

Statement from the
CMS Workshop on Conservation Implications
of Animal Culture and Social Complexity
held in Parma, Italy, from 12 to 14 April 2018

A group of international experts in behavioural ecology and conservation biology met for a workshop under the auspices of the Scientific Council of the United Nations Convention on Migratory Species, in Parma, Italy, to examine the implications of non-human (hereafter 'animal') culture and sociality for conservation efforts. The workshop was kindly supported by the Appennino Tosco-Emiliano National Park and Fondazione Monteparma and the Government of Monaco under the Migratory Species Champion Programme.

The Parma workshop participants explored and acknowledged that there is now an impressive body of scientific evidence for culture and transmission of social knowledge across a wide range of vertebrate and invertebrate taxa, (including cetaceans, great apes, elephants, other mammals, birds, fish and some reptiles). In some cases, this gives rise to a number of challenges – and new opportunities – associated with conserving these social species.

The UN Convention on Migratory Species, which spearheaded this initiative, is the first multilateral environmental agreement to tackle the issue of social learning and culture and their significance for conservation outcomes. These issues have been discussed at the highest level of the Convention – by the Conference of the Parties to the treaty – where the Parties have agreed and formally endorsed this initiative, acknowledging the importance of considering these emergent aspects of conservation management efforts.

Evidence-based evaluation of social learning and resultant non-human culture (hereafter 'culture') indicates that these processes may be important for population trends across a wide range of vertebrate taxa. The social transmission of knowledge between individuals, and culture, may increase social group and population viability and provide opportunities for the rapid spread of innovations and thus adaptation to environmental change. It can also act as a proxy for identification of population structure which is important for conservation.

Burgeoning threats to habitats and species, from climate change and other anthropogenic influences, necessitate that conservation efforts are as streamlined and efficient as possible. The strategic use of knowledge regarding social learning processes may be an important tool to facilitate restoration across a broad range of migratory taxa. For example, in helping released birds re-learn historical migration routes.

Resource requirements and management of social units may differ across cultures within the same species, for example across cultures characterised by very different foraging strategies. Thus, the conservation and management of these social units may need to be adapted according to their resource needs.

Where social information is important to the survival of a social group, and specifically where the social group relies upon individuals, classes of individuals or groups that act as repositories of social knowledge, the removal of individuals from populations of socially complex species may have consequences beyond simply a reduction in absolute numbers and repercussions for the transmission of foraging traditions, migratory routes and other behaviours critical for populations to thrive: individuals matter. More broadly this has implications for preserving age structure in populations where possible.

Whilst there are many challenges associated with identifying repositories of social knowledge and protecting social capital within a social unit, it was agreed that some populations may be best delineated by cultural behaviour, rather than just differentiated by genetic diversity or geographic isolation.

Thus, concerned that highly social species face unique conservation challenges, the participants at the workshop advocate a precautionary and practical approach for the management of populations for which there is scientific evidence that the influence of culture, demography, social network structure and connectivity should be considered along with other aspects of conservation for that species.