Assessment, planning and action for species conservation

Jon Paul Rodriguez and Martin Fisher

The IUCN Species Survival Commission (SSC) is a network of approximately 10,000 volunteer experts from almost every country, focused on providing scientific advice to conservation organizations, government agencies and other IUCN members, and supporting the implementation of multilateral environmental agreements. The conceptual framework of the SSC is the Species Conservation Cycle, which has five components. The first three are consecutive—Assess, Plan and Act—and the other two, Network and Communicate, are transversal (Rodríguez et al., 2022). Every year, SSC groups set goals for the year to come, and report on their achievements of the previous year, all within this framework.

The mission of the SSC includes the provision of knowledge on the status and trends of species, and the facilitation of conservation planning, and thus there is a natural synergy between the aims of the Commission and the remit of *Oryx*. In December 2021, we established a partnership to encourage SSC members to submit their research to the journal, with SSC covering, where necessary, the open access fee of accepted articles authored by group members. In parallel, SSC members were encouraged to write for the Conservation News section of the journal, to share recent information of general conservation interest in their field of work. Since the partnership began, *Oryx* has published 13 articles and 26 Conservation News items from the SSC network. Following the growing success of this partnership, we have renewed it for 2024 and anticipate to maintain it thereafter.

This issue of *Oryx* presents 10 articles published under this partnership. Of particular note is the wide breadth of research contributed by the SSC network. Filling information gaps and communicating findings to the wider world is a major role of SSC experts, and in this context Goodman (2023) examines the changing knowledge landscape in Madagascar, one of the hottest of biodiversity hotspots. He contrasts information from two major natural history books published 20 years apart, finding that initial estimates of endemism have held, or in some cases increased, over this time. The participation of Malagasy authors has grown substantially, and knowledge of many poorly known taxa, such as various groups of invertebrates, has also expanded. Most recent efforts have focused on terrestrial biota, however, highlighting a major gap in the study of the marine world.

Meijaard et al. (2023) present an analysis of future scenarios for conservation of the Bornean orangutan *Pongo pygmaeus* in so-called Whole-Earth or Half-Earth contexts (Büscher et al., 2017). They find that although intuition might suggest a higher likelihood of survival in the Whole-Earth scenario, this could entail relaxing levels of protection throughout the species' range, even in well-protected areas, whereas the Half-Earth scenario would in contrast imply setting aside areas exclusively for conservation. Their analysis suggests that, in the medium term, transition to a holistic, mixed strategy is probably the best way forward.

Although ensuring awareness of research outcomes is important, achieving seemingly wide readership of a publication is not always the product of genuine interest in the research or species in question. In an examination of the uncommonly high readership of an article on a species that otherwise attracts little attention, Meijaard & Moqanaki (2023) warn us that social media platforms may in some cases lead to spurious popularity, most likely related to automatic data gathering processes characteristic of the internet.

Eight of the contributions to this special theme on assessment, planning and action focus on particular species. Collecting field information on the photogenic Helan Shan pika *Ochotona argentata* in China is the objective of Lambert et al. (2023). With an extent of occurrence of only c. 200 km², 2 years of camera trapping produced only two images of the species. Combined with five other new records, this nevertheless substantially increases our knowledge of the species and confirms its Endangered status. In contrast, decades of data exist for the hangul *Cervus hanglu hanglu* in Kashmir (Ahmad et al. 2023), which primarily inhabits the 141 km² Dachigam National Park. Population viability analysis indicates a stagnant population, unable to increase, and suggests that high calf mortality and a sex ratio bias against males require attention.

Two articles present contrasting perspectives on area-based conservation. Tesfai et al. (2023) combine field data with species distribution modelling to inform the establishment of a protected area for the Critically Endangered African wild ass *Equus africanus* on the Messir Plateau in Eritrea. They find that 89 km² of the Plateau is optimal habitat during the dry season, and 124 km² is optimal during the wet season. This knowledge will support the government in securing habitat for this species and protecting it from threats such as mining, development and livestock grazing.

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Riley et al. (2023) examine the value of human-modified habitats for the Endangered moor macaque *Macaca maura* in Sulawesi, Indonesia. They find that both protected and unprotected forest habitats provide comparative food resources in terms of fruit and protein, lipids and total non-structural carbohydrates. They conclude that in human-dominated landscapes, interventions such as restoring selected species of trees could benefit both wildlife and people.

Human–wildlife conflict and coexistence, and illegal wildlife trade, continue to be a major challenge for SSC groups. Marker et al. (2023) survey the Awdal region of western Somaliland to investigate the status of the cheetah *Acinonyx jubatus* in this area. Although previously the most recent confirmed record dated from 2010, they were able to confirm the presence of cheetahs and also evidence of conflict with people: three carcases were discovered, one shot and two poisoned. The next steps will be to work with local communities to mitigate the sources of conflict. Flores et al. (2023) take us to southern Argentina, home of the guanaco *Lama guanicoe*. The conflict here is with sheep ranchers, especially those who perceive there are too many guanacos competing with their livestock. The authors conclude that integrating these perspectives into national management plans is key.

Finally, in the only article in this theme covering marine environments, Fretey et al. (2023) give us hope for the future of the green turtle *Chelonia mydas* in the Pacific. They report large nesting sites in New Caledonia, presenting the first analysis of nesting colony data from D'Entrecasteaux, Bellona and Chesterfield Reefs. They found up to 150,000 nesting tracks in some years, far surpassing the previously estimated abundance of green turtles in the Pacific. These are remote, uninhabited islands, far from the main island of this French overseas territory, and the authors call on the authorities to protect these remote reefs as a national treasure.

Although the geographical coverage of these 10 articles spans Africa, Asia, South America and the Pacific, taxonomic coverage is poor. The species covered by SSC groups nevertheless range from micrometres in length for a chytrid fungus to the 25-m long blue whale *Balaenoptera musculus*—spanning about eight orders of magnitude.

The SSC–Oryx partnership has undoubtedly been successful and this collection of articles displays the valuable contributions of the SSC network to conservation. But many gaps remain, and many stories still need to be told. We look forward to seeing more articles on aquatic species, invertebrates, fungi and plants, and on cross-cutting issues such as invasive species, climate change, conservation genetics, conservation planning, species monitoring and wildlife health.

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References

Ahmad, K., Mirellie, M., Charoo, S., Nigam, P., Qureshi, Q., Naqash, R.Y. & Focardi, S. (2023) Is the hangul *Cervus hanglu hanglu* in Kashmir drifting towards extinction? Evidence from 19 years of monitoring. *Oryx*, 57, 585–591.

Büscher, B., Fletcher, R., Brockington, D., Sandbrook, C., Adams, W., Campbell, L. et al. (2017) Half-Earth or Whole Earth? Radical ideas for conservation, and their implications. *Oryx*, 51, 407–410.

Flores, C., Lichtenstein, G. & Schiavini, A. (2023) Human–wildlife conflicts in Patagonia: ranchers' perceptions of guanaco *Lama guanicoe* abundance. *Oryx*, 57, 615–625.

Fretey, J., Read, T.C., Carron, L., Fontfreyde, C., Fourdrain, A., Kerandel, J.-A. et al. (2023) From terra incognita to hotspot: the largest South Pacific green turtle nesting population in the forgotten reefs of New Caledonia. *Oryx*, 57, 626–636.

Goodman, S. (2023) Updated estimates of biotic diversity and endemism for Madagascar—revisited after 20 years. *Oryx*, 57, 561–565.

Lambert, J., Li, J., Li, Y., Hou, X. & Shi, K. (2023) New records of the Endangered Helan Shan pika *Ochotona argentata*, with notes on its natural history and conservation. *Oryx*, 57, 581–584.

Marker, L., Connolly, E., Saed, A.H., Reasoner, E. Aden, K.Y. & Cristescu, B. (2023) Cheetahs persist in the wild in the remote Awdal region of Somaliland. *Oryx*, 57, 611–614.

Meijaard, E. & Moqanaki, E. (2023) High readership on academic social platforms could poorly reflect conservation interest. *Oryx*, 57, 578–580.

Meijaard, E., Sheil, D., Sherman, J., Chua, L. Ni'matullah, S., Wilson, K. et al. (2023) Restoring the orangutan in a Whole- or Half-Earth context. *Oryx*, 57, 566–577.

Riley, E.P., Albani, A., Zak, A.A., Germani, L., Rothman, J.M., Carosi, M. & Ngakan, P.O. (2023) The potential conservation value of anthropogenically modified habitat for the Endangered moor macaque *Macaca maura* in Sulawesi, Indonesia. *Oryx*, 57, 600–610.

Rodríguez, J.P., Sucre, B., Mileham, K., Sánchez-Mercado, A., De Andrade, N., Bezeng, S.B. et al. (2022) Addressing the biodiversity paradox: mismatch between the co-occurrence of biological diversity and the human, financial and institutional resources to address its decline. *Diversity* 14, 708.

Tesfai, R.T., Parrini, F., Moehlman, P.D., Young, N.E. & Evangelista, P.H. (2023) Predicting suitable habitat for the Critically Endangered African wild ass *Equus africanus* in the Danakil Desert of Eritrea. *Oryx*, 57, 592–599.

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