

Update to the Conservation Committee on the Scientific Committee's initiative to highlight cetacean extinction

Michael Stachowitsch

During the 2020 Scientific Committee meeting, held as a ZOOM conference on 11-25 May, the issue of extinctions was raised at a Heads of Delegation meeting and again in the Small Cetaceans (SM) Subcommittee. It was prompted by a recent extinction (the baiji), the real threat of impending extinctions (e.g. the vaquita), low numbers of several other whale and dolphin populations, and the recognition that IWC concerns and recommendations would profit from a broader outreach. It is based on recognition that a core mission of the IWC is to prevent extinctions/extirpations, and that the IWC would benefit from being able to provide timely responses to or proactive statements on extinction/extirpation events. As this issue goes beyond the purview of any one subcommittee or Committee, the broad suggestion was that it be anchored in the Secretariat's communication and outreach agenda.

This idea received enthusiastic support by a wide spectrum of SC members and led to the establishment of an "Extinction Initiative" with more than 50 participants. This intersessional group held a Zoom meeting on 22 July to agree on a workplan that included producing two documents:

- (1) a template for an open letter regarding a formal statement by the Scientific Committee/IWC secretariat regarding an extinction/extirpation or such a pending event; and
- (2) a dedicated webpage on extinction on the IWC website.

The draft version of the template document is provided at this Conservation Committee meeting (see Annex A below). Further work might include, as a test run, completing the template for an already extinct species.

The outline of 10 items to be included on the dedicated webpage is also provided to this Conservation Committee meeting (see Annex B below). Potential authors have been identified for certain items, and we are seeking further volunteers for bullet-point-like text submissions or suggestions for authors.

Overall, the sentiment of the Extinction Initiative is the desire and need to think a bit beyond the box, step outside of our traditional comfort zone, retain an overall positive perspective, and not to pull punches on this most fundamental of issues.

ANNEX A

Extinction Initiative: outline template for a formal statement by the Scientific Committee.

Please note: this is a skeleton template, providing a structure for a statement but not the specific content which would need to be tailored. The template covers three scenarios: (a) an extinction; (b) an extirpation; and (c) an expression of serious concern. Some paragraphs are generic and apply to all three scenarios – Some paragraphs would be tailored (a) (b) or (c) depending on which scenario is applicable.

Image 1: photograph or illustration of species

Title (a) Extinction of [common name (genus species)]

Title (b) Disappearance from XX region of XX species

Title (c) Serious concern of extinction raised: XX species (in XX region)

Opener (a) The International Whaling Commission today reports on the extinction of XXX species.

Opener (b) The International Whaling Commission today reports that XX species is assessed to have disappeared from XX region. Whilst populations still exist in other parts of [the world] this is grave news for the species as a whole.

Opener (c) The International Whaling Commission today warns that extinction is an imminent risk for XX and sets out the actions needed now to prevent this.

Generic Para 1:

IWC assessment is based on [quote taken from IUCN Red List or equivalent authoritative source: status, dates and link to relevant page]

Generic Para 2:

Historical numbers (dates, references)

Trend of decline over time

Epoch/time of extinction

Image 2: distribution map or illustration

Generic Para 3:

Major threats/impacts responsible for decline/extinction: [entanglement in fishing gear / ship strikes / pollution / habitat degradation / directed takes / combination / other]

Generic Para 4:

Successful and unsuccessful management efforts made including by IWC [alternative fishing gear/ rerouting of shipping lanes /protected area / capture for ex-situ conservation /combination / other]

Para 5 (a) : Why this wasn't enough to prevent extinction and what lessons have been learned going forward.

Para 5 (b): Actions that must be taken now to prevent this extirpation, potentially leading to the extirpation of other populations and extinction of the species.

Para 5 (c): Actions that must be taken now before population size is so low that measures are too late to be effective including simple explanation of the biological background and bottleneck.

Generic Para 6:

The big picture: meaning/repercussions (ecological, societal) of extinction: various roles of the species/population as [predators/ecosystem engineers etc.; loss of biodiversity; loss for economy/tourism?]

Generic close:

Re-assessment of our relationship with our environment. There has never been a more appropriate time to take stock, learn lessons and do things differently in the future.

What actions can an individuals and/or stakeholder organisations take to make a difference?

ANNEX B

Extinction webpage, draft outline

(All text, including proposed section headings, are indicative only, to show the proposed subject areas to be covered).

BOX for a glossary of key terms

Bottleneck

Carrying capacity etc., etc.

(terms to be selected and completed by
authors of respective subtopics 1-10 below)

1. What is extinction?

IUCN Red List categories of threat (extinct, extinct in the wild, critically endangered, endangered, vulnerable, near threatened, least concern, data deficient, not evaluated).

Short definitions (at least for “extinct,” “extinct in the wild” and “critically endangered”?) (see “box” above?)

Extinct (EX): There is no reasonable doubt that the last individual of a taxon has died. Exhaustive surveys in known and expected habitat have failed to record an individual.

Critically endangered (CR): The best available evidence indicates that a taxon meets one of five criteria involving population size, the reduction in population size and geographic range and is therefore facing an extremely high risk of extinction in the wild.

Are all cetaceans evaluated?

2. Why extinctions are important or, more optimistically, why survival is important.

The importance of biological diversity, diversity as the raw material of evolution, localized adaptation to localized conditions

Ecosystem function, ecosystem services,

keystone species, flagship species

biological indicators of habitat quality/decline.

The natural cycle of species evolution and extinction, the typical ‘lifetime’ of mammalian species.

Ethical considerations (animal ethics, animal welfare)

3. Population sizes that are cause for concern

Bottlenecks (definition)

Definition of population (IUCN versus common biological usage?)

Link to discussion of “populations” on IWC website (“Whales”, “Population Status”).

Genetic factors/considerations

4. The role of extinctions/the threat of potential extinctions in the formation of the IWC inc. brief history of commercial whaling and IWC regulation

Urgent need for regulation of commercial whaling.

The mandate in the IWC Convention...“the conservation of whale stocks”... and why this became necessary.

Scale of the problem: historical reduction of (a) whale population sizes (b) distribution and ranges

“Commercial extinction”?

... leading to successive shift of hunts in Southern Ocean to ever smaller species (blue – fin – sei – minke...). Graph after Horwood 1990 in Young 1993?

Regulation and quota setting: after unsuccessful/unsatisfactory management schemes (blue whale units (bwu), New Management Procedure (NMP) RMP: world’s most conservative management procedure? No catches below 50% carrying capacity, population should move toward 72% carrying capacity etc. Envisioned RMS controls

Abundance estimates; Catch limits (per region/stock) and control mechanisms

100-year simulations

Factoring in environmental instability

5. The factors that have led to or can potentially lead to cetacean declines/extinctions

Historical commercial harvests

Habitat degradation

Bycatch, entanglement, ship strikes, disease, pollution, noise, climate change (which act together with other threads, thereby increasing risk of ship strikes, diseases) etc. (list of factors identified by Environmental Concerns Sub-committee).

6. What the IWC is currently doing to address and prevent extinctions

Moratorium on commercial whaling

Sanctuaries

IWC response to key threats, e.g.

Entanglements (Global Whale Entanglement Response Network in 2011, technical advisor, expert panel, training workshops)

Ship strikes (IWC Strategic Plan to Mitigate the Impacts of Ship Strikes on Cetacean Populations, 2017-2020; IWC Global Ship Strikes Database)

Strandings (IWC Strandings Initiative)... link

Bycatch (IWC Bycatch Mitigation Initiative (BMI), etc.) ...

Conservation Management Plans (CMPs) Response to threats to specific populations. Response to generic threats? Task Team programmes link.

7. Why these actions sometimes work but also sometimes fail to prevent population declines/extinctions.

Status of legal frameworks; Problem of enforcement; National/International jurisdictions; The dimensions of the World Oceans; Competing interests

What lessons can be learned from these experiences/failures and how can we apply them for improved management in the future?

Future technologies?

8. Past extinction(s) of marine mammals and cetaceans

Gray whales in the Atlantic?

Steller's sea cow (*Hydrodamalis gigas*) ... shortly after discovery of the species...

Baiji/Chinese river dolphin (*Lipotes vexillifer*) ... the factors and actions taken

9. The most threatened species/populations today

North Atlantic right whales, North Pacific right whales, Arabian Sea humpbacks, Northwest Pacific grey whales, certain Southern Atlantic/Pacific right whales etc.

Vaquita, Maui dolphins, River dolphins: *Inia* spp., *Sotalia* spp., *Platanista* spp., *Neophocaena* spp., *Orcaella* populations, *Sousa* spp., *Tursiops truncatus gephyreus*, franciscana, *Phocoena spinnipinis*, others...

with respective links for more detail to IWC webpage on most threatened species ("Whales", "Status Summary - by Population").

Coordination and alignment with document on highly endangered cetaceans in preparation by Mark Simmonds for the Conservation Committee.

10. Is the risk of cetacean extinction increasing?

Due to increasing human population and global change, many threats are increasing over the last decades, such as ship transport (resulting, in, e.g. risk of ship strikes), intensification and industrialization of agriculture and aquaculture (resulting in, e.g. increasing pollution with fertilizers (→ harmful algal bloom) and persistent pollutants (→ permanent exposure to compounds affecting the immune system and decreasing the fertility), habitat fragmentation, e.g. by construction of dams, resulting in fragmentation of populations and genetic bottlenecks, etc.