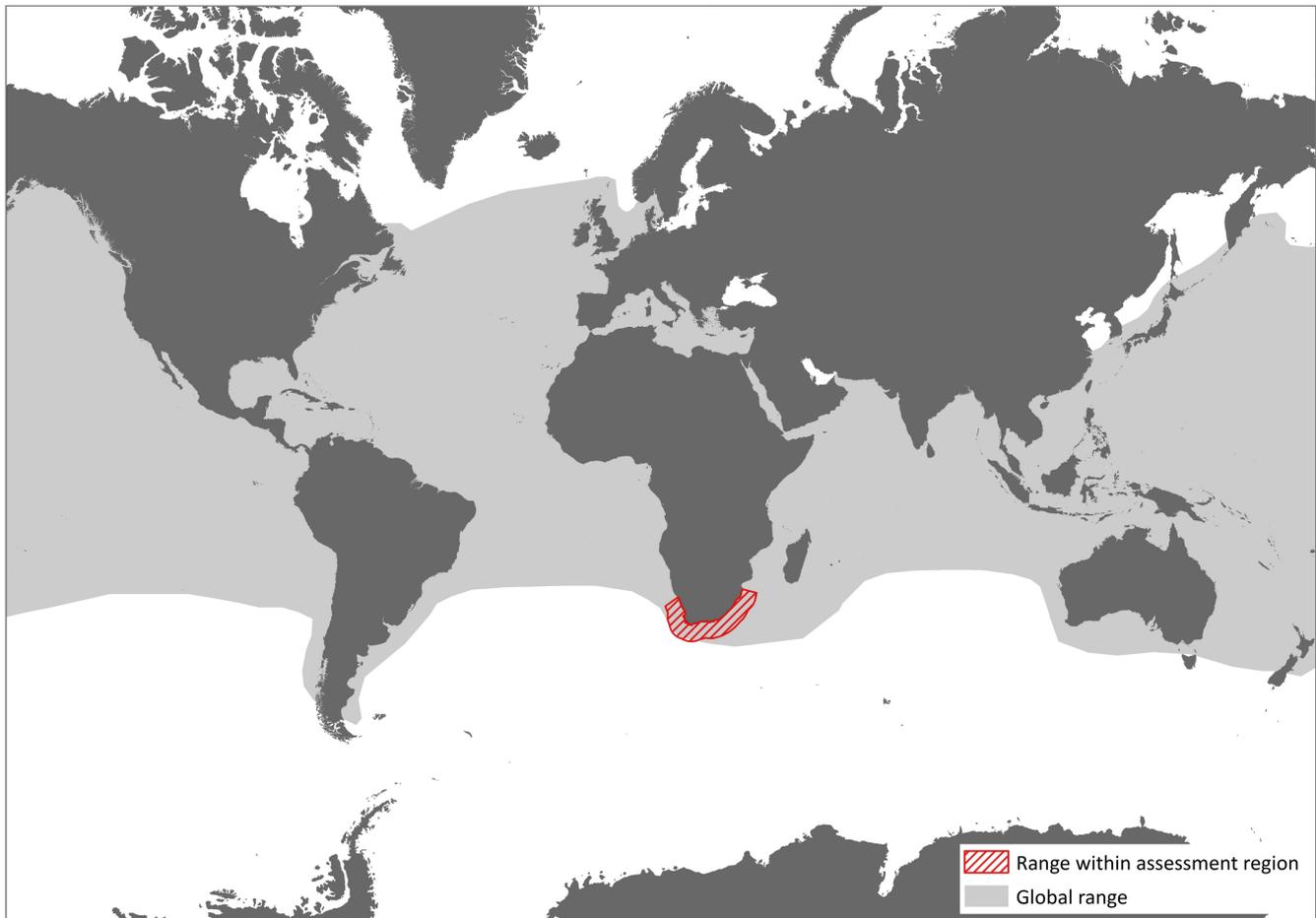


Figure 1. Distribution range for Risso's Dolphin (*Grampus griseus*) within the assessment region (IUCN 2012)

Habitats and Ecology

Generally inhabiting deep pelagic waters, Risso's Dolphins are often associated with regions along, and seaward from, the continental slope (Baird 2002). Although, some geographic shifts in abundance have been documented off North America's west coast, no seasonality has been recognised within South African waters, as sightings and strandings occur throughout the year (Findlay 1989; Ross 1984). Their range appears to be somewhat restricted by water temperature, with populations most commonly occurring in waters between 15°C and 20°C, and very infrequently inhabiting waters below 10°C (Baird 2002).

This species is thought to feed almost exclusively on cephalopods (Baird 2002). In fact, the stomach contents of 65 individuals stranded in the Eastern Cape between 1969 and 1991 were comprised entirely of cephalopod remains (Cockcroft et al. 1993). Of the 17 prey species identified, the most important cephalopod species, constituting 81% of the prey mass was *Loligo reynaudii* (previously considered a subspecies of *Loligo vulgaris*, i.e. *L. v. reynaudii*) (Cockcroft et al. 1993). This analysis suggested that these individuals fed within the Agulhas Current and along the narrow regions of the continental shelf (Cockcroft et al. 1993). Fish species, such as anchovy (*Engraulis capensis*) and Cape Horse Mackerel (*Trachurus trachurus capensis*) represented a minor proportion of the diet of individuals from the Western Cape, with 14 species of cephalopods making up the remaining proportion, mostly *Octopus* spp. (Sekiguchi et al. 1992). Based on limited data, this species is thought to feed predominantly at night (Baird 2002).

This gregarious species characteristically travels in groups of between 10 and 50 individuals, and is frequently associated with other cetaceans (Baird 2002). Ross (1984) suggested that Risso's Dolphins exhibit seasonal reproduction, giving birth in southern hemisphere summer (December–April) following a gestation period of 12 months. Newborn calves have been recorded at lengths of 1.5 m (Mitchell 1975a).

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 (Moore 2008).

Use and Trade

Although historical exploitation of this species has been documented in Japanese waters (Mitchell 1975b), there is no trade or use of this species within the assessment region.

Threats

The Chokka Squid (*Loligo vulgaris reynaudii*) is the second most important prey species, in terms of numbers and frequency, and the most important species in terms of mass (S. Plön, unpubl. data). Thus competition with the Chokka fishery could pose a real threat to this species, however, currently this has not been documented and no direct observations have been made. Linked to this, Risso's Dolphins sometimes remove bait from longline fisheries, thus they are occasionally deliberately shot by aggravated fishermen. The inshore area utilised by the

Table 1. Threats to the Risso's Dolphin (*Grampus griseus*) 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	5.4.4 <i>Fishing & Harvesting Aquatic Resources</i> : competition with squid fisheries, especially Chokka squid. Current stress 2.3.8 <i>Indirect Species Effects on Food Resources</i> .	-	Anecdotal	-	-
2	5.4.5 <i>Persecution/Control</i> : retaliatory killings by longline fisheries. Current stress 2.1 <i>Species Mortality</i> .	-	Anecdotal	-	-
3	9.6 <i>Noise Pollution</i> : marine noise pollution through seismic surveys and navy sonar operations. Current stresses 2.1 <i>Species Mortality</i> and 2.2 <i>Species Disturbance</i> .	-	Anecdotal	-	-
4	11.1 <i>Habitat Shifting & Alteration</i> : climate change may exacerbate shifts in prey base. Current stress 2.3.8 <i>Indirect Species Effects on Food Resources</i> .	-	Anecdotal	-	-
5	9.4 <i>Garbage & Solid Waste</i> : plastic bag ingestion. Current stresses 2.1 <i>Species Mortality</i> and 2.2 <i>Species Disturbance</i> .	-	Anecdotal	-	-

Chokka fishery is only a small part of this species' range, thus it is suspected to be a minor threat. In other parts of its range, this species has been recorded as accidental bycatch in gillnet and seine-net fisheries (Baird 2002).

Similar to beaked whales, this species may be vulnerable to marine noise pollution produced by, for example, navy sonar and seismic exploration (Cox et al. 2006). Additionally, the increasing risk of plastic pollution (Baird 2002) and global climate change (Learmonth et al. 2006) should also be recognised as minor threats to this species, although the severity of these impacts requires confirmation.

Current habitat trend: Stable

Conservation

Risso's Dolphin is listed in Appendix II of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) and this species is protected by the Marine Living Resources Act (No. 18 of 1998) of the national legislation. No species-specific conservation measures have been recognised. However, based on the likelihood of depredation on longline and Chokka fisheries, and the resulting persecution of this species by local fishermen, systematic monitoring of this species is required. Additionally, continued research into the general ecology and severity of threats to this species would be beneficial.

Recommendations for managers and practitioners:

- Systematic monitoring of this species in the assessment region, particularly with regards to their interactions with long-line and Chokka fisheries.

Research priorities:

- The severity and potential impacts of threats, specifically the impacts of competition, bycatch and persecution with fisheries.
- Population status and trends in abundance.
- The general ecology of Risso's Dolphins off South Africa.

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 CO₂ 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. Sightings data from pelagic commercial tourism operators may be particularly valuable.
- Report any strandings to the relevant local authorities.

Data Sources and Quality

Table 2. Information and interpretation qualifiers for the Risso's Dolphin (*Grampus griseus*) assessment

Data sources	Field study (strandings – unpublished), indirect information (expert knowledge)
Data quality (max)	Suspected
Data quality (min)	Suspected
Uncertainty resolution	Expert consensus
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*.