

Overview of Cetacean Species in European Waters (including Red List Status)

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“I am surprised and concerned that so many cetaceans in Europe are more threatened than their counterparts elsewhere. Europe has the knowledge and the means to do better. Unless dedicated action comes soon, future generations may not enjoy porpoises, dolphins and whales in European waters and that would be a terrible loss.”
Giuseppe Notarbartolo di Sciara

Introduction

European Cetaceans (Order Cetartiodactyla) include 33 species, eight of which belong to Suborder Mysticeti (baleen whales), and 25 to Suborder Odontoceti (toothed whales, dolphins and porpoises). A list of species and subspecies is contained in Table 1.

Other cetacean species, which are not resident, can appear on occasion in European waters from distant regions, but they are not included here because they are not represented in Europe by viable populations that need to be the object of conservation effort. For example the single Gray whale (*Eschrichtius robustus*) individual, (a species currently limited to the North Pacific) which appeared in the Mediterranean Sea, first off Israel and later off Barcelona, in May 2010 (Scheinin *et al.*, 2011).

All 33 species have been assessed in the International Union for Conservation of Nature's (IUCN) Red List at the global level to determine their risk of extinction. Of these, one is listed as Critically Endangered (CR), two are listed as Endangered (EN), two are Vulnerable (VU), one is Near Threatened (NT), 21 are Least Concern (LC), and six are Data Deficient (DD). Some subspecies and subpopulations have been assessed in European waters, either in Europe in general, specifically in one of Europe's marine basins (Baltic, Mediterranean or Black Seas) or in specific areas such as the Straits of Gibraltar. Of these, four are Critically Endangered, seven are EN, seven are VU, one is NT, four are LC, and fourteen are DD. Three species have not been assessed for European waters and seven were assessed as Not Applicable (NA) in 2007 because of their marginal occurrence or vagrant status, however these assessments need to be updated (see recommendations in Table 1).

In terms of percentages, at the global level 18% of the species found in Europe are assessed as being in a threatened or almost threatened category (CR, EN, VU or NT); 64% are considered not threatened (LC) and 18% are DD. Of the 22 species which were assessed at the European level, 27% are in a threatened or almost threatened category (CR, EN, VU or NT), 18% are considered not threatened, and 55% are DD. Of the 15 species which were assessed as subspecies or subpopulations, 87% were in a threatened category (CR, EN or VU) and 13% were DD. It can be concluded that cetaceans in Europe are considerably more threatened than their global counterparts, and that a greater level of uncertainty exists in Europe than at the global level about the status of some species. Concern for the overall status of cetaceans in Europe would probably be significantly greater were the recommended assessments of some subpopulations carried out.

Recommendations for status assessments

The status of many taxa can still not be properly assessed due to a lack of robust data on population sizes and trends, despite clear evidence of existing anthropogenic factors likely to affect their conservation status. These include, at the global level, species that are particularly difficult to monitor at sea due to their cryptic behaviour and occurrence in low densities (e.g. Ziphiidae) or species whose taxonomic status is still problematic (e.g. the killer whale (*Orcinus orca*) is likely to be split into several species as ecological, morphological and genetic knowledge progresses (Morin *et al.*, 2010)). The same situation is reflected at the regional level (Notarbartolo di Sciara, 2016), although in the case of smaller subpopulations, concentrating efforts to focus on knowledge increase should be less problematic and lead to improved status assessments. This was the case of Cuvier's beaked whale (*Ziphius cavirostris*) in the Mediterranean which was recently moved from DD to VU (Cañadas and Notarbartolo di Sciara, 2018).

Many regional Red List assessments are now outdated because they were performed a decade ago or more. For many of these species the situation is unlikely to have remained the same. On the one hand, knowledge has improved allowing increasingly robust evaluations, and, on the other hand, pressures have increased, diversified, or exerted their effects for a longer period, alone and cumulatively with other factors. Some Mediterranean and Black Sea taxa, such as fin whales (*Balaenoptera physalus*), sperm whales (*Physeter macrocephalus*), harbour porpoises (*Phocoena phocoena*), common dolphins (*Delphinus delphis*), common bottlenose dolphins (*Tursiops truncatus*), Black Sea harbour porpoises (*P. phocoena relicta*), Black Sea common dolphins (*D. delphis ponticus*) and Black Sea bottlenose dolphins (*T. truncatus ponticus*) are currently in the process of being reassessed.

Finally, there are special cases in which local cetaceans warrant being considered as subpopulations and these should be the focus of urgent attention in view of existing evidence of their highly concerning conservation status. The Strait of Gibraltar killer whale (Esteban and Foote, 2019) and the Gulf of Corinth common dolphin subpopulations (Bearzi, Bonizzoni and Santostasi, 2020) have recently both been added to the Red List with a status of CR. The Red List assessments of the Gulf of Ambracia common bottlenose dolphins (Gonzalvo *et al.*, 2016), the Gulf of Corinth striped dolphins (Bearzi *et al.*, 2016) and the Mediterranean long-finned pilot whale subpopulations (*Globicephala melas*) (Verborgh *et al.*, 2016) are currently being reviewed. The Mediterranean Sea rough-toothed dolphins (*Steno bredanensis*) (Kerem *et al.*, 2016) and the Iberian/North West African subpopulation (Fontaine, 2016) of harbour porpoises are also being assessed.

Table 1: European Cetaceans (33 species, 3 subspecies), their Red List statuses (both global and, where applicable, subsets including subpopulations, regional assessments and subspecies) and recommended actions.

Common name	Scientific name	Global range	European range	Red List (global)	Red List (subsets)	Recommendations
Mysticeti – Balaenidae (2 species)						
Bowhead whale	<i>Balaena mysticetus</i>	Circumpolar in Arctic and Subarctic regions.	Northern coasts of Iceland, Norway, Russia; East Greenland; Svalbard; Barents Sea.	Least Concern (2018)	East Greenland-Svalbard-Barents Sea subpopulation: Endangered (2018)	
North Atlantic right whale	<i>Eubalaena glacialis</i>	North Atlantic, mostly western part, from Florida to north of Iceland.	Formerly found from northwest Africa to East Greenland, Iceland and North Norway.	Critically Endangered (2020)	Europe: Critically Endangered (2007) Appears to be effectively extirpated from the eastern North Atlantic.	Update status for Europe to RE (Regionally Extinct).
Mysticeti – Balaenopteridae (6 species)						
Common minke whale	<i>Balaenoptera acutorostrata</i>	A cosmopolitan species found in all oceans and in nearly all latitudes, from nearly 70°S to 80°N.	Found throughout the European seas except in the Baltic and Black Seas. Occurs only occasionally in the Mediterranean.	Least Concern (2018)	Europe: Least Concern (2007)	
Sei whale	<i>Balaenoptera borealis</i>	A cosmopolitan species, with a mainly offshore distribution.	Occurs off the northeast Atlantic waters from northern Norway to the Canary Islands, including the North Sea but excluding the Baltic, Mediterranean (except a few extralimital records) and Black Seas.	Endangered (2018)	Europe: Endangered (2007)	Update Europe assessment.
Bryde's whale	<i>Balaenoptera edeni</i>	Circumtropical, but extending its range to subtropical waters in places, to 40° N and 40° S.	European occurrence limited to Madeira and the Canary Islands.	Least Concern (2017)	No relevant subpopulation assessed.	

Common name	Scientific name	Global range	European range	Red List (global)	Red List (subsets)	Recommendations
Blue whale	<i>Balaenoptera musculus</i>	A cosmopolitan species, found in all oceans.	From the Arctic waters of northern Siberia and Norway to the Canary Islands; absent from the Baltic, Mediterranean and Black Seas.	Endangered (2018)	Europe: Endangered (2007)	Update Europe assessment.
Fin whale	<i>Balaenoptera physalus</i>	Occurs worldwide mainly, but not exclusively, in offshore waters of the temperate and subpolar zones.	From Arctic waters around the Svalbard Islands to the Canary Islands, including the North and Mediterranean Seas. Absent from the Black Sea.	Vulnerable (2018)	Europe: Near Threatened (2007) Mediterranean Sea: Vulnerable (2011)	(Mediterranean reassessment in progress).
Humpback whale	<i>Megaptera novaeangliae</i>	A cosmopolitan species found in all major ocean basins.	Found throughout the European seas from Siberia to the Canary Islands, except in the Baltic and Black Seas. Occurs only occasionally in the Mediterranean.	Least Concern (2018)	Europe: Least Concern (2007)	
Odontoceti – Physeteridae (1 species)						
Sperm whale	<i>Physeter macrocephalus</i>	Found in nearly all marine regions, from the equator to high latitudes.	Found throughout the European seas except in the Baltic and Black Seas.	Vulnerable (2019)	Europe: Vulnerable (2007) Mediterranean subpopulation: Endangered (2006).	(Mediterranean reassessment in progress).
Odontoceti – Kogiidae (2 species)						
Pygmy sperm whale	<i>Kogia breviceps</i>	Known from outer continental shelf and deep waters in tropical to warm temperate zones of all oceans.	Found from the North Sea to the Canary Islands. Has not occurred in the Baltic, Mediterranean and Black Seas.	Least Concern (2019)	Europe: Not applicable (because species is of marginal occurrence) (2007).	Assess status in Europe.
Dwarf sperm whale	<i>Kogia sima</i>	Widely distributed in offshore waters of tropical and warm temperate zones of all oceans.	Found in Atlantic waters from northern Spain to the Canary Islands. Only found twice (stranded) in the Mediterranean Sea.	Least Concern (2020)	Europe: Not applicable (because species is of marginal occurrence) (2007).	Assess status in Europe.
Odontoceti – Ziphiidae (6 species)						
Northern bottlenose whale	<i>Hyperoodon ampullatus</i>	Found only in the North Atlantic, from Greenland to temperate latitudes.	Occurs in the eastern North Atlantic from Svalbard to Gibraltar. A few extra-limital records from the Baltic and Mediterranean Seas.	Data Deficient (2008)	Europe: Data Deficient (2007)	Assess status globally and in Europe.

Common name	Scientific name	Global range	European range	Red List (global)	Red List (subsets)	Recommendations
Sowerby's beaked whale	<i>Mesoplodon bidens</i>	Occurs exclusively in sub-arctic to temperate waters of the North Atlantic.	Occurs in the eastern North Atlantic from northern Norway to the Canary Islands. One extra-limital record from the Mediterranean Sea.	Data Deficient (2008)	Europe: Data Deficient (2007)	Assess status globally and in Europe.
Blainville's beaked whale	<i>Mesoplodon densirostris</i>	Circumglobal in tropical and temperate waters.	Found in the eastern North Atlantic from the south coast of Iceland to the Canary Islands. One extra-limital record in the Mediterranean.	Data Deficient (2008)	Europe: Data Deficient (2007)	Assess status globally and in Europe.
Gervais' beaked whale	<i>Mesoplodon europaeus</i>	Probably continuously distributed in deep waters across the tropical and temperate Atlantic Ocean, both north and south of the equator.	Found off the eastern North Atlantic from Scotland to the Canary Islands. One extra-limital record in the Mediterranean.	Data Deficient (2008)	Europe: Data Deficient (2007)	Assess status globally and in Europe.
True's beaked whale	<i>Mesoplodon mirus</i>	Has a disjunct, anti-tropical distribution, occurring both in the temperate/sub-tropical North Atlantic, and in the southern Atlantic and Indian oceans.	Found off the eastern North Atlantic from the south of the British Isles to the Canary Islands. Has never been observed in the Mediterranean Sea.	Data Deficient (2008)	Europe: Data Deficient (2007)	Assess status globally and in Europe.
Cuvier's beaked whale	<i>Ziphius cavirostris</i>	Widely distributed in offshore waters of all oceans, from the tropics to the polar regions in both hemispheres.	In the eastern North Atlantic from south of Iceland to the Canary Islands, and throughout the Mediterranean Sea. Absent from the Baltic and Black Seas.	Least Concern (2008)	Europe: Data Deficient (2007); Mediterranean subpopulation: Vulnerable (2018)	Update Europe assessment.
Odontoceti – Phocoenidae (1 species, 1 subspecies)						
Harbour porpoise	<i>Phocoena phocoena</i>	Found over the continental shelf in cold temperate to sub-polar waters of the Northern Hemisphere	In the eastern North Atlantic found from the Arctic south of Svalbard, in Siberian waters, Norway, Iceland and east Greenland, south to the Canary Islands. Few extralimital records in the west Mediterranean Sea. A separate subspecies inhabits the Black Sea (below).	Least Concern (2020)	Europe: Vulnerable (2007); Baltic Sea subpopulation: Critically Endangered (2008)	Update regional assessments. Urgently assess the southern ecotype inhabiting the upwelling waters off the Atlantic coast of the Iberian Peninsula and Northwest Africa as a separate subpopulation.

Common name	Scientific name	Global range	European range	Red List (global)	Red List (subsets)	Recommendations
Black Sea harbour porpoise	<i>Phocoena phocoena relicta</i>		Endemic to the Black and Marmara Seas; spills over into the northern Aegean Sea (Mediterranean Sea).		Black Sea: Endangered (2008)	(Reassessment in progress).
Odontoceti – Monodontidae (2 species)						
Beluga	<i>Delphinapterus leucas</i>	Widely distributed in Arctic regions, occurring throughout northern waters of Russia, Alaska, Canada, West Greenland, and Svalbard.	Limited to Arctic waters adjacent to Svalbard, Jan Mayen, Franz Josef Land and the Siberian coast.	Least concern (2017)	Europe: Not applicable (because species is of marginal occurrence) (2007).	
Narwhal	<i>Monodon monoceros</i>	Found in Arctic waters, including northeastern Canada, northern Greenland, Svalbard, and waters of northern Russia as far east as the East Siberian Sea.	Limited to Arctic waters along the east coast of Greenland, north Svalbard, Jan Mayen, and Franz Josef Land.	Least concern (2017)	Europe: Not applicable (because species is of marginal occurrence) (2007).	
Odontoceti – Delphinidae (13 species, 2 subspecies)						
Common dolphin	<i>Delphinus delphis</i>	Widely distributed in tropical to cool temperate waters of the Atlantic and Pacific Oceans, from nearshore waters to thousands of km offshore.	In the eastern North Atlantic from southern Norway to the Canary Islands, including the Mediterranean Sea. A separate subspecies inhabits the Black Sea (below).	Least concern (2008)	Europe: Data Deficient (2007); Mediterranean: Endangered (2003); Gulf of Corinth: Critically Endangered (2020)	(Mediterranean reassessment in progress).
Black Sea common dolphin	<i>Delphinus delphis ponticus</i>		Found throughout Black Sea waters.		Black Sea: Vulnerable (2008)	(Reassessment in progress).
Short-finned pilot whale	<i>Globicephala macro-rhynchus</i>	Found worldwide in warm temperate to tropical waters, generally in deep offshore areas.	In the eastern North Atlantic from northern Spain to the Canary Islands. One extra-limital record in the Mediterranean.	Least concern (2018)	No relevant subpopulation assessed.	
Long-finned pilot whale	<i>Globicephala melas</i>	Shows an antitropical distribution in temperate and sub-polar zones of the Northern (limited to the North Atlantic) and Southern Hemispheres.	In the eastern North Atlantic, from north of Norway to the Canary Islands. Extends into the Mediterranean Sea, but limited to the western basin.	Least concern (2018)	Europe: Data Deficient (2007); Mediterranean: Data Deficient (2010)	(Mediterranean reassessment in progress).

Common name	Scientific name	Global range	European range	Red List (global)	Red List (subsets)	Recommendations
Risso's dolphin	<i>Grampus griseus</i>	Widely distributed in the tropics and temperate regions of both hemispheres, primarily in waters of the continental slope and outer shelf (especially areas with steep bottom topography).	In the eastern North Atlantic from south of Norway, British Isles, France and Spain south to the Canary Islands; extends into the Mediterranean Sea, but not in the Black Sea.	Least Concern (2018)	Europe: Data Deficient (2007); Mediterranean subpopulation: Data Deficient (2010)	(Mediterranean reassessment in progress).
Fraser's dolphin	<i>Lagenodelphis hosei</i>	The species has a pantropical distribution, mainly between 30°N and 30°S in all three major oceans.	Limited to Madeira, the Azores and the Canary Islands.	Least concern (2018)	Europe: Not applicable (because species is a vagrant) (2007).	Assess status in Macronesia.
Atlantic white-sided dolphin	<i>Lagenorhynchus acutus</i>	Cold temperate to subpolar waters of the North Atlantic.	In the eastern North Atlantic from south of Svalbard and east Greenland south to northern France.	Least Concern (2019)	Europe: Least Concern (2007)	Update assessment for Europe.
White-beaked dolphin	<i>Lagenorhynchus albirostris</i>	Cold temperate and sub-polar waters of the North Atlantic	In the eastern North Atlantic from west of Svalbard, Novaya Zemlya and east Greenland, south to northern Portugal.	Least Concern (2018)	Europe: Least Concern (2007)	Update assessment for Europe.
Killer whale	<i>Orcinus orca</i>	Occurs in virtually any marine habitat but is most common in cold water areas of high marine productivity, particularly at higher latitudes.	Occurs throughout European Atlantic waters. Rare in the Mediterranean. Absent from Black and Baltic Seas.	Data Deficient (2017)	Europe: Data Deficient (2007); Strait of Gibraltar subpopulation: Critically Endangered (2019)	
False killer whale	<i>Pseudorca crassidens</i>	Found in tropical to warm temperate zones, generally in relatively deep, offshore waters in all three major oceans.	In the eastern North Atlantic from southern Norway and British Isles south to Canary Islands. Occasional visitor to the Mediterranean. Absent from Baltic and Black Seas.	Near Threatened (2018)	Europe: Not applicable (because species is of marginal occurrence) (2007).	Assess status in Europe.
Striped dolphin	<i>Stenella coeruleoalba</i>	Found in tropical and warm-temperate waters of the Atlantic, Pacific, and Indian oceans, as well as many adjacent seas.	In the eastern North Atlantic from about 50°N south to the Canary Islands. Abundant in the Mediterranean. Absent from Baltic and Black Seas.	Least Concern (2018)	Europe: Data Deficient (2007); Mediterranean subpopulation: Vulnerable (2010)	(Mediterranean reassessment in progress).

Common name	Scientific name	Global range	European range	Red List (global)	Red List (subsets)	Recommendations
Atlantic spotted dolphin	<i>Stenella frontalis</i>	Found in tropical and warm-temperate waters of the Atlantic Ocean from 50°N to 25-30°S.	Limited to Madeira, the Azores and the Canary Islands.	Least Concern (2018)	No relevant subpopulation assessed.	
Rough-toothed dolphin	<i>Steno bredanensis</i>	A tropical to subtropical species, which generally inhabits deep, oceanic waters of all three major oceans, rarely ranging north of 40°N or south of 35°S.	In the eastern North Atlantic from the west coast of France south to the Canary Islands. In the Mediterranean it is frequently observed in the Levantine Sea; occasional elsewhere.	Least Concern (2018)	Europe: Not applicable (because species is of marginal occurrence) (2007).	Update Europe status to reflect that species is present in North Atlantic particularly around the Canary Islands. (Mediterranean reassessment in progress).
Common bottlenose dolphin	<i>Tursiops truncatus</i>	Distributed worldwide through tropical and temperate inshore, coastal, shelf, and oceanic waters.	In the eastern North Atlantic from the Faeroes and Shetlands south to the Canary Islands. Common throughout the Mediterranean Sea. A separate subspecies inhabits the Black Sea (below).	Least Concern (2018)	Europe: Data Deficient (2007); Mediterranean: Vulnerable (2009)	(Mediterranean region reassessment and Gulf of Ambracia subpopulation assessment are in progress). Recommend assessing other subpopulations within the Mediterranean.
Black Sea bottlenose dolphin	<i>Tursiops truncatus ponticus</i>		The subspecies' range includes the Black Sea proper, the Kerch Strait along with the adjoining part of the Azov Sea, and the Turkish Straits System.		Black Sea: Endangered (2008)	(Reassessment in progress).

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