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CONSERVATION PRIORITIES FOR CETACEANS

(Prepared by the Secretariat and the ScC Aquatic Mammals Working Group)

Summary:

This document reports on progress to implement Decisions 14.69–14.73 *Conservation Priorities for Cetaceans* and Decisions 14.74–14.75 *Role of Cetaceans in Ecosystem Functioning*, as well as Resolution 14.9 *Conservation Priorities for Cetaceans*. It also contains draft Decisions.

The attached draft Decisions would support the achievement of Targets 1.1–1.3, 3.1, 3.3–3.4 and 6.1 of the Samarkand Strategic Plan for Migratory Species 2024–2032.

CONSERVATION PRIORITIES FOR CETACEANS

Background

1. This document integrates COP14 mandates relating to cetaceans – except for those related to action plans, which are covered in UNEP/CMS/COP15/Doc.25.4.2 *Cetacean Action Plans*, and Decisions 14.57-14.60 *Important Marine Mammal Areas*, which are addressed in UNEP/CMS/COP15/Doc.25.3.1 *Priorities for Area-based Conservation of Marine Migratory Species.*

2. It contains the following sections, each reporting back on relevant COP14 Decisions:
   A. Conservation Priorities for Cetaceans
   B. Role of Cetaceans in Ecosystem Functioning
   C. Terms of Reference for the Aquatic Mammals Working Group

A. Conservation Priorities for Cetaceans

3. COP14 adopted Resolution 14.9 *Conservation Priorities for Cetaceans*, which urged Parties to address various threats, including bycatch, aquatic wild meat, pollution, climate change, noise, vessel strikes, recreational activities and disease. COP14 also adopted the following Decisions on this issue:

Decision 14.69 Directed to the Parties

Parties are requested to:

a) review the regional priorities for cetacean conservation identified in Annex 2 of UNEP/CMS/COP14/Inf.27.5.1a for their region as well as the detailed recommendations outlined for each of the priority threats in Resolution 14.9 Conservation Priorities for Cetaceans and address those of highest urgency, where appropriate coordinating with other countries of the region;

b) report on progress through their National Reports; and

c) where possible, provide technical and capacity-building support to other Parties as required to facilitate knowledge sharing and effective collaboration.

Decision 14.70 Directed to the Parties

Parties are encouraged to:

a) engage in the negotiation process to develop an international legally-binding instrument to end plastic pollution;

b) support the implementation of the Agreement under the United Nations Convention on the Law of the Sea on the conservation and sustainable use of marine biological diversity of areas beyond national jurisdiction (BBNJ), in particular the development of robust, modern and uniform Environmental Impact Assessment for activities with potential impacts on cetaceans in areas within and beyond national jurisdictions; and

c) include cetaceans within their respective National Biodiversity Strategies and Action Plans and ensure that the goals and targets of the Kunming-Montreal Global Biodiversity Framework are applied in such a way that positively aligns with the conservation priorities for cetaceans.

Decision 14.71 Directed to intergovernmental and non-governmental organizations

Intergovernmental and non-governmental organizations are encouraged to support Parties with mitigation of priority threats identified for their region in Annex 2 of UNEP/CMS/COP14/Inf.27.5.1a, including through provision of technical support and expertise.

Decision 14.72 Directed to the Scientific Council

The Scientific Council, subject to the availability of external resources and where applicable with support from the Aquatic Mammals Working Group, is requested to:

a) in cooperation with the IWC, quantify the contemporary whaling and aquatic wild meat takes of all CMS Appendix I-listed cetaceans in all regions, and make recommendations to Parties;

b) in the context of threats from climate change, develop a report on the potential impacts that climate-induced migration will have on both the welfare and the conservation outcomes of affected cetacean species, and make recommendations to Parties;

c) recommend the use of standard stranding and necropsy protocols, taking into account work done by ACCOBAMS, ASCOBANS and the IWC, in order to help investigate the causes of mortality events;

d) develop a report about the monitoring, welfare and conservation of 'Out of Habitat' CMS-listed cetaceans, provide advice on appropriate responses to them, and make recommendations to Parties;

e) synthesize research on the emerging understanding of how cetacean welfare can impact conservation outcomes, and make recommendations to Parties; and

f) review the recommendations for potential future action by the Scientific Council as contained in UNEP/CMS/COP14/Inf.27.5.1b and make recommendations to the 15th meeting of the Conference of the Parties on priority actions to progress in the following intersessional period.

Decision 14.73 Directed to the Secretariat

The Secretariat, subject to the availability of external resources, shall support the Scientific Council in the development of the reports and recommendations requested in Decision 14.72.

Report on the quantification of contemporary whaling and aquatic wild meat take of all CMS Appendix I-listed cetaceans in all regions

4. The Secretariat, with funding from the Government of Germany, hired a consultant to write a report on the quantification of contemporary whaling and aquatic wild meat take of all CMS Appendix I-listed cetaceans in all regions (Decision 14.72 (a)). The draft report was shared for comment with the Aquatic Wild Meat Working Group and the Aquatic Mammals Working Group (AMWG), as well as the International Whaling Commission (IWC). The final version is available as UNEP/CMS/COP15/Inf.25.4.1a, and the summary and key recommendations are attached in Annex 1.

Report on the potential impacts that climate-induced migration will have on both the welfare and the conservation outcomes of affected cetacean species

5. The report on potential impacts of climate-induced migration (Decision 14.72 (b)) was developed by the Government of the United Kingdom in consultation with the COP-appointed Councillors for Aquatic Mammals, Marine Pollution and Climate Change. The summary and recommendations of the report are available in Annex 2. The full report is available as UNEP/CMS/COP15/Inf.25.4.1b.

Standard stranding and necropsy protocols

6. Parties stand to benefit from the work undertaken on stranding and necropsy protocols by CMS daughter Agreements. In line with Decision 14.72 (c), the following protocols are recommended to Parties:

- *Best practice on cetacean post mortem investigation and tissue sampling,*[1] co-developed by ACCOBAMS and ASCOBANS, is a comprehensive, multi-tiered protocol offering a framework for data collection and interpretation appropriate to the resources available. This protocol was shaped by leading cetacean pathologists and adopted at the 9th Meeting of the Parties (MOP9) to ASCOBANS. The protocol is not designed to replace existing protocols, particularly those of longstanding and well-established laboratories and stranding networks, but offers a framework for improving consistency across Europe when conducting examinations on dead cetaceans.

- *Evidence-based diagnostic assessment frameworks for cetacean necropsies on specific issues/threats,*[2] adopted by ACCOBAMS MOP7, is an operational summary of the *Best Practices for cetacean post mortem investigation and tissue sampling*, and can support the interpretation of data and observations collected during a thorough and complete necropsy by a veterinary pathologist and/or a government veterinarian.

- *Strandings Initiative,*[3] established by the IWC, provides expert advice, practical training, data collation and real-time support to stranding responders worldwide. It was launched in 2016.

Report on the monitoring, welfare and conservation of 'out of habitat' CMS-listed cetaceans

7. An 'out of habitat' cetacean is either an individual outside of their natural range, or an individual within their natural range in habitat that is not optimal for their health or survival due to a lack of suitable conditions and/or because of potential conflict with humans. The AMWG identified 'out of habitat cetaceans' and climate migrants as individuals that are at particular risk in UNEP/CMS/COP14/Inf.27.5.1a *A Review to Support the Development of a Second CMS Cetacean Programme of Work (2024-2035)*.

8. The abovementioned report requested in Decision 14.72 (d) was published as the open access paper *Out of habitat marine mammals – Identification, causes, and management recommendations* (Nunny et al., 2025) and is available as UNEP/CMS/COP15/Inf.25.4.1c. A summary of the key findings and recommendations can be found in Annex 3.

Synthesis of research on the emerging understanding of how cetacean welfare can impact conservation outcomes

9. Due to the short intersessional period, the synthesis requested in Decision 14.72 (e) has not been finalized. Therefore, this Decision is proposed for renewal in Annex 6.

[1] Annex to UNEP/ASCOBANS/Resolution 8.5 (Rev.MOP9) *Small Cetacean Stranding Response.*
[2] Annex to ACCOBAMS/Resolution 7.14 *Best practices in monitoring and management of cetacean stranding.*
[3] https://iwc.int/management-and-conservation/strandings/strandings-initiative

Review of recommendations for potential future action by the Scientific Council

10. As instructed in Decision 14.72 (f), the COP-appointed Councillor for Aquatic Mammals and the Secretariat reviewed the recommendations for potential future action by the Scientific Council as contained in UNEP/CMS/COP14/Inf.27.5.1b, and identified priority actions, which have been included as draft Decisions in Annex 6. The updated list of recommendations for potential future action by the Scientific Council is contained in Annex 4.

B. Role of Cetaceans in Ecosystem Functioning

11. COP14 adopted the following Decision on this issue:

Decision 14.74 Directed to the Scientific Council

The Scientific Council is requested to, through the Aquatic Mammals Working Group, provide advice and input with regards to expanding the work on the role of cetaceans in ecosystem functioning in close collaboration with the IWC.

Decision 14.75 Directed to the Secretariat

The Secretariat shall:

a) continue to liaise with the IWC Secretariat regarding work on the role of cetaceans in ecosystem functioning; and

b) report on the outcomes of the second joint IWC-CMS workshop on cetacean ecosystem functioning to the next meeting of the Sessional Committee of the Scientific Council.

Implementation of Decisions related to the role of cetaceans in ecosystem functioning

12. The work on the role of cetaceans in ecosystem functioning is led by the IWC, which has two work streams on the topic: one under the Scientific Committee looking at current research findings and knowledge gaps, in which CMS is directly involved; and one under the Conservation Committee investigating the economic value of cetaceans in ecosystem functioning.

13. The second joint IWC-CMS workshop was held from 14-16 November 2023 in the CMS Secretariat premises in Bonn, Germany. The general recommendations from the workshop were:

a. Address the question of how the carbon pathways operate across vertical and horizontal spatial scales, in particular, the contribution of whales relative to other ecosystem components to any associated mechanisms that are operating (nutrient cycling; carbon fixation; export and sequestration);

b. Develop a framework to illustrate the contribution of cetaceans to ecosystem services (e.g., climate regulation, nutrient recycling, habitat provisioning)and the potential value that these provide.

14. The Terms of Reference for a pilot project to assess the socioeconomic valuation of the ecosystem functions of cetaceans were also reviewed.

15. The outcomes of the second joint IWC-CMS workshop on cetacean ecosystem functioning were reported to the 7th Sessional Committee of the Scientific Council in UNEP/CMS/ScC-SC7/Doc.6.2.1. The workshop report by the IWC was tabled as UNEP/CMS/ScC-SC7/Inf.6.2.1.

16. The last IWC Scientific Committee meeting (SB69B) in April-May 2024, recognized the progress made during previous workshops on cetacean ecosystem functioning and recommended that the IWC Secretariat continue to liaise with the CMS Secretariat to share information that addresses the knowledge/data gaps identified and, if hosting future workshops/symposia on this subject, to consider inviting collaboration from the CMS Secretariat and other international organizations (e.g., the Convention for the Conservation of Antarctic Marine Living Resources).

17. At the last IWC Biennial Commission Meeting (IWC69), in September 2024, the Commission endorsed the IWC Conservation Committee's recommendation for a pilot project to assess the socioeconomic value of the ecosystem services provided by cetaceans. The project has now been selected through a tendering process. It will look to develop an ecological and economic model, with a focus on the North Pacific humpback whale because of the abundance of accurate information that is already available for that particular species. The results will be presented to the IWC SC in April 2026.

C. Terms of Reference for the Aquatic Mammals Working Group

18. The Aquatic Mammals Working Group (AMWG), an intersessional group involving external experts, was established in 2011 through Resolution 10.15 *Global Programme of Work for Cetaceans.* No specific Terms of Reference (TOR) were agreed at the time. To promote transparency and maintain consistency alongside the operations of other working groups that have publicly agreed TORs, the draft TOR for the AMWG are presented in Annex 5 for adoption by COP15.

Discussion and analysis

19. Cetaceans play a crucial role in ecosystem functioning, yet continue to face numerous pressures and threats. Regionally, conservation status and pressures vary across different species and populations, highlighting the need for tailored approaches that incorporate both international and local stakeholders. As a result of this variety, CMS maintains several different work streams relating to the conservation of cetaceans.

20. It remains critical that Parties recognize and update the priorities for cetacean conservation identified in Annex 2 of UNEP/CMS/COP14/Inf.27.5.1a for their region as well as the detailed recommendations outlined for each of the priority threats in Resolution 14.9 *Conservation Priorities for Cetaceans,* and address the most urgent, where appropriate coordinating with other countries of their region.

Recommended actions

21. The Conference of the Parties is recommended to:

    a) note the summary and recommendations of the report on *Contemporary Whaling and Aquatic Wild Meat Take of CMS Appendix I-Listed Cetaceans* contained in Annex 1 of this document;

    b) note the summary and recommendations of the report on the *Impacts of Climate Change on Cetacean Welfare and Conservation* contained in Annex 2 of this document;

    c) note the summary and recommendations of the report on *Out of Habitat Cetaceans* contained in Annex 3 of this document;

d) note the *Compilation of Recommendations that could be Directed to the Scientific Council at COP15 and Future COPs* contained in Annex 4 of this document;

e) adopt the Terms of Reference for the Aquatic Mammals Working Group contained in Annex 5 of this document;

f) adopt the draft Decisions contained in Annex 6 of this document; and

g) delete Decisions 14.69–14.73 and 14.74–14.75.

ANNEX 1

QUANTIFICATION OF THE CONTEMPORARY WHALING AND AQUATIC WILD MEAT TAKE OF ALL CMS APPENDIX I-LISTED CETACEANS: SUMMARY AND RECOMMENDATIONS

(The full report can be found in UNEP/CMS/COP15/Inf.25.4.1a)

Summary

Approximately 45 per cent of CMS Appendix I-listed cetacean species are subject to contemporary whaling and aquatic wild meat take. Of the 18 species of cetacean currently listed on CMS Appendix I,

- **Eight** are not subject to whaling/hunting: North Atlantic, North Pacific and southern right whales, blue whales, the Mediterranean subpopulation of common dolphin, the Mediterranean subpopulation of Cuvier's beaked whale, Lahille's bottlenose dolphin, and the Baltic proper harbour porpoise subpopulation;
- **Three** are hunted under the IWC Aboriginal Subsistence Whaling Management Procedure: bowhead, fin and humpback whales;
- **Two** are hunted commercially: fin and sei whales. Both species are hunted in Japan, while fin whales are hunted in Iceland;
- **Five** are hunted illegally: Black Sea bottlenose dolphin, Irrawaddy dolphin, Atlantic humpback dolphin, the Franciscana and Ganges River dolphin; and
- **Two** are taken in unregulated hunts: sperm and humpback whales.

Table 1. CMS Appendix I-listed cetaceans subject to contemporary whaling.

Common name	Species name	Appendix I or II of CMS	Subject to whaling
Bowhead whale	*Balaena mysticetus*	I	Aboriginal Subsistence Whaling (ASW)
North Atlantic right whale	*Eubalaena glacialis (North Atlantic)*	I	No known reports
North Pacific right whale	*Eubalaena japonica (North Pacific)*	I	No known reports
South Pacific right whale	*Eubalaena australis*	I	No known reports
Sei whale	*Balaenoptera borealis*	I & II	Commercial
Fin whale	*Balaenoptera physalus*	I & II	ASW and commercial
Blue whale	*Balaenoptera musculus*	I & II	No known reports
Humpback whale	*Megaptera novaeangliae*	I & II	ASW and local indigenous hunts
Common dolphin	*Delphinus delphis* (Med only)	I & II	No known reports
Lahille's bottlenose dolphin	*Tursiops truncatus gephyreus*	I & II	No known reports
Black Sea bottlenose dolphin	*Tursiops truncatus ponticus*	I & II	Illegally
Irrawaddy dolphin	*Orcaella brevirostris*	I & II	Illegally
Atlantic humpback dolphin	*Sousa teuszii*	I & II	Illegally
Baltic proper harbour porpoise	*Phocoena phocoena* (Baltic proper pop)	I & II	No known reports
Sperm whale	*Physeter macrocephalus*	I & II	Local indigenous hunts
Ganges river dolphin	*Platanista gangetica*	I & II	Illegally
Franciscana/La Plata dolphin	*Pontoporia blainvillei*	I & II	Illegally
Cuvier's beaked whale	*Ziphius cavirostris* (Med sub-pop only)	I	No known reports

Recommendations

(1) Whaling and aquatic wild meat take

- Where indigenous hunting takes place, quotas should only be set following scientific advice and in conjunction with local indigenous communities, always using the precautionary principle. Age and sex composition of the catch should also be considered when setting quotas and should be monitored.
- In Range States where cetaceans are legally consumed, Parties should address human health concerns and ensure the well-being of their citizens. Parties should also introduce mandatory testing of cetacean products, mandatory labelling of cetacean products and national health and safety guidelines, including maximum safe levels for mercury.
- Range States where illegal take (and trade) take place, should increase awareness and education among local communities regarding the relevant protective legislation and associated penalties.

- Range States implementing management strategies should consider the large number of potential cumulative and synergistic stressors, including the impacts of climate change and chemical pollution, that may be affecting targeted populations of CMS Appendix I-listed species.

(2) Enforcement

- Parties should enforce national legislation prohibiting the capture of and trade in Appendix I-listed species and undertake regular inspections to determine species identity.
- Where relevant, Parties should implement a ban on the use of small cetaceans as bait for fishing and promote alternatives, as well as provide training on the handling and soft release of bycaught dolphins.

(3) Research

- Parties should undertake full assessments of all CMS Appendix I-listed species using their waters, providing population abundance estimates and, where possible, trends.
- Parties should monitor the effect of continued/renewed/increased whaling pressure from non-CMS Parties (Iceland and Japan) on the fin whale.
- Parties should monitor/increase data collection and reporting on the extent of hybridisation with blue whales.
- Parties should increase data gathering/understanding of migratory patterns of CMS Appendix I-listed species to further the understanding/quantification of the extent to which populations are subject to contemporary whaling/hunting pressure as well as other threats.

(4) Trade

- CMS Resolution 12.15 explicitly recognized that the increased demand for aquatic wild meat is a threat to aquatic wildlife in many regions around the world, and Parties should develop methods to evaluate the impact of trade in aquatic wild meat on wildlife populations.

(5) Reporting

- Where relevant, Parties should make catch data (both legal and, where known, illegal) for small cetaceans available in their National Reports to CMS and provide this data to the IWC.
- Parties should increase data gathering/reporting on domestic and regional trade of Appendix I-listed species.
- Parties should consider undertaking a similar quantification of contemporary whaling and aquatic wild meat take on CMS Appendix II-listed species of cetacean.

(6) Collaboration

- Parties should encourage accession to CMS by non-Parties that are Range States of Appendix I-listed cetaceans that are subject to contemporary whaling and/or illegal hunts;

Actions to address other threats

CMS Appendix I-listed cetaceans subject to contemporary whaling and/or aquatic meat take are also at risk from other threats, which the recommendations below aim to address. These build on the priorities set out in Resolution 14.9 *Conservation Priorities for Cetaceans*.

- Implement urgent and drastic reduction/modification of fishing effort and practice, including implementing mitigation methods – e.g., change in gear type, use of pingers, etc. – to avoid collapses of populations of both the Franciscana dolphin and the Baltic proper harbour porpoise.
- Identify ship/whale collision risk hotspots and implement management strategies to reduce collisions in such hotspots and elsewhere.
- Increase data gathering/reporting on current threats to all Appendix I-listed species in exclusive economic zone (EEZ) waters – e.g., ship strikes, bycatch, etc.
- Undertake species-specific habitat preference assessments in EEZ waters to identify critical habitat and implement management strategies relevant to human activities.
- Support existing CMS Concerted Actions and Single Species Action Plans, as well as other initiatives to reverse the decline of CMS Appendix I-listed species, populations and subpopulations, and/or implement similar plans for those species not currently subject to such initiatives.

ANNEX 2

REPORT ON THE IMPACTS OF CLIMATE CHANGE ON CETACEAN WELFARE AND CONSERVATION: SUMMARY AND RECOMMENDATIONS

(The full report can be found in UNEP/CMS/COP15/Inf.25.4.1b)

Summary

Cetaceans (whales, dolphins, and porpoises) are distributed throughout the world's oceans, and some are highly migratory. Cetacean distributions are primarily influenced by species' thermal limits, whereas the migration of cetaceans is driven by reproductive and energy requirements. Climate change, primarily driven by greenhouse gas (GHG) emissions from human activities, has significantly altered global temperatures and ocean conditions. The impact of climate change is one of the top ten threats to all marine mammals, with changes in the marine environment having both direct and indirect consequences for cetaceans worldwide. Direct impacts include widespread shifts in cetacean distribution (poleward movements), altered migration (spatially and temporally), and reductions in suitable habitat (especially in polar regions and restricted water basins). Indirect impacts include changes in prey availability and distribution, elevated predation and competition pressure, increased exposure to pollutants and harmful algal blooms, and intensified pressure from human activities.

While research demonstrates that climate change has significant adverse effects on cetacean ecology, little consideration has been given to the welfare of cetaceans, which refers to the overall health and well-being of a species, encompassing both physical and psychological aspects. As welfare is closely linked to survival and conservation outcomes, there has been growing interest in developing policies that not only support conservation strategies that address ecological threats, but also explicitly address the welfare of cetaceans. This aligns directly with the aims of CMS to ensure the favourable conservation status of migratory species.

Based on a literature review and interviews with species experts, four case study species are examined that represent cetaceans from the main ecological groupings: Amazon river dolphins, common bottlenose dolphins, Cuvier's beaked whales, and gray whales. Key impacts of climate change on cetacean ecology and welfare are provided, along with conservation implications, mitigation strategies and potential actions, and remaining gaps in conservation management. The impact of climate change on each of the case study species is described according to five categories (nutrition, environment, health, behaviour and mental state) based on the Welfare Assessment Tool for Wild Cetaceans[4] developed by Nicol et al. (2020)[5].

The report presents clear evidence of the ecological impacts of climate change on the four case study species throughout the scientific literature. However, different cetacean species and populations exhibit varying levels of vulnerability to climate-driven changes. Impacts on animal welfare are less well documented but should also be brought into management

[4] The Welfare Assessment Tool for Wild Cetaceans is based on the Five Domain Model of animal welfare. This model was devised to facilitate systematic, structured, and coherent assessment and grading of animal welfare compromise, incorporating four physical domains (nutrition, environment, health, behaviour), focused on the sources of measurable sensory inputs from within and outside the body that are likely to give rise to subjective experiences. Subsequently, these domains are accumulated into a fifth domain, the mental or affective state.

[5] Nicol, C., Bejder, L., Green, L., Johnson, C., Keeling, L., Noren, D., van der Hoop, J., & Simmonds, M. (2020). Anthropogenic Threats to Wild Cetacean Welfare and a Tool to Inform Policy in This Area. Frontiers in Veterinary Science, 7. https://doi.org/10.3389/fvets.2020.00057

decisions responding to climate change due to their link to conservation outcomes. Impacts on welfare not only affect individual animals but can also have cascading effects on population viability and the effectiveness of current conservation efforts.

Amazon river dolphins

Table 1. Impacts of climate change on Amazon river dolphin welfare and conservation, and potential mitigation strategies.

Impact of climate change	**Effect on Amazon river dolphin**	**Welfare implications**	**Conservation implications**	**Mitigation strategies**
Increase in water temperature	Physiological changes to dolphins	Thermal shock, internal injury, diseases, pain, discomfort, stress, increased energy expenditure, hunger	Increased mortality, reduced body condition, reduced reproductive rates	Early warning systems, translocation, use of climate models to forecast events to better prepare, fisheries-management, water management
	Shift/reduction in prey			
	Decreased water quality (pollution, contaminants, cyanobacteria)			
Changes in flood pulses	Isolation in shallow waters	Thermal shock, pain, burns, internal injury, stress, discomfort, dehydration, hunger	Increased mortality, increased vulnerability to predation and human activity	Translocation, identify and protect refugee areas, use of climate models to forecast events
	Habitat loss within floodplains and lagoons	Disruption to social activities (mating and calving)	Reduced reproductive rates, reduced calving success	Protect, restore and/or develop critical freshwater habitats, regulate water management (dams)
	Habitat change with dam construction and deforestation	Disruption to social activities (mating, calving), migrations and displacement	Reduced reproductive rates, reduced calving success, increased vulnerability to human activity, increased habitat fragmentation	Improve and regulate dam and deforestation planning

Common bottlenose dolphins

Table 2. Impacts of climate change on common bottlenose dolphin welfare and conservation, and potential mitigation strategies.

Impacts of climate change	**Effect on common bottlenose dolphin**	**Welfare implications**	**Conservation implications**	**Mitigation strategies**
Increased temperatures	Distribution shifts Prey availability/shifts Decreased abundance	Thermal stress, stress, increased energy expenditure, hunger, disruption to social behaviour	Increased mortality, reduced body condition, reduced reproductive rates	New or updated protected areas and management plans that encompass the shift of critical areas, management of anthropogenic activity (e.g. fisheries, vessels), use of climate models to forecast events to better support range shifts
Increased frequency in El Niño and La Niña events				
Extreme weather events (drought and rainfall)	Freshwater skin disease	Increase in disease and injuries, pain, discomfort, stress, mass mortalities	Reduced health, increased mortality	Use of climate models to forecast events to better support range shifts, improve water quality
	Toxic algal blooms			

Cuvier's beaked whales

Table 3. Impacts of climate change on Cuvier's beaked whale welfare and conservation, and potential mitigation strategies.

Impact of climate change	**Effect on Cuvier's beaked whale**	**Welfare implications**	**Conservation implications**	**Mitigation strategies**
Increased temperature	Distribution shifts (higher latitudes) Distribution shifts in prey	Reduced habitat, disruption to natural diving patterns, hunger, malnutrition, stress, increased energy expenditure, increased predator interaction, increased injuries (internal), increased conflict with humans	Increased mortality, reduced reproduction	New or updated protected areas and management plans that encompass the shift of critical areas and depths, anthropogenic activity management (e.g. fisheries, navy)
Increased frequency in El Niño and La Niña events	Distribution shifts (nearshore)			
	Distribution shifts (vertical)			

Gray whales

Table 4. Impacts of climate change on Gray Whale welfare and conservation, and potential mitigation strategies.

Impacts of climate change	**Effect on gray whale**	**Welfare implications**	**Conservation implications**	**Mitigation strategies**
Increased temperatures	Distribution shifts in foraging grounds	Hunger, malnutrition, stress, increased energy expenditure, disruption to natural life cycles	Increased mortality, reduced body condition/length, reduced reproductive rates, increased conflict with human activities	New or updated protected areas and management plans that encompass the shift of critical areas/the temporal shift in migration corridors, management of anthropogenic activity (e.g. fisheries, oil and gas, renewable energies)
	Reduction/shift in prey			
	Migration temporal shifts			
	Migration spatial shifts			
Increase in El Niño and La Niña events	Distribution shifts in breeding grounds	Disruption of social behaviour, thermal shock, stress, pain, discomfort, increased energy expenditure	Increased mortality, reduced reproductive rates, increased conflict with human activities	New or updated protected areas and management plans that encompass the shift of critical areas, management of anthropogenic activity (e.g. fisheries, oil and gas, renewable energies)

Despite existing protection measures for cetacean species, there remains a clear lack of targeted efforts addressing the intensifying pressure of climate change and its impacts on cetacean welfare and conservation. Given that climate change impacts are expected to increase in frequency and severity, conservation actions are urgently required to mitigate negative climate impacts and support cetaceans' adaptation to climate change.

Recommendations

Based on the literature reviewed and possible actions identified in the case studies from this report, as well as discussions documented in the report of the Migratory Species and Climate Change Expert Workshop (Edinburgh, February 2025), a set of recommendations have been developed. These recommendations aim to address the urgent challenges that climate change poses to cetacean welfare and conservation. Their implementation by CMS Parties as well as non-Parties has the potential to improve the protection of cetacean populations and habitats, ensuring the long-term health of cetaceans and marine ecosystems in response to the pressure of climate change.

Recommendations:

- Prioritize conservation efforts towards vulnerable species and habitats most impacted by climate change (river basins, the Mediterranean, the Black and the Red Seas, and the Arctic region).
- Prioritize research efforts on climate change impacts on data deficient species.
- Aim to achieve long-term ecological monitoring of populations to provide baseline data and the ability to accurately quantify the pressure of climate change.
- Enhance methodologies for studying the impacts of climate change on cetaceans, such as advancing studies to capture cause-effect relationships.
- Conduct welfare assessments using the Welfare Assessment Tool for Wild Cetaceans to further quantify the impact of climate change on cetacean survival and help guide decision-making.
- Incorporate early warning systems to help with quick responses and mitigation of catastrophic events related to climate change.
- Ensure adaptive protection by incorporating Important Marine Mammal Areas and/or updating existing Marine Protected Areas in response to climate-induced changes in cetacean spatial and temporal movement patterns, with particular focus on critical areas (feeding and breeding habitats) and key migration routes.
- Address indirect and cumulative impacts that exacerbate climate change effects to cetaceans (e.g. fisheries, shipping, coastal developments, resource exploitation, renewable energy, underwater noise, etc.).
- Enhance transboundary collaboration among international stakeholders (scientists, communities, authorities) by promoting the sharing of data and best practices related to the monitoring and management of cetaceans, facilitating a better understanding of the population- level impacts of climate change.
- Improve efforts to mitigate climate change to minimize further climate change impacts on cetaceans, such as promoting significant reductions in greenhouse gas emissions.
- Encourage all countries that are Range States for CMS-listed species to accede to the CMS and/or proactively engage with CMS and other international conventions that support cetacean conservation.

ANNEX 3

OUT OF HABITAT CETACEANS: SUMMARY AND RECOMMENDATIONS

(The full paper is available as an open access paper and as UNEP/CMS/COP15/Inf.25.4.1c.)

Background

An out of habitat (OOH) cetacean is either an individual outside of their natural range, or an individual within their natural range in habitat that is not optimal for their health or survival due to a lack of suitable conditions and/or because of potential conflict with humans. There are several factors that may – alone, cumulatively or synergistically – lead animals to leave their natural habitat or range. These include climate change, loss of habitat, population growth, prey availability, underwater noise, disturbance, morbidity, inappropriate release or escape from captivity. However, it is also possible that an individual could be considered OOH because of our misunderstanding of its range or habitat – for example, if a population has not been sufficiently studied.

There have been a number of cases around the globe of OOH marine mammals in recent years, including examples of CMS-listed cetaceans, such as several bowhead whales (*Balaena mysticetus*), humpback whales (*Megaptera novaeangliae*) and at least one Indo-Pacific humpback dolphin (*Sousa chinensis*).

To investigate such cases more closely, the first OOH Marine Mammals International Workshop was held in 2021,[6] with a second workshop in 2022.[7] Experts with experience in documenting and managing such situations were invited, and numerous case studies were reviewed, highlighted the variety of species and locations involved. The paper summarized here and available as UNEP/CMS/COP15/Inf.25.4.1c was developed from discussions at the second workshop as it became clear that the scientific community is interested in further exploring the drivers behind OOH marine mammals.

Summary

Appropriate responses to out of habitat cetaceans should take into consideration conservation and animal welfare. Experts, including marine mammal veterinarians, species specialists, animal welfare experts and cetacean stranding experts, should be consulted. Management options will depend on the situation, location, species and context. Potential responses include:

- Monitoring and recording sightings/behaviour without intervention. This may include carrying out a welfare assessment.
- Providing safe areas for the animals (i.e., limiting or prohibiting boats and swimmers from entering an area and/or implementing a vessel speed restriction).
- Encouraging the animal(s) to move from an inappropriate location (careful consideration needs to be given to which methods are most appropriate).

[6] Anonymous (2021) 'Out of Habitat' Marine Mammals Workshop Report. 30 September – 1 October 2021. https://wildanimalwelfare.files.wordpress.com/2021/12/out-of-habitat-marine-mammals-workshop-report-final-1.pdf

[7] Anonymous (2023) 'Out of Habitat' Marine Mammals II - Second International Workshop Report. 6 – 7 December 2022. https://www.oceancare.org/wp-content/uploads/2023/03/Out-of-Habitat-Report-2-.pdf

- Capturing and translocating the animal(s). This should only be undertaken after a period of observation and when attempts to encourage the animal(s) to move on their own accord have failed and if the animal is at greater risk staying in the out of habitat location. Post-release monitoring is essential if this option is chosen.
- Palliative care. If an out of habitat animal is dying then it may need to be kept comfortable until it dies.
- Euthanasia. If the animal's welfare is compromised to the point that death is a preferable outcome, then a humane euthanasia technique can be used to induce as rapid, painless and distress-free a death as possible.

Recommended actions to Parties

- Initiate special protection for out of habitat cetaceans (and other marine mammals) under existing migratory species acts or other relevant legislation, to prevent them from being persecuted or disturbed.
- Include out of habitat cetaceans (and other marine mammals) in conservation management plans, bearing in mind that these animals are potentially pioneers and, in the future, more individuals may appear in a particular area, or a population may establish itself.
- Prepare in advance for the appearance of out of habitat cetaceans as they may become more common under climate change scenarios.
- Protect and enhance key habitats that are repeatedly used by out of habitat cetaceans (and other marine mammals).
- Prepare codes of conduct and protocols for how to respond to the animal(s), including how best to communicate and collaborate with interested stakeholders such as indigenous communities.
- Train staff of regulatory agencies to deal with out of habitat cetaceans (and other marine mammals) including human-wildlife conflict (HWC) resolution.
- Establish an out of habitat marine mammals governance body.
- Develop a communication strategy to deal with climate-induced range shifts for marine mammals, for use before an out of habitat cetacean appears. This can help stop potential public hysteria when a cetacean appears in an atypical habitat. Appropriate messaging should also be drafted to explain the situation to the public and other relevant stakeholders, to manage their behaviour to protect the animal and themselves.

ANNEX 4

COMPILATION OF RECOMMENDATIONS THAT COULD BE DIRECTED TO THE SCIENTIFIC COUNCIL AT COP15 AND FUTURE COPS

Decision 14.72 (f) requested the Scientific Council, subject to the availability of external resources and where applicable with support from the Aquatic Mammals Working Group to review the *Compilation of Recommendations That Could Be Directed to the Scientific Council At COP14 and Future COPs* (UNEP/CMS/COP14/Inf.27.5.1b), which was based on the *Review to Support the Development of a Second CMS Cetacean Programme of Work (2024-2035)* (UNEP/CMS/COP14/Inf.27.5.1a), and make recommendations to the 15th meeting of the Conference of the Parties on priority actions to progress in the following intersessional period.

To assist in this, the Secretariat has edited potential decisions directed to the Scientific Council and compiled all of them into this document. Some activities recommended for the Scientific Council have been included in the draft Decisions contained in UNEP/CMS/COP15/Doc.25.4.1 *Conservation Priorities for Cetaceans*, and some others have been included in other relevant COP15 documents. These are reflected below as well for completeness.

Topic	Recommendations	Comment(s)
Entanglement, bycatch, and prey depletion	Develop a report to quantify the contribution of bycatch and other fisheries-related mortalities of CMS-listed cetaceans to trophic downgrading and the health and function of marine ecosystems, and make recommendations to Parties.	Covered by draft Decisions in UNEP/CMS/COP15/Doc.25.1.1 *Bycatch and Other Fisheries-induced Mortality.*
Hunting	With support from the Aquatic Wild Meat Working Group, quantify the contemporary whaling and aquatic wild meat takes of all CMS Appendix I-listed cetaceans in all regions and make recommendations to Parties.	Covered by Decision 14.72 (a) and reported on in UNEP/CMS/COP15/Doc.25.4.1 *Conservation Priorities for Cetaceans* (completed, report available as UNEP/CMS/COP15/Inf.25.4.1a).
Climate change	a) Investigate the impacts of mass die-offs of cetaceans linked to the presence of algal toxins, and make recommendations to Parties;	a) Covered by draft Decisions in UNEP/CMS/COP15/Doc.25.4.1 *Conservation Priorities for Cetaceans;*
	b) Develop a report on the potential impacts that climate-induced migration will have on both the welfare and the conservation outcomes of affected cetacean species, and make recommendations to Parties;	b) Covered by Decision 14.72 (b) and reported on in UNEP/CMS/COP15/Doc.25.4.1 *Conservation Priorities for Cetaceans* (completed, report available as UNEP/CMS/COP15/Inf.25.4.1b);
	c) Develop a report about 'climate-proofing' protected areas dedicated to marine mammals, and make recommendations to Parties.	c) Covered by draft Decisions in UNEP/CMS/COP15/Doc.25.3.1 *Priorities for Area-based Conservation of Marine Migratory Species.*

Topic	Recommendations	Comment(s)
Marine debris	Building on the work done by ACCOBAMS, ASCOBANS and the International Whaling Commission (IWC), develop a report about incidences and physiological impact of marine debris pollution on CMS-listed cetaceans, and make recommendations to Parties.	Covered by Decisions 14.42 (a+b) and 14.225 (a+b) and reported on in UNEP/CMS/COP15/Doc.25.2.1 *Marine Pollution,* including new draft Decisions proposed.
Chemical pollution	a) Develop a report about impacts of chemical pollution on CMS-listed cetaceans, and make recommendations to Parties; b) Develop a report on the impact of chemical pollution in cetaceans on human health, and make recommendations to Parties.	a) Covered by Decision 14.42 and reported on in UNEP/CMS/COP15/Doc.25.2.1 *Marine Pollution,* including new draft Decisions proposed. b) No mandate yet, could be considered for a future COP.
Noise	With support from the Joint Noise Working Group of CMS, ACCOBAMS and ASCOBANS, undertake a review of loud noise sources in the marine environment, include suggestions for mitigation, and make recommendations to Parties.	Covered by draft Decisions in UNEP/CMS/COP15/Doc.25.2.2 *Underwater Noise.*
Vessel strikes	Identify areas with high risk of vessel strikes for all CMS-listed cetaceans, including by mapping shipping lanes with Important Marine Mammal Areas (IMMAs), develop a report about appropriate re-routing measures, including area avoidance and/or the establishment of vessel speed restrictions for key cetacean habitats, and make recommendations to Parties.	Partially covered by Decision 14.49 and reported on in UNEP/CMS/COP15/Doc.25.3.1 *Priorities for Area-based Conservation of Marine Migratory Species.* Further covered by draft Decisions in UNEP/CMS/COP15/Doc.25.3.1 *Priorities for Area-based Conservation of Marine Migratory Species.*
Live captures	Develop a report quantifying the extent of live capture operations of CMS-listed cetacean species, addressing both the welfare and conservation of targeted individuals, populations and species, and make recommendations to Parties.	No mandate yet, could be considered for a future COP.
Disturbance and harassment	a) Develop a report to assess the long-term effects and biological significance of disturbances from boat-based and in-water interactions for all CMS-listed cetaceans, and make recommendations to Parties; b) Recommend in which areas activities should be strictly limited to boat-based activities from an increased distance for particularly vulnerable populations, and make recommendations to Parties.	Covered by Decision 14.55 (a+b), which are proposed for renewal for COP15 in UNEP/CMS/COP15/Doc.24 *Review of Decisions.*

Topic	Recommendations	Comment(s)
Disease	In order to help investigate the causes of mortality events, taking into account work done by ACCOBAMS, ASCOBANS and the IWC, a) Identify and recommend the use of standard stranding and necropsy protocols; b) Consider the need for a global database to record such incidents and make recommendations accordingly.	Covered by Decision 14.72 (c) and reported on in UNEP/CMS/COP15/Doc.25.4.1 *Conservation Priorities for Cetaceans* (completed).
Deep-sea mining	a) Develop a report on the state of knowledge of the impacts of deep-sea mining on cetaceans and other migratory species, identify information gaps that need to be addressed before informed decisions regarding deep-sea mining can be made, and make recommendations to Parties; b) Develop a report assessing whether deep-diving CMS-listed cetacean species are adequately covered by requirements for Environmental Impact Assessments related to deep-water mining approvals, and make recommendations to Parties.	a) Covered by Decision 14.52 and reported on in UNEP/CMS/COP15/Doc.25.2.3 *Deep-Sea Mining* (completed, report available as UNEP/CMS/COP15/Doc.25.2.3/Annex 1). b) Covered by draft Decisions in UNEP/CMS/COP15/Doc.25.2.3 *Deep-Sea Mining.*
'Out of habitat' cetaceans and climate migrants	Develop a report about the monitoring, welfare, and conservation of 'Out of Habitat' cetaceans, provide advice on appropriate responses to them, and make recommendations to Parties.	Covered by Decision 14.72 (d) and reported on in UNEP/CMS/COP15/Doc.25.4.1 *Conservation Priorities for Cetaceans* (complete, report available as UNEP/CMS/COP15/Inf.25.4.1c).
Habitat degradation	a) Provide advice on how to progress the conservation and management of critical sites and ecological networks for CMS-listed cetaceans by taking into account the relationship between areas of importance to cetaceans and other areas which may be ecologically linked to them; b) Conduct an assessment of habitat viability for all CMS-listed cetaceans, incorporating insights on aspects of sociality as contained in the advice from the Expert Working Group on Animal Culture and Social Complexity, and make recommendations to Parties.	a) Covered by draft Resolution text in UNEP/CMS/COP15/Doc.25.3.1 *Priorities for Area-based Conservation of Marine Migratory Species.* b) Covered by draft Resolution text in UNEP/CMS/COP15/Doc.25.3.1 *Priorities for Area-based Conservation of Marine Migratory Species.*

ANNEX 5

TERMS OF REFERENCE FOR THE AQUATIC MAMMALS WORKING GROUP

Background

CMS Appendix I and II list many migratory aquatic mammal species. CMS COPs have also adopted several Resolutions that cover aquatic mammals, their habitats and the threats to which they are exposed. The Aquatic Mammals Working Group was established in 2011 through Resolution 10.15 *Global Programme of Work for Cetaceans.*[8]

Purpose

A. The primary objective of the Working Group is to support the delivery of relevant tasks contained in the Programme of Work of the Sessional Committee.

B. It will receive its specific mandates through Decisions at each COP. In addition, the Working Group will support the implementation of relevant Resolutions and Decisions directed to the Scientific Council.

C. The Working Group will support the implementation of aquatic mammal-related goals and targets within the Samarkand Strategic Plan for Migratory Species 2024–2032, as well as the Kunming-Montreal Global Biodiversity Framework and the further development of its monitoring framework.

D. The Working Group will provide a platform to discuss and exchange information and scientific findings on aquatic mammal-related matters.

Membership

A. Membership of the Working Group is open to:
   a. Members of the Scientific Council;
   b. Party representatives;
   c. Scientific Councillors;
   d. Representatives of the scientific or advisory bodies of all CMS aquatic mammal agreements;
   e. Representatives of relevant MEAs and NGOs;
   f. Other relevant experts.

B. The Working Group strives to maintain a balance of gender, regional representation and areas of expertise.

C. The involvement of Working Group members is entirely on a voluntarily basis.

D. If and when needed, additional experts interested in contributing to the objectives of the Working Group may occasionally be invited to join meetings or to support specific tasks.

[8] Resolution 10.15 was repealed and consolidated into Resolution 14.9 at COP14. Resolution 14.9 requests the Scientific Council to continue supporting this working group.

Organization of Work

A. The Working Group will be chaired by the COP-Appointed Councillor for Aquatic Mammals. If the Chair has to leave her/his position, a new Chair will be appointed from among the remaining Scientific Council members of the Working Group.

B. The Working Group will mainly operate electronically, making use of a dedicated workspace on MS Teams, supplemented by email communication if necessary. Meetings (in-person or virtual) will be held as required, with in-person meetings generally held as part of Sessional Committee meetings.

C. The Chair of the Working Group will report on progress to the Sessional Committee.

D. The Secretariat will support and facilitate the coordination of the activities and the organization of meetings of the Working Group.

Duration

The duration of the Working Group is open-ended.

ANNEX 6

DRAFT DECISIONS

CONSERVATION PRIORITIES FOR CETACEANS

Directed to Parties

15.AA Parties are encouraged to:

a) include cetaceans within their respective National Biodiversity Strategies and Action Plans, and ensure that the goals and targets of the Kunming-Montreal Global Biodiversity Framework are applied in such a way that positively aligns with the conservation priorities for cetaceans;

b) assess whether any take of Appendix I-listed cetaceans occurs within their jurisdiction, and if so, review and implement, as appropriate, the recommendations contained in Annex 1 of UNEP/CMS/COP15/Doc.25.4.1 to address this;

c) increase data collection efforts for all CMS Appendix I-listed species for which they are Range States, in particular population abundance and trends, migratory patterns, and domestic and regional trade, to further the understanding of the extent to which populations are subject to contemporary take as well as other threats;

d) assess the extent to which the welfare and conservation of cetaceans that occur within their jurisdiction is impacted by climate change, and review and implement, as appropriate, the recommendations contained in Annex 2 of UNEP/CMS/COP15/Doc.25.4.1 to address this;

e) prepare, in advance, for the appearance of out of habitat cetaceans by creating protocols covering topics such as communication, stakeholder consultation, responder training and human-wildlife conflict (HWC) resolution, taking into account, as appropriate, the recommendations included in Annex 3 of UNEP/CMS/COP15/Doc.25.4.1.

Directed to the Scientific Council

15.BB The Scientific Council, subject to the availability of resources and where applicable with support from the Aquatic Mammals Working Group, is requested to:

a) synthesize research on the emerging understanding of how cetacean welfare can impact conservation outcomes, and make recommendations to Parties;

b) in collaboration with the IWC, review impacts of climate change on cetacean conservation and welfare, and make recommendations to Parties;

c) investigate the impacts of mass die-offs of cetaceans linked to the presence of algal toxins, and make recommendations to Parties;

d) undertake, in cooperation with the IWC, a quantification of the contemporary whaling and aquatic wild meat takes of all CMS Appendix II-listed cetaceans in all regions, and make recommendations to Parties; and

e) review the *Compilation of Recommendations that could be Directed to the Scientific Council at COP15 and Future COPs* contained in Annex 4 of UNEP/CMSCOP15/Doc.25.4.1 and make recommendations to the 16th meeting of the Conference of the Parties on priority actions to progress in the following intersessional period.

Directed to the Secretariat

15.CC The Secretariat, subject to the availability of resources, shall support the Scientific Council in the development of the reports and recommendations requested in Decision 15.BB.

ROLE OF CETACEANS IN ECOSYSTEM FUNCTIONING

Directed to the Scientific Council

15.DD The Scientific Council is requested, through the Aquatic Mammals Working Group, to provide advice to the Secretariat with regards to the work on the role of cetaceans in ecosystem functioning, noting the work done at the IWC, and provide input to the IWC as needs arise.

Directed to the Secretariat

15.EE The Secretariat shall continue to liaise with the IWC Secretariat regarding work on the role of cetaceans in ecosystem functioning.