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CONSERVATION IMPLICATIONS OF ANIMAL CULTURE AND SOCIAL COMPLEXITY

*(Prepared by Scientific Council and its Expert Working Group on Conservation Implications
of Animal Culture and Social Complexity and the Secretariat)*

Summary:

This document reports on progress to implement Decisions 13.102-105 and contains proposals for the adoption of Decisions. It has been revised by the Sessional Committee of the Scientific Council at its 6th session in July 2023.

CONSERVATION IMPLICATIONS OF ANIMAL CULTURE AND SOCIAL COMPLEXITY

Background

1. [Resolution 11.23 \(Rev.COP12\)](#) *Conservation Implications of Animal Culture and Social Complexity* recognizes that emerging evidence of social learning and animal culture¹ across diverse taxa and the role of culture as a driver of evolutionary diversification, network and population structure, as well as demographic processes, may be essential for augmenting conventional conservation approaches and decision-making. This way, the adaptive potential and long-term persistence of viable populations can be more effectively ensured. An expert working group of the Scientific Council was established in 2015 to advance work on this topic.
2. In 2020, COP13 adopted the following Decisions on this issue:

13.102 Decision directed to Parties

Parties are requested to:

- a) *liaise with the chair and vice-chair of the Expert Working Group on Animal Culture and Social Complexity regarding the development of concerted actions for species or populations identified as priorities;*
- b) *submit to the Secretariat for transmission to the Expert Working Group on Animal Culture and Social Complexity information on any assessments of anthropogenic threats to socially complex mammalian species on the basis of evidence of interactions of those threats with social structure and culture, as well as any publications of pertinent data for advancing the conservation management of these populations and discrete social groups;*
- c) *support the implementation of these Decisions with voluntary contributions.*

13.103 Decision directed to the Expert Group on Animal Culture and Social Complexity

The Expert Group is requested to:

- a) *progress work on the development of a management tool at a workshop proposed for 2020, with the specific task of testing the tool on the CMS Appendices and identifying priority species and social groups;*
- b) *continue further development of case studies so that these can be brought forward at the 2020 workshop to inform this process;*
- c) *once key priority species have been established, develop a more comprehensive workplan beyond 2020, which should include:*
 - i. *Identification of case studies relevant to CMS;*
 - ii. *Development of robust criteria and a management tool for prioritizing species and social groups on the CMS Appendices;*
 - iii. *Development of any relevant concerted actions arising from the prioritization process;*
 - iv. *Identification of key daughter agreements which might benefit from dissemination of this work;*
- d) *make recommendations to the Meeting of the Sessional Committee of the Scientific Council preceding the 14th meeting of the Conference of the Parties (COP14).*

¹ CMS defines culture as “information or behaviour-shared within a community which is acquired from conspecifics through some form of social learning” (after Whitehead and Rendell, 2015).

13.104 Decision directed to Secretariat

The Secretariat shall:

- a) request Parties to submit about 18 months before COP14 information on any assessments of anthropogenic threats to socially complex mammalian species on the basis of evidence of interactions of those threats with social structure and culture, as well as any publications of pertinent data for advancing the conservation management of these populations and discrete social groups for transmission to the Expert Working Group on Animal Culture and Social Complexity;
- b) subject to the availability of resources, convene a workshop to assist the Expert Working Group on Animal Culture and Social Complexity with identifying priority species and populations on the CMS Appendices and specifically to provide advice to Parties on rapid assessment techniques and how to augment existing conservation efforts using insights on aspects of sociality.

13.105 Decision directed to Scientific Council

The Scientific Council should:

- a) invite newly appointed Councillors that have relevant expertise to engage in the Expert Working Group on Animal Culture and Social Complexity;
- b) consider the outputs of the Expert Working Group on Animal Culture and Social Complexity and make recommendations to COP14, based on its findings.

Activities of the Animal Culture Expert Working Group

3. Tasks assigned to the Expert Working Group on Animal Culture and Social Complexity² are outlined in Decision 13.103. All tasks have been addressed, although further work is required for some elements.
4. The work undertaken by the Expert Working Group so far has provided valuable insights on how animal cultures are important for the conservation of migratory species. The Expert Working Group is considering methods for assessing social learning in the wild and evaluating whether social learning is creating vulnerability or resilience, or if these processes can be used to augment existing conservation efforts.
5. An example is how social learning can assist in reintroduction efforts. In animals that learn socially, a lack of species-appropriate or ecologically-appropriate behaviour can lead to the loss of adaptive migratory behaviour, and to issues in finding resources, especially seasonal resources. For example, during periods of environmental stress such as drought, there are indications that when translocated animals have not acquired local cultural foraging patterns, they may become more reliant on easy-to-find, 'cheap' food sources, which can tilt animals towards human-wildlife conflict.

Workshop

6. The Chair of the Expert Working Group and the Secretariat, with support of a Steering Group consisting of COP-Appointed Councillors Fernando Spina and Mark Simmonds, as well as the previous COP-Appointed Councillor for Aquatic Mammals, Giuseppe

² The Expert Group remains open to additional members. Scientific Councillors with an interest in animal culture and social learning, or expertise in relevant topics such as translocations or human-wildlife interactions are invited to consider joining. The process for adding external experts includes a nomination with a short explanation of their relevant expertise (in particular past or present research on social learning and/or animal culture), as well as a CV listing relevant publications. The Chair and the COP-Appointed Councillor to whom the Scientific Council assigned responsibility for this Expert Group then review the information provided and decide on the admission of the candidate. This process has worked well since the establishment of the Expert Group and has ensured the highest level of expertise in its membership.

Notarbartolo di Sciara, organized the workshop (in two parts) called for in Decision 13.104. A half-day virtual workshop took place on 6 October 2022, in which sub-groups were set up for intersessional work on different taxonomic groups and cross-cutting issues, and sub-group leaders were appointed. This was followed by a two-day hybrid meeting in Parma, Italy, on 3-4 April 2023, during which results of the work of the sub-groups were reviewed and recommendations to the CMS Scientific Council and Parties were discussed.

7. Reports of the two parts of the workshop are available online:
 - [Report of the 2nd CMS Workshop on Conservation Implications of Animal Culture and Social Complexity - Part I \(2022\)](#)
 - [Report of the 2nd CMS Workshop on Conservation Implications of Animal Culture and Social Complexity - Part II \(2023\)](#)
8. Work was divided into nine taxonomic sub-groups (birds, fish, reptiles, primates, cetaceans (Mysticetes and Odontocetes), elephants, ungulates, and other mammals) and three sub-groups on cross-cutting issues (reintroductions/translocations, rapid assessment, and human-wildlife interactions/conflicts). In addition, two sub-groups considered the two culture-related Concerted Actions currently in place: the one dealing with Eastern Tropical Pacific Sperm Whales and the one on Nut-cracking Chimpanzees. The recommendations of the workshop can be found in Annex 1.
9. The in-person workshop in Italy was funded by the Government of the Principality of Monaco under the Migratory Species Champion Programme, as well as the local hosts in Italy, the Appennino Tosco-Emiliano National Park, the Ducato National Parks and Lipu BirdLife Italy.

Results of the Notification

10. As instructed in Decision 13.104, the Secretariat reached out to Parties in 2022 to request information on any assessments of anthropogenic threats to socially complex mammalian species on the basis of evidence of interactions of those threats with social structure and culture, as well as any publications of pertinent data for advancing the conservation management of these populations and discrete social groups for transmission to the Expert Working Group on Animal Culture and Social Complexity. No responses were received.
11. Further, the Secretariat reminded Parties that the Chair of the Expert Working Group stood ready to assist with any proposals regarding the development of Concerted Actions related to animal culture.

Discussion and analysis

12. CMS is the leading global forum for bringing these links to the attention of policy-makers, and is, with its Expert Working Group composed of many of the world's scientific leaders in this field, ideally placed to continue this work.
13. In the next intersessional period, priorities proposed include promoting and providing the tools for the practical application of the increasing knowledge about animal culture and social learning in conservation management, strengthening the information-sharing regarding animal culture and social complexity within the CMS Family of Agreements, exploring opportunities for integrating indigenous knowledge on animal culture, and working more closely with IUCN to integrate aspects of animal culture and social learning.

14. The above-mentioned workshop also identified some gaps in taxonomic coverage of expertise – for example, in bats, pinnipeds and felids – where either experimental or observational evidence of social learning had been recorded, as well as identifying species for which there are currently gaps in evidence, such as dugong.

Recommended actions

15. The Conference of the Parties is recommended to:
- a) note the reports referenced above and the recommendations of the workshops of the Culture Expert Working Group contained in Annex 1 of this document;
 - b) adopt the draft Decisions as contained in Annex 2 of this document;
 - c) delete Decisions 13.102-13.105.

RECOMMENDATIONS ARISING FROM THE SECOND CMS WORKSHOP ON ANIMAL CULTURE AND SOCIAL COMPLEXITY

Noting the importance of maintaining behavioural diversity, the participants agreed the following recommendations:

For the Expert Group:

- Explore shortcuts for incorporating social learning into management, complementing traditional management techniques
- Continue to review updates on the work initiated under the Concerted Actions on Chimpanzee and Eastern Tropical Pacific Sperm Whales
- Conduct a review that identifies instances in which social learning is involved in animal behaviours and mitigation measures in human-wildlife conflict (HWC) and identify which populations/culture might be most at risk of HWC
- Develop guidance for engagement with stakeholders to illustrate why animal culture/social learning is important, customize messages for different audiences and publish an educational brochure, translated into the three languages of the Convention
- Develop guidance on methodologies for detecting social learning and provide advice on phylogenetic inference
- Encourage incorporation of a variety of 'lines of evidence' on social learning and animal culture, including exploring traditional knowledge of local and indigenous communities
- Develop a table of CMS Agreements/MOUs/Initiatives to identify the species of highest priority
- Compile examples into a document outlining the relevance of animal culture and social learning to be passed on to CMS Agreements/MOUs/Initiatives for all upcoming meetings (example: the connectivity booklet)
- Increase collaboration with IUCN on matters related to animal culture, including the development of a CMS-IUCN side event for CMS COP14 and collaboration for the 2025 IUCN World Conservation Congress
- If possible, in collaboration with the [IUCN Species Survival Commission \(SSC\) Human-Wildlife Conflict & Coexistence Specialist Group](#), convene a workshop to further explore Human-Wildlife Interactions (HWI) in connection with social learning
- Explore link with Important Marine Mammal Areas (IMMAs) and Important Shark and Ray Areas (ISRAs) (and other place-based management): distinctiveness
- Explore linking with the GEO BON global biodiversity observation network
- Collaborate with IUCN to develop strategies to integrate non-human culture and social learning into conservation assessments and management
- Explore opportunities for using animal culture for conservation advocacy (storytelling with multimedia)
- Support work in the next triennium and convene next workshop before CMS COP15

For Parties:

- Encourage funding of research (countries and other funders), including Concerted Actions, where appropriate
- Apply a precautionary approach: if there is direct or indirect evidence for social learning, or it seems likely that cultural processes are creating behaviour or patterning, it may be appropriate to apply precaution and assume that these processes are in play when developing management strategies. Such strategies should complement (not replace) existing conservation efforts
- Consider that threats and conflicts with humans can be specific to particular animal cultures and therefore need specific attention
- Provide financial and/or technical support to facilitate the Expert Working Group on Animal Culture and Social Complexity to convene a face-to-face meeting during the intersessional period before COP15

For researchers:

- Encourage more taxonomically diverse research (e.g., fish, especially sturgeon, reptiles) on social learning
- Research into the application of animal culture in conservation and develop best practice guidance, including for maintaining cultural capacity
- Recognize the value of long-term data sets, provide continued support, consider re-examining old data sets with a cultural lens
- Empower local researchers, involve local students (while also recognizing the need for funding), provide support with publishing, etc., and integrate indigenous knowledge

Regarding translocations:

- Integrate management informed by non-human cultural and social processes into existing IUCN tactics and strategies where possible
- Explore shortcuts for incorporating social learning into management, complementing traditional management techniques
- Develop trait-based implementation approaches (e.g., domains, sensitive periods, community dynamics)
- Develop predictions for socially-transmitted innovations to assist translocation planning and monitoring (i.e., their capacity to seed novel beneficial behaviours or lead to human-wildlife conflict)
- Develop metrics for determining where social learning (or lack thereof) contributes to translocation failures

Human-wildlife interactions:

- Recognize the diversity of language used to describe human-wildlife interactions – consult with the wider expert group and review literature/discourse to choose the most appropriate language
- Conduct a review that identifies instances in which social learning is involved in animal behaviours and mitigation measures for human-wildlife conflict (HWC)
- Integrate sensory information to better understand and mitigate HWC – conduct a review on sensory information involved in human-wildlife conflict
- Explore linkages between climate and HWC – conduct a review of examples at the intersection of social learning and changes in behaviour related to climate change in HWC

- Investigate integration of behavioural change theory into HWC – review behaviour change methods that may be relevant to mitigation of HWC and how normative behaviour and culture are required for design of such interventions
- If possible, in collaboration with the [IUCN Species Survival Commission \(SSC\) Human-Wildlife Conflict & Coexistence Specialist Group](#), convene a workshop to further explore HWI in connection with social learning

DRAFT DECISIONS

CONSERVATION IMPLICATIONS OF ANIMAL CULTURE AND SOCIAL COMPLEXITY

Directed to Parties

14.AA Parties are requested to:

- a) Support actions and research, including of Concerted Actions, that investigate the conservation implications of animal culture and social learning for a diverse range of taxa, including fish and reptiles;
- b) Apply a precautionary approach by considering cultural processes as relevant for the conservation of all species for which there is evidence for social learning;
- c) Where specific cultural groups have been identified, give specific attention to threats (including human-wildlife conflict) and good practices that might be specific to this particular cultural unit;
- d) Upon receiving a request from the Secretariat, submit information on any actions taken in line with paragraphs a) to c) for transmission to the Expert Working Group on Animal Culture and Social Complexity;
- e) Use information generated by the Expert Working Group on Animal Culture and Social Complexity on the growing understanding of the conservation implications of animal culture and social complexity within their interactions with the CMS daughter agreements;
- f) Provide technical and/or in-kind support to allow the Expert Working Group on Animal Culture and Social Complexity to undertake the reviews, develop the guidance and facilitate the cooperation with IUCN as requested in Decision 14.BB, and to convene an in-person workshop during the intersessional period before COP15.

Directed to the Scientific Council

14.BBCC (13.105) The Scientific Council shall:

- a) Invite newly appointed Councillors that have relevant expertise to engage in the Expert Working Group on Animal Culture and Social Complexity;
- b) Consider the outputs of the Expert Working Group on Animal Culture and Social Complexity and make recommendations to COP145, based on its findings.

Directed to the Scientific Council, through its Expert Working Group on Animal Culture and Social Complexity ~~of the Scientific Council~~

14.CCBB The Scientific Council, through its ~~The~~ Expert Working Group on Animal Culture and Social Complexity, subject to the availability of external resources, is requested to:

- a) Promote the practical application of the increasing knowledge about animal culture and social learning in conservation management by:
 - i. Exploring shortcuts for incorporating social learning into management, complementing traditional management techniques, including developing guidance

- on methodologies for detecting social learning and providing advice on phylogenetic inference;
 - ii. Reviewing updates on culture-related Concerted Actions and providing guidance as required;
 - iii. Considering whether further culture-related Concerted Actions should be brought forward and developing proposals as appropriate;
 - iv. Conducting a review that identifies instances in which social learning is involved in animal behaviours and mitigation measures for human-wildlife conflict;
 - v. Conducting a review of examples at the intersection of social learning and changes in behaviour related to climate change in human-wildlife conflict;
 - vi. Developing guidance for engagement with stakeholders to illustrate why animal culture and social learning are relevant to conservation;
 - vii. Continuing further development of case studies illustrating the importance of animal culture and social learning in the conservation of CMS-listed species;
 - ~~viii.~~ viii. Exploring the potential link with Important Marine Mammal Areas (IMMAs), Important Shark and Ray Areas (ISRAs) and other place-based ~~management-conservation~~ tools that identify sites or seascapes of biodiversity importance;
 - ~~viii-ix.~~ viii-ix. Explore the impacts of hunting on social structure;
 - ~~ix-x.~~ ix-x. Explore linking with the GEO BON global biodiversity observation network;
- b) Support research on animal culture and social learning by:
- i. Developing guidance on methodology for detecting social learning;
 - ii. Incorporating a variety of 'lines of evidence' on social learning and animal culture, including traditional knowledge of ~~local and~~ indigenous peoples and local communities;
- c) Make use of the potential synergies with CMS Agreements/MOUs/Initiatives by:
- i. Developing a table of all CMS Agreements/MOUs/Initiatives to identify the species of highest priority;
 - ii. Compiling examples into a document or brochure outlining the relevance of animal culture and social learning;
 - iii. Passing this publication on to Parties and Signatories in the context of upcoming meetings;
- d) Increase collaboration with IUCN on matters related to animal culture, including by:
- i. Bringing the issues and opportunities around social learning and animal culture to the attention of the World Conservation Congress in 2025;
 - ii. Convening a workshop in collaboration with the IUCN Species Survival Commission (SSC) Human-Wildlife Conflict & Coexistence Specialist Group to further explore human-wildlife interactions in connection with social learning;
 - iii. Engaging with the relevant IUCN bodies to develop synergies for integrating social learning and cultural processes into management activities.

~~**Directed to the Scientific Council**~~

~~**14.CC (13.105) The Scientific Council shall:**~~

- ~~a) Invite newly appointed Councillors that have relevant expertise to engage in the Expert Working Group on Animal Culture and Social Complexity;~~
- ~~b)a) Consider the outputs of the Expert Working Group on Animal Culture and Social~~

~~Complexity and make recommendations to COP145, based on its findings.~~**Directed to the Secretariat**

14.DD (13.104) The Secretariat shall:

- a) Request Parties to submit, about 18 months before COP145, information on ~~any assessments of anthropogenic threats to socially complex mammalian species on the basis of evidence of interactions of those threats with social structure and culture, as well as any publications of pertinent data for advancing the conservation management of these populations and discrete social groups~~ actions taken in line with Decisions 14.AA a) to c) for transmission to the Scientific Council and its Expert Working Group on Animal Culture and Social Complexity;
- b) Subject to the availability of external resources, convene an in-person workshop to assist the Expert Working Group on Animal Culture and Social Complexity with providing best practice advice on the implementation of management strategies for species that learn socially, categorizing and designating cultural units and identifying any further culture-based Concerted Actions identifying priority species and populations on the CMS Appendices and specifically to provide advice to Parties on rapid assessment techniques and how to augment existing conservation efforts using insights on aspects of sociality;
- c) Subject to the availability of external resources, support the Scientific Council and its Expert Working Group with the development of a publication outlining the relevance of animal culture and social learning for publication on the CMS website and support the development of the reviews and guidance foreseen in Decision 14.CCBB.