Lagenodelphis hosei – Fraser'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

This species is occasionally misidentified as the Striped Dolphin (*Stenella coeruleoalba*) at sea, because both species have a stripe running along the length of their bodies; howeverm Fraser's Dolphins have a characteristic short snout, small fins and there is considerable variation in the intensity and width of the lateral stripe (Skinner & Chimimba 2005).

Taxonomy

Lagenodelphis hosei (Fraser 1956)

ANIMALIA - CHORDATA - MAMMALIA - CETARTIODACTYLA - DELPHINIDAE - *Lagenodelphis* - *hosei*

Common names: Fraser's Dolphin, Bornean Dolphin, Sarawak Dolphin, Shortsnout Dolphin, Short-snouted Whitebelly Porpoise, Short-snouted Whitebelly Dolphin, White Porpoise, (English), Fraser se Dolfyn, Fraser-dolfyn (Afrikaans)

Taxonomic status: Species

Taxonomic notes: Until 1971 this species was recognised only from a skeleton located in 1895 from Borneo (Findlay et al. 1992). However, it was later sighted at sea off southern Africa, Australia and in the Eastern Pacific (Perrin et al. 1973). The name *Lagenodelphis* was given to this species by Fraser (1956), because the skull resembles characteristics from both *Lagenorhynchus* and *Delphinus*.

Assessment Rationale

The species is suspected to be widespread and abundant and there have been no reported population declines or major threats identified that could cause a range-wide decline. Globally, it has been listed as Least Concern and, within the assessment region, it is not a conservation priority and therefore, the regional change from Data Deficient to Least Concern reflects the lack of major threats to the species. The most prominent threat to this species globally may be incidental capture in fishing gear and, although this is not considered a major threat to this species in the assessment region, Fraser's Dolphins have become entangled in anti-shark nets off South Africa's east coast. This threat should be monitored.

Regional population effects: Fraser's Dolphin has a widespread, pantropical distribution, and although its seasonal migration patterns in southern Africa remain inconclusive, no barriers to dispersal have been recognised, thus rescue effects are possible.

Distribution

The distribution of *L. hosei* is suggested to be pantropical (Robison & Craddock 1983), and is widespread across the Pacific and Atlantic Oceans (Ross 1984), and the species has been documented in the Indian Ocean off South Africa's east coast (Perrin et al. 1973), in Sri Lanka (Leatherwood & Reeves 1989), Madagascar (Perrin et al. 1994) and the Maldives (Anderson 1996). Although, sightings and strandings records from the east coast of South Africa show a temporal pattern (the majority occurred in summer; Findlay et al. 1992), there is insufficient data to infer the seasonal movements of this species within the assessment region (Ross 1984). Generally, this species appears to be limited to tropical and subtropical regions between 30°N and 30°S (Jefferson & Leatherwood 1994; Dolar 2002) across the three major ocean basins, thus reports from temperate areas may be extralimital records associated with uncommon environmental conditions (Perrin et al. 1994), such as the global El Niño event in 1983–1984.

In South Africa, this species primarily inhabits deep (> 1,000 m) waters off the east coast (north of 34.3°S) beyond the shelf-edge; and possibly has a localized occurrence, which is strongly affiliated with the subtropical Agulhas Current (Findlay et al. 1992). Stranding records of 14 individuals from South Africa stretch along the coastline in a distribution slightly longer than that described by sightings records (Skinner & Chimimba 2005).

Population

No global estimates or trends are available for Fraser's Dolphins, and although some regional estimates exist for other areas (for example, there are 289,000 CV = 34% in the eastern tropical Pacific; Perrin et al. 1994), there are none for the assessment region. However, based on fairly

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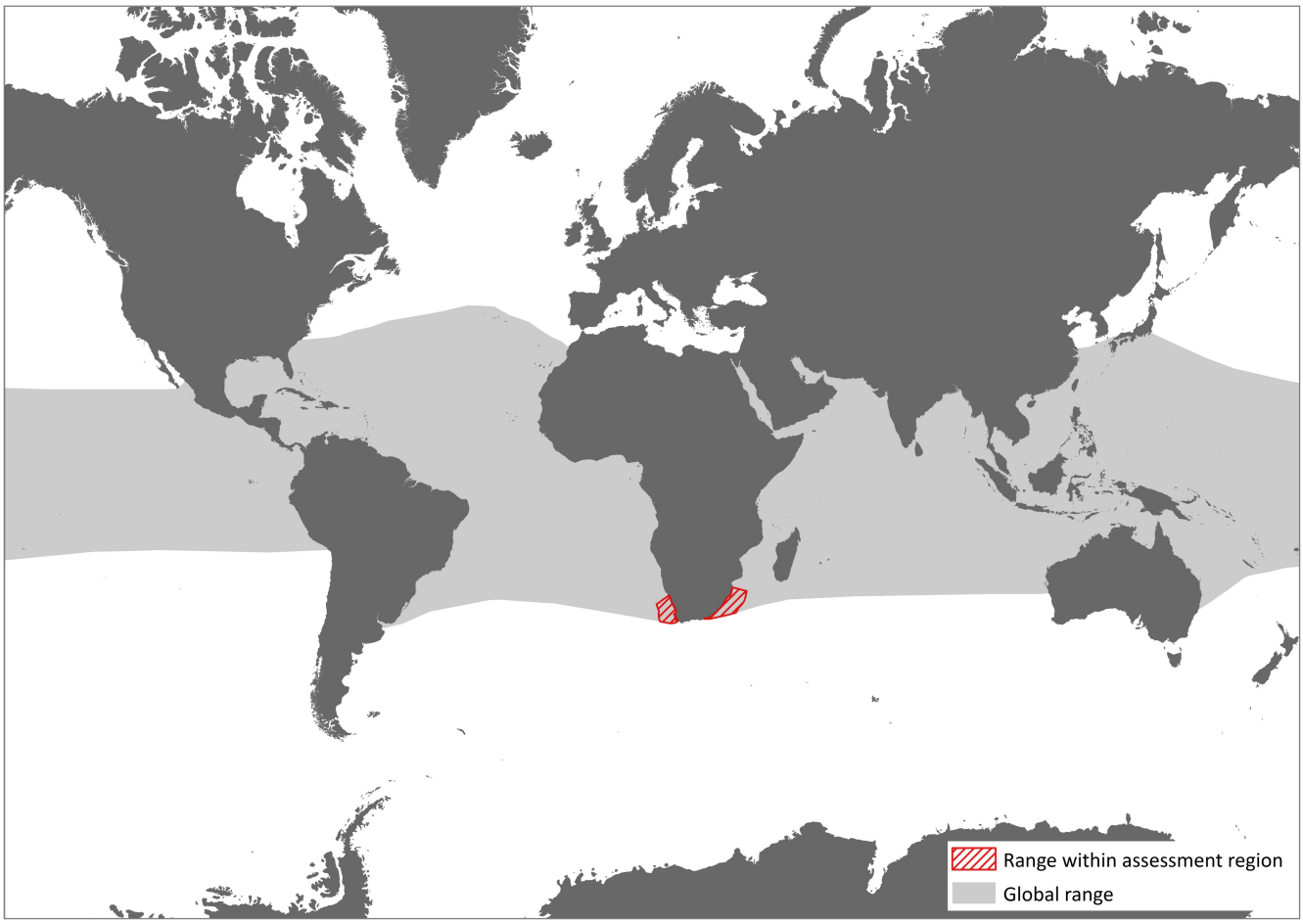

Figure 1. Distribution range for Fraser's Dolphin (*Lagenodelphis hosei*) within the assessment region (IUCN 2012)

regular stranding records between 1990 and 2009, this pelagic species is unlikely to be rare within South African waters and no major population decline is suspected. By 1986, ten stranding events, including a total of 14 individuals, had been recorded on South Africa's east coast, associated with the subtropical Agulhas Current (Findlay et al. 1992). Since 1990, an additional 13 Fraser's Dolphins have been reported, of which two were bycatch in shark nets. Taylor et al. (2007) estimated a generation period of 11.1 years.

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

Fraser's Dolphin is a pantropical, oceanic species, predominantly preferring deep offshore regions (Dolar 1999). In South African waters, Findlay et al. (1992) suggests that this species may have a localised occurrence associated with the subtropical Agulhas Current, which moves southwards in summer. This species has been recorded feeding both at the surface (for example, in the Caribbean, Watkins et al. 1994; and on the east coast of South Africa, Ross 1984), as well as at depths of up to 500 m (Robison & Craddock 1983). In general, however, their diet is considered to consist mostly of deep-sea fishes and squid, in fact some of the prey recorded by Tobayama et al. (1973) rarely extend higher than 200 m below the surface. There is also a lack of documented association between this species and flocking seabirds or schools of tuna, which substantiates the shortage of surface feeding in this species (Perrin et al. 1994).

Fraser's Dolphins in the Sulu Sea (southwest of the Philippines) were found to have a more diverse diet, when compared to Spinner Dolphins (*Stenella longirostris*), feeding on a variety of mesopelagic fishes (primarily myctophid species), cephalopods (including *Abraliopsis*, *Onychoteuthis*, *Histioteuthis* and *Chiroteuthis*), as well as crustaceans (Dolar et al. 2003). In contrast, the bulk of the diet of South African Fraser's Dolphins comprised of cephalopods (mostly Chiroteuthidae, Histioteuthidae and Octopoteuthidae), while fish constituted only 4% of their diet and there was no evidence of these individuals feeding on crustaceans (Sekiguchi et al. 1992).

In southern Africa, this species has been recorded in pods consisting of between 7 and 1,000 individuals, with an average group size of 183.1 (Findlay et al. 1992). Although little data is available regarding the reproductive biology of this species, Ross (1984) suggests that conception and calving may take place in summer within the assessment region. However, no clear trends in reproductive seasonality have been documented in other parts of its range.

Ecosystem and cultural services: Marine mammals integrate and reflect ecological variation across large spatial and long temporal scales, and therefore they are

Table 1. Threats to the Fraser's Dolphin (*Lagenodelphis hosei*) 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	*5.4.3 Fishing & Harvesting Aquatic Resources*: entanglement with pelagic fisheries, and shark nets off the KwaZulu-Natal coast. Current stresses *2.1 Species Mortality* and *2.2 Species Disturbance*.	-	Anecdotal	-	-
2	*5.4.4 Fishing & Harvesting Aquatic Resources*: competition with pelagic fisheries. Current stress *2.3.8 Indirect Species Effects on Food Resources*.	-	Anecdotal	-	-
3	*9.6 Noise Pollution*: marine noise pollution through seismic surveys and navy sonar operations. Current stresses *2.1 Species Mortality* and *2.2 Species Disturbance*.	-	Anecdotal	-	-
4	*9.4 Garbage & Solid Waste*: plastic bag ingestion. Current stresses *2.1 Species Mortality* and *2.2 Species Disturbance*.	-	Anecdotal	-	-

prime sentinels of marine ecosystem change (Moore 2008).

Use and Trade

Although Fraser's Dolphins are exploited by small-scale subsistence fisheries in the Indo-Pacific, and in drive fisheries of Taiwan (Perrin et al. 1994), there is no trade or use of this species within the assessment region.

Threats

Fraser's Dolphins are taken incidentally in a variety of fishing gear globally, for example, this species is commonly caught as bycatch in the driftnet fishery off the Philippines (Dolar 1994), and in purse-seine fisheries of the eastern tropical Pacific. In South Africa there appears to be no significant fisheries involvement (Best 2007), although some are killed by anti-shark nets in South Africa (Cockcroft 1990; Perrin et al. 1994).

Considering that this is a deep-diving, offshore species, it is likely that this species may be vulnerable to the effects of marine noise pollution, for example, those produced by navy sonar and seismic exploration. Additionally, as cephalopods constitute a large proportion of the diet of Fraser's Dolphins, it is likely that the increasing risk of plastic pollution may threaten this species due to accidental ingestion.

Current habitat trend: Stable

Conservation

Fraser's Dolphins are 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 identified. However, estimates of population size and trends are needed to determine the status of this species in South African waters. Research is required to assess the impacts and trends of potential threats. This species may benefit from a reduction in the length, modification or compete removal of anti-shark nets off South Africa's east coast, as recommended for *Stenella* spp.

Data Sources and Quality

Table 2. Information and interpretation qualifiers for the Fraser's Dolphin (*Lagenodelphis hosei*) assessment

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

Recommendations for managers and practitioners:

- The severity of threats, as well as the potential synergistic effects of those threats on this species, requires investigation.
- Sightings, strandings and bycatch data should be recorded, especially during ship-based surveys aimed at other cetacean species, as well as pelagic commercial fisheries and marine tour operators.

Research priorities:

- Data on population size and trends, and on subpopulation substructure, could influence the listing of this species, and it may require reassessment as new data emerge.
- Data pertaining to the species' distribution patterns and the severity of potential threats that could affect the listing of this species.

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 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.

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Assessors and Reviewers

Stephanie Plön[1], Claire Relton[2], Victor Cockcroft[1]

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

Contributors

Shanan Atkins[1], Matthew F. Child[2], Simon Elwen[3], Ken Findlay[3], Mike Meÿer[4], Herman Oosthuizen[4], Hammond et al. (2012)

[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.*