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**Red List Status of Cetaceans – March 2021**

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# Red List Status of Cetaceans – March 2021

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## Abstract

The Cetacean Specialist Group (CSG) is the official IUCN Red List Authority responsible for assessing global threat levels for cetacean species. Between 2018 and 2021, the CSG undertook a reassessment of all cetacean species as well as many subspecies and subpopulations. A total of 104 new or updated assessments were published during that time. Of the 90 cetacean species assessed for the Red List, 24% are assigned to a threatened category (i.e. CR, EN, VU), 11% are Near Threatened, just over half (54%) are Least Concern, and 10% are considered Data Deficient.

## 1. Producing and Updating Cetacean Red List Assessments

The Cetacean Specialist Group (CSG) is the official IUCN Red List Authority responsible for assessing global threat levels for cetacean species. It works closely with the IUCN Red List Programme to decide which threat-level category to assign to each species, and some subspecies and subpopulations, by evaluating evidence in relation to the Red List [Categories and Criteria](#). The CSG has a [Red List Authority](#) committee, coordinated by a focal point. Each species-level assessment is drafted by a single author or group of assessors, and the draft is reviewed by the CSG Chair (RRR), Red List Authority Focal Point (BLT) and at least one other expert, to ensure consistency in the level of information and in the way that the criteria are applied. Assessors are listed as authors of the assessment and reviewers are named on the website version. After final review, the assessment is entered into the IUCN online system and then submitted to the IUCN Red List Unit for checking and publication. It normally takes about three months from submission to publication online.

Assessments of threatened cetacean species (i.e. those assessed as Critically Endangered [CR],

Endangered [EN] or Vulnerable [VU]) are to be updated at least every ten years. The IUCN SSC focuses on an unbiased evaluation of all species in an effort to provide a metric of the state of biodiversity through time. All the work conducted by the CSG to produce, review and update Red List assessments is done on a voluntary basis. In light of this, typically only selected subspecies and subpopulations are assessed that are known, or likely, to qualify for a threatened category, and for which producing an assessment is expected to make a significant contribution to conservation. Therefore, the general assessment of risk to cetaceans is only valid at the species level because nearly all subspecies and subpopulations are selected because they are known to be threatened. There are also some Regional Assessments that use different criteria and are not overseen by the CSG.

Between 2018 and 2021, the Cetacean Specialist Group undertook to reassess all cetacean species. This task is now virtually complete. A total of 104 updated or new cetacean assessments were published in the last 2½ years.

## 2. How to Use and Cite the Red List and Individual Cetacean Assessments

The Red List is updated on average three times per year, and each edition is labelled by year and edition (e.g. 2020-3 refers to the third edition published in 2020) displayed on the top right-hand side of the top menu on the Red List website ([www.redlist.org](http://www.redlist.org)) (see Figure 1). Because the list is ever-changing, any publications citing the list as a whole should note the edition used.

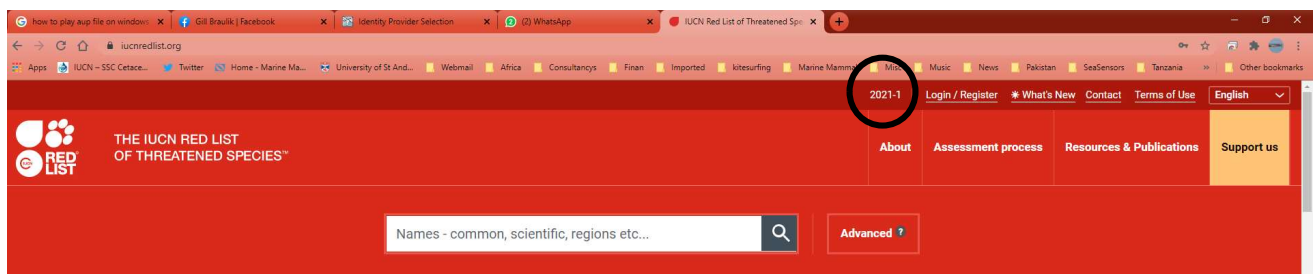


Figure 1 – Location on the Red List website where the Red List edition can be seen. 2021-1, in black circle, on the top right-hand side.

For each individual assessment the date last assessed, which is when the assessment was drafted and reviewed, is displayed on the right-hand side of the screen (Figure 2). It is important to note that the publication date within the recommended citation of each assessment is frequently not the same as the date that the species, subspecies or subpopulation was actually assessed and is often some years later. See the example below for the South Asian river dolphin which was assessed/drafted in July 2017, but the suggested citation and publication date is 2019 (Figure 2). This occurs frequently when small textual updates are made to the document. For this reason, users of the Red List should NOT assume

that the date within the recommended citation is the date that an assessment was drafted and reviewed but should specifically check the website for the ‘date last assessed’.

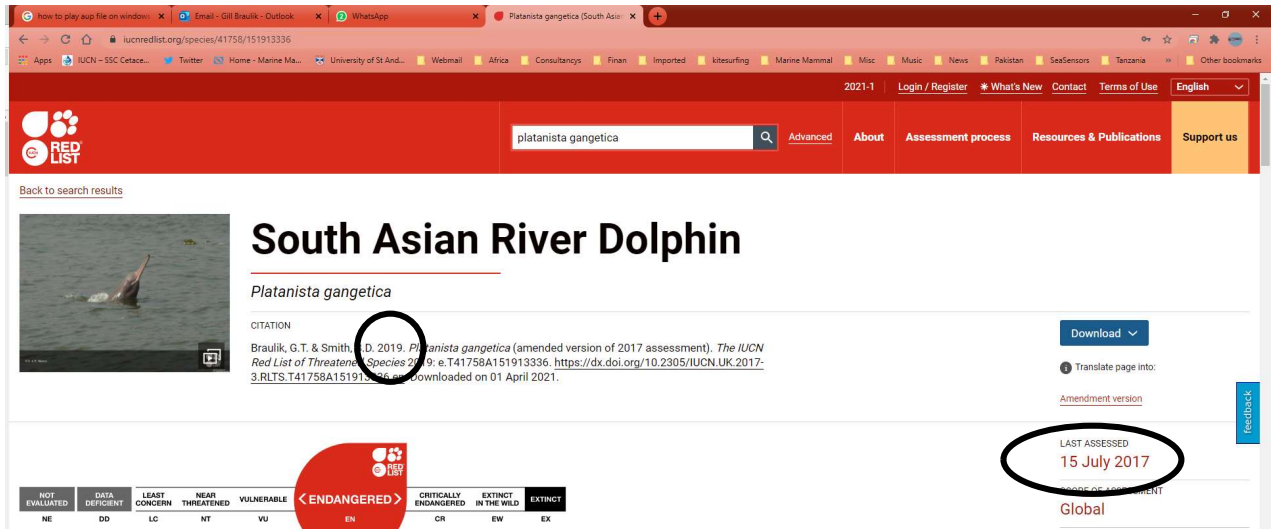


Figure 2 – The date last assessed and the publication date for individual cetacean Red List assessments, shown in black circles.

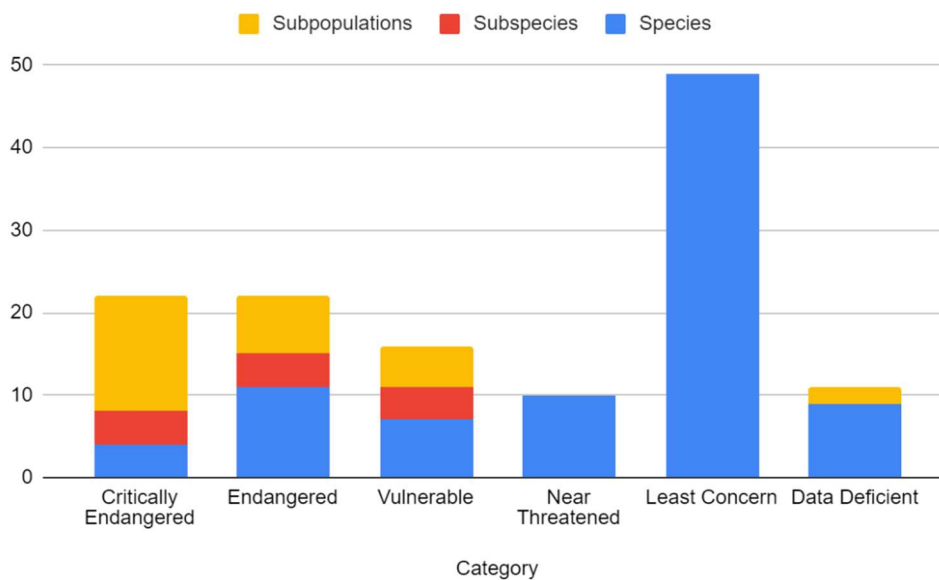
### 3. Red List Status of Cetaceans

The most recent edition of the IUCN Red List is version 2021-1 which was published in March 2021. A total of 90 cetacean species and an additional 12 subspecies and 28 subpopulations are currently published online (Table 1 and Figure 3 below). A large number of cetaceans, including most of the beaked whales, had long been classified as Data Deficient. A 2019 update to the Red List Guidelines (IUCN, 2019) changed the definition of Data Deficient such that to remain as Data Deficient, a species must plausibly belong in any category in the spectrum from Critically Endangered to Least Concern. Following this new definition, many poorly known species that were previously listed as Data Deficient have been reassigned to other categories. Even with this new definition, assessing beaked whales proved difficult and a set of rules was developed to lay out the reasoning used to strive for consistency in assessments of the data-poor deep divers (the rationale is given as Supplementary Material in most beaked whales assessments – see an example for Gervais’ beaked whale [here](#)). These kinds of ‘bookkeeping’ changes in categorization do not necessarily represent actual changes in conservation status. That, and the fact that the threat category assigned to many species changes because of improved information (including taxonomic changes, see section below) rather than due to a real change in conservation status, means that using the Red List to track changes in the status of cetaceans over time is not straightforward.

Of the 90 cetacean species assessed on the Red List, 24% are assigned to a threatened category (i.e. CR, EN, VU), 10 (11%) are Near Threatened, just over half (54%) are Least Concern, and 10% are considered DD (Table 1).

*Table 1 – The categories of cetacean species, subspecies and subpopulations assessed for the IUCN Red List in the 2021-1 edition of the Red List.*

Category	Species	Subspecies	Subpopulations	Total
Critically Endangered	4	4	14	22
Endangered	11	4	7	22
Vulnerable	7	4	5	16
Near Threatened	10	0	0	10
Least Concern	49	0	0	49
Data Deficient	9	0	2	11
<b>Total</b>	<b>90</b>	<b>12</b>	<b>28</b>	<b>130</b>



*Figure 3 – The number of cetacean species, subspecies and subpopulation global Red List assessments in different threat categories (Red List Edition 2021-1, March 2021)*

### 3.1 Critically Endangered

Four cetacean species, 4 subspecies and 14 subpopulations of cetacean are currently classified as Critically Endangered on the IUCN Red List. The four species are as follows:

- Yangtze River dolphin (*Lipotes vexillifer*), which is classified as ‘critically endangered, possibly extinct’ and is regarded by most cetologists as functionally or actually extinct.
- Vaquita (*Phocoena sinus*)
- Atlantic humpback dolphin (*Sousa teuszii*)
- North Atlantic right whale (*Eubalaena glacialis*)

The four critically endangered subspecies are:

- Antarctic blue whale (*Balaenoptera musculus intermedia*)
- North Island Hector’s dolphin (*Cephalorhynchus hectori maui*)
- Yangtze finless porpoise (*Neophocoena asiaorientalis asiaorientalis*)
- Taiwanese white dolphin (*Sousa chinensis taiwanensis*)

Critically Endangered subpopulations include six isolated subpopulations of Irrawaddy dolphins (*Orcaella brevirostris*), two in marine waters in the Philippines: Malampaya Sound and Iliolo-Guimaras; and four in fresh or brackish waters: Mekong River, Mahakam River, Songkhla Lake and the Ayeyarwady River. Baltic Sea harbour porpoises, Fiordland bottlenose dolphins (*Tursiops truncatus*), Gulf of Mexico Bryde’s whales (soon to be reclassified as Rice’s whale), Chile-Peru Southern right whales, Northeast Pacific North Pacific right whales, Cook Inlet belugas or white whales, Gulf of Corinth common dolphins, and Gibraltar killer whales are all also classified as Critically Endangered subpopulations.

### 3.2 Endangered

Eleven cetacean species are red-listed as Endangered:

- Sei whale (*Balaenoptera borealis*)<sup>1</sup>
- Blue whale (*Balaenoptera musculus*)
- North Pacific right whale (*Eubalaena japonica*)
- South Asian river dolphin (*Platanista gangetica*)
- Amazon River dolphin or boto (*Inia geoffrensis*)
- Irrawaddy dolphin (*Orcaella brevirostris*)
- Tucuxi (*Sotalia fluviatilis*)
- Indian Ocean humpback dolphin (*Sousa plumbea*)
- Perrin’s beaked whale (*Mesoplodon perrini*)

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<sup>1</sup> The Red List guidelines specify that down-listing, which Sei whales qualified for in the last assessment, are given a 5-year wait period. The sei whale, assessed in 2018, will automatically move from Endangered to Vulnerable after 5 years in the absence of significant new information.

- Hector's dolphin (*Cephalorhynchus hectori*).

The four endangered subspecies are the Indus and Ganges river dolphins (*Platanista gangetica minor*, and *P. g. gangetica*, respectively), Black Sea harbour porpoise (*Phocoena phocoena relicta*) and Black Sea bottlenose dolphin (*Tursiops truncatus ponticus*).

Seven cetacean subpopulations are listed as Endangered. They are Mediterranean common dolphins and sperm whales, Arabian Sea and Oceania humpback whales, western gray whales, and Okhotsk Sea and East Greenland-Svalbard-Barents Sea bowhead whales.

### 3.3 Data Deficient

As of March 2021, only nine cetacean species remain as Data Deficient. Seven of these are beaked whales (Ziphiidae) for which there are very limited data, and the other two are Omura's whale and the killer whale. Killer whales are considered Data Deficient because of uncertainty surrounding their taxonomy.

## 4. Taxonomic Changes and the Red List

Taxonomic uncertainty in cetaceans can be problematic when trying to assess the true level of risk using the Red List criteria. The CSG uses the Society for Marine Mammalogy's List of Species as the official source for accepted cetacean taxonomy. At least once each year, the Taxonomy Committee evaluates newly published papers that suggest changes to taxonomy and decides whether the arguments made warrant the proposed change by a majority vote within the Committee. Often the change involves splitting one species into two, thereby reducing the range and abundance of both taxa. In the 2006 *Sousa chinensis* assessment the species was listed as LC with its large distribution cited as one reason for not meeting criteria for threatened categories. When *S. chinensis* was split into three species (*S. chinensis*, *S. sahalensis* and *S. plumbea* (Jefferson and Van Waerebeek, 2004)), of the two new species *S. plumbea* was listed as EN and *S. sahalensis* as VU, while the species retaining the old name was assessed as VU. Rice's whale was recently described as a species (Rosel et al. 2021) and while it was formerly assessed as a CR subpopulation, it will soon be a CR species. Indus and Ganges dolphins were recently proposed as distinct species, which if accepted by the Committee on Taxonomy will add two more EN species. Several new taxa in South American rivers have been proposed but not accepted by the Committee on Taxonomy. Should these eventually be accepted as species, it will add more threatened taxa to the species list. It is nearly always the case that overall species-level threat is underestimated when there is taxonomic uncertainty because the 'new' species have smaller distributions and hence a greater likelihood of being assigned to a threatened category.

## 5. Conclusions

There are many potential synergies between the work conducted by the International Whaling Commission and its various committees, sub-committees and other initiatives and that by the CSG for Red List assessments. The Red List status of cetaceans could, for example, be used to inform the Bycatch Initiative, the Extinctions Initiative, or the Small Cetacean Task Teams. IWC committee work has in the past contributed to changes in the Red List status of some cetaceans. For example, the 2002 meeting of the Small Cetacean Sub-committee focused on the genus *Sousa*, highlighting data gaps and eventually leading to taxonomic revision of the group, the special issue of *Advances in Marine Biology* edited by Jefferson and Curry, and the up-listing of *Sousa plumbea* and *Sousa teuszii* to EN and CR on the Red List, respectively.

The Species Survival Commission is now emphasizing that specialist groups should strive for all components of their conservation vision to include three steps: Assess – Plan - Act. To proceed from assessing to planning or acting requires, as a first step for many cetaceans, assessment at a smaller scale than the species level. For example, common dolphins are Least Concern as a species, but there are subpopulations (for example, within the Mediterranean) that meet the Red List criteria for a threatened category. There are probably, at least, scores of subpopulations that similarly would both meet the IUCN definition of a subpopulation and merit listing in a threatened category. One priority of the CSG is to develop its own guidelines for prioritizing subpopulations for assessment, and this could be they type of issue that would benefit from collaborations between the IWC and the CSG.

## 5. References

- Braulik, G. T., Archer, F., Khan, U., Imran, M., Sinha, R. K., Jefferson, T. A., et al. (2021). Taxonomic revision of the South Asian River dolphins (*Platanista*): Indus and Ganges River dolphins are separate species. *Marine Mammal Science*, <https://onlinelibrary.wiley.com/doi/10.1111/mms.12801>.
- IUCN Standards and Petitions Committee. 2019. Guidelines for using the IUCN Red List categories and criteria. Version 14. Prepared by the Standards and Petitions Committee. Downloadable from <http://www.iucnredlist.org/documents/RedListGuidelines.pdf>
- Jefferson, T. A., & Rosenbaum, H. C. (2014). Taxonomic revision of the humpback dolphins (*Sousa* spp.), and description of a new species from Australia. *Marine Mammal Science*, 30(4), 1494-1541.
- Rosel, P. E., Wilcox, L. A., Yamada, T. K., & Mullin, K. D. (2021) A new species of baleen whale



(*Balaenoptera*) from the Gulf of Mexico, with a review of its geographic distribution. *Marine Mammal Science*, n/a(n/a).