

Taiwanese humpback dolphin Status Review Report: ID370

Peer Review Comments

We solicited peer review of the Draft Status Review Report of the Taiwanese Humpback Dolphin (*Sousa chinensis taiwanensis*) from several potential reviewers, three of which agreed to be reviewers and provided reviews. Reviewer comments are compiled below from comments on drafts of the manuscript and are not in the order of the reviewer identification list below.

Reviewers (listed alphabetically):

Dr. Alex Huang

Dr. Thomas Jefferson

Dr. John Wang

Specific Responses to Terms of Reference Questions

Reviewer #1

Evaluate the adequacy, appropriateness and application of data used in the Status Review document.

1. *In general, does the Status Review include and cite the best scientific and commercial information available on the species, its biology, stock structure, habitats, threats, and risks of extinction?*

Yes

2. *Are the scientific conclusions factually supported, sound, and logical?*

Yes.

3. *Where available, are opposing scientific studies or theories acknowledged and discussed?*

Yes.

4. *Are uncertainties assessed and clearly stated?*

Yes.

Evaluate the findings made in the Assessment of Extinction Risk.

1. *Are the methods used for the Extinction Risk Analysis valid and appropriate?*

Yes.

2. *Are the results and conclusions of the Extinction Risk Analysis supported by the information presented?*

Yes.

Reviewer #2

Evaluate the adequacy, appropriateness and application of data used in the Status Review document.

1. *In general, does the Status Review include and cite the best scientific and commercial information available on the species, its biology, stock structure, habitats, threats, and risks of extinction?*

Overall, yes. However, see comments in mark-up. One reference on contaminants was not included. Reference was provided.

2. *Are the scientific conclusions factually supported, sound, and logical?*

Overall, yes. However, see comments in mark-up

3. *Where available, are opposing scientific studies or theories acknowledged and discussed?*

Overall, yes. However, see comments in mark-up

4. *Are uncertainties assessed and clearly stated?*

Overall, yes. However, see comments in mark-up

Evaluate the findings made in the Assessment of Extinction Risk.

1. *Are the methods used for the Extinction Risk Analysis valid and appropriate?*

There are some points that appeared to be subjective rather than objective (e.g., conclusions about dolphin watching, scientific research and disease/predation not contributing much to risk of extinction). The lack of evidence is NOT evidence for absence. It is just the lack of evidence. In fact, as I have noted in the status review, there are data suggesting otherwise. When any population is at such high risk of extinction as this subspecies, declining and even minimal takes of individuals from the population is

unsustainable, more or less every additional stressor is contributing a large amount to the risk of its extinction. These subjective conclusions should not be made. Instead, the statements should be ones of fact...i.e., there is a lack of evidence.

2. *Are the results and conclusions of the Extinction Risk Analysis supported by the information presented?*

The final overall conclusion about extinction risk being high is sound.

Reviewer #3

Evaluate the adequacy, appropriateness and application of data used in the Status Review document.

1. *In general, does the Status Review include and cite the best scientific and commercial information available on the species, its biology, stock structure, habitats, threats, and risks of extinction?*

Yes, the authors have done a very good job of obtaining and citing appropriate literature.

2. *Are the scientific conclusions factually supported, sound, and logical?*

Yes, I think there is very good support provided for the conclusions.

3. *Where available, are opposing scientific studies or theories acknowledged and discussed?*

Yes, all information, even opposing viewpoints, as discussed in the review.

4. *Are uncertainties assessed and clearly stated?*

Yes, the status review does a good job of addressing the many uncertainties involved in the status assessment.

Evaluate the findings made in the Assessment of Extinction Risk.

1. *Are the methods used for the Extinction Risk Analysis valid and appropriate?*

Yes, I think the methods are appropriate and valid.

2. *Are the results and conclusions of the Extinction Risk Analysis supported by the information presented?*

Yes, I think there is good support provided for the results and conclusions.

Editorial Comments

Reviewer #1

Reviewer #1 did not provide any additional editorial or substantive comments on the status review report.

Reviewer #2

A large majority of the editorial comments from this reviewer were largely focused on minor clarifications and corrections within the text of the status review report. The reviewer pointed out one study regarding bioaccumulation of toxins in the Taiwanese humpback dolphin that we did not originally include.

Substantial editorial comments from this reviewer were largely related to the threats assessment and our characterizations and rankings of individual threats as they related to the subspecies' risk of extinction. The reviewer disagreed with some of our characterizations of threats. In general, the reviewer thought that several threats that we ranked as "low" in terms of their associated risk likelihood should have been ranked higher. For example, on page 23, the reviewer disagreed that whale-watching activities were not contributing heavily to the extinction risk of the subspecies. The reviewer noted:

"There are tours that target the Taiwanese humpback dolphin and were permitted to operate even though a panel of experts recommended against any boat-based dolphin watch that targeted the Taiwanese humpback dolphins. There is only one species of dolphin to be targeted and that is the Taiwanese humpback dolphins. Given the additional stress this kind of activity puts on these dolphin already under tremendous stressors, the contribution to extinction risk CANNOT be considered low because the loss of even one individual every 7+ years is unsustainable."

Similarly, on page 34, the commenter reiterated concerns regarding the whale watching industry:

"In 2007, a panel of scientists strongly recommended against allowing boat-based dolphin watch tours because of the increased stress and risk to the dolphins...this recommendation was based on the opinion of experts that the dolphin watch will have an important negative impact on the dolphins (see Wang et al. 2007a). This is concern is supported by studies on the negative impacts that dolphin watch tours have had on some dolphin populations (including in Australia where even 2 boats had measureable negative impacts on the local dolphin population (see Bejder et al., 2006)."

The reviewer also similarly disagreed with our characterization that scientific research activities are unlikely to pose serious threats to the subspecies. The reviewer commented:

"There are local scientists with very little cetacean research experience proposing and pushing for invasive capture-satellite tagging research to understand movement. This is a

very serious concern and would be a very great risk to the dolphins – with the PBR at 1 per 7+ years, such invasive research can be a large threat.”

With regard to acoustic disturbance having a low risk likelihood, the reviewer noted:

“This is clearly wrong; noise from pile-driving (from say the construction of 1000 turbines in the habitat of the dolphins) can contribute a very high risk to these dolphins” and “This determination is against a panel of acoustic, behavior, demographics experts who will be meeting in Taiwan in April to discuss the serious concerns for the dolphins due to the impacts of the construction of the wind farm. There is no scientific reason to suggest noise contributes a relatively low risk to these dolphins.”

The reviewer also noted that for threats where there was inadequate information to make a ranking (e.g., shark predation), that we should more accurately rate the threat as “unknown” as opposed to “low”.

The reviewer also commented that inadequacy of existing regulatory mechanisms is not necessarily an issue, but rather that the enforcement of said regulatory mechanisms is the problem. The reviewer suggested that we say something about the need for enforcement of current protections for them to be effective. Finally, the reviewer made some clarifications regarding potential tension between Mainland China and Taiwan as an impediment to conservation. The commenter stated:

“Mainland China has no involvement or interest in the conservation of the Taiwanese humpback dolphins, which are found solely within Taiwanese jurisdiction and boundaries... This is not true for the wildlife populations that are found entirely within the boundaries of Taiwan (regardless of whether or not Taiwan is independent or a province of China. The same holds true for something that is politically part of China like the Hong Kong Special Administrative Region. The transboundary issue was only for the conservation of the species as a whole but is not an issue for conserving the subspecies that is endemic to Taiwanese waters and not shared with mainland China.”

Reviewer #3

Overall, the authors have done a very good job of reviewing relevant information and using it to make a valid assessment of the status of this taxon. I agree with their results and conclusions. I do have some specific comments, related to corrections or improvement that could be made to the draft report. See below:

- 1) P. 4, par. 3 – The Cetacea is not currently considered to be an order in higher-level taxonomy of mammals. It is considered an un-ranked taxon, and the cetaceans are considered to be in the Order Cetartiodactyla.
- 2) P. 4, par. 3 – *Sousa sahalensis* has also now been confirmed to occur off the island of New Guinea as well as Australia.

- 3) P. 5, par 1 – The dolphins that occur in the Jiulong River Estuary, Xiamen, and Chinmen are not thought to be separate populations, but are considered to be part of a single population.
- 4) P. 7 – par 2 – The Indo-Pacific humpback dolphin does not generally have a dorsal hump, as do Indian Ocean and Atlantic humpback dolphins.
- 5) P. 12, par 2 – Line transect surveys do not necessarily ‘track’ animals. They are based on sampling an area, and counting and measuring distance to detected groups, and then using that information to estimate the proportion missed on the surveys.
- 6) P. 12, par 2 – Most areas of the range of *S. chinensis* have not been surveyed, and so nothing is known of population size in those areas. Therefore it is not appropriate to say that the Taiwan animals are the “smallest” population, but only the “smallest known”.
- 7) P. 12, par 2 and elsewhere –Some references include the two names with the “et al.”, but I think they should only include the name of the first author and then “et al.”
- 8) Figure 5 – This graph shows data “**since** 1886”.
- 9) P. 19, last line – The vaquita of Mexico is **not** threatened by restriction of freshwater input, according to the best scientific knowledge. The only known threat of any significance to the species is entanglement in gillnets.
- 10) P. 22, par 1 – Finless **porpoises** (genus *Neophocaena*), not finless dolphins.
- 11) P. 23, last par. – It is more clear to say “Taiwan’s dense **human** population”.
- 12) P. 24, par. 2 – The humpback dolphins of South Africa are now considered to be Indian Ocean humpback dolphins (*S. plumbea*), and **not** *S. chinensis*.
- 13) P. 27, par. 2 – I would not say a “high number of stranding incidents”, as most strandings are inconclusive in this respect. Perhaps, its better to say a “high proportion of stranding incidents”.
- 14) P. 28, par. 2 – There is really no evidence that the Climate Change issue is a significant threat to these dolphins at present. I think the authors can be more clear here, and just conclude that this does not appear to be a significant threat at present.
- 15) P. 35, Conservation Efforts – I think this should not be the last section of the paper, but should be moved up above the Threats Assessment and Overall Extinction Risk sections. Those are the overall concluding sections of the report, it seems, and should be the final ones.
- 16) P. 35, par. 2 – The official IUCN designation of Critically Endangered should be capitalized, to make it clear that this is an official, formal status listing, and not a general statement of perceived status by the authors. This goes for all listings of official status on the IUCN Red List or the US ESA.
- 17) P. 35, Par. 1 – Understanding of both population trends **and abundance** has improved. These are both critically important issues, and you can have one without the other.
- 18) P. 36, last par. – How has the trans-national tension between China and Taiwan impeded conservation effort for *S. c. taiwanensis*? Since this subspecies occurs only in Taiwan and not in mainland China, one might wonder why this would be the case. Please explain.