

PROPOSAL FOR SPECIES IDENTIFICATION GUIDE FOR CETACEANS (WHALE AND DOLPHINS) OCCURRING IN THE INDIAN OCEAN

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INTRODUCTION

To guide observers, samplers, as well as fishers in order to increase the recording and reporting of data on tuna and bycatch species, IOTC has published a series of Species Identification Guides. These guides were published as per the recommendations of the Working Party on Ecosystems and Bycatch and the Scientific Committee, IOTC has developed Identification guides for marine turtles, billfishes, seabirds, and sharks and rays that maybe incidentally caught or otherwise interact with IOTC fisheries targeting tuna and tuna-like species in the Indian Ocean. Species Identification Guide for tuna and tuna like species is being developed and will be published soon. There is no immediate plan to publish a guideline for cetaceans which are considered to important conflict with the tuna fisheries.

RATIONALE FOR SPECIES IDENTIFICATION GUIDE FOR CETACEANS

The conflicts between marine cetaceans and tuna fisheries are primarily of operational types. The operational conflicts involve physical encounters between cetaceans and tuna fishing gear, broadly defined. They arise, for example, when cetaceans damage fishing gear and when they damage fish caught in the gear (depredation) or cause the fish to escape, resulting ultimately in economic losses to commercial tuna fisheries. They also arise when cetaceans are taken incidentally in commercial fisheries (bycatch) resulting in their injury or death or become entangled in discarded fishing gear.

It is estimated that Over 300,000 whales, dolphins, and porpoises are killed each as a result of by-catch. The World Conservation Union (IUCN) recognizes bycatch as one of the greatest threats to the survival of cetacean populations. Fishing gear can injure and kill large cetaceans as well - even the powerful sperm whales may become entangled in nets and drown, or starve to death if gear becomes wrapped around or embedded in its mouth. Mortality of cetacean is not confined to dolphins belonging to suborder Odontoceti but also large whale belonging to suborder Mysticeti are also killed in tuna fishing.

In order to guide stakeholders including observers, samplers, as well as fishers to improve the recording and reporting of cetacean bycatch, WWF offer to prepare and print Species Identification Guide for dolphins and whales occurring in the Indian

Ocean. This Species Identification Guide will include species of whale and dolphin occurring in the Indian Ocean listed in Table-I.

Table-I. list of the species to be included in the proposed Species Identification Guide for cetaceans of Indian Ocean

S. No.	Species	Common Name	Remarks
SUBORDER MYSTICETI - Baleen Whales			
1.	<i>Eubalaena australis</i>	Southern right whale	
2.	<i>Caperea marginata</i>	Pygmy right whale	Insufficiently known from Indian Ocean
3.	<i>Balaenoptera musculus</i>	Blue whale	
4.	<i>Balaenoptera physalus</i>	Fin whale	
5.	<i>Balaenoptera borealis</i>	Sei whale	
6.	<i>Balaenoptera edeni</i>	Bryde's whale	
7.	<i>Balaenoptera acutorostrata</i>	Minke whale	
8.	<i>Megaptera novaeangliae</i>	Humpback whale	Including Arabian humpback whale
SUBORDER ODONTOCETI - Toothed Whales			
9.	<i>Physeter macrocephalus</i>	Sperm whale	
10.	<i>Kogia breviceps</i>	Pygmy sperm whale	
11.	<i>Kogia sima</i>	Dwarf sperm whale	
12.	<i>Berardius arnuxii</i>	Arnoux's beaked whale	Insufficiently known from Indian Ocean
13.	<i>Ziphius cavirostris</i>	Cuvier's beaked whale	
14.	<i>Hyperoodon planifrons</i>	Southern bottlenose whale	
15.	<i>Tasmacetus shepherdi</i>	Shepherd's beaked whale	Insufficiently known from Indian Ocean
16.	<i>Mesoplodon densirostris</i>	Blainville's beaked whale	
17.	<i>Mesoplodon grayi</i>	Gray's beaked whale	
18.	<i>Mesoplodon ginkgodens</i>	Ginkgo-toothed beaked whale	Insufficiently known from Indian Ocean
19.	<i>Mesoplodon hectori</i>	Hector's beaked whale	Insufficiently known from Indian Ocean
20.	<i>Mesoplodon mirus</i>	True's beaked whale	Insufficiently known from Indian Ocean
21.	<i>Mesoplodon layardii</i>	Strap-toothed whale	
22.	<i>Mesoplodon bowdoini</i>	Andrews' beaked whale	

23.	<i>Orcaella brevirostris</i>	Irrawaddy dolphin	
24.	<i>Orcinus orca</i>	Killer whale	
25.	<i>Globicephala melas</i>	Long-finned pilot whale	
26.	<i>Globicephala macrorhynchus</i>	Short-finned pilot whale	
27.	<i>Pseudorca crassidens</i>	False killer whale	
28.	<i>Feresa attenuata</i>	Pygmy killer whale	
29.	<i>Peponocephala electra</i>	Melon-headed whale	
30.	<i>Sousa chinensis</i>	Indo-Pacific hump-backed dolphin	
31.	<i>Steno bredanensis</i>	Rough-toothed dolphin	
32.	<i>Lagenorhynchus obscurus</i>	Dusky dolphin	
33.	<i>Lugenorhynchus cruciger</i>	Hourglass dolphin	
34.	<i>Grampus griseus</i>	Risso's dolphin	
35.	<i>Tursiops truncatus</i>	Bottlenose dolphin	
36.	<i>Tursiops aduncus</i>	Indo-Pacific Bottlenose Dolphin	
37.	<i>Stenella attenuata</i>	Pantropical spotted dolphin	
38.	<i>Stenella longirostris</i>	Spinner dolphin	
39.	<i>Stenella coeruleoalba</i>	Striped dolphin	
40.	<i>Delphinus delphis</i>	Common dolphin	
41.	<i>Lagenodelphis hosei</i>	Fraser's dolphin	
42.	<i>Lissodelphis peronii</i>	Southern right whale dolphin	Insufficiently known
43.	<i>Cephalorhynchus commersonii</i>	Commerson's dolphin	
44.	<i>Australophocaena dioptrica</i>	Spectacled porpoise	insufficiently known from Indian Ocean
45.	<i>Neophocaena phocaenoides</i>	Finless porpoise	

PROPOSED FORMAT

The proposed Species Identification Guide for Cetacean found in Indian Ocean will be prepared on the pattern which was used for shark and ray, seabird and billfish for in Indian Ocean pelagic fisheries. Sample pages of the Identification Guide for Cetaceans are annexed. Most of the diagrams used in the Identification Guide are specifically drawn for the purpose whereas some of them are obtained from FAO Species Identification Guide-Marine Mammals of the World (Jefferson *et al.*, 1993). The maps are also derived from Jefferson *et al.* (1993). It is proposed that relevant portion pertaining to marine mammals given "Fishermen, protectors of the endangered marine species" which is published by Office of Protection and Improvement of Marine Resources, Iranian Fishery Organization and presented in WPEB07 as "Reduction of Marine mammals, Sea birds and turtles bycatch in Tuna fishing" (**IOTC-2011-WPEB07-22**) (<http://www.iotc.org/files/proceedings/2011/wpeb/IOTC-2011-WPEB07-22.pdf>) which will provide guidance for safe release of entangled cetaceans from fishing gears.

References

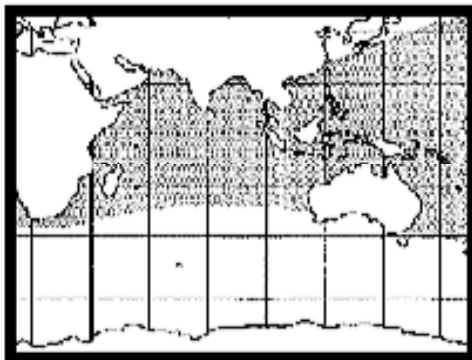
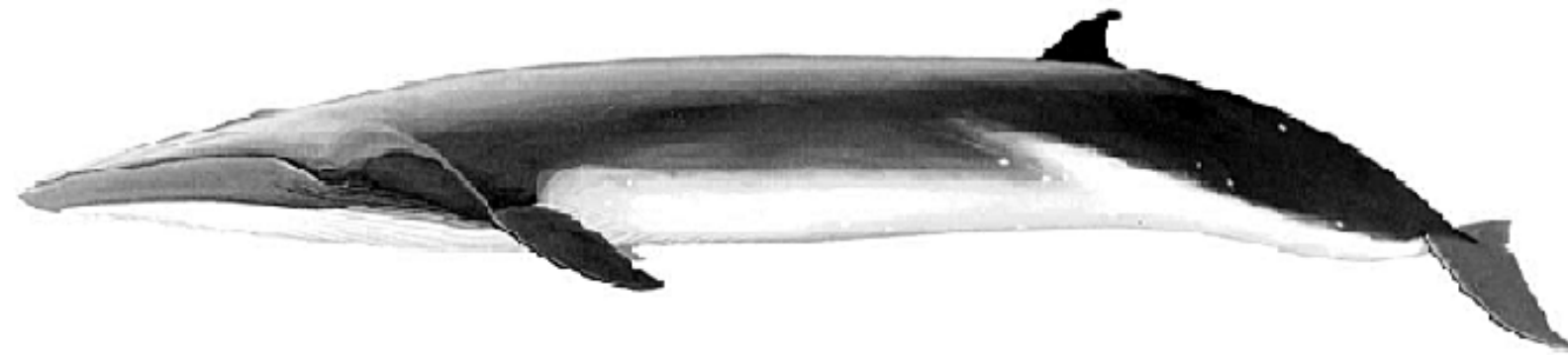
Jefferson, T.A., Leatherwood, S. and Webber, M.A. 1993. FAO species identification guide. Marine mammals of the world. Rome, FAO. 1993.320. p. 587.

Bryde's Whale

Balaenoptera edeni Anderson, 1878

Size: About 15.5 meter long.

Distribution: Found in both offshore and coastal waters, generally creature of tropical and sub-tropical zones.



Three prominent ridges present on rostrum.
The dorsal fin is tall and falcate, generally rises abruptly out of the back.
Dark grey dorsally and lighter ventrally.

Common Dolphin

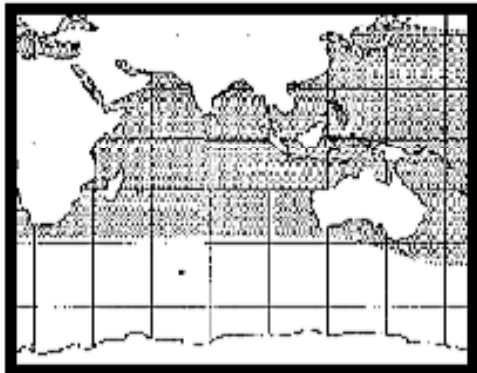
Delphinus delphis Linnaeus, 1758

Size: About 2.6 meter long.

Distribution: Oceanic water from tropical to warm temperate zones of world oceans.



Moderately slender body with a medium to long beak and a tall, slightly falcate dorsal fin. Strikingly marked with a dark brownish grey back, white belly and tan to ochre anterior flank patch.



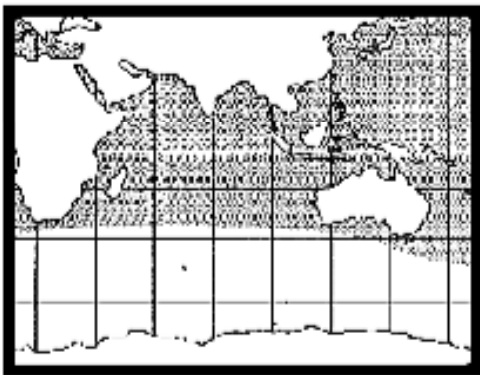
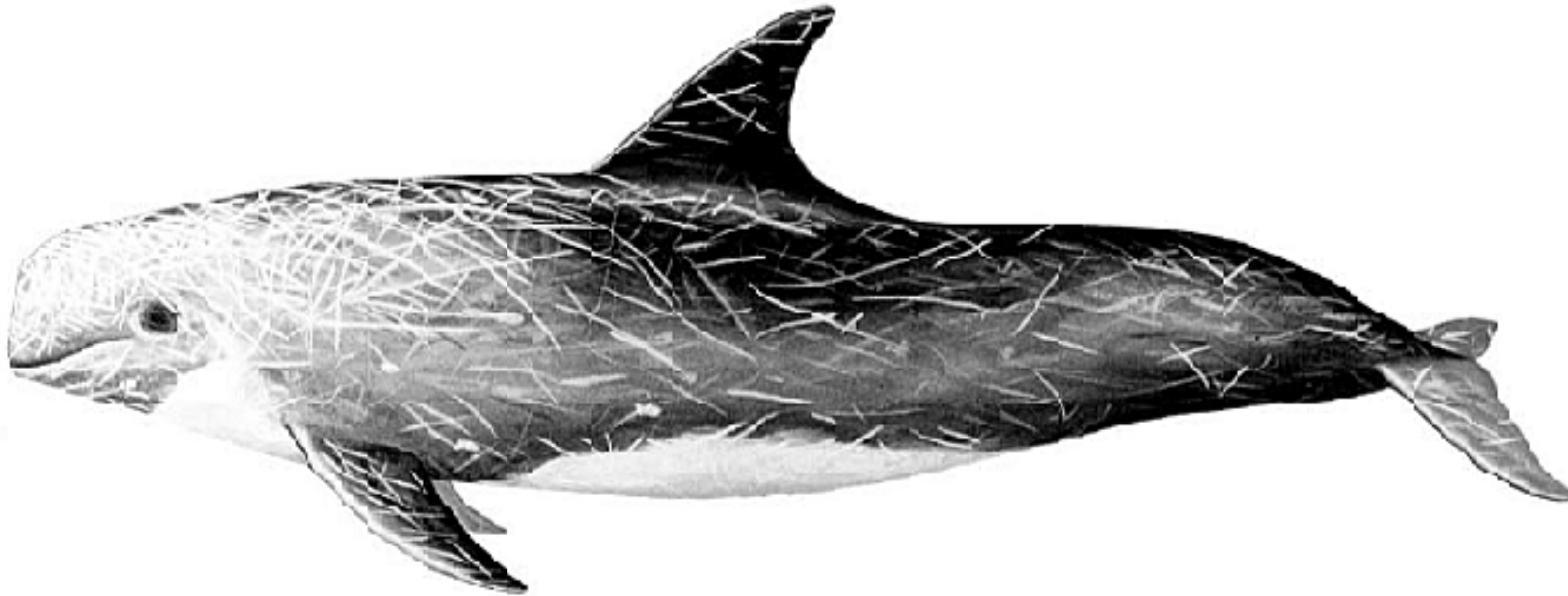
BEAKED DOLPHIN

Risso's Dolphin

Grampus griseus Cuvier, 1812

Size: About 3.8 meter long.

Distribution: Oceanic and continental slope water from the tropics through the temperate regions.



Robust blunt headed animal without distinct beak.

Flippers are long, pointed and recurved.

Dorsal fin tall, falcate and the most distinctive feature is a vertical crease on the front of the melon.

BEAKED DOLPHIN

