

with the Global Wildlife Program, which is funded by the Global Environment Facility and led by the World Bank, and the Wildlife Conservation Research Unit of Oxford University, with the support of many other organizations and donors.

The conference brought together > 500 delegates from non-profit, government, academic and donor backgrounds from 70 countries, providing a forum for discussions and the exchange of knowledge. The programme included scientific presentations, panel debates, short courses, keynote speeches and interactive discussions. It was an interdisciplinary conference with participation from ecology, animal behaviour, psychology, policy, political ecology, conflict analysis, mediation and peacebuilding, international development, economics and anthropology.

The conference, postponed since 2020 because of the Covid-19 pandemic, provided a timely response to the formal inclusion of human–wildlife conflict in global policy. The Kunming–Montreal Global Biodiversity Framework agreed at the UN Biodiversity Conference in December 2022 includes a target that calls for countries to ‘effectively manage human–wildlife interactions to minimize human–wildlife conflict for coexistence’.

To support coexistence with wildlife, and to help inform new national policies and support action, on 30 March 2023 the Human–Wildlife Conflict & Coexistence Specialist Group released the first edition of the IUCN SSC Guidelines on Human–Wildlife Conflict and Coexistence. The Guidelines, developed by an interdisciplinary team of 50 experts, provide the most comprehensive recommendations for good practice on the topic to date. The publication centres on good process and provides guiding foundations and principles applicable to any human–wildlife conflict situation in any region. The first edition, in English, is available at [hwctf.org/guidelines](http://hwctf.org/guidelines), and will soon be available in additional languages.

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### **China Species Specialist Group: piloting a new initiative for expansion of the IUCN Species Survival Commission**

National Species Specialist Groups are a new type of group of the IUCN Species Survival Commission (SSC), designed to catalyse interdisciplinary cooperation across specialist groups and to develop national species expert networks to help reverse biodiversity loss and face new nature-related sustainability challenges.

The China Species Specialist Group is one of a few recently launched pilot groups (including in Colombia, Indonesia and Madagascar). It focuses on supporting China, the host nation of the Convention of Biological Diversity’s recent CoP15, to develop and implement the country’s ambitious National Biodiversity Strategic and Action Plan, and to develop a model for pragmatic advancement of the Kunming–Montreal Global Biodiversity Framework.

The establishment of this new Specialist Group has improved SSC’s ability to provide support to conservation and research projects in China, and opened doors for young professionals, non-English speaking specialists and multi-taxa biodiversity experts to engage in SSC’s international community. Since its establishment in 2022, the Specialist Group has recruited > 100 new members into the SSC, launched pilot programmes for young professionals and initiated a comprehensive study in the Guangdong–Hong Kong–Macao Greater Bay Area, via the newly formed Guangdong–Hong Kong–Macao Biodiversity Alliance, which the Specialist Group helped establish. Spearheaded by the universities of Sun Yat-Sen, Hong Kong and Macau, the Alliance aims to create an interinstitutional platform for knowledge sharing and regional biosphere collaborations.

The new Specialist Group’s pilot biosphere study in the Greater Bay Area aims to examine the dynamic interrelationships between biodiversity and climate for each of the area’s 11 municipal biospheres and collectively as a regional biosphere. The study includes tools for spatial planning and sustainable financing, such as the IUCN Red List, and measurable, reportable and verifiable carbon measurements of climate impacts on nature. The Greater Bay Area Biodiversity Alliance is a collaborative model for facilitating cross-border planning and implementation of regional biodiversity strategies and action plans and other nature conservation and sustainability development efforts.

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### **The IUCN Species Survival Commission launches a new Red List Authority to assess marine invertebrates**

Invertebrates comprise the majority of biodiversity in the oceans. The conservation issues facing these taxa, comprising c. 200,000 described and many more undescribed species, are diverse. The under-representation of marine invertebrates

assessed for the IUCN Red List of Threatened Species will be addressed with a new Marine Invertebrate Red List Authority, formed in December 2022.

Comprising > 170 Specialist Groups, Red List Authorities and Task Forces, the IUCN Species Survival Commission (SSC) currently has only three groups focused solely on assessment and conservation of marine invertebrates: horse-shoe crabs, corals and sea cucumbers. The SSC Marine Conservation Committee is currently preparing a proposal for a group focused on sea, brittle and feather stars. The remit of the Mollusc Specialist Group includes marine species, and although it has been assessing cephalopods, cone snails, abalone and some deep-sea species, it has mainly focused on terrestrial and freshwater species. All other marine invertebrates now have a home in the remit of the new Marine Invertebrate Red List Authority, which will work in collaboration with existing SSC groups and Centres for Species Survival to prioritize and assess taxa for the Red List, and develop additional specialist group capacity.

The geographical scope of the new Authority is global. Fisheries worldwide exert both direct and indirect pressure on marine invertebrate species and their habitats. There was a six-fold increase in landings and a doubling of the taxa reported in marine invertebrate fisheries from 1950 to 2010. Climate change, rising ocean temperatures and ocean acidification affect many marine invertebrates, particularly hard corals and species that grow or use shells and hard carapaces of calcium carbonate. Coastal development, infilling, dredging and deep-sea mining lead to direct mortality or habitat destruction. Offshore infrastructure and energy developments also affect invertebrates and their habitats. The impacts of such threats on the extinction risk of marine invertebrates are poorly known, particularly for less well-known taxa, such as those in the deep sea. Increasing public attention on the recent UN High Seas Treaty—which covers biodiversity in the vast areas of ocean beyond the jurisdiction of any country—and the threat of deep-sea mining, shows that assessment is urgently needed, to make a strong case to manage the deep sea appropriately for the protection of marine species.

The Marine Invertebrate Red List Authority will focus on the Red List assessment of marine invertebrate species, to shed light on threats and the level of extinction risk. This work is possible now because of generous funding for the Senckenberg Ocean Species Alliance, which will hire two full-time positions to work with the new Authority in 2023.

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## Searching for lost sharks: extinct or alive?

The perception of sharks as large, fearsome, toothy predators belies the reality that sharks and rays are highly diverse and can be informative of the health of the marine environment. In 2014, nearly 25% of chondrichthyan species were threatened (Dulvy et al., 2014, *eLife*, 3, e00590), and this increased to c. 33% in 2021 (Dulvy et al., 2021, *Current Biology*, 31, 4773–4787), with at least three species possibly extinct.

IUCN Red List assessments show that overfishing and habitat loss and degradation are the primary drivers of this decline, with pollution and climate change also contributing. Yet despite increasing extinction risk, 20% of all known species of sharks, rays and ghost sharks (collectively referred to as sharks) were described in the past 15 years. Some known species, however, have simply vanished.

Most of the threatened sharks occur in subtropical and tropical coastal waters, in regions considered biodiversity hotspots but where there is a lack of adequate species-specific identification knowledge and identification guides. Thus although a few charismatic species receive much media, conservation and scientific attention, the fate of over 1,200 species of lost sharks (i.e. species that have not been recorded in over 10 years) remains largely unknown.

To address this problem, Moss Landing Marine Laboratories Pacific Shark Research Center's Lost Sharks project has partnered with an international team of regional and local experts in Africa, Asia, Europe, Indonesia and South America to search for shark species that have not been seen in decades. Through field surveys and identification training workshops, experts in each region will focus on a group of sharks, with an emphasis on Critically Endangered and possibly extinct species. To raise public awareness of these lost sharks, we will publicize our search through outreach, the media and speaking engagements. Information gathered through this project will be critical for our local partners in developing future conservation and management policies for sharks.

The 3-year Lost Sharks project runs from 2023 to 2025, and is supported by the Save Our Seas Foundation (grant 594) and South African Institute for Aquatic Biodiversity.

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