

**2nd CMS Workshop on Conservation Implications
of Animal Culture and Social Complexity – Part II**

Parma, Italy & online, 3-4 April 2023

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Reports of the Cross-Cutting Sub-Groups: Human-Wildlife Interactions¹

The subgroup on Human-Wildlife Interactions (HWI) met both online (Part 1, Oct 2022) and in person in Parma, Italy (Part 2, April 2023) as part of the 2nd CMS *Workshop on Conservation Implications of Animal Culture and Social Complexity*. At the initial meeting, the HWI subgroup: (a) revisited the “Worlds that Collide” section in the 2018 CMS report; (b) brainstormed on ideas that were missing; (c) discussed the workplan; and (d) chose subgroup leadership. The subgroup thanks Hannah Sue Mumby for volunteering to lead the group intersessionally.

Since the initial meeting, the subgroup:

- Invited others from the Expert Working group to join this discussion; we encourage subgroup members with a wide geographical and taxonomic range
- Held one online meeting and followed-up with interactions on Teams
- Revisited language regarding human-wildlife conflict (HWC) and surveyed members on the name of the subgroup
- Revisited recommendations to CMS based on the last workshop report

Additional ideas considered by the subgroup:

- Evaluate scope of topic with a comparative review – seek intersections with the taxonomic groups for priority species (but not limited to these species)
- Develop case studies (end to end from culture to implementation) with a focus on comparative studies and cross-species applications
- Gain further evidence on new behaviours, mitigation methods, adaptations to different landscapes and/or species
- Identify common features that may make particular populations/cultures more at risk of negative interactions with humans than others

Unique opportunities identified for this subgroup during discussion with the larger group at Parma:

- Human-wildlife interactions are becoming an increasingly important topic in a changing climate and with increasing populations
- Human-wildlife interactions provide “natural experiments” of social learning
- Human-wildlife interactions help to “tell stories” of the importance of animal social learning by providing colourful examples/case studies
- Explore opportunities for synergies with IUCN’s Species Survival Commission’s Human – Wildlife Conflict and Co-existence working group

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2018 Recommendations

The “Worlds that Collide” subgroup was established at the 1st CMS *Workshop on Conservation Implications of Animal Culture and Social Complexity* in Parma, Italy, in 2018. Recommendations from that workshop report (UNEP/CMS/ScC-SC3/Inf.8) formed the foundation for our discussion and recommendations. These included:

Recommendation 1. Enhance communication around animal culture and social complexity, especially in areas with human-wildlife conflict (HWC).

Recommendation 2. Utilize animal (and human) social learning to facilitate better conservation outcomes in HWC. A co-evolutionary arms race requires a tool box of options for mitigation.

Recommendation 3. Move beyond counting numbers when assessing the conservation status of highly social species and the outcomes of conservation actions.

2023 Recommendations

Recommendation 1. Recognize the diversity of language used to describe human-wildlife interactions.

Over the past decade, the language used to describe human-wildlife interactions has evolved. Particularly in the academic literature, there is an acknowledgement that “conflict” framing may promote a negative perspective, can affect how the tractability of interactions are perceived, and may hamper the development of effective solutions (Peterson et al. 2010, Davidar 2018). Language can alienate stakeholders or appear to neutralise or minimise interactions that are highly impactful. In terms of the utility of conflict framing, it can be the case that there are conflicts of interest between humans and wildlife or groups of humans, where livelihood activities for people impact ecological strategies for animals and vice versa. Furthermore, conflict management theory itself might be very useful for conservation (Young et al. 2016).

The subgroup acknowledged the range of terminology and the importance of considering the implications of their use, including “conflict”, “coexistence” and “interaction” (Knox et al. 2021).

The subgroup agreed that the title of the subgroup should reflect the language deemed more appropriate by the wider group. In terms of the scope of the subgroup, it was suggested that consideration be given to the terminology when we speak about different levels of interactions depending on the risk of the hazard.

Specific recommendations:

1. The subgroup was surveyed and responses were split regarding the name of this subgroup, among human-wildlife interactions, human-wildlife conflict and human-wildlife conflict and coexistence. We recommend consulting the larger group on the name of this subgroup.
 - a. At the Parma workshop, the larger group was consulted and it was agreed that “human-wildlife interactions” was the best choice for the subgroup.
2. Conduct a review of the terminology used in the literature and discourse to ensure awareness of the diversity and context of discussions of human-wildlife conflict, coexistence and interactions. Ultimately, terminology chosen should be accessible, comprehensible and inclusive.

Recommendation 2. Conduct a review that identifies instances in which social learning is involved in animal behaviours and mitigation measures for human-wildlife conflict (HWC)

The subgroup recognized the need to broaden understanding of the intersection of animal social learning and human-wildlife interactions. The subgroup recognized that novel behaviours may have arisen in response to human behaviours, mitigation methods, or other factors, including changes to the environment in the COVID-19 pandemic. The subgroup recommends a wider consultation on animal behaviours and social learning with a focus on those that are associated with negative human-wildlife interactions because this is generally where there is the greatest conservation risk. A review would also enable the identification of cross-species applications, where solutions have been developed in one context or one species, and where they can be tested in other contexts or species. This makes it important to use a comparative approach with which to gain insights and evidence from across a range of taxa.

Specific recommendations:

1. Conduct a review that identifies instances in which social learning is involved in animal behaviours and mitigation measures in HWC.
2. Include as wide a range of species as possible and detail evidence of impact.
3. Highlight potential for applications in other contexts or species.
4. Identify which populations/cultures might be most at risk of HWC.

Recommendation 3. Integrate culture, learning, cognition and sensory information, including soundscapes and olfactory cues, to facilitate better conservation outcomes in HWC.

Building on recommendations from the previous workshop report, the subgroup recognized the need for more attention on sensory information and a better understanding of how sensory information interacts with animal culture, learning and cognition. Including these dimensions of the animal experience will better embed any mitigation solutions within the landscape perception of animals. Sensory modalities and cues can be used to develop novel and effective mitigation methods (Mumby & Plotnik 2018).

Specific recommendations:

1. Review the sensory information involved in human-wildlife conflicts.
2. Review existing information on how sensory cues including sounds, olfactory cues and others have been integrated into mitigation methods, and refine a list of best practices or possible avenues to pursue.

Recommendation 4. Explore linkages between climate change and HWC.

Recent events have highlighted how changes to the environment can exacerbate existing negative interactions between humans and wildlife and/or drive new ones, for example in affecting interactions between sea lions and fisheries (Keledjian & Mesnick 2013)

Specific recommendations:

1. Collate examples of the role of climate change in human-wildlife “conflicts”.
2. Highlight examples of negative interactions when discussing implications of climate change for migratory species.

Recommendation 5. Going beyond local knowledge and communication to integration of culture and application of behaviour change theory.

The HWI subgroup is in the unique position of being at the interface of human culture and animal culture. As the importance of human cultural dimensions are increasingly emphasised in biodiversity conservation, there is an opportunity for these also to be highlighted in the interactions with animal culture. Furthermore, much of behaviour change theory is embedded in social and cultural norms (Reddy et al.2017). The subgroup acknowledged that these apply in both the human and wildlife contexts and are central to mitigating conflict/negative human-wildlife interactions.

Specific Recommendations:

1. Beyond just local knowledge, develop guidance so that interventions can be designed with consideration of both human and animal culture.
2. Conduct a review of how behaviour change methods may be relevant to mitigation of negative human-wildlife interactions and how normative behaviour and culture are required for design of such interventions.

Recommendation 6. 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.

The [IUCN SSC Human-Wildlife Conflict & Coexistence Specialist Group](#) supports the IUCN network, conservation practitioners, and international organisations around the world with information on how best to tackle conflicts and enable coexistence with wildlife. The Specialist Group recently published Guidelines (IUCN 2023) and hosted an international conference (April 2023). It makes good sense to explore opportunities between the expertise on social learning in the CMS HWI subgroup and the broad expertise and experience of the IUCN's Specialist Group.

Specific recommendations:

1. Establish connections with the IUCN Specialist Group to explore synergies and opportunities for collaboration.
2. If possible, convene a workshop with the IUCN Specialist Group to further explore ideas around animal and human social learning in the context of human-wildlife interactions.

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