

# *Feresa attenuata* – Pygmy Killer Whale



**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 (2008) Data Deficient

TOPS listing (NEMBA) (2007) None

CITES listing (2003) Appendix II

Endemic No

Until 1952, the Pygmy Killer Whale was only known from two skulls collected in the 19th century and, while more specimens have been collected since, it remains one of the least known of the small cetaceans (Donahue & Perryman 2002).

## Taxonomy

*Feresa attenuata* (Gray 1874)

ANIMALIA - CHORDATA - MAMMALIA - RODENTIA - NESOMYIDAE - *Feresa* - *attenuata*

**Common names:** Pygmy Killer Whale, Slender Blackfish, Slender Pilot Whale (English), Dwerghmoordvis (Afrikaans)

**Taxonomic status:** Species

**Taxonomic notes:** Before 1952 this species was identified from only two skulls, which had each been described as type specimens of two separate species, namely *intermedius* (J. E. Gray 1827), and *attenuata* (J. E. Gray 1874), although Gray (1975) is inaccurately cited by most authors as the original description of this species (Caldwell & Caldwell 1971; Jeyabaskaran et al. 2011). However, these skulls have now both been recognised as specimens of *F. attenuata*, and in 1952, an individual was caught in the seas off Japan, providing the first evidence of the Pygmy Killer Whale's physical appearance (Yamada 1954). Subsequently, this species has been reported from the Pacific, Atlantic and Indian Oceans, thus it is now known to have a circumglobal distribution (Caldwell & Caldwell 1971).

**Recommended citation:** Plön S, Cockroft V, Preston-Whyte F, Relton C. 2016. A conservation assessment of *Feresa attenuata*. 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.

## Assessment Rationale

This species is listed as Least Concern, due to the suspected distribution pattern of the species as far offshore, its rarity in the assessment region, and the perceived lack of major threats that could cause rapid decline. The cost-benefit ratio makes research unlikely and places the Pygmy Killer Whale low on the list of conservation priorities. Despite this classification, the potential pressures that threaten most cetacean species, such as high intensity sound pollution and bycatch in fisheries, are likely to be increasing in South African waters. Such threats should be monitored for their impacts on this species.

**Regional population effects:** Pygmy Killer Whales are thought to occur seasonally in South African waters (Findlay 1989), and although their movement patterns are largely unknown, no barriers to dispersal are recognised, thus rescue effects are possible.

## Distribution

This is a tropical, subtropical, and possibly warm-temperate species that inhabits the pelagic waters, of all major oceans, found mainly off the continental shelf. Pygmy Killer Whales are known to migrate into warmer waters due to physiological requirements (Caldwell & Caldwell 1971). The distribution of this species has been mapped mainly from strandings and skulls, sited internationally around Japan, the Hawaii Islands, the Caribbean Sea and Senegal. The Southern African distribution is known from Kosi Bay to the Orange River with sightings around Richards Bay (Bass 1968; Best 1970), Durban, Cape Town and Lüderitz (Best 1970; Caldwell & Caldwell 1971).

## Population

This species is considered naturally rare and, based on the few existing datasets, occurs at much lower densities compared to other cetaceans (Jeyabaskaran et al. 2011). No global, and very few regional, population estimates of abundance exist (Jeyabaskaran et al. 2011), and none are available for the assessment region. A very low frequency of Pygmy Killer Whale strandings have been documented in South Africa, and similarly, sightings records are extremely uncommon. In August 1969, 11 individuals were sighted off KwaZulu-Natal in waters between 1,000–2,000 m deep (Findlay et al. 1992).

**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

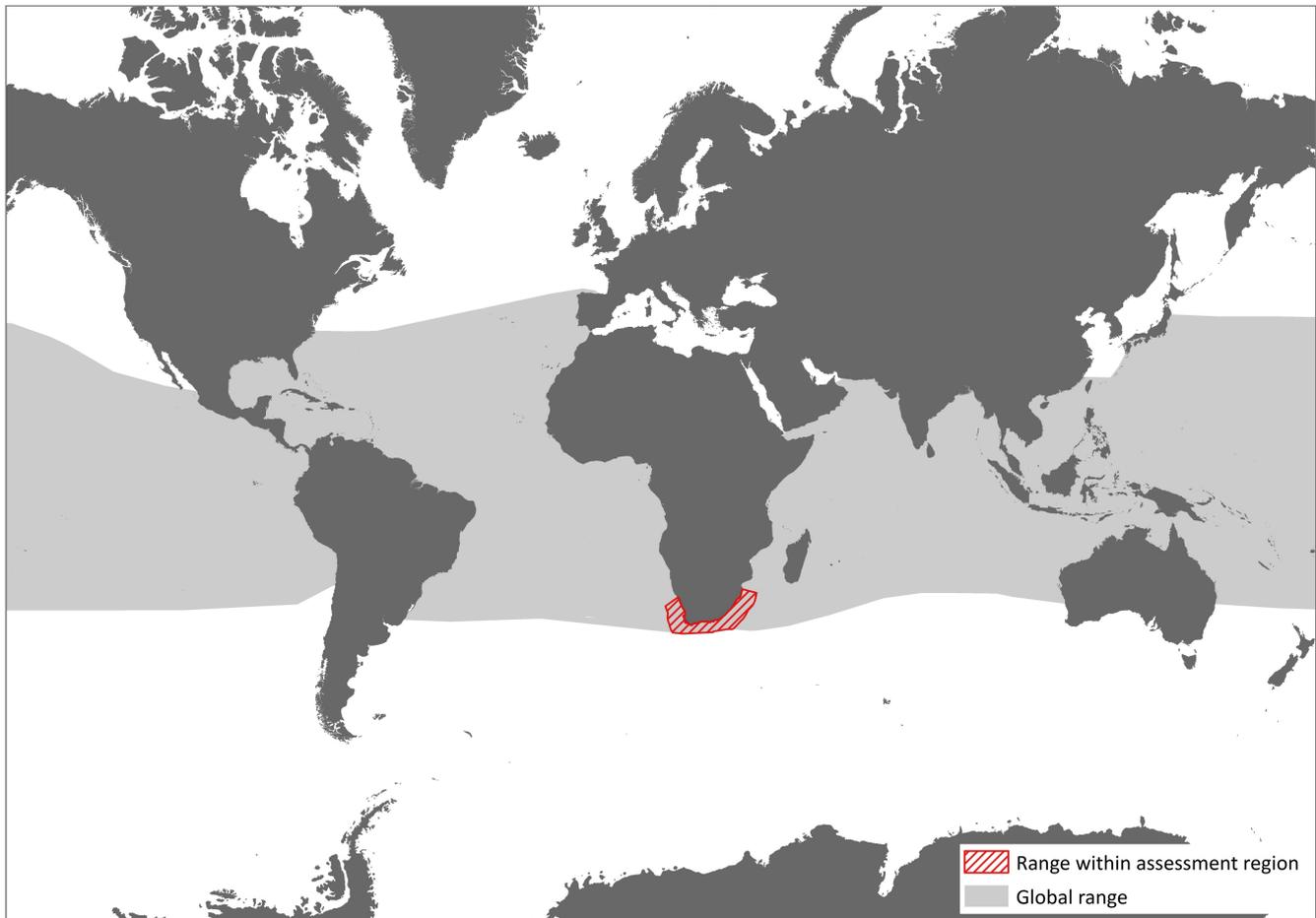


Figure 1. Distribution range for Pygmy Killer Whale (*Feresa attenuata*) within the assessment region (IUCN 2008)

## Habitats and Ecology

This species presumably occurs in deep, tropical waters, but has occasionally been documented entering temperate regions. Their distribution is generally restricted to regions far offshore, beyond the edge of the continental shelf, in waters between 120–1,000 m deep (Jeyabaskaran et al. 2011). However, in warmer regions, they are known to occur along the coastline, especially around some oceanic islands, for example Hawaii (Wade & Gerrodette 1993).

Although only limited records of this species in South African waters are available, they are generally assumed to form small pods of less than 15 individuals (Ross & Leatherwood 1994), and Findlay (1989) suggests that they may have a summer–autumn seasonality in the assessment region. However, in the eastern Pacific, as many as 70 individuals have been recorded simultaneously. Association analyses of Pygmy Killer Whales observed off Hawaii revealed that this species forms mixed-sex groups with stable, long-term bonds between individuals (McSweeney et al. 2009).

Although, little information is available on the diet of Pygmy Killer Whales, they are thought to feed predominantly on fish and squid. The stomach contents of a specimen stranded in the Eastern Cape was found to have fed on unidentified cephalopods (Ross 1984). Sekiguchi et al. (1992) documented that the stomach of one individual contained goby (*Sufflogobius bibarbatus*) and hake (*Merluccius* spp.).

Pygmy Killer Whales are considered aggressive, especially in captivity where they will kill and savage other

dolphins. For example, an individual caught in South Africa, and contained in a tank with four Dusky Dolphins (*Lagenorhynchus obscurus*), killed one of the Dusky Dolphins and brutally attacked another (Best 1970). Furthermore, Pygmy Killer Whales have been witnessed attacking dolphins (*Stenella* spp.) around purse-seine tuna fisheries in the eastern Pacific (Perryman & Foster 1980).

**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

This species is not utilised or traded within the assessment region.

## Threats

Due to the predicted small population size of Pygmy Killer Whales within the assessment region, it is likely that minor localised threats, could have a substantial influence on population stability. In general, loss of prey base due to anthropogenic overfishing, impacts of climate change, and the subsequent ecosystem changes have the potential to affect Pygmy Killer Whales.

Although this species, like beaked whales, is likely to be vulnerable to loud anthropogenic sounds, such as those generated by navy sonar and seismic exploration, it is not considered more vulnerable than other cetaceans. There are no known reports of Pygmy Killer Whale bycatch in

**Table 1. Threats to the Pygmy Killer Whale (*Feresa attenuata*) 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	11.1 <i>Habitat Shifting &amp; Alteration</i> : climate change may exacerbate shifts in prey base. Current stress 2.3.8 <i>Indirect Species Effects on Food Resources</i> .	Learmonth et al. 2006	Indirect	Global	A possible range expansion towards the colder polar regions is predicted for Pygmy Killer Whales.
2	5.4.4 <i>Fishing &amp; Harvesting Aquatic Resources</i> : competition with pelagic fisheries. Current stress 2.3.8 <i>Indirect Species Effects on Food Resources</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	5.4.4 <i>Fishing &amp; Harvesting Aquatic Resources</i> : entanglement in deep sea fisheries (e.g. deep-water gillnets). Current stresses 2.1 <i>Species Mortality</i> and 2.2 <i>Species Disturbance</i> .	Jeyabaskaran et al. 2011	Empirical	Regional	The International Whaling Commission (IWC) reported that in 1994, approximately 170 Pygmy Killer Whales died in fisheries in the waters off Sri Lanka.

trawls or long-lines in South African fisheries, and hence no significant bycatch is suspected. However, they have been killed incidentally in various types of fishing gear in many other areas of the species' range (Jeyabaskaran et al. 2011).

Climate change is expected to have both direct and indirect effects on prey species, which will indirectly affect the distribution, migration, population structure and reproductive success of cetacean species, and additionally may enhance their vulnerability to disease, anthropogenic marine pollution and contaminants (Learmonth et al. 2006).

**Current habitat trend:** Stable

## Conservation

The Pygmy Killer Whale is listed in Appendix II of Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), and is protected by the Marine Living Resources Act (No. 18 of 1998) of the national legislation. Due to the predicted small population size of this species, additional research into the abundance and potential threats facing Pygmy Killer Whales would benefit the conservation of this species in the assessment region. Although species-specific monitoring may be unnecessary, considering the rarity of this species in South African waters, sightings and strandings data should be recorded during systematic monitoring of other cetacean species.

### 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 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<sub>2</sub> 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.

## Data Sources and Quality

**Table 2. Information and interpretation qualifiers for the Pygmy Killer Whale (*Feresa attenuata*) 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

## References

Bass J. 1968. A rare whale stranded in Zululand. South African Association of Marine Biology 7:36.

Best PB. 1970. Records of the pygmy killer whale, *Feresa attenuata*, from southern Africa, with notes on behaviour in captivity. Annals of the South African Museum 57:1–14.

Caldwell DK, Caldwell MC. 1971. The pygmy killer whale, *Feresa attenuata*, in the western Atlantic, with a summary of world records. *Journal of Mammalogy* **52**:206–209.

Donahue MA, Perryman WL. 2002. Pygmy Killer Whale – *Feresa attenuata*. Pages 1009–1010 in Perrin WF, Würsig B, Thewissen JGM, editors. *Encyclopedia of Marine Mammals*. Academic Press, San Diego, California, USA.

Findlay KP. 1989. The distribution of cetaceans off the coast of South Africa and South West Africa/Namibia. M.Sc. Thesis. University of Pretoria, Pretoria, South Africa.

Findlay KP, Best PB, Ross GJB, Cockcroft VG. 1992. The distribution of small odontocete cetaceans off the coasts of South Africa and Namibia. *South African Journal of Marine Science* **12**:237–270.

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

Jeyabaskaran R, Paul S, Vivekanandan E, Yousuf K. 2011. First record of pygmy killer whale *Feresa attenuata* Gray, 1874 from India with a review of their occurrence in the World Oceans. *Journal of the Marine Biological Association of India* **53**:208–217.

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.

McSweeney DJ, Baird RW, Mahaffy SD, Webster DL, Schorr GS. 2009. Site fidelity and association patterns of a rare species: pygmy killer whales (*Feresa attenuata*) in the main Hawaiian Islands. *Marine Mammal Science* **25**:557–572.

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

Perryman WL, Foster TC. 1980. Preliminary report on predation by small whales, mainly the false killer whale *Pseudorca crassidens*, on dolphins (*Stenella* spp. and *Delphinus Delphis*) in the Eastern Tropical Pacific. Pages 1–9. Admin Report LJ-80-05. National Oceanic and Atmospheric Administration.

Ross GJ. 1984. Smaller cetaceans of the south east coast of southern Africa. *Annals of the Cape Provincial Museums. Natural History* **16**:309–319.

Ross GJB, Leatherwood S. 1994. Pygmy Killer Whale, *Feresa attenuata* Gray, 1874. Pages 387–404 in Ridgeway SH, Harrison R, editors. *Handbook of Marine Mammals. Volume 5: The First Book of Dolphins*. Academic Press, New York, New York, USA.

Sekiguchi K, Klages NTW, Best PB. 1992. Comparative analysis of the diets of smaller odontocete cetaceans along the coast of southern Africa. *South African Journal of Marine Science* **12**:843–861.

Wade PR, Gerrodette T. 1993. Estimates of cetacean abundance and distribution in the eastern tropical Pacific. *Reports of the International Whaling Commission* **43**:477–493.

Yamada M. 1954. An account of a rare porpoise, *Feresa* Gray from Japan. *Scientific Reports of the Whales Research Institute, Tokyo* **9**:59–88.

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