APPENDIX XVIII EXECUTIVE SUMMARY: CETACEANS (2024)

Family	Common name	Species	IUCN Red List status*	Interactions by Gear Type**
Balaenidae	Southern right whale	Eubalaena australis	LC	GN
Neobalaenidae	Pygmy right whale	Caperea marginata	LC	-
Balaenopteridae	Common minke whale	Balaenoptera acutorostrata	LC	-
	Antarctic minke whale	Balaenoptera bonaerensis	NT	-
	Sei whale	Balaenoptera borealis	EN	PS
	Bryde's whale	Balaenoptera edeni	LC	-
	Blue whale	Balaenoptera musculus	EN	-
	Fin whale	Balaenoptera physalus	VU	-
	Omura's whale	Balaenoptera omurai	DD	-
	Humpback whale	Megaptera novaeangliae	LC***	GN, LL
Physeteridae	Sperm whale	Physeter macrocephalus	VU	GN
Kogiidae	Pygmy sperm whale	Kogia breviceps	LC	GN
	Dwarf sperm whale	Kogia sima	LC	GN
Ziphiidae	Arnoux's beaked whale	Berardius arnuxii	LC	-
	Southern bottlenose whale	Hyperoodon planifrons	LC	-
	Longman's beaked whale	Indopacetus pacificus	LC	GN
	Andrew's beaked whale	Mesoplodon bowdoini	DD	-
	Blainville's beaked whale	Mesoplodon densirostris	LC	-
	Ramari's beaked whale	Mesoplodon eueu	DD	-
	Gray's beaked whale	Mesoplodon grayi	LC	-
	Hector's beaked whale	Mesoplodon hectori	DD	-
	Deraniyagala's beaked whale	Mesoplodon hotaula	DD	-
	Strap-toothed whale	Mesoplodon layardii	LC	-
	Spade-toothed whale	Mesoplodon traversii	DD	-

Table A 1. Cetaceans: IUCN Red List status and records of interaction (including entanglements and, for purse seines, encirclements) with tuna fishery gear types for all cetacean species that occur within the IOTC area of competence.

	Shepherd's beaked Whale	Tasmacetus shepherdi	DD	-
	Cuvier's beaked whale	Ziphius cavirostris	LC	GN
Delphinidae	Common dolphin	Delphinus delphis	LC	GN
	Pygmy killer whale	Feresa attenuata	LC	GN
	Short-finned pilot whale	Globicephala macrorhynchus	LC	LL, GN
	Long-finned pilot whale	Globicephala melas	LC	-
	Risso's dolphin	Grampus griseus	LC	LL, GN
	Fraser's dolphin	Lagenodelphis hosei	LC	-
	Irrawaddy dolphin	Orcaella brevirostris	EN	GN
	Australian snubfin dolphin	Orcaella heinsohni	VU	GN
	Killer whale	Orcinus orca	DD	LL, GN
	Melon-headed whale	Peponocephala electra	LC	LL, GN
	False killer whale	Pseudorca crassidens	NT	LL, GN
Delphinidae	Indo-Pacific humpback dolphin	Sousa chinensis	VU	GN
	Indian Ocean humpback dolphin	Sousa plumbea	EN	GN
	Australian humpback dolphin	Sousa sahulensis	VU	GN
	Pantropical spotted dolphin	Stenella attenuata	LC	PS, GN, LL
	Striped dolphin	Stenella coeruleoalba	LC	-
	Spinner dolphin	Stenella longirostris	LC	GN
	Rough-toothed dolphin	Steno bredanensis	LC	GN
	Indo-Pacific bottlenose dolphin	Tursiops aduncus	NT	GN
	Bottlenose dolphin	Tursiops truncatus	LC	LL, GN
Phocoenidae	Indo-Pacific finless porpoise	Neophocaena phocaenoides	VU	GN

* The assessment of the status level in IUCN is independent of IOTC processes ** Published bycatch records only (reference at the end of the document)

*** Arabian Sea population: EN

The IUCN Red List of Threatened species. <<u>www.iucnredlist.org</u>>.

Downloaded on 16 September 2020.

INDIAN OCEAN STOCK - MANAGEMENT ADVICE

Stock status. The current¹ International Union for Conservation of Nature (IUCN) Red List status for each of the cetacean species reported in the IOTC Area of Competence is provided in Table **A** 1. Information on their interactions with IOTC fisheries is also provided. It is important to note that a number of international global environmental accords (e.g., Convention on Migratory Species (CMS), Convention on Biological Diversity (CBD), International Whaling Commission (IWC)), as well as numerous fisheries agreements obligate States to provide protection for these species. The status of cetaceans is affected by a range of factors such as direct harvesting and habitat degradation, but the level of cetacean mortality due to capture in tuna drift gillnets is likely to be substantial and is also a major cause for concern (Anderson *et al.* 2020, Kiszka *et al.* 2021). Several reports (e.g., Sabarros et al., 2013) also suggest some level of cetacean mortality for species involved in depredation of pelagic longlines, and these interactions need to be further documented throughout the IOTC Area of Competence. Recently published information suggests that the incidental capture of cetaceans in purse seines is low (e.g., Escalle et al., 2015), but should be further monitored.

Outlook. . Resolution 23/06 On the conservation of cetaceans highlights the concerns of the IOTC regarding the lack of accurate and complete data collection and reporting to the IOTC Secretariat of interactions and mortalities of cetaceans in association with tuna fisheries in the IOTC Area of Competence. In this resolution, the IOTC have agreed that CPCs shall prohibit their flagged vessels from intentionally setting a purse seine net around a cetacean if the animal is sighted prior to the commencement of the set. The IOTC also agreed that CPCs using other gear types targeting tuna and tuna-like species found in association with cetaceans shall report all interactions with cetaceans to the relevant authority of the flag State and that these will be reported to the IOTC Secretariat by 30 June of the following year. It is acknowledged that the impact on cetacean populations from fishing for tuna and tuna-like species may increase if fishing pressure increases (which is already clear for tuna gillnet fisheries from IOTC data) or if the status of cetacean populations worsens due to other factors such as an increase in external fishing pressure or other anthropogenic or climatic impacts.

The following should be noted:

- The number of fisheries interactions involving cetaceans is highly uncertain and should be addressed as a matter of priority as it is a prerequisite for the WPEB to determine a status for any Indian Ocean cetacean species.
- Available evidence indicates considerable risk to cetaceans in the Indian Ocean, particularly from tuna drift gillnets.
- Current reported interactions and mortalities are scattered but are most likely severely underestimated (Anderson *et al.*, 2020, Kiszka *et al.*, 2021).
- Maintaining or increasing fishing effort in the Indian Ocean without appropriate mitigation measures in place will likely result in further declines in a number of cetacean species. An increasing effort by tuna drift gillnet fisheries has been reported to the IOTC, which is a major cause of concern for a number of species, particularly in the northern Indian Ocean.
- Efforts should be undertaken to encourage CPCs to investigate means to reduce cetacean bycatch and at-vessel and post-release mortality in IOTC fisheries and improve data collection and reporting for cetaceans. This may include alternative data collection mechanisms such as skipper-based reporting, port sampling and cost-effective electronic monitoring systems.

¹ September 2023

RELEVANT LITERATURE

- Allen, S.J., Cagnazzi, D.D., Hodgson, A.J., Loneragan, N.R. and Bejder, L., 2012. Tropical inshore dolphins of north-western Australia: Unknown populations in a rapidly changing region. Pacific Conservation Biology, 18: 56-63.
- Amir, O.A., 2010. Biology, ecology and anthropogenic threats of Indo-Pacific bottlenose dolphins in East Africa (Doctoral Dissertation, Department of Zoology, Stockholm University).
- Anderson C.R. 2014. Cetaceans and tuna fisheries in the western and central Indian Ocean. IOTC-2014-WPEB10-31.
- Anderson, R.C., Herrera, M., Ilangakoon, A.D., Koya, K.M., Moazzam, M., Mustika, P.L. and Sutaria, D.N., 2020. Cetacean bycatch in Indian Ocean tuna gillnet fisheries. Endangered Species Research 41: 39-53.
- Atkins, S., Cliff, G. and Pillay, N., 2013. Humpback dolphin bycatch in the shark nets in KwaZulu-Natal, South Africa. Biological Conservation, 159: 442-449.
- Beasley, I., Jedensjö, M., Wijaya, G.M., Anamiato, J., Kahn, B. and Kreb, D., 2016. Chapter Nine-Observations on Australian Humpback Dolphins (*Sousa sahulensis*) in Waters of the Pacific Islands and New Guinea. Advances in Marine Biology, 73: 219-271.
- Braulik, G.T., Findlay, K., Cerchio, S. and Baldwin, R., 2015. Assessment of the Conservation Status of the Indian Ocean Humpback Dolphin (*Sousa plumbea*) Using the IUCN Red List Criteria. Advances in Marine Biology 72: 119-141.
- Braulik, G.T., Ranjbar, S., Owfi, F., Aminrad, T., Dakhteh, S.M.H., Kamrani, E. and Mohsenizadeh, F. 2010. Marine mammal records from Iran. Journal of Cetacean Research and Management, 11:49-63.
- Collins, T., Minton, G., Baldwin, R., Van Waerebeek, K., Hywel-Davies, A. and Cockcroft, V., 2002. A preliminary assessment of the frequency, distribution and causes of mortality of beach cast cetaceans in the Sultanate of Oman, January 1999 to February 2002. IWC Scientific Committee document SC/54/O4.
- Collins, T., Preen, A., Willson, A., Braulik, G. and Baldwin, R. M. 2005. Finless porpoise (*Neophocaena phocaenoides*) in waters of Arabia, Iran and Pakistan. IWC Scientific Committee document SC/57/SM6.
- Escalle, L., Capietto, A., Chavance, P., Dubroca, L., De Molina, A.D., Murua, H., Gaertner, D., Romanov, E., Spitz, J., Kiszka, J.J., Floch, L., Damiano, D. and Merigot, B., 2015. Cetaceans and tuna purse seine fisheries in the Atlantic and Indian Oceans: interactions but few mortalities. Marine Ecology Progress Series, 522: 255-268.
- Hamer, D.J., Childerhouse, S.J. and Gales, N.J., 2012. Odontocete bycatch and depredation in longline fisheries: a review of available literature and of potential solutions. Marine Mammal Science, 28: 345-374.
- Kiszka, J., Pelourdeau, D. and Ridoux, V., 2008. Body Scars and Dorsal Fin Disfigurements as Indicators Interaction Between Small Cetaceans and Fisheries Around the Mozambique Channel Island of Mayotte. Western Indian Ocean Journal of Marine Science, 7: 185-193.
- Kiszka, J., Bein, A., Bach, P., Jamon, A., Layssac, K., Labart, S. and Wickel, J., 2010. Catch and bycatch in the pelagic longline fishery around Mayotte (NE Mozambique Channel), July 2009-September 2010. IOTC WPEB-19.
- Kiszka, J., Muir, C., Poonian, C., Cox, T.M., Amir, O.A., Bourjea, J., Razafindrakoto, Y., Wambitji, N. and Bristol, N., 2009. Marine mammal bycatch in the southwest Indian Ocean: review and need for a comprehensive status assessment. Western Indian Ocean Journal Marine Science, 7: 119-136.

- Kiszka, J., Moazzam, M., Boussarie, G., Shahid, U., Khan, B. and Nawaz, R., 2021. Setting the net lower: A potential low-cost mitigation method to reduce cetacean bycatch in drift gillnet fisheries. Aquatic Conservation: Marine and Freshwater Ecosystems, 31: 3111-3119.
- Kruse, S., Leatherwood, S., Prematunga, W.P., Mendes, C. and Gamage, A., 1991. Records of Risso's dolphins, Grampus griseus, in the Indian Ocean, 1891–1986. Cetaceans and Cetacean Research in the Indian Ocean Sanctuary. UNEP Marine Mammal Technical Report, 3: 67-78.
- Leatherwood, S., McDonald, D., Prematunga, W.P., Girton, P., Ilangakoon, A. and McBrearty, D., 1991. Recorded of "he" Blackf"sh" (Killer, False Killer, Pilot, Pygmy Killer and Melon-headed whales) in the Indian Ocean, 1772-1986. Cetaceans and Cetacean Research in the Indian Ocean. UNEP Marine Mammal Technical Report, 3: 33-65.
- Meÿer, M.A., Best, P.B., Anderson-Reade, M.D., Cliff, G., Dudley, S.F.J. and Kirkman, S.P., 2011. Trends and interventions in large whale entanglement along the South African coast. African Journal of Marine Science, 33: 429-439.
- Razafindrakoto, Y., Andrianarivelo, N., Cerchio, S., Rasoamananto, I. and Rosenbaum, H., 2008. Preliminary assessment of cetacean incidental mortality in artisanal fisheries in Anakao, southwestern region of Madagascar. Western Indian Ocean Journal of Marine Science, 7: 175-184.
- Reeves, R.R., McClellan, K. and Werner, T.B., 2013. Marine mammal bycatch in gillnet and other entangling net fisheries, 1990 to 2011. Endangered Species Research, 20: 71-97.
- Romanov, E.V., 2002. Bycatch in the tuna purse-seine fisheries of the western Indian Ocean. Fishery Bulletin, 100: 90-105.
- Sabarros, P.S., Romanov, E., Le Foulgoc, L., Richard, E., Lamoureux, J.P. and Bach, P., 2013. Commercial catch and discards of pelagic longline fishery of Reunion Island based on the self-reporting data collection program 9th IOTC Working Party on Ecosystems and Bycatch, La Réunion, France. IOTC-2013-WPEB09-37 Rev_1
- Slooten, E., Wang, J.Y., Dungan, S.Z., Forney, K.A., Hung, S.K., Jefferson, T.A., Riehl, K.N., Rojas-Bracho, L., Ross, P.S., Wee, A. and Winkler, R., 2013. Impacts of fisheries on the Critically Endangered humpback dolphin Sousa chinensis population in the eastern Taiwan Strait. Endangered Species Research, 22: 99-114