Species

2020 Report
of the Species Survival Commission
and the Global Species and
Key Biodiversity Area Programme
2020 Report of the Species Survival Commission and the Global Species and Key Biodiversity Area Programme
Coordination, compilation and proofreading
Jafet M. Nassar and Orlando Salamanca. Special thanks to: Simeon Bezeng, Monika Bohm, Catia Canteiro, Nahomy De Andrade, Sergio Henriques, Mimi Kessler, Kira Mileham, Dao Nguyen, Riley Pollom, Mayerlin Ramos, Nikki Roach, Aritzaitz Rodriguez, Jon Paul Rodriguez, Bibiana Sucre, Angela Yang and Edgard Yerena, for their assistance contacting the SSC Groups’ chairs. Rebecca Miller proofread the SSC Groups’ reports.

Graphic design
Aixa Diaz

Cover
Formerly known as Ctenosaura defensor, the genus for the Yucatán Thorntail Iguana was recently changed to Cachryx defensor. Photo: Joseph Burgess, Mexico

Insets
Arcyria cinerea, saprophitic fungus associated with dead wood, plant remains and manure. Photo: Alain Michaud (page 2)

Channa pardalis, Meghalaya, northeastern India. Photo: Max Pedley (page 2)

A Great Bustard (Otis tarda), part of the reintroduced UK population, visits Stonehenge. Photo: Great Bustard Group (page 2)

Russet Dropwing (Trithemis pluvialis), distributed from South Africa to Kenya and west to Angola. Photo: Jens Kipping (page 3)

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Introduction

Our life changed in 2020 due to the COVID-19 pandemic. Travel restrictions began during the month of March, followed by lockdowns all over the world. We had to adapt to working from home, juggling family commitments with demands from the office, and deeply modified or fully suppressed field seasons or access to the laboratory. There is no question that the pandemic affected almost every one of our habits and our behaviour. Remarkably, the SSC network showed a great deal of resilience and creativity during this time, achieving the majority of goals set for the quadrennium, as well as those for 2020. Despite the massive challenge posed by COVID-19, 80.7% of targets for 2017-2020 were achieved partially or totally, while only 11.1% of targets for 2020 were pending by the end of the year. We are deeply grateful to the SSC network for staying afloat and moving forward in these uniquely challenging times. We definitively look forward to better times ahead.

In the context of the COVID-19 epidemic, SSC Specialist Groups formulated new evidence-based guidelines for working with species, including: Guidelines for Working with Free-Ranging Wild Mammals in the Era of the COVID-19 Pandemic (Wildlife Health Specialist Group), It is Time for a Global Wildlife Health Authority (post by experts of the Wildlife Health Specialist Group), Great apes, COVID-19 and the SARS CoV-2 (Joint Statement of the IUCN Species Survival Commission Wildlife Health Specialist Group and the Primate Specialist Group Section on Great Apes), Recommendations to reduce the risk of transmission of SARS-CoV-2 from humans to bats (Three Living Publications have been developed by the IUCN SSC Bat Specialist Group to provide practical mitigation strategies to address the novel risk of COVID-19), and Statement from Pangolin Specialist Group Chair on possible link between pangolins and coronavirus (Pangolin Specialist Group).

SSC is a massive collaboration – over ten thousand experts in 175 nations and 163 groups are involved. We estimate that the time donated by SSC volunteers is equivalent to over US$ 110 million per year. As you will see throughout this report, SSC members, Secretariat staff, and IUCN Member organizations join forces with our partners, supporters and their circles of influence to pursue our mission of a just world that values and conserves nature through positive action to reduce the loss of diversity of life on earth. Our network is firmly organized around the Species
Conservation Cycle, going from assessment to planning to action, and assuring that all stages are communicated to relevant stakeholders around the world. It has been a learning process to adapt to SSC DATA, but we are getting progressively better at thinking about what we want to achieve, and demonstrate to the world what we have done. It is not only incredibly valuable information to the SSC Chairs’ Office team and our Steering Committee, but also allows us to achieve the level of transparency and accountability that donors at present demand.

The entire IUCN family is deeply grateful to the dedication of SSC members, responsible for the creation of the knowledge that underpins the IUCN Red List of Threatened Species, the development of systematic plans to reverse biodiversity decline, and supporting evidence-based conservation action around the world.

The core content of this report are the individual accounts of SSC groups, which start on page 70. Prior to that, we summarize the work of the SSC Chair’s Office, follow it with an analysis of the activities of SSC groups derived from SSC DATA (page 38), and close these introductory sections with the annual report of the Global Species and Key Biodiversity Area Programme.

**SSC Chair’s Office team**

Continuing with the trend of the last few years, our team has continued to grow. We closed 2019 with 21 members, and 2020 with 27. Slightly over half of the team are staff hired by our generous and productive partners: The Deep, Georgia Aquarium, Oceanário de Lisboa, Albuquerque BioPark, Parque das Aves and Fundación Teimaikèn. But the largest proportion of the growth was due to the launch of the Global Center for Species Survival at Indianapolis Zoo. We are delighted to welcome Cátia Canteiro, Sergio Henriques, Angela Yang, Riley Pollom, Mimi Kessler, Nicolette Roach and Monni Bohm. You may read a little about them below. Sumatran Rhino Rescue (page 22), our alliance with Global Wildlife Conservation, International Rhino Foundation, National Geographic Society and WWF, continues to advance in supporting the Indonesian Government in saving the Sumatran Rhino from extinction.

**Jon Paul Rodriguez, Chair**

He holds a degree in biology from Universidad Central de Venezuela, and a Ph.D. in ecology and evolutionary biology from Princeton University. As Chair, he guides the activities of the Commission, assuring that SSC effectively delivers its strategic plan, and that the Commission works closely with our partners, the other IUCN Commissions, the Union’s members, its national and regional committees, and the Secretariat.

**Domitilla Raimondo, Deputy Chair**

She holds a Master’s degree in conservation biology from the University of Cape Town, South Africa. She plays a lead role in catalysing national red listing. In addition to her extensive support to particular red list assessment projects, Domitilla, focuses on developing the IUCN Red List as a reliable tool for the private and public sector. As a botanist, she works hard within the IUCN so plants are well represented on the red list. She is dedicated to ensuring that species information feeds into land-use decision making.
Kira Mileham, Director of Strategic Partnerships
With degrees in both conservation biology and public relations and journalism, she also has a Ph.D. in human behaviour change, all from the University of Newcastle, Australia. Kira is responsible for strategically connecting the SSC to external partners to foster stronger collaboration for improved species conservation. Kira works closely with the zoo, aquarium and botanical garden community in particular.

Bibiana Sucre, Executive Director of the Chair’s Office
Biologist from Universidad Simón Bolívar, with additional courses in ecology, and a Master’s degree in public management from Instituto de Estudios Superiores de Administración. Bibiana has a leading role in managing the activities of the Chair’s Office in Caracas, supporting, guiding and facilitating the activities of the team.

Anwar Purwoto, SSC Sumatran Rhino Coordinator
Anwar is a forestry engineer in forest management from Bogor Agriculture University, with a Master’s of science in environmental management from Griffith University. The Sumatran Rhino Coordinator is SSC’s representative in Indonesia regarding the Sumatran Rhino Recovery Project. He coordinates project implementation partners, secures project permissions, oversees the implementation of project activities together with his government counterpart, and works closely with the Project Steering Committee.

Jeff Holland, SSC Sumatran Rhino Senior Advisor
Jeff is a Zoologist working as a Zoo and Wildlife Consultant, with an undergraduate degree in zoology from the California State University of Pomona in the United States. He has over 30 years of extensive experience working with the captive management of wildlife both in zoological facilities and in the field. From 1986-2016 he worked at the Los Angeles Zoo starting as a keeper, then animal supervisor and as Curator of Mammals from 1999-2016. He is currently working on projects in the Philippines for tamaraw, in Sulawesi assisting in the development of rescue centers for confiscated anoa and babirusa, recovery of the Peninsular Pronghorn in Baja California, Mexico and is a member of the USFWS Sonoran Pronghorn Recovery Team in Arizona. Additionally, Jeff is working with the Chaco Center for Conservation and Research in Paraguay on the study of lowland tapirs in the Paraguayan Chaco and the captive breeding of the Chacoan Peccary.

Edgard Yerena, Network Coordinator
Edgard is a biologist from Universidad Simón Bolívar, with a Master’s in ecology from the same university, and a law degree from Universidad Central de Venezuela. Edgard has been a long-time member of SSC Bear Specialist Group, focused on biodiversity conservation policy and planning. As Network Coordinator, he supports the management of SSC Conservation Committees, Specialist Groups, Red List Authorities and Task Forces, particularly for the delivery of the IUCN Species Strategic Plan 2017-2020, appointment of roles, creation of new groups, and integration with other components of IUCN, as well as channelling enquiries and requests.
Orlando Salamanca, Operations and Strategy Manager
He holds an undergraduate degree in international relations from Universidad Central de Venezuela, a Master’s degree in public management and a Master’s degree in finance, both from Instituto de Estudios Superiores de Administración. Passionate about implementation, Orlando has a lead role supporting planning and follow-up, identifying areas for improvement, and addressing the biggest operational challenges in order to stay focused on the most impactful elements.

Jafet Nassar, SSC & GSP Annual Report Coordinator
Biologist from Universidad Central de Venezuela, with a Ph.D. in tropical biology from University of Miami. Jafet is in charge of coordinating, compiling, and preparing the Species Annual Report, through integration between IUCN’s Global Species Programme and SSC.

Simeon Bezeng, National Red List Programme Officer
He holds a degree in botany and environmental sciences from the University of Buea, Cameroon, followed by Masters and Ph.D. degrees in botany from the University of Johannesburg, South Africa. Based at BirdLife South Africa, Bezeng has key responsibilities in the promotion of Red Listing of species, ecosystems and the identification of KBAs in three African Countries, as well as to support the Red List Committee and the National Red List Working Group Alliance more generally.

Nahomy De Andrade, Partnerships and Grants Officer
Nahomy is an economist from Universidad Central de Venezuela with a Master’s degree in public management from Instituto de Estudios Superiores de Administración, and additional courses in leadership and coaching. She is responsible for overseeing the ongoing management and operation of partnerships and conservation grants programs, ensuring projects are implemented and managed according to best practices, in order to produce high standard outcomes in a timely manner.

Mayerlin Ramos, Administrative Officer
Mayerlin is a lawyer from Universidad Metropolitana with a Master’s degree in public management from Instituto de Estudios Superiores de Administración and additional courses in leadership and social projects development. She is in charge of administration, and supports, guides and facilitates activities of SSC staff by accomplishing results.

Aritzaith Rodríguez, Communications Officer
Aritzaith is a journalist from Universidad Católica Andrés Bello with postgraduate studies in corporative communication from Universidad Monteávila, and additional courses in marketing. As SSC’s Communication Officer, she is in charge of developing and implementing communications strategies and products for SSC, in close collaboration with IUCN’s Global Species Programme and Global Communications Unit.

Monika Böhm, Freshwater Coordinator
Monika has over 10 years of experience in supporting freshwater IUCN Red List assessments, across different species groups, and gained knowledge on the diverse conservation issues affecting freshwater species. She has published papers
on freshwater status and threats (e.g., Climate Change Vulnerability Analyses for crayfish) and is a certified Red List trainer having delivered several Red List training workshops around the world. Monika spent over a decade as a Postdoctoral Research Assistant and Research Fellow at the Zoological Society of London and has been a member of numerous Specialist Groups.

Cátia Canteiro, Plant and Fungi Coordinator
Cátia is a Species Conservation Assessor working at the Royal Botanic Gardens, Kew, London, with over 10 years’ experience in the conservation of plants and fungi. For the past five years she has been working on extinction risk assessments for the IUCN Red List, with assessing over 500 species. She started her career working on conservation planning and action for fungi and plant species, including environmental impact assessments and monitoring studies, and on restoration of temporary ponds.

Sergio Henriques, Invertebrate Coordinator
Sergio is the current Chair of the SSC Spider and Scorpion Specialist Group with over 15 years’ experience in the field assessing, planning and acting towards arachnid conservation in collaboration with the other IUCN task forces, specialist groups and the Invertebrate Conservation Committee. He has experience supporting outreach across different media (i.e., blogs, news, NPR, National Geographic), developing integrated plans to facilitate or mobilize resources for any activity promoting arachnid conservation, and identified gaps in expertise while engaging with the global network of experts to address these gaps.

Mimi Kessler, Bird Coordinator
Mimi Kessler is a wildlife biologist, conservationist, ornithologist, and authority on the ecology and management of lekking birds. She has dedicated the past fifteen years to research and conservation of bustards, the most threatened terrestrial family of birds. She serves as Deputy Chair of the Bustard Specialist Group and founded the Eurasian Bustard Alliance, an international collaborative working to better understand and protect bustard species. To support the next generation of researchers and conservationists, Dr. Kessler mentors undergraduate and Masters students in Mongolia and Uzbekistan.

Riley Polom, Marine Coordinator
Riley is a marine resource management officer for Parks Canada, where he worked to study and conserve endangered Southern Resident killer whales, and also serves as the Key Biodiversity Areas Regional Coordinator for the Wildlife Conservation Society in Canada. He has been a Red List Officer for the SSC Shark Specialist Group for the past four years, and previously worked in this capacity with Project Seahorse and the Seahorse, Pipefish and Seadragon Specialist Group. Riley also has held roles with The Nature Conservancy (Canada), the Canadian Wildlife Service and the Calgary Zoo.

Nicolette Roach, Reptile and Amphibian Coordinator
Nikki is a member of the SSC Climate Change, Amphibians and Small Mammals Specialist Groups. She spent the last three years leading and designing biodiversity
and sustainability projects, primarily with amphibians, in the Sierra Nevada de Santa Marta, Colombia. While in Colombia, she was the Director of Communications of the Latin American and Caribbean Section (LACA) of the Society for Conservation Biology. During 2015–2017, she led the IUCN Red List assessments for small mammals of the western hemisphere and has led IUCN Red Listing workshops in Mexico and Brazil.

**Angela Yang, Mammal Coordinator**

Angela most recently worked for Rainforest Trust, where she led a department of 13 staff, overseeing over 190 projects around the world. She worked with the leadership team to develop strategy, coordinate activities and foster collaboration between departments, determine and implement organizational efficiencies, spearhead Committee meetings and lead capacity-building, both for the conservation staff and for our partner organizations around the world. Before Rainforest Trust, Angela worked with ZSL as the Programme Manager for East and Southeast Asia, and the Wildlife Conservation Society as the Senior Regional manager for their Global Health Program, overseeing operations in Asia, Africa and the Americas.

**Fabiana Lopes Rocha, Head Officer**

Fabiana is a wildlife veterinary and ecologist, with a M.S. degree in ecology and conservation from the Federal University of Mato Grosso do Sul and Ph.D. in science from the Oswaldo Cruz Foundation. Her academic interest is in the areas of ecology, parasitology, and conservation of wild mammals, with an emphasis on carnivores and One Health. She is the head officer of the Center for Species Survival Brazil, a three-way partnership of IUCN Species Survival Commission, the SSC Conservation Planning Specialist Group, and Parque das Aves. Her work is focused on bringing global standards and improving national capacity to assess, plan and act within governmental agencies, NGOs, and other relevant stakeholders to save species.

**Rosana Subirá, Red List Officer**

Rosana is a biologist and has a Master’s degree in ecology from the University of Brasilia. She was coordinator of conservation strategies at the Chico Mendes Institute for Biodiversity Conservation (ICMBio), the Brazilian environmental agency, where she coordinated the processes for assessing the risk of extinction of fauna species, and the development and implementation of tools for fauna conservation, such as the National Action Plans (PANs), Plans for Reducing the Impact of Human Activities on Biodiversity (PRIM), and integrated management of threatened native species. She is currently a consultant at Parque das Aves, working for the Center for Species Survival Brazil (CSS Brazil) as a Red List Officer. Her work is focused on articulating the integration between the Global Red List and the National Red List in close partnership with ICMBio and its network.

**Eugenia Cordero, Program Officer**

Eugenia has a M.S. and Ph.D. in ecology from the Universidade Federal do Rio Grande do Norte, where she focused on bat-plant interactions in the seasonally dry tropical forest. She has also participated in bat conservation strategies in Central
America, using environmental education and communication as essential tools. She is a full-time staff member at the Parque das Aves, working as a program officer for the Center for Species Survival Brazil (CSS Brazil), particularly focusing on communication activities and on planning, in close collaboration with the SSC Conservation Planning Specialist Group.

Anna Walker, Red List Officer, Invertebrate Pollinators
Anna has a background in ecological monitoring of various insect groups, including ground beetles and butterflies, and she holds a M.S. in entomology from Harper Adams University, in the UK. Anna is a full-time staff member at the New Mexico BioPark Society, working in collaboration with select SSC Specialist Groups on Red List assessment projects for invertebrates. Current projects include fireflies of North America and Mexico, Hawaiian moths, and butterfly species of New Mexico, US.

Tim Lyons, Red List Officer
Tim has a M.S. in fisheries and aquatic sciences from the University of Florida’s Tropical Aquaculture Laboratory, where he focused on tropical invasion ecology. He is a full-time staff member at the New Mexico BioPark Society, working in collaboration with the SSC Freshwater Fish Specialist Group and the IUCN Global Programme Freshwater Biodiversity Unit on priority Red List assessment projects for freshwater fishes.

Clayton Meredith, Red List Officer, Medicinal Plants
Clay’s background is in human behavioural ecology and archaeology, in which he holds a Master’s degree. Clay is a full-time staff member at the New Mexico BioPark Society working in collaboration with the chair of the SSC Medicinal Plants Specialist Group. Current projects in this area include Red List assessment of economically important North American medicinal plants, and imperilled species from the US Southwest, Appalachia, the Great Lakes region, and the Vancouverian Floristic Province.

Ana Catarina Fonseca, Red List Officer, Marine
Catarina is the Marine Red List Officer at Oceanário de Lisboa in Portugal, where she works as part of the IUCN Red List Partnership team. She started her career focusing on cetacean ecology and moving to marine conservation after obtaining an MSc in conservation science from Imperial College London. Catarina is working on the assessment of species held in aquarium collections to improve conservation actions for these species, as well as working with IUCN’s Marine Biodiversity Unit on the Global Marine Species Assessment project.
**SSC Steering Committee**

The SSC Steering Committee is composed of 25 people, 9 women and 16 men. At least two members reside in each of the eight IUCN Statutory Regions. Institutional observers, plus representatives from the Secretariat, bring the total number of participants to 36.

<table>
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<tr>
<th>Chair and Deputy Chair</th>
<th>Country</th>
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<tr>
<td>Jon Paul Rodríguez</td>
<td>Venezuela</td>
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<td>Domitilla Raimondo</td>
<td>South Africa</td>
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<th>Steering Committee Members</th>
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<tr>
<td>Luigi Boitani, Regional Vice-Chair for West Europe</td>
<td>Italy</td>
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<td>Onnie Byers</td>
<td>US</td>
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<td>Claudio Campagna</td>
<td>Argentina</td>
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<td>Topiltzin Contreras MacBeath</td>
<td>Mexico</td>
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<td>Ehab Eid, Regional Vice-Chair for West Asia</td>
<td>Jordan</td>
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<td>Dmitry Geltman, Regional Vice-Chair for East Europe, North and Central Asia</td>
<td>Russian Federation</td>
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<td>Piero Genovesi</td>
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<td>Brahim Haddane</td>
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<td>Ian Harrison</td>
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<td>Axel Hochkirch</td>
<td>Germany</td>
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<td>Mike Hoffmann *</td>
<td>UK</td>
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<td>Jonathan Hutton</td>
<td>Switzerland</td>
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<td>Olga Krever</td>
<td>Russian Federation</td>
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<td>Mirza Kusrini, Regional Vice-Chair for South and East Asia</td>
<td>Indonesia</td>
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<td>Frédéric Launay</td>
<td>Abu Dhabi, UAE</td>
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<td>Gabriela Lichtenstein, Regional Vice-Chair for Meso and South America</td>
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<td>Vivek Menon</td>
<td>India</td>
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<td>Russell Mittermeier</td>
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<td>Gregory Mueller, Regional Vice-Chair for North America and the Caribbean</td>
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<td>Nunia Thomas</td>
<td>Fiji</td>
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<td>Pricelia Turrenta, Regional Vice-Chair for Africa</td>
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<td>Amanda Vincent</td>
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<td>Yan Xie</td>
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<th>Institutional observers</th>
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<tr>
<td>BirdLife International</td>
<td>Stuart Butchart</td>
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<td>Conservation International</td>
<td>Will Turner</td>
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<td>Fondation Franklinia</td>
<td>Jean-Christophe Vié</td>
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<tr>
<td>Global Wildlife Conservation</td>
<td>Wes Sechrest / Barney Long</td>
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<td>TRAFFIC</td>
<td>Steven Broad</td>
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<td>Wildlife Conservation Society</td>
<td>Elizabeth Bennett</td>
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<td>World Association of Zoos and Aquariums</td>
<td>Theo Pagel</td>
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<tr>
<td>Zoological Society of London</td>
<td>Mike Hoffmann *</td>
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* is both a member and an institutional observer

**Representatives of the IUCN Secretariat**

Dao Nguyen, Global Species Programme  
Jane Smart, Global Species Programme  
Richard Jenkins, Global Species Programme  
Thomas Brooks, Science and Knowledge Unit
The SSC Steering Committee met virtually in 2020, twice: on 3 February and on 1-4 September. It was a new experience for all, where despite seriously missing being together in person, we were able to achieve much. A major learning experience of 2020 was that we became much better at Zoom!
Focus on Conservation Committees

Conservation Committees are established by the SSC Chair in consultation with the Steering Committee, to govern a specific portion of the Species network or SSC’s activities. Here, we illustrate their excellent work with a summary of recent activities. They do so under the framework provided by the Species Conservation Cycle: Assess - Plan - Act - Network - Communicate.

Freshwater Conservation Committee (FCC)

Assess

- Supported the IUCN Global Species Programme in its objective to complete, by 2020, a comprehensive global assessment for the Red List of all freshwater priority groups:
  - Between 2019-2020 completed eighteen regional assessments for selected freshwater groups.
  - In 2019 published close to 1,600 individual species assessments.
  - During 2020 advanced +3,200 assessments to be published.

Plan

- Contributed to several papers and publications to boost the conservation work in the upcoming agenda of Nature 2030:
  - IUCN 2021-2024 Programme.
- Motions submitted to the IUCN 2020 World Conservation Congress, Marseille:
  - 009 – Protecting rivers and their associated ecosystems as corridors in a changing climate
  - 013 – Protection of Andes-Amazon rivers of Peru: the Marañón, Ucayali, Huallaga and Amazonas, from large-scale infrastructure projects
  - 014 – Aquatic biodiversity conservation of shallow marine and freshwater systems
  - 020 – Valuing and protecting inland fisheries

Act / Network

- Development of a framework for eradicating invasive fishes in subtropical freshwater lakes jointly with Freshwater Life, Comisión Nacional de Áreas Naturales Protegidas, National Geographic and Mohamed bin Zayed Species Conservation Fund.
- New Alliance for Freshwater life in Mexico supported by CONABIO and Sociedad Ictiológica Mexicana (Simac).

Communicate

- Contributed to publications and live meetings to talk around the challenges facing plant and animal species of the freshwater ecosystem:
  - Crossroad blog: Wetlands: the ultimate biodiversity hotspot.
  - The Status and Distribution of Freshwater Fishes in Mexico report.
**Fungal Conservation Committee (FunCC)**

Established in 2020, the FunCC aims to raise awareness of the importance of fungi and foster action to ensure their persistence and continued benefits to the environment and society.

**Assess**
- Even with the COVID-19 lockdown, progress continues and assessments were published making progress in the Global Fungal Red List Initiative.

**Plan**
- Fungi are not included explicitly in CITES. FunCC has been looking into what would be the benefits of working with fungi in the convention and whether there are any reasons against doing so.
- Exploring whether there are areas of IUCN or other conservation initiatives that the FunCC should prioritize contacting for potential interactions/synergies.

**Act**
- FairWild Foundation is adding a focus on sustainable harvest of fungi, FunCC Chair is now part of their Advisory Committee.

**Network**
- Supported establishing new leadership of the Lichen Specialist Group and expansion of leadership for Ascomycete Specialist Group.
- 2020 saw strong development of capacity and action for red listing in South America, especially Brazil and Colombia.

**Communicate**
- The Fungal Diversity Survey (formerly North American Mycoflora Project), has expanded its remit and added a strong focus on engaging citizen scientists generating data for use in conservation initiatives (IUCN members and others are on advisory committee).

**Invertebrate Conservation Committee (ICC)**

**Assess**
- There has been a constant increase of terrestrial invertebrate assessments and we have reached approximately 1.7% of the known invertebrate species assessed (1.4 million described species and 24,000 invertebrate species on the IUCN Red List). Red List assessments are done by the Specialist Group members and Terrestrial Invertebrate Red List Authority.
- Publication in Conservation Biology about addressing data deficiency in neglected biodiversity with many people from SSC and presenting concrete recommendations.

**Plan**
- Assess-Plan-Act project in Western Ghats: the region is Nilgiri Biosphere Reserve in India and there are 31 members representing a diverse set of taxa and also including specialists in fungi, plants, reptiles, and small mammals; the project outline has been submitted to IKI Grants.
Network
- Progress in broadening the taxonomic scope in the SSC to include new Specialist Groups (e.g., Wild Bee, Ant, Tiger Beetle).

Communicate
- Organised a Locust Opera for the 2020 World Conservation Congress composed with artists on the extinction of the Rocky Mountains Locust. This species once formed the largest animal swarms ever documented (12.5 trillion insects devastated the Great Plains and a famous swarm in 1875 covered an area of 510,000 km²)!
- Publication in Science about two butterfly conservationists murdered in Mexico and about how conservationists need better protection and their heritage should be followed.
- Two other publications on “Scientist’s warning to humanity on insect extinctions” and on “Solutions for humanity on how to conserve insects” in Biological Conservation.

Marine Conservation Committee (MCC)
Assess
- Helped identify priority marine species for Red List Strategic Plan in the next quadrennium.

Plan
- Generated attention and action that led to five Motions deriving from MCC effort:
  - 027 – Reducing impacts of incidental capture on threatened marine species
  - 029 – Ecosystem conservation, restoration and remediation in the ocean
  - 107 – Global conservation of rhino rays (Rhinidae, Glaucothoidae, Rhinobatidae)
  - 110 – Safeguarding the Endangered narrow-ridged finless porpoise (Neophocaena asiaeorientalis) off the Korean Peninsula
  - 111 – Conservation of seahorses, pipefishes and seadragons (family Syngnathidae)
  - 124 – Reducing the impact of fisheries on marine biodiversity
- Facilitated online formal discussion process on IUCN World Conservation Congress Motion 124 – Reducing the impact of fisheries on marine biodiversity.
- Contributed to online panel discussion on Key Biodiversity Areas (KBAs) in December 2020: Relationships and synergies between marine KBAs and other processes. Marine Key Biodiversity Areas – progress & prospects.

Network
- Extended our series of MCC-facilitated discussions on topics of mutual interest to marine SSC chairs, with a focus on bycatch. We explored ways in which fisheries bycatch impacts our diverse taxa, and began identifying areas of overlapping concern, where collaboration among SGs could strengthen conservation efforts. We heard brief presentations from Chairs or representatives of the specialist groups (SG) for seahorses, cetaceans, sharks and rays, turtles, snappers, breams and grunts, and from BirdLife International for seabirds. Going forward, the MCC
will support the marine SGs in developing a concerted effort on management and policy matters related to bycatch.

- Engaged in SSC renewal process for SGs, helping support transitions in leadership at the end of the quadrennium, and particularly to find new Co-Chairs for some marine SGs.
- Facilitated the Shark SG in selecting new Co-Chairs, through a consultative process.

Communicate
- Called on our networks to support important WCC motions on marine issues, through social media on Twitter (@SSCmarine), Facebook and Instagram (@IUCNseahorse).

Plant Conservation Committee (PCC)

Assess
- The number of plants on the IUCN Red List has more than doubled since 2016, with 23,885 plants added to the Red List since then, bringing the total assessments to 43,556 and ensuring that the plant target for the Barometer of life of 38,000 plants was met.
- The Global Tree Assessment currently underway is catalyzing assessment work across the network of specialist groups and ensuring capacity for assessments is being developed in many regions.
- Species of plants which are now being increasingly harvested from the wild as a result of the need to treat COVID-19 are being prioritized for Red List assessments by our Medicinal Plant Specialist Group.

Plan
- The PCC has been leading the development of the draft Post-2020 Plant Conservation Strategy, with suggested Plant Conservation Objectives for 2050, and Plant Conservation Targets for 2030. These were submitted to the CBD Secretariat and further alignment is being done.
- Aiming to produce an IUCN Guideline on Crop Wild Relatives (CWR) before the end of 2021 this will be based on a policy brief that has been prepared on CWR and how parties to the CBD can protect them based on experience gained from implementing the Safeguarding Mesoamerican crop wild relatives.

Act
- A multi-author scientific paper has been submitted to the journal Global Change Biology entitled “Ten golden rules for reforestation to optimize carbon sequestration, biodiversity recovery and livelihood benefits” with authors from BGCI, Kew and partners.
- Two PCC members based at BGCI are carrying out a review of tree planting initiatives by NGOs, looking at the benefits promoted and species planted (native, non-native, invasive) compared to tree planting initiatives by botanic gardens.

Network
- PCC supported the renewal of leadership of plant SSC Groups.
Communicate
- The Plant Conservation Committee has been involved in raising awareness and engaging the plant network on the issue of inappropriate tree planting for carbon sequestration.

Standards and Petitions Committee (SPC) Assess
- Worked on providing guidelines and testing for a few taxa on when to list a species as extinct and possibly extinct.
- We dealt with several issues from the Red List Unit on misapplication of the Red List Guidelines.
- Climate Change SG has been communicating with a team in Capetown University regarding the possible development of a Red Listing support tool for incorporating climate change models.

The Red List Committee (RLC) Assess
- The Red List Technical Working Group held a meeting on 12-14 February which covered the following issues:
  - Mapping Standards,
  - SIS and SIS Connect,
  - Red List website,
  - Other topics like RLI, affiliation of assessors, estimated date of extinction, classification schemes, EX vs EW for species conserved in seed bank, and streamlining LC assessments.

Network
- The RLC is invited to comment on new Specialist Groups and Red List Authorities applications.
- New Red List Memberships and Partnerships: Missouri Botanical Garden, Global Wildlife Conservation and Albuquerque BioPark were admitted as formal members of the Red List Partnership.
- A working group of RLC members and other global conservation experts was constituted to support the development of the new Red List Strategic Plan for the IUCN quadrennium 2021-2024. The main objective of this group was to engage broadly and investigate with leading technology institutions how new and emerging technologies can support Red List assessments/reassessments.
- National Red List Working Group:
  - Many training opportunities were created in 2019.
  - A National Red List capacity building workshop was held in November 2019 in Nairobi-Kenya where 25 biologists were trained to apply the IUCN Red List standards.
  - There is also huge interest in the RLE assessments (South Africa, Morocco, Ethiopia, Malawi and Botswana) and KBAs identification in Africa (South Africa, Uganda, Mozambique, Malawi, and Tunisia).
Communicate

- IUCN Red List data featured prominently at the IPBES Global Assessments Report adopted in May 2019 in Paris-France. A lot of the media coverage focused on the estimate of 1 million species being threatened with extinction (i.e., extrapolating RL data to the total number of described species).

Strategic Partnerships and Grants

During 2017-2020, the SSC Chair’s Office progressed on developing mutually beneficial partnerships with a broader set of organizations to help them achieve and improve their conservation goals, while supporting the SSC network and moving forward with SSC targets.

Centers for Species Survival: Rapid expansion despite COVID-19

The SSC Center for Species Survival (CSS) model continues to advance conservation successes and critical support to the SSC network despite the unprecedented challenges that this year has brought.

The COVID-19 pandemic impacted us all, but has taken an outsized toll on the zoo and aquarium community, who rely on ticket sales and events to support conservation programming. Despite these challenges, zoos and aquariums have contributed substantially to the IUCN Red List of Threatened Species and conservation planning efforts over the course of the last year.

CSS contributed to more than 1,200 species assessments in 2020. This includes assessments of all freshwater fishes in the Caribbean, substantial contributions to the assessment of North American fireflies, moths of the Hawaiian Islands, economically important medicinal plants of North America and the Himalayas, and marine fishes in aquarium collections.

Collectively, these assessments contribute to the broader mission of the Red List to assess global biodiversity, but also provide substantial insights in key areas. In addition to broader support for the IUCN Marine Biodiversity Unit (MBU) assessment of marine fishes in aquarium collections, undertaken by Catarina Fonseca at Oceanário de Lisboa, is a critical step which allows aquariums to build effective conservation programs which are focused in areas of greatest need and are tailored to the research needs most pertinent to aquarium personnel. These species also present a vital opportunity for public outreach as millions of visitors will be presented with conservation information in the presence of these charismatic organisms.

The work undertaken by Fabiana Lopes Rocha and the team at CSS Brazil at Parque das Aves is a major contributor to unifying processes within the Assess, Plan, Act cycle for the country. By integrating conservation planning into the region as well as aligning national and global Red Listing, it is possible to identify which species most need help, and then convene facilitated, multi-stakeholder workshops within Brazil to make a strategic plan to save the species. CSS Brazil took up the conservation crisis of the Birds of the Atlantic Rainforest as a flagship initiative. This is currently the largest continental avian extinction crisis on the planet, with two recent extinctions and 13 Critically Endangered species. In 2019-2020 CSS Brazil worked on conservation planning and modelling for 19 bird species, in addition to the Sand Tiger Shark and the Black Lion Tamarin.
The team at the **ABQ BioPark** focused on generating new inroads for conservation initiatives through comprehensive assessment projects. In 2020, Tim Lyons worked with the IUCN Freshwater Biodiversity Unit and the Freshwater Fish Specialist Group to continue the push to complete assessments for all Latin American fishes through a comprehensive assessment of Caribbean freshwater fishes. Anna Walker made enormous progress working with the Firefly Specialist Group toward adding all species of North American fireflies to the Red List through administrative support for the group, provision of Red List training, and contributions to individual assessments. Working with the Medicinal Plant Specialist Group, Clay Meredith developed software specifically designed for rapid assessment of North American medicinal plants with the goal of adding 1,500 medicinal plants to the Red List by 2022.

Other CSS partnerships temporarily paused their efforts due to the impact of the COVID-19 pandemic. That is the case of The Deep Aquarium in the UK and Georgia Aquarium in the US.

Nevertheless, during the last three years, Rob Bullock (The Deep Aquarium) contributed to 1,800 species assessments, largely marine bony fishes and some freshwater fishes, elasmobranchs, marine reptiles and marine mammals. He also played a key role as SSC Red Listing Partnership Officer, supporting the SSC’s partnerships strategy and overseeing the capacity building and ongoing work of other red list officers. Likewise, Katelyn Herman (Georgia Aquarium) focused on sharks, specialized on mapping, and supported the assessment of ~500 species. SSC expresses its support to our extraordinary partners in these challenging times and looks forward to restarting conversations in 2021.

This year also saw further expansion of the CSS network. As part of this growing movement aimed to expand species conservation efforts around the world, in December 2020, SSC signed a new partnership with **Fundación Temaikén** in Argentina to create a Center for Species Survival Argentina, which will operate from Buenos Aires. The Center, hosted by Fundación Temaikén, will employ a full-time team of five experts who will work assessing, planning and mobilizing species recovery action in the country, as well as enhancing the scope and capacity for species conservation in Latin America. Conversations have been undertaken to replicate the Centers for Species Survival model in other countries such as the UK and rest of Great Britain, Singapore, Germany, Uganda, Australia, and Spain.

Despite the challenges posed by declining visitation, working remotely, and the loss of capacity for in-person workshops, the continued commitment of zoos and aquariums toward conservation projects in partnership with the IUCN SSC at scales ranging from local to international is an enduring testament to the role these institutions will take in the future of conservation. The personnel at the existing Centers for Species Survival look forward to bringing on new partners in the coming year, and building new and innovative frameworks leveraging the collective power of zoos, aquariums and botanic gardens in service of the conservation community.
Last but not least, 2020 saw the consolidation of the founding team of Coordinators (page 7) based at the Global Center for Species Survival in Indianapolis, US. This partnership initially involves the creation of a team of seven full-time Coordinators, within the Indianapolis Zoo staff but dedicated to providing strategic support, capacity and partnership development to the SSC network. This team will assist Specialist Groups and Conservation Committees in achieving their SSC DATA targets, with a particular focus on supporting groups to progress efforts from assessments into planning and action, communication and network capacity building.

A Human Behavior Change Manager will join in the near future to work with the GCSS team and the SSC network on the development and roll-out of community engagement campaigns to address priority socially-driven threats to species survival.

Conservation action
There is clear interest among the SSC community to catalyze conservation actions that improve the status of threatened species. Here we outline the achievements of two of the most important projects in which the SSC Chair’s Office has been directly involved to mobilize conservation actions during the last couple of years.

Sumatran Rhino Rescue
This is a multi-partner initiative in which SSC works with the Indonesian Government, national and international organizations to collaboratively provide emergency rescue and expand the critical breeding program to save this species. With a 30-million-dollar budget for five years, the partnership has expanded the ex situ sanctuary in Way Kambas –southern Sumatra– and is planning to build a new one in northern Sumatra. Primary achievements to date include:

- Successfully rescued a healthy female rhino – Pahu – that was relocated to a secure facility in Kalimantan.
- Completed an expansion of the Way Kambas Sumatran Rhino Sanctuary, providing space for five additional rhinos, and resources approved to build a new Sumatran Rhino Sanctuary in northern Sumatra.
- Created the first-ever 3D scan of a Sumatran rhino, at the Sumatran Rhino Sanctuary in Way Kambas National Park. The scan is used as an education and outreach tool to raise public awareness of the species.
- Established the Sumatran Rhino Husbandry and Propagation Expert Advisory Board to guide the implementation of the Emergency Action Plan adopted by the Indonesian Government.

Species Recovery Request for Proposals
This is the third year of the grant program developed between National Geographic Society (NGS) and SSC, aimed at funding priorities identified in SSC action plans. Early in 2019, Fondation Segré joined the alliance, further strengthening the capacity to fund proposals.
Summary of results: Recovery of Species on the Brink of Extinction

Six application rounds have been carried out, with US$ 3,216,648 disbursed in support of 90 conservation projects, selected among 465 proposals received (20% acceptance rate). Roughly half of approved projects were from SSC members. Primates, amphibians, vultures, bats, crocodiles, birds, and freshwater fishes are some of the taxa covered by the different award-winning projects.

SSC Internal Grant Programs

Since the quadrennium started, one of the main goals of the Chair’s Office has been to develop funding mechanisms to support a network of Specialists Groups in a systematic and more democratic way. Now it is a reality. SSC grant programs have allowed us to support a wide range of Specialist Groups, encourage them to achieve their annual plans and contribute further towards the Species Strategic Plan 2017-2020. Some partners have joined this initiative, in a model that we look forward to continuing to strengthen in the coming years.

SSC Internal Grant

Early 2019, the SSC Chair’s Office launched a grant opportunity for funding small requests within the SSC network: the SSC Internal Grant, thanks to the generous support of the Environment Agency - Abu Dhabi. This funding mechanism has three main goals:

- Support SSC groups in achieving their targets as established in their respective SSC DATA and our Species Strategic Plan 2017-2020, in alignment with our strategic framework: the Species Conservation Cycle.
- Encourage and incentivize all SSC Groups to carry out their annual planning process using the SSC DATA system, the monitoring and evaluation tool developed by the SSC Chair’s Office. Having delivered their SSC DATA annual report is a requirement for accepting proposals from SSC groups.
- Motivate the SSC network to get more familiar with our strategic framework: the Species Conservation Cycle, and their components: Assess–Plan–Act–Network–Communicate.

So far, there have been four application cycles resulting in 53 proposals funded and more than US$ 160,000 allocated in activities such communication, training workshops, Red List assessments, among others. The full list of winners and projects is available here.
From January 2020, the NGO Planta! is also contributing to this grant by providing an annual support to the value of ~US$ 6,000, to be allocated towards projects related to Plant Specialist Groups, strengthening our capacity to support the SSC Network.

**SSC EDGE Internal Grant**

In September 2020, the SSC Chair’s Office announced an extraordinary new grant program developed in partnership with On the EDGE Conservation (OTEC) for a set of small grants available to SSC groups: the SSC EDGE Internal Grant.

The aim of the SSC EDGE Internal Grant is to contribute to halting the loss of evolutionarily distinct lineages, through improving assessment and planning for overlooked and evolutionarily distinct species.

The recipients of the first round were announced in early November. In a selection process jointly developed between OTEC and the Chair’s Office team, the grant was distributed to six projects totalling ~$57,000 to support priorities under the Species Conservation Cycle relating to assess and plan activities. These are the SSC Groups selected to implement projects for EDGE species thanks to this grant:

<table>
<thead>
<tr>
<th>SSC Group</th>
<th>Amount (US$)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Palm Specialist Group</td>
<td>10,000</td>
</tr>
<tr>
<td>Cetacean Specialist Group</td>
<td>9,180</td>
</tr>
<tr>
<td>Australasian Marsupial and Monotreme Specialist Group</td>
<td>10,000</td>
</tr>
<tr>
<td>Cuban Plant Specialist Group</td>
<td>7,800</td>
</tr>
<tr>
<td>Indonesian Plant Red List Authority</td>
<td>9,955</td>
</tr>
<tr>
<td>Tortoise and Freshwater Turtle Specialist Group</td>
<td>10,000</td>
</tr>
</tbody>
</table>

**SSC EDGE Internal Grant, first round total** 56,935

**Reverse the Red**

Reverse the Red aims to catalyze actions to reverse negative trends shown on the IUCN Red List by uniting the expertise, partnerships and tools to implement the Species Conservation Cycle at the national level, under the guidance provided in the Global Species Action Plan. The movement will focus on growing national collaborations in support of a standardised framework, scaling up solutions and celebrating success. National hubs will work to support countries in achieving their Post-2020 Biodiversity Framework, utilise the knowledge standards mobilized by IUCN in their national biodiversity reporting, ensuring that the evidence base for indicators, such as National Red List Indices, is supplied by local stakeholders that contribute data, analyses and action according to their strengths, but are guided by a common agenda with comparable methods.

To achieve this, we must boost existing capacity and unite efforts across stakeholder groups. IUCN contributes the knowledge and expertise of the Commissions, the richness, diversity and connections of its Members, and the support of the Secretariat. SSC has also built a strong network of partners with zoos, aquaria and botanical gardens, as well as solid links with natural history museums. By connecting the global tools and knowledge of the IUCN, the local and national expertise of the SSC members, with institutional partners and government stakeholders we can build networks with the knowledge, resources and influence to effectively
drive the Species Conservation Cycle at the national scale and catalyze actions to Reverse the Red.

**SSC National Species Groups**

SSC groups are either defined by taxonomy or by discipline. Membership in these groups usually requires demonstration of being a leader in the field. This is undoubtedly a major strength of the Commission, as it brings together the world’s top experts. Maintaining this technical excellence is clearly a primary priority for the future, but SSC also has an opportunity for increasing its influence nationally. In 2020, efforts will scale up to grow a third type of SSC group, defined by geography: SSC National Species Groups would engage with other stakeholders in implementing IUCN methods and approaches at the national level. They would also provide an opportunity for emerging leaders that have not achieved global standing to join the SSC network, grow professionally, and interact with the global knowledge-based conservation community, while contributing to improvement of the status of biodiversity in their countries.

These SSC National Species Groups would become key Reverse the Red stakeholders within their country, to provide the relevant expertise to inform and implement the Species Conservation Cycle at the national level.

**Strategy Development**

During 2020, the SSC Chair’s Office, Steering Committee, Reverse the Red Task Force and Partners worked hard to move forward efforts for Reverse the Red. This team created a strategy to articulate Reverse the Red as “*a global movement to reverse the negative trends shown on the IUCN Red Lists*”. It outlines a:

**Vision:** Reverse the Red is a global movement that ignites strategic action and optimism to ensure the survival of wild species and ecosystems with which we share our planet.

**Mission:** Reverse the Red will unite tools and partnerships to catalyse conservation efforts and support countries in delivering on their commitments to the Convention of Biological Diversity post 2020 Biodiversity Framework.

Reverse the Red will do this by catalysing collaboration and energising decentralised networks and communities around the world to Assess – Plan – Act for species and ecosystems by:

- creating national networks that integrate experts, civil society and governments,
- promoting the use of standardised tools and methodologies,
- fostering clear and ambitious conservation targets (Global Species Action Plan),
- supporting national roadmaps for conservation,
- building capacity and articulation, and
- boosting accountability and celebrating success.

The strategy outlines a four-phase plan:

**How Reverse the Red will grow**

- **Phase 1:** Partnership
- **Phase 2:** National Roll-out
- **Phase 3:** Social Movement
- **Phase 4:** Global Reverse the Red Report and Congress
Work is underway for Phase 1 which aims to engage conservation partners at national, regional and global levels to consolidate standardised tools and practices and to launch Reverse the Red as an umbrella mechanism for species and ecosystem conservation.

**Pilot Country Identification**
As a part of the Phase 2 within the strategy, progress has begun on identifying appropriate Reverse the Red pilot countries to prioritize initial efforts for establishing Reverse the Red partnerships, establishing National Species Groups and bolstering the species conservation cycle at the national level.

Five criteria were considered key in determining the suitability of a potential pilot country, the existing or high potential for:
- SSC expertise in-country to create a strong SSC National Species Group,
- partnership capacity,
- government engagement,
- conservation needs, and
- wider IUCN engagement: (e.g., Regional/National IUCN Office, KBA working Group, Active National Committee, etc).

The list of potential pilot countries for Reverse the Red is still being refined.

**World Conservation Congress Reverse the Red Pavilion**
A consortium of 25 partners have joined the Reverse the Red Pavilion for the IUCN World Conservation Congress. These partners have contributed between US$ 10,000 to 100,000 each towards a total budget of just over US$ 500,000. The leading partners (contributing US$ 100,000) meet weekly to plan the launch of Reverse the Red at the World Conservation Congress and other strategic activities, and the wider partnership group meets monthly.

A dynamic and constructive draft program was established ensuring input relative to the contributions of the many partners. However, given the postponement of the World Conservation Congress the partnership team shifted the focus onto opportunities to grow communication and virtual engagement in Reverse the Red ahead of the scheduled September 2021 WCC dates.

**Website and Communication Strategy**
We are developing a wider communication strategy for Reverse the Red, including the development of a ‘teaser’ video to introduce Reverse the Red as well as a new website, that is now live and available at [www.reversethered.org](http://www.reversethered.org). This website will serve as an information hub to provide potential partners and the wider community with the information and resources they need to get involved in Reverse the Red.

**Case Study Compiling**
To support the website, the communication strategy and to inform the wider model of Reverse the Red, we are compiling case study examples and resources from across the network and the Reverse the Red partners. The aim of compiling these case studies is to:
- Show how the Species Conservation Cycle is working at national or local level.
- Demonstrate there are resources and practices applied with success in Reversing the Red.
- Gather lessons learned as valuable input for Reverse the Red implementation.
- Engage conservation partners to get involved with the movement.

The case studies will reflect:
- Success in achieving species population increases, preventing declines, or changes in national policies for species conservation.
- Innovation, enthusiasm and collaboration, and inspire others to take part in the movement.
- Implement the Species Conservation Cycle (Assess-Plan-Act model) or part of it, and shows the use of standardized tools and methodologies provided by IUCN.
- Work at national or local scale and highlight the engagement and work of different stakeholders, particularly with governments, and their collaborative effort in making a positive impact in the conservation world.
- Diversity in terms of taxa and geographic distribution.

A first call to gather and select stories of success around Reverse the Red was conducted in September 2020, with 20 cases received and 10 selected as a first group to be showcased. We are working on refining the other ten cases received and planning to open other rounds of participation with the aim of creating a bank of success stories that can feed, not just our website, but other communication channels that allow us to tell the world that conservation works and that together we can Reverse the Red.

To see the extraordinary success stories compiled so far, please visit https://www.reversethered.org/stories

**Webinar Series**

To begin engaging stakeholders, the Reverse the Red Partners held a webinar series during the last quarter of 2020. The series included three webinars, that were moderated by Dr. Jenny Gray, from Zoos Victoria and the World Association of Zoos and Aquariums, having a fireside chat discussion with several panellists. In each webinar we heard from one of the three IUCN presidential candidates, together with other inspiring conservation leaders across NGOs, multilateral environmental agreements, governments, and youth around the world.

With these sessions we aimed to:

1. Attract potential partners for the implementation of Reverse the Red in pilot countries.
2. Gather the interests, needs and concerns from key stakeholders to Reverse the Red.
3. Start to familiarize IUCN WCC participants with Reverse the Red.

We encouraged the SSC Network, along with wider stakeholders from governments, institutional partners, multilateral environmental agreements (e.g., CITES, CMS, CBD) and other key influencers to participate in these sessions, reaching more than 25,000 people through different channels. To see the recording of this webinar series, please click here.
**SSC Quarterly Report**

SSC Quarterly Reports aim to provide timely advances of the work of the Chair’s Office and the Commission in general to SSC Members, partner organizations, colleagues at the Secretariat, the SSC Steering Committee, and the world outside IUCN. We welcome articles from the network and beyond, and are especially interested in thought-provoking pieces that raise controversial issues or spark a discussion. Please, do reach out to us if there is a topic that you would like to cover or a subject that you believe we should address.

Ultimately, these reports facilitate communication and exchange within the SSC network and IUCN. For additional details on the activities of SSC and our partners, please visit the *SSC Quarterly Report* archive.

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**High Level Interventions**

High-level interventions address conservation issues of serious concern through letters to governments or companies, which highlight species and habitats under threat, and propose actions on their behalf. Each letter provides the necessary background and technical information, following a thorough review process that engages with SSC groups, experts across the network, and the IUCN regional offices and programmes.

**Demoiselle Crane in Saudi Arabia.** On 4 February 2020, a letter to Dr Hani bin Mohammed Ali Ttwani, Vice President of the Saudi Wildlife Authority, was sent by SSC Chair, Jon Paul Rodríguez and IUCN West Asia Regional Director, Hany El Shaer, expressing their concern about the situation of the Demoiselle Crane (*Grus virgo*) by request of the members of the Crane Specialist Group. This migratory species, wide-spread in the steppes and semi-deserts of Central Eurasia, is in decline and its distribution is becoming increasingly fragmented. The main threat to the species during migration is hunting within the limits of the Kingdom of Saudi Arabia, despite its hunting being legally prohibited in the Kingdom. SSC Chair and Regional Director asked that the Saudi Arabia authorities strengthen control on illegal crane hunting and increase the law enforcement pressure on offenders, as well as increasing public awareness against crane hunting and the potential impacts of such activities on the global population could be an important measure to be taken at the national level.
level. Both offered their best available criteria and expertise to contribute with Saudi government reaching these goals and share information on this situation.

Monarch Butterfly conservationists and defenders of the Monarch Butterfly Biosphere Reserve, in Mexico. On February 21, a letter jointly signed by Monika Bohm, Chair of the IUCN SSC Butterfly Specialist Group, Sergio Henriques, Chair of the IUCN SSC Spider and Scorpion Specialist Group, Axel Hochkirch Chair of the IUCN SSC Invertebrate Conservation Committee and Jon Paul Rodríguez, Chair of the IUCN Species Survival Commission was published in the prestigious scientific journal **Science** (Vol. 367, Issue 6480, pp. 861, https://doi.org/10.1126/science.abb1514) denouncing the murder of Homero Gómez and Raul Hernández, Monarch Butterfly conservationists and defenders of the Monarch Butterfly Biosphere Reserve, in Mexico. They were found dead between January 13th and 29th of this year 2020. These assassinations are presumed to be related to retaliation by criminal groups of illegal loggers. There is an alarming global rising tendency to crimes against conservationists all over the world. In 2000, IUCN World Conservation Congress adopted Resolution 2.37 in "Support for Environmental Defenders" who suffer harassment and persecution for their peaceful actions in favor of biodiversity. Every person should be free to express their opinions and exert leadership without having to be attacked in their physical integrity and even less fear for their lives. In the case of Homer and Raul we lost two positive leaders. These crimes were also denounced by IUCN Acting Director General, Grethel Aguilar, who on behalf of the IUCN (https://www.iucn.org/news/secretariat/202002/acting-director-generals-statement-loss-environmental-defenders-mexico-and-nicaragua) expressed its shock and profound sadness following the deaths of these Mexican conservationist, as well as of four indigenous people in Nicaragua killed by an armed group of non-indigenous “settlers” aiming to take over their land for agriculture in the Bosawás Biosphere Reserve. IUCN is deeply concerned that environmental defenders and indigenous
communities are increasingly in danger globally, as they exercise their right to protect their homes and natural ecosystems from destruction. IUCN joins all those people and organizations that claim that these crimes do not go unpunished and that justice is prompt. SSC calls for the death of Homer and Raul not to be in vain and serve to take decisive measures so that environmental defenders do not fear for their lives, and so that the activities of loggers and illegal timber traffickers are suppressed throughout Monarch’s Butterfly region.

IUCN Mission to Niger aimed at the conservation of Addax and Dama Gazelle at the Termit and Tin-Toumma National Nature Reserve. On 24 February 2020, IUCN Acting Director General, Grethel Aguilar and SSC Chair, Jon Paul Rodríguez sent a letter to the Minister of the Environment of Niger, Mr Almoustapha Garba, thanking him for the welcome given to the IUCN Mission to Niger aimed at the conservation of Addax and Dama Gazelle at the Termit and Tin-Touma National Nature Reserve. This mission consisted of Aboubacar Awaïss, representing the IUCN Central and West Africa Program, Philippe Chardonnet and David Mallon, co-Chairs of the Antelope Specialist Group. The mission was received by the Minister of the Environment, Minister of Petroleum and Minister of the Interior, as well as the Ambassador of the European Union, the Director of the French Development Agency in Niger, representatives of the oil company Savannah Petroleum, representatives of the NGOs Noé Conservation and Sahara Conservation Fund and various other actors. IUCN underlined the invaluable merit of Niger for being the last country to have conserved the wild Addax (*Addax nasomaculatus*) and one of the last two countries to have still conserved the wild Dama Gazelle (*Nanger dama*). The IUCN Mission made a series of concrete recommendations, including: that the entire Termit massif should be included within the final limits of the protected area in order to conserve its precious population of Dama Gazelle and associated biodiversity; that all stakeholders should be aware of the very high risk of imminent extinction of wild Addax in Niger if new conservation methods are not added to those used for the past twenty years.
that have failed to stem the decline in Addax; that all actors should act in complete synergy in saving the remaining Addax; and that an “emergency rescue program” for Addax should be implemented without delay. IUCN also recommended that efforts should be focused first on saving the wild Addax population before considering a possible import of captive Addax.

**Letter in support of creation of Khomyn Tal National Park, Mongolia.** Staff of the French NGO Association Takh and its Mongolian counterpart Khomyn Talin Takhi (KTT) have been long-term members of the Equid Specialist Group. They have worked for decades to conserve the Przewalski’s Horse (*Equus ferus przewalskii*). This species was Extinct in the Wild; due to successful reintroductions in Mongolia its current status is Endangered with a current wild population of about 700 individuals. During 2004-2005, 22 Przewalski’s Horses were transported from a reserve in southern France to Khomyn Tal, one of three reintroduction sites in Mongolia. The horse social structure established in the French reserve was carefully maintained for transport and reintroduction. This population has since grown to 91 horses in the 140 km2 reintroduction area. Thanks to efforts from Equid Specialist Group members and others, especially KTT, in May 2020 the Mongolian government announced creation of a 4,100 km2 Khomyn Tal National Park to ensure long-term protection of the reintroduction site at a national level. National Park status will help ensure viability of the Przewalski’s Horse population, as well as contribute to ecosystem restoration and sustainable development for the local community. This is an excellent example of fruitful cooperation among SSC members networking among them and with government institutions.

**Australia: Risks of the “Snowy 2.0 Pumped Hydro Scheme Main Works”**. On 12 June 2020, Richard Sneider, Chair of the Freshwater Fish Specialist Group (FFSG), sent a letter to Hon Sussan Ley MP, Minister for the Environment of Australia, expressing serious concerns about the environmental impacts of the “Snowy 2.0 Pumped Hydro Scheme Main Works”, a development recently approved by Australia’s New South Wales Government. This letter was co-signed and backed by Jon Paul Rodríguez (Chair of the IUCN Species Survival Commission), Topiltzin
Contreras MacBeath and Ian Harrison (Co-Chairs of the IUCN SSC Freshwater Conservation Committee), Piero Genovesi (Chair of the IUCN SSC Invasive Species Specialist Group), Gerry Closs and Nicholas Ling (Regional Co-Chairs Australia and New Zealand of the IUCN SSC’s FFSG). They urge the Minister for the Environment to reconsider the measures proposed as mitigation for the biosecurity risks posed by this development. This “Snowy 2.0” proposal will likely transfer alien fish from the Tumut River catchment (Talbingo Reservoir) to the Upper Murrumbidgee catchment (Tantangara Reservoir) with severe consequences for two threatened freshwater fish species: the Stocky Galaxias (Galaxias tantangara; assessed as Critically Endangered on the IUCN Red List of Threatened Species) and the Macquarie Perch (Macquaria australasica; assessed as Endangered). The two alien fish species of most concern are the Climbing Galaxias (Galaxias brevipinnis) and the Redfin Perch (Perca fluviatilis), both of which are currently not present in the upper Murrumbidgee catchment. There is well-researched evidence that confirms the ability of these two species to survive passage through hydroelectricity generation infrastructure and colonise new systems. Additionally, the Redfin Perch is a major host to the Epizootic Haematopoietic Necrosis Virus (EHNV) which can be transmitted to other fish species. The virus can be spread on fishing gear, and with “Snowy Hydro” proposing to enhance trout populations and recreational fishing facilities in Tantangara, it is considered almost certain that the virus will become established. SSC experts learnt that primary mitigation measures (to prevent fish transfer from the Tumut to Upper Murrumbidgee catchments) have been ruled out largely on cost and that, instead, secondary mitigation measures (to contain the invasive fish within Tantangara reservoir) are proposed. The universally-accepted best-practice to prevent impacts from invasive species is to prevent their transfer and establishment. Trying to contain invasive species after they are introduced is high risk, and likely to fail at some point in the 100-year lifespan of the “Snowy 2.0” proposed works. Secondary screens will not prevent the spread of the EHNV virus. The “Snowy 2.0” proposal to build a barrier to prevent the invasion of the sole remaining Stocky Galaxias population by the Climbing Galaxias is fraught with risk; there is currently no design available for scrutiny and similar barriers in New Zealand have had mixed success in excluding Climbing Galaxias. Even if successful, the barrier’s location will severely compromise future conservation efforts for Stocky Galaxias. Unfortunately, there has been no independent scrutiny of the threats or likely success of the proposed mitigation measures. Knowing that there is now a relatively short timeframe for the Australian Government to announce a final decision it is recommended that careful, independent scrutiny and review of the “Snowy 2.0” threats and mitigation proposals are undertaken, and that the final approval deadline be extended to allow this to occur. If primary mitigation is excluded, it should be publicly acknowledged that there is no mitigation possible for the eventual establishment of EHNV and the subsequent impacts on the Macquarie perch population. The SSC’s FFSG emphasizes the need to discuss this urgent topic further and provide additional advice or assistance. On 30 June, the Snowy scheme was approved with no external review. SSC will continue to monitor how the situation develops.
Concerns on the Impact of a Bridge Project on a Critically Endangered population of Irrawaddy dolphins (*Orcaella brevirostris*) in the Philippines. In August 2020, IUCN Director General, Bruno Oberle, and SSC Chair, Jon Paul Rodríguez, sent a letter to Mark A. Villar, Secretary of the Department of Public Works and Highways of the Republic of the Philippines, expressing concern on the likely impacts of the proposed Panay-Guimaras-Negros (PGN) Bridges Project on biodiversity in the Guimaras and Iloilo Straits, and in particular, on the survival of a Critically Endangered population of Irrawaddy dolphins (*Orcaella brevirostris*). IUCN recognizes the importance of connecting the Panay, Negros and Guimaras Islands to facilitate efficient and safe inter-island transport and thus improve the region’s economy. However, studies conducted by various research groups indicate these areas support the greatest densities of dolphins who use the areas for feeding, resting, giving birth and nurturing their calves. Construction of the bridge entrances and exits could destroy the habitat and pollute surrounding areas with disruptive noise. Dolphins, like many bats, rely on sound and use echo-location to navigate, find prey and communicate with one another in social groups. Irrawaddy dolphins and their habitat are protected under several Philippines laws. In addition, these coastal waters provide important habitat for dugongs (*Dugong dugon*), which are Critically Endangered in the Philippines and also protected by law. The Irrawaddy dolphin population in the Iloilo-Guimaras Straits is very small. Studies conducted by Silliman University, University of St. La Salle, and Tropical Marine Research and Conservation, indicate that only 10-30 remain, with their core habitat limited to the Pulupandan-Bago estuary and coastal waters of Buenavista. The dolphins play an integral part in the lives of fishermen in Iloilo, Guimaras and Negros, who use sightings of the dolphins to help them locate concentrations of fish and shrimp. In a global context, Iloilo and Guimaras Straits are recognized as Important Marine Mammal Areas. The Iloilo-Guimaras Straits population is one of only three known isolated populations of Irrawaddy dolphins in the Philippines. The other two populations inhabit Malampaya Sound, Palawan (also Critically Endangered) and coastal waters of Quezon. In the event that the government decides to proceed with this project, IUCN request that planners investigate and consider alternative locations for the bridge entrances and exits or bridge alignments that would allow for the safe and efficient transport of people and goods without sacrificing the region’s biodiversity. Ensuring that Irrawaddy dolphins and dugongs survive in the Iloilo-Guimaras Straits will not only contribute to the conservation of global biodiversity but will also help to preserve the natural heritage of the Ilonggo people.

Letter to the CEOs of the Luxury Fashion Industry. In September 2020, SSC Chair, Jon Paul Rodriguez, as well as Dílys Roe, Tomas Waller, and Grahame Webb, Chairs of the Sustainable Use and Livelihoods, Boa & Python, and Crocodile Specialist Groups, respectively, and Daniel Natusch, from Macquarie University, sent a letter to the CEO of the luxury fashion industry, to express concerns about the decisions taken by some luxury fashion groups to ban or cease to use the skins of wild animals, such as crocodiles, alligators, snakes, and lizards. Scientific
evidence shows that the trade in those skins is in fact sustainable, contributes to wildlife conservation and recovery, and supports the livelihood of local communities. Also, SSC wants to communicate that there has been a concerted push to ban exotic skin use due to misinformation about COVID-19 transmission. There is no evidence, however, that reptiles transmit zoonotic diseases like coronaviruses. The benefits that trade in precious skins and exotic leathers provide to nature and people, as well as to the adoption of UN Sustainable Development Goals, are supported by scientific evidence. This trade is one of the great conservation success stories of our time. Species once close to extinction have recovered and are now subject to meticulous management. While improvements can and will continue to be made in supply chains, the reptile skin trade today is supporting and encouraging sophisticated and innovative science-based management programs, that provide incentives for people to protect the species they rely on for their income and livelihoods. Legal trade also encourages people to value and protect natural habitats and ecosystems, rather than converting them to intensive forms of land use. This has the knock-on effect of conserving the rest of biodiversity and ecosystem services that those habitats offer. Legal trade provides sustainable livelihoods for millions of people around the planet, many of them impoverished and living in remote areas, with few if any alternatives for a cash income. The meat of reptiles used for leather is utilised by people, providing an important source of protein and food security. This is the humanitarian problem the UN Sustainable Development Goals encourages corporations to address. This trade, already dependent on the engagement of luxury fashion brands, provides livelihood security in times of economic uncertainty and resource volatility, and buffers rural people against the looming threat of climate change. SSC works with many luxury fashion groups to ensure sustainable trade in reptile leather.

**Concern about the reopening of the island Escudo de Veraguas tourism development project on the Caribbean coast of the Republic of Panama.**

In November 2020, IUCN Director General, Bruno Oberle, and SSC Chair, Jon Paul Rodríguez, sent a letter to Milciades Concepción, Minister of the Environment of Panama, expressing concern on the reopening of the island Escudo de Veraguas to a tourism project. Tourism uses could cause irreversible changes to the ecosystem of this island, where at least five species are endemic.

**Letter to Bureau of Land Management Alaska State Office regarding the Arctic Coastal Plain Oil and Gas Leasing.** In December 2020, David L. Garshelis and Michael Proctor, Bear Specialist Group Co-chairs, sent a letter to the State Director, Bureau of Land Management Alaska State Office, drilling operations in the Arctic Coastal Plain. Data show that such operations may alter bears’ movement patterns, displace them from feeding sites (carcasses), and affect denning. Recent data indicate that bears may be disturbed by human activity within a mile of their den. When bears are disturbed in dens, they may abandon cubs.
Guidelines, standards and action plans

SSC continues to build the scientific foundations for evidence-based species conservation through various types of publications. Many more SSC outputs are described in the individual reports of SSC groups (starting on page 70). There is a selection of publications, however, that we would like to highlight here, as they represent key contributions from SSC to the global conservation community and seek to catalyse conservation action.

IUCN EICAT categories and criteria: The environmental impact classification for alien taxa (EICAT), presents a unified classification of alien taxa based on the magnitude of their environmental impacts has been developed in response to these issues. EICAT is a simple, objective and transparent method for classifying alien taxa in terms of the magnitude of their detrimental environmental impacts in recipient areas.

Ex situ options for cetacean conservation: executive summary of the report of the 2018 workshop, Nuremberg, Germany. China’s Yangtze river Dolphin (*Lipotes vexillifer*), was declared likely to be extinct in 2006, due to threats in the wild such as habitat loss, entanglement in fishing gear and ship strikes, which were not effectively dealt with using the management tools available prior to that time. Mexico’s Vaquita (*Phocoena sinus*), a porpoise found only in the Upper Gulf of California, will become extinct in the near future if the illegal fishery to obtain fish swim bladders for illicit international markets is not eliminated very soon. This report contains the executive summary of the main report of the 2018 workshop in English, French, German, Japanese, Mandarin Chinese, Portuguese and Spanish.

Iguana de cola espinosa de Roatán (*Ctenosaura oedirhina*). Also available in English, this document presents a comprehensive five-year plan for the conservation and management actions considered essential to ensuring the long-term survival of *Ctenosaura oedirhina* in the wild. This plan combines knowledge and expertise from government, nongovernmental organizations, and the community of Roatán and greater Honduras, with the collective expertise of the SSC Iguana Specialist Group.

Directrices de la CSE de UICN para evaluar la vulnerabilidad de las especies al cambio climático. Published in English in 2016, this document presents and summarizes pros and cons of methods for climate change vulnerability assessment (CCVA) of species and the large and burgeoning scientific literature emerging on this subject, often contradictory.
Guidelines for using A global standard for the identification of Key Biodiversity Areas: version 1.1. Key Biodiversity Areas (KBAs) are sites that contribute significantly to the global persistence of biodiversity. The purpose of the Guidelines for using A Global Standard for the Identification of Key Biodiversity Areas is to ensure that KBA identification is based on consistent, scientifically rigorous yet practical methods. These KBA Guidelines provide an overview of the steps for identifying and delineating KBAs, together with explanation of how the KBA criteria, thresholds and delineation procedures should be applied in practice. The KBA Guidelines should be used hand-in-hand with the KBA Standard.

Available also in English, the Plan d’action régional pour la conservation des chimpanzés d’Afrique de l’Ouest *(Pan troglodytes verus)* 2020–2030, presents the status and threats to *P. t. verus*, based on expert evaluation of the best scientific knowledge available to date. This action plan highlights how concerned stakeholders can harmonise their efforts, emphasising the critical role of regional coordination and inter and multidisciplinary approaches in conserving the western chimpanzee. It also seeks to be dynamic, embedded in a monitoring and evaluation framework that will keep priorities and strategies relevant, updating objectives and information on threats as anthropogenic and ecological pressures evolve across West Africa.

The IUCN guidelines for gathering of fishers’ knowledge for policy development and applied use, seek to make it easier for users to recognise and include fishers’ knowledge as an important data stream in resource management. The report includes details on the breadth of knowledge that can be gathered, how it can be gathered, and how this information can be applied to support sustainable fisheries policy and broader applications in society. It contains case studies from Africa, Asia, the Caribbean, Central and South America, and the Pacific.

Published previously in English, Spanish, Portuguese and Japanese, Komisi Penyelamatan Spesies IUCN panduan manajemen ex situ untuk konservasi spesies, provide practical guidance in Bahasa Indonesian on evaluating the suitability and requirements of an *ex situ* component for achieving species conservation objectives.
Securing additional funding to support the activities of the SSC

Fiscal sponsorship of SSC
As SSC does not have formal fiscal status, external donations and funds are generously administered by re:wild, who provides banking, accounting and contracting services at zero overhead cost to SSC, and contributes to the SSC Chair’s Office (US$ 50,000). We are very grateful to all, but especially to those that we interact with regularly and are clearly part our team: Wes Sechrest, Russ Mittermeier, Ella Outlaw, Don Church, Barney Long, Robin Moore, Penny Langhammer, Jennifer Luedtke, Alex Quintero, Reagan Steppe, Tinisha Hancock and Jessica Argubright. We look forward to continuing working together on saving species!

Funding of the SSC Chairs’ Office
Most of the funding that supports the SSC Chair’s Office is provided by external donors. In addition to GWC, mentioned above, and EAD, mentioned below, in 2020, the following organizations contributed an aggregate of US$ 318,300 to SSC: Al Ain Zoo, Disney’s Animal Kingdom, Chicago Zoological Society, San Diego Zoo Global, Wildlife Reserves Singapore, Woodland Park Zoo, World Association of Zoos and Aquariums (WAZA), The Deep, Association of Zoos and Aquariums (AZA), Beauval Nature, Columbus Zoo, Copenhagen Zoo, Detroit Zoological Society, European Association of Zoos and Aquaria (EAZA), Jacksonville Zoos and Gardens, Seaworld Parks and Entertainment, Saint Louis Zoo, Indianapolis Zoo, Chester Zoo, British and Irish Association of Zoos and Aquariums (BIAZA), ABQ Biopark, Milwaukee County Zoo, Oregon Zoo, Santa Barbara Zoo, Shedd Aquarium, Smithsonian National Park, Zoo Leipzig, and Oklahoma City Zoo.

SSC Commission Operations Fund 2020
The SSC was granted a Commission Operations Fund of CHF 235,000 in 2020, the same amount as during 2017-2019. This was allocated as follows: 9% for Chair’s Office travel and representation costs, 26% salaries and consultants, 2% SSC meetings, 50% office and general administration costs, and 2% technology and communications (e.g., publication of *Species*).

EAD-SSC-GWC Memorandum of Agreement
In October 2017, we had the honor and the privilege to sign a Memorandum of Agreement between the Environment Agency – Abu Dhabi (EAD), the IUCN Species Survival Commission (SSC) and Global Wildlife Conservation (GWC) concerning Support for the office of the Chair of the IUCN Species Survival Commission 2017-2020. This is a significant agreement, that provides CHF 750,000 per year for four years (2017-2020) to be administered by GWC as fiscal sponsor or SSC, distributed as follows: CHF 50,000 per year as partial funding for the office of the Chair of SSC, CHF 400,000 per year as partial funding for the implementation of the 2017-2020 IUCN Species Strategic Plan by SSC, and CHF 300,000 per year to support the contribution of the IUCN Global Species Programme towards the implementation of the 2017-2020 IUCN Species Strategic Plan. We are grateful to all our EAD colleagues for their support, advice and encouragement, but are especially indebted to Razan Khalifa Al Mubarak, Shaikha Al Dhaheri, Hanan Ibrahim Al Abed, Salim Javed and Frederic Launay.
During the last year of the 2017-2020 quadrennium, we continued using SSC DATA in its Excel format as the database system to compile and analyse all the targets, activities and results achieved by the network. Products derived from SSC DATA included the 2020 single-group reports, the 2020 Species Report and several reports requested by the SSC Chair’s Office. In addition to this, our database provided the information required to conduct the SSC Leadership Renewal process and to support the 2021 SSC Awards program and the SSC Internal Grants and SSC EDGE Internal Grants programs.

The 2020 version of SSC DATA contains four worksheets described as follows:

**Group information.** Contains the general description of the group, including co-chairs, locations/affiliations, Red List Authority coordinator, mission statement, projected overall impact on the species’ conservation status by the end of the 2017-2020 quadrennium, number of members, host organization, social networks, program officer, focal point for ex-situ expertise, focal point for conservation planning, and core partnership needs.

**Targets and activities for the quadrennium.** Contains the list of specific targets proposed by the group for the 2017-2020 quadrennium, the activities undertaken during 2020 and results or products derived from them. For each target, the chair can report its status (e.g., achieved, on track, behind schedule). Targets link to a component of the Species Conservation Cycle (Table 1), a general activity category, a specific activity category, and the main Key Species Results (KSR, Table 2) derived from the implementation of the targets. The KSRs were approved in 2016 by the IUCN.
General Assembly, during the World Conservation Congress in Honolulu, Hawai‘i. For targets under the ‘Act’ component of the Species Conservation Cycle, groups can indicate the target species. It is also possible to designate the geographic region and location where the activities conducted are having impact. Finally, for each target, the chair can indicate if results obtained helped support actions requested in any 2016 World Conservation Congress Resolutions.

Acknowledgements. In this worksheet the group recognizes individuals, institutions and organizations that significantly contributed to the achievement of the targets proposed during 2020.

Report attachments for 2020. In this worksheet the group identifies all the images available to be used in the report, including image labels, captions and credits.

### Table 1
Components of the Species Conservation Cycle

<table>
<thead>
<tr>
<th>Component</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assess</td>
<td>Focus on monitoring species and informing the world about the status and trends of biodiversity, thus providing measures for the health of our biosphere.</td>
</tr>
<tr>
<td>Plan</td>
<td>Aims to enhance collaborative, inclusive, and science-based strategies, including policy change, to ensure the most effective species conservation actions.</td>
</tr>
<tr>
<td>Act</td>
<td>Improve the status of biodiversity, by convening and mobilizing actions involving governments, academia, civil society, and the private sector.</td>
</tr>
<tr>
<td>Network</td>
<td>Enhances and support the SSC network to further significant outcomes across the Species Conservation Cycle.</td>
</tr>
<tr>
<td>Communicate</td>
<td>The effectiveness of IUCN’s species conservation work is enhanced through strategic and targeted communications.</td>
</tr>
</tbody>
</table>

### Table 2
Key Species Results approved by the 2016 IUCN World Conservation Congress

<table>
<thead>
<tr>
<th>Key Species Result</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>IUCN Red List taxonomic and geographic coverage is expanded. Taxonomic coverage of the Red List is expanded so that it better informs biodiversity conservation.</td>
</tr>
<tr>
<td>2</td>
<td>More IUCN Red List Assessments are prepared at national and, where appropriate, at regional scales. The ongoing development of national and regional Red Lists is catalysed.</td>
</tr>
<tr>
<td>3</td>
<td>IUCN Red List Index is widely used as an effective biodiversity indicator. Wide use of the Red List Index (RLI) as an indicator for monitoring trends in the status of different species groups is developed and promoted at multiple geographical scales, from national to global.</td>
</tr>
<tr>
<td>4</td>
<td>The IUCN Red List is a scientifically rigorous tool for conservation. The Red List contains the necessary information to make it a reliable tool for informing biodiversity conservation.</td>
</tr>
<tr>
<td>5</td>
<td>IUCN Red Listing capacity built through expanded training programmes. Capacity developed to ensure that the IUCN Red List Criteria are applied rigorously and consistently to increase further the credibility of the Red List and its implementation at the national level.</td>
</tr>
<tr>
<td>6</td>
<td>The IUCN Red List is underpinned by cutting-edge information management technologies. The information technology infrastructure to support Species Strategic Plan objectives is enhanced.</td>
</tr>
<tr>
<td>7</td>
<td>The IUCN Red List is used effectively to inform policy and action. The IUCN Red List data and information is increasingly used to inform policy and action in private and public sector.</td>
</tr>
<tr>
<td>8</td>
<td>The IUCN Red List is widely communicated and recognised. The Red List is further developed as a global brand, applicable at multiple geographical scales, from national to global.</td>
</tr>
<tr>
<td>9</td>
<td>The IUCN Red List is sufficiently and sustainably financed. Funds are secured to ensure the sustainability of the Red List.</td>
</tr>
<tr>
<td>10</td>
<td>Strategic oversight is provided to the IUCN Red List. Strategic oversight for delivering the Red List is provided by Red List Committee.</td>
</tr>
<tr>
<td>11</td>
<td>Measuring Conservation Success. State-of-the-art methods for measuring and categorising the success of conservation are in place.</td>
</tr>
<tr>
<td>12</td>
<td>Population-level Monitoring and Analysis. Monitoring programmes are established for selected species and groups of species.</td>
</tr>
<tr>
<td>13</td>
<td>Invasive Species. Measures to manage invasive species are greatly enhanced through focused efforts involving knowledge, policy and action.</td>
</tr>
<tr>
<td>14</td>
<td>Integrating IUCN Knowledge Products. IUCN’s key biodiversity knowledge products (e.g. Red List and World Database on Protected Areas) are fully integrated to allow interoperability, promote cost-effectiveness and maximize the delivery of information to guide conservation decisions.</td>
</tr>
<tr>
<td>15</td>
<td>IUCN SSC species conservation planning efforts are significantly expanded, especially for priority species. A method for prioritisation of species planning is developed and more conservation action planning is undertaken to halt the loss of biodiversity, and protect and prevent the extinction of threatened species.</td>
</tr>
<tr>
<td>16</td>
<td>IUCN SSC species conservation planning efforts are monitored for impact and effectiveness. Evaluation approaches are developed and implemented to measure, improve and report on the impact and effectiveness of IUCN SSC’s species conservation planning efforts.</td>
</tr>
<tr>
<td>17</td>
<td>Species conservation planning capacity is built through expanded training programmes. Capacity is developed to expand effective species conservation planning efforts throughout the SSC network and beyond, and ensure that these efforts are considered valuable and accessible to all relevant parties.</td>
</tr>
<tr>
<td>18</td>
<td>IUCN SSC provides rigorous guidance for species conservation planning through the continued development and application of cutting-edge, science-based tools and processes. IUCN SSC Species Conservation Planning features best practices using an adaptive, evidence-based approach, with application of tools and processes that contribute to, and are informed by, emerging scientific and technological advances in conservation biology and related fields.</td>
</tr>
<tr>
<td>19</td>
<td>IUCN SSC species conservation planning is sufficiently and sustainably resourced. Funding and human resources are secured to ensure the growth and sustainability of IUCN SSC’s species conservation planning.</td>
</tr>
<tr>
<td>20</td>
<td>The discipline of &quot;Species Conservation Planning&quot; is formally embedded in the SSC’s organisational framework in a way that reflects its increasing importance to the SSC’s work. A Species Conservation Planning structure is put in place, catalysing and guiding the governance and implementation of species conservation planning in the SSC.</td>
</tr>
<tr>
<td>21</td>
<td>IUCN SSC is recognised as a leader in species conservation action planning. IUCN SSC Species Conservation Planning processes are increasingly adopted or built upon, and evidently guide conservation actions and influence policy.</td>
</tr>
<tr>
<td>22</td>
<td>Applying IUCN standard for identification of sites of global biodiversity conservation significance. Biodiversity conservation action is improved through the application of Key Biodiversity Area Standard.</td>
</tr>
<tr>
<td>23</td>
<td>Wildlife Health. Wildlife health monitoring is in place where needed, and advice given on remedial actions required.</td>
</tr>
<tr>
<td>24</td>
<td>Re-introductions. Information and advice service is in place to support species reintroductions.</td>
</tr>
</tbody>
</table>
25 Conservation Breeding, and links to ex situ community. Advice and facilitation is in place to support ex situ species recovery programmes.

26 Global and regional policy for biodiversity conservation. Global and regional policy mechanisms are influenced to enhance the effectiveness of biodiversity conservation.

27 Policy and action at national and cross-boundary levels. Scientific advice from SSC used to drive actions and policies for species and sites are implemented at the national level (linking to NBSAPs and national red lists).

28 Communicating species conservation. The effectiveness of IUCN's species conservation work is enhanced through strategic and targeted communications.

29 Building mutually-beneficial institutional partnerships for SSC Specialist Groups and the wider work of the SSC. Institutional partnerships enable species conservation efforts that are more strategic, sustainable, and integrated.

30 Fostering conservation on land and in water. Conservation is supported through existing and novel funding mechanisms.

31 Special initiatives to tackle major conservation crises. Focused attention is brought to resolving major crises in biodiversity conservation.

32 Analyses and investigations into pressing conservation issues. High profile scientific analyses and investigations that have wide implications are completed and published.

33 Understanding and communicating sustainable use. Greater common understanding is achieved of the theory and practice of sustainable use of biodiversity, and key linkages to human livelihoods; the importance of species to supporting livelihoods, particularly of the poor, is demonstrated; and innovative, experience-based and adaptive approaches to sustainable use are explored.

34 Conservation decisions and livelihood impacts. Livelihood impacts of conservation decisions affecting human use of wild resources are analysed and communicated.

35 Traditional knowledge and species management. Traditional knowledge is integrated with science in approaches to species assessment and management.

36 Enabling and implementing strategies for sustainable use. Any use of living natural resources is legal and sustainable; sustainable use is recognized as a positive tool for achieving long-term conservation; and the importance of species to supporting the livelihoods of the poor is recognized by key stakeholders, leading to improved governance for people and nature.

37 Human wildlife interaction (including marine). Livelihoods of people and species conservation are enhanced through improved human-wildlife interactions.

38 Biodiversity and climate change understanding. Impacts of climate change on species and the response of species to climate change are documented, analysed and their vulnerability is better understood.

39 Biodiversity and conservation practice under climate change. Approaches for conservation under changing climates are developed, tested and shared.

40 Biodiversity and climate change policy. Biodiversity considerations are taken into account in public and private sector adaptation and mitigation policies and practices at global and regional levels.

41 Biodiversity and food production. Biodiversity considerations are introduced into emerging policies in the food production sector (agriculture, fisheries, and aquaculture).

42 Maintaining genetic diversity of wild relatives of crops and domesticated animals. The long-term supply of food resources is secured through the conservation of wild relatives of crops (CWR) and domesticated animals.

43 Biodiversity information for public, private and financial sectors increases their commitment to nature conservation. Biodiversity information is contributed to reduce the negative impacts of these sectors' activities on biodiversity.
Global response to the SSC DATA information gathering process

SSC DATA 2020 was launched in February 2021, and from then until November 2021 the SSC groups submitted their information, which included an exhaustive process of data curation that ended with the production of the report for each SSC group (page 70). The assembled reports went through an editing and proofreading process to obtain the version for publication. Each 2020 single-group report was delivered to the respective group for its use, broad distribution and uploaded to the SCC Specialist Group Directory.

During 2020, 163 groups were part of the SSC network: 132 Specialist Groups (90 Animalia, 29 Plantae, 5 Fungi, and 8 Disciplinary), 1 Action Partnership, 1 Working Group, 14 Red List Authorities, 9 Task Forces, and 6 Committees. Of these, 148 (90.8%) submitted their SSC DATA files for data analysis and preparation of the 2020 reports. Across all these group categories, the response to the SSC DATA process was consistently high and resembled the behaviour of the SSC groups during previous years (Fig. 3).

Figure 3
Completion level of 2020 report submission per group type (%)

Figure 4
Completion level of 2020 report submission per zoological category (%)

<table>
<thead>
<tr>
<th>Category</th>
<th>Completion Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>90.8</td>
</tr>
<tr>
<td>Committees</td>
<td>100.0</td>
</tr>
<tr>
<td>Task Forces</td>
<td>100.0</td>
</tr>
<tr>
<td>Stand-alone Red List Authorities</td>
<td>85.7</td>
</tr>
<tr>
<td>Working Groups</td>
<td>100.0</td>
</tr>
<tr>
<td>Action Partnerships</td>
<td>100.0</td>
</tr>
<tr>
<td>Disciplinary Groups</td>
<td>100.0</td>
</tr>
<tr>
<td>Plantae Groups</td>
<td>89.7</td>
</tr>
<tr>
<td>Fungi Groups</td>
<td>100.0</td>
</tr>
<tr>
<td>Animalia Groups</td>
<td>88.9</td>
</tr>
<tr>
<td>Mammals</td>
<td>97.2</td>
</tr>
<tr>
<td>Birds</td>
<td>83.3</td>
</tr>
<tr>
<td>Amphibians and Reptiles</td>
<td>90.9</td>
</tr>
<tr>
<td>Fishes</td>
<td>100.0</td>
</tr>
<tr>
<td>Invertebrates</td>
<td>62.5</td>
</tr>
</tbody>
</table>
For Animalia groups, which comprise the taxonomic category with the largest number of SSC groups (36 Mammals, 18 Birds, 11 Amphibian and reptiles, 9 Fishes and 16 invertebrates), the majority of zoological categories responded massively to the data gathering process. However, we noticed a substantial decline in report submission in the case of specialist groups dedicated to invertebrates, which declined from 93.8% for 2019 to 62.5% for 2020 (Fig. 4).

**SSC group targets for the 2017-2020 quadrennium**

Overall, SSC groups reported 2,073 targets for the 2017-2020 quadrennium. This number represents a substantial increase with respect to the targets reported in the past three years (2016-2017: 1,032, 2018: 1,524, 2019: 1,848), because many groups have included additional targets for the quadrennium and because for the 2020 *Species Report* we are also considering the targets formulated by the Committees in the global statistics. Overall, along the 2017-2020 quadrennium, the network duplicated the number of targets initially formulated. The allocation of the targets into the five components of the Species Conservation Cycle was not evenly distributed, as was also the case in previous years (Fig. 5). Thirty five percent of targets belong to the Assess component, which indicates that actions related to Red List assessments, reassessments and Red List Indices dominated the Species Strategic Plan throughout the quadrennium. Network, Communicate and Plan had similar weight in targets, each component comprising from 16.4% to 18.2%. This underlines the priority that SSC groups give to activities aimed to support the SSC network, to facilitate the strategic communication and global projection of the SSC groups and to formulate and monitor conservation action plans. In last place, as in previous years, we find targets linked to Act, with 12.1% of all the proposed activities for the quadrennium.

The proportion of targets associated with each component of the Species Conservation Cycle varied depending on the type of group analysed. In the case of taxonomic groups (Animalia, Plantae, and Fungi), targets linked to Assess dominated across all of them (Fig. 6). For Animalia, targets were more evenly distributed across the five components of the Species Conservation Cycle than for Plantae and Fungi, but the Assess component still dominated. For Plantae, Assess comprised 40.5% of all targets, and the remaining 59.5% were distributed among the other four components, with Plan comprising the smallest (12.3%) proportion of them. In the case of Fungi, 92.5% of the targets corresponded to Assess, Network and Communicate, while Plan and Act comprised less than 4% of the targets each. Also, in this taxonomic group the Assess component led
the targets with 44.4%. In Disciplinary groups, targets distributed evenly among Assess, Plan, Act, and Network, which summed 90.3% of all targets. On the other hand, targets allocated to the Act component were much less frequently formulated (9.7%). For the only Action Partnership, targets were mostly allocated to Plan (42.9%) and Network (42.9%), while Communicate targets were of lesser importance for this group type. The only Working Group of the network concentrated its targets in two components, Assess (77.8%) and Act (22.2%), with the first component clearly dominating. In the case of the Stand-alone Red List Authority groups, concordant with their focus of action, about 60% of the targets corresponded to Assess, followed by Network, Communicate and Plan, in this order of relative importance. Task Forces distributed most of their targets (93%) proportionally among Assess, Plan, Network, and Communicate; with only 6.6% of them allocated to Act. SSC Committees formulated targets in the five components, but their main actions concentrated on Assess (39.8%) and Network (28.6%), followed by Plan and Communicate and Act in last place, with only 4.1% of the targets.

Figure 6
Targets of the different SSC group types as a function of the five components of the Species Conservation Cycle (%)
The targets proposed by SSC groups translate into 15 focal activities. For the 2017-2020 quadrennium, the top actions included, in order of importance, research activities (18.0%), red listing (16.4%) and communication (13.9%) (Fig. 7). A second group of activities, less frequently reported (2.1% - 9.3%) but common to many SSC groups included planning, conservation actions, policy, synergy, capacity building, technical advice, scientific meetings, membership and proposal development and funding. Finally, the less frequently reported activities (0.4% - 0.9%) included, Green Status, documents review and agreements.

At a finer scale, the main activity types associated with the targets of Specialist Groups (Animalia, Plantae, Fungi and Disciplinary) included red listing (12-26%), research activities (18-20%), communication (15-22%) and conservation actions (16%) (Table 3). In the case of Disciplinary Groups, technical advice was also of top importance (22.6%). For the Action Partnership, the activity of highest relevance was planning (42.9%). In the case of Red List Authority Groups, the most frequently conducted activity corresponded to red listing, which represented 49.2% of all the activities reported. The only Working Group concentrated on red listing (77.8%) and technical advice (22.2%). For Task Forces, the three main kinds of activities linked to their targets were research (26.4%), policy (19.8%) and synergy (11%). Finally, Committees displayed activities over a broad range of options, but concentrated efforts on red listing (32.7%), synergy (14.3%), policy (12%) and communication (11.2%).
The year 2020 was signed by the COVID-19 pandemic, which had a significant negative impact on the development of activities by the SSC groups and the accomplishment of their targets for the 2017-2020 quadrennium. Our records indicate that at least 142 targets were affected by the pandemic. This amount represents 6.8% of all the targets formulated for the entire quadrennium and 11.1% of the targets still pending to be accomplished during 2020. Targets affected were distributed as follows: 43 for Assess, 29 for Network, 26 for Communicate, 24 for Plan and 20 for Act. The pandemic influenced the work of the groups in a variety of ways, including cancellation of meetings, congresses and workshops, limitation or cancellation of fieldwork activities and restriction or cancellation of funding of research and conservation projects, just to mention a few. The overall effect was that many activities slowed down and, consequently, many targets were not fully achieved by the end of 2020.

Level of accomplishment of the targets is classified into three categories: (1) Achieved, for those completely accomplished by the end of the year, (2) On track, for those showing progress in their associated activities or in some cases already presenting results, and (3) No significant progress, for those not yet initiated or postponed due to a variety of reasons.

For the five components of the Species Conservation Cycle, the majority of targets proposed (76-87%) were totally achieved or showed some level of progress by the end of 2020 (Fig. 8). Percentage of targets totally achieved varied between 29 and 51%, with...
the highest values associated with Communicate and Plan and the lowest to Act. The percentage of targets without significant progress varied between 17 and 24% across the five components, with the highest score linked to Plan and Assess targets.

Overall, by the end of 2020, 80.7% of the targets formulated by the SSC groups for the 2017-2020 quadrennium had been achieved partially or totally (Fig. 9). All group types showed progress in the achievement of their targets. Five group categories reached full achievement of 48% to 63% of all their targets: Task Forces, Disciplinary, Action Partnership, Fungi and Stand-alone Red List Authorities. For all the group categories, the sum of targets fully and partially achieved comprised between 71% and 91% of all their targets. The percentage of targets without significant progress varied between 8.8% and 28.6% across group types. Group categories Plantae, Disciplinary, Task Force, Working Group and Stand-alone Red List Authority had the lowest percentages of targets without significant progress. Many of the targets still pending to be accomplished by the end of 2020 will be finished along the 2021-2025 period.

Figure 8
Degree of accomplishment of targets (%) by the end of 2020 as a function of components of the Species Conservation Cycle. Numbers within coloured bars indicate number of targets.

Figure 9
Completion degree of targets (%) by the end of 2020 as a function of SSC Group types. Numbers within coloured bars indicate number of targets.
SSC Network activities in 2020

Global overview of activities

A total of 1,165 activities were conducted and their associated results reported by SSC groups for 2020 (Fig. 10). They mirrored the targets proposed for 2017-2020 (Fig. 7), with red listing, research, communication, conservation actions and planning occupying the first places in reported activities. The dominant activities were red listing (N= 207, 17.8%), research (N= 187, 16.1%), communication (N= 181, 15.5%), conservation actions (N= 111, 9.5%), and planning (N= 97, 8.3%). On average, each SSC group conducted activities related to 3.1 (1.3 SD) components of the Species Conservation Cycle. Only a small fraction of the groups (11.7%) reported activities covering the five components during 2020. Concordant with their central objective, many Stand-alone Red List Authorities concentrated their activities on Assess. Also, a small fraction (11.7%) reported activities related to a single component.

Red List activities primarily focused on species assessments and reassessments (87.4%), with only a few groups reporting production of documents and tools to support red listing (6.8%), technological improvements of the process (1.9%), quality control of Red List assessments (1.9%), and improvements in Red List partnerships and governance structures (1.9%).

Research activities of SSC groups included production of scientific publications (25.1%), population and ecology assessments (19.8%), research programs and projects (16.6%), production of databases (13.9%), identification of natural areas with conservation needs (5.9%), expeditions and field survey collections (5.3%), taxonomic evaluations (5.9%), data analysis (3.7%), integration of IUCN knowledge products (1.6%), understanding sustainable use (1.1%), and other activities, each with less than 1% of report frequency.
Communication activities were diverse, including media and outreach (e.g., press, radio, social networks) (32.6%), production of group publications (e.g., guidelines, newsletters) (30.9%), on-line forums and discussion mailing lists (8.3%), position statement releases (6.1%), promotion of use of the Red List and knowledge products (3.9%), production of technical reports on group issues (3.9%), virtual libraries (3.9%), biodiversity information for public and private financial sectors (2.2%), communicating sustainable use (1.1%), and other activities, each with less than 1% of report frequency.

Conservation actions were concentrated mainly on participation in conservation projects (61.3%), population interventions (e.g., reintroductions, control of invasive species, breeding programs) (18.9%), implementation of measures to protect natural areas (e.g., KBAs) (8.1%), participation in conservation projects on major crisis (2.7%), maintain of genetic diversity in wild relatives of crops (2.7%), and other activities, each with less than 1% of report frequency.

Planning activities included mainly conservation action planning (64.9%), followed by conservation action planning guidance (14.4%), conservation action planning monitoring (11.3%), conservation action planning organization (3.1%), and other activities, each with less than 1% of report frequency.

Of the ten remaining activity categories identified in Fig. 10, other activities frequently reported by the groups included: synergic interactions with other groups and organizations (N= 78), advice for policy and decision making at global, regional and national level (N= 74), capacity building (N= 50), membership recruitment (N= 46), technical advice to organizations and institutions (N= 40), and organization and/ or coordination of scientific meetings (N= 23), an activity that increased drastically when compared to 2019 due to the COVID-19 pandemic.

Out of 43 KSRs, 42 were reported by the SSC groups as the main KSRs derived from the activities conducted in 2020 (Fig. 11). From them, 11 KSRs stand out for the number of times reported (> 3% of total). The top result mentioned was KSR 28, which refers to strategic and targeted communications and their positive effects on effectiveness of IUCN’s species conservation work; then several KSRs follow in decreasing order of importance: KSR 1 (expansion of the taxonomic coverage of the Red List), KSR 15 (expansion of conservation planning efforts, with emphasis on priority species), KSR 26 (enhancement of effectiveness of biodiversity conservation through global and regional policy mechanisms), KSR 12 (population-level monitoring and analysis for selected species and groups of species), KSR 2 (emphasis on Red List assessments at national and regional scales), KSR 32 (completion and publication of high profile scientific analysis and research on pressing conservation issues), KSR 27 (use of SSC’s scientific advice at national level to drive actions and policies for species and sites), KSR 29 (building of mutually-beneficial institutional partnerships), KSR 43 (contribution of biodiversity information to public, private and financial sectors to help reduce their negative impact on biodiversity) and KSR 18 (guidance for species conservation planning through the continued development and application of cutting-edge, science-based tools and processes).
Figure 11
Key Species Results associated with activities (N= 1,165)
Activities by main SSC group types

Fungi Specialist Groups reported 19 activities in six categories, with a clear dominance of red listing, capacity building and research, followed by synergy, communication, and policy (Fig. 12). Plantae Specialist Groups reported 159 activities with red listing as the dominant one, followed by conservation actions, research, planning and communication. Other seven activities were reported for plant groups in lower frequencies. Together, Animalia groups reported 721 activities and the highest number of activity categories (N= 15); however, only seven of them stand out in numerical importance: research, communication, red listing, planning, conservation actions, policy and synergy. Disciplinary Specialist Groups reported 65 activities in 12 categories with four dominant ones, research, technical advice, communication and capacity building. The Action Partnership Group emphasized planning. The only Working Group assisted Red List assessments and reassessments. Red List Authority groups reported 82 activities in twelve categories but most of their efforts were concentrated on red listing, communication and research. Task Forces reported 42 activities in 10 different activity categories, with three dominant ones, policy, capacity building, communication and synergy.

**Figure 12**
Activities conducted by main Specialist Group types in 2020. Activities are indicated for each activity category in percentage.
Activities by Animalia SSC groups

Animalia Specialist Groups make up 55% of the SSC network; thus, their activities and results allow for more detailed analysis, disaggregated according to Mammals, Birds, Amphibia and Reptiles, Fishes, and Invertebrates (Fig. 13). Depending on the group between 13 and 15 activity categories were identified. Although all zoological groups concentrated on a few categories, their relative effort investment varied.

Mammal groups dominated with 328 activities, focused on research (19.2%), communication (18.6%), and conservation actions (13.1%). Research activities were focused mainly on population and ecology assessments, research programs and projects, and development of databases; communication activities were mainly related to production of publications of the specialist group (e.g., guidelines, newsletters, etc.) and media and outreach; conservation actions were mainly focused on participation in conservation projects and conservation interventions; and planning activities were led by conservation action planning. These groups reported 39 of 43 possible KSRs (for description of KSRs, see page 39), only KSR 10, 33, 34 and 41 were not reported.

Bird groups reported 116 activities and focused on communication (18.1%), conservation action (15.5%), and research activities (13.8%). Research activities focused on population and ecology assessments and production of scientific publications; communication activities focused on media and outreach, production of specialist group publications, and on-line forum and discussion mail lists; conservation actions
emphasized on conservation projects and population interventions; and planning activities were led by conservation action planning. These groups reported 31 of 43 possible KSRs: 1, 2, 3, 4, 7, 8, 10, 11, 12, 13, 15, 16, 17, 18, 19, 20, 21, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 34, 36, 37, and 43.

Amphibian and Reptile groups reported 103 activities with major emphasis on communication (18.4%), research (16.5%), Red List (15.5%), planning (9.7%) and Membership (9.7%). Communication activities mainly focused on media and outreach and production of specialist group publications and technical reports; research concentrated on production of scientific publications, identification of natural areas for conservation, and databases; red listing consisted essentially of species assessments and reassessments; and planning focused on conservation action planning. These groups reported as main KSRs related to their activities 27 of 43 possible KSRs: 1, 2, 3, 4, 5, 8, 11, 12, 13, 15, 17, 18, 19, 20, 22, 24, 25, 26, 27, 28, 29, 30, 31, 32, 34, 37, 38, and 43.

Fish groups reported 94 activities and their main emphasis was on Red List (23.4%), research (14.9%), communication (14.9%), and planning (11.7%). Research activities mainly included production of scientific publications and development of research projects and programs; red listing concentrated on assessments and reassessments; communication activities focused on media and outreach, and production of specialist group publications and technical reports; policy consisted mainly of policy advice and decision-making, and planning consisted mainly of conservation action planning. These groups reported as main KSRs related to their activities 20 of 43 possible KSRs: 1, 2, 3, 11, 12, 14, 15, 16, 17, 18, 22, 25, 26, 27, 28, 29, 31, 32, 33, and 43.

Invertebrate groups reported 100 activities mainly focused on Red List (31.0%), research (21.0%), and communication (11.0%). Red listing concentrated on species assessments and reassessments; research included production of scientific publications, identification of natural areas with conservation needs, and creation of databases; and communication activities focused on media and outreach and production of group publications. These groups reported as main KSRs related to their activities 26 of 43 possible KSRs: 1, 2, 3, 4, 5, 7, 9, 11, 12, 14, 15, 18, 20, 21, 22, 24, 25, 26, 27, 28, 31, 32, 34, 38, 39, and 43.

**Activities in relation to 2016 World Conservation Congress resolutions**

SSC groups reported activities and results achieved during 2020 in connection with 19 (19.8%) of the 96 IUCN Resolutions adopted during the 2016 World Conservation Congress in Honolulu, Hawai’i.

Resolutions reported by SSC Groups were, as follows: 009, 011, 015, 016, 017, 018, 027, 039, 041, 060, 061, 068, 085, and 099 for Animalia; 016, 041, and 045 for Plantae; 014, 018, and 064 for Disciplinary; 009 for Action Partnership; 018 and 045 for Red List Authorities; 041, 061, 068, and 085 for Task Forces; 062 and 086 for Committees.

A total of 24 (16.2%) SSC Groups out of 148 reporting results for 2020 indicated that their activities helped support actions requested in the 2016 WCC Resolutions. The group that reported the top number of resolutions addressed was the Sirenia SG
(4), followed by Freshwater Plant SG (3), Crocodile SG (2), Deer SG (2), Dragonfly SG (2), Flamingo SG (2), Wildlife Health SG (2), Caucasus Plant RLA (2), Human-Wildlife Conflict Task Force (2), Freshwater Conservation Committee (2), Anguillid Eel SG (1), Asian Elephant SG (1), Cetacean SG (1), Hornbill SG (1), Invasive Species SG (1), Otter SG (1), Pangolin SG (1), Seahorse, Pipefish and Seadragon SG (1), Shark SG (1), Stork, Ibis and Spoonbill SG (1), Woodcock and Snipe SG (1), Asian Species AP (1), Biodiversity and Protected Areas TF (1), and Oil Palm TF (1).

Resolution 085 – “Connecting people with nature globally” was linked to the highest number of activities reported (17), followed by Resolution 068 – “Prevention, management and resolution of social conflict as a key requirement for conservation and management of ecosystems” (13), Resolution 099 – “Promotion of Anguillid eels as flagship species for aquatic conservation” (13), Resolution 016 – “The IUCN Red List Index for monitoring extinction risk” (12), Resolution 041 – “Identifying Key Biodiversity Areas for safeguarding biodiversity” (9), and Resolution 015 – “Greater protection needed for all pangolin species” (6). The rest of the resolutions were linked to less than 5 activities.

Core support and partnership needs of SSC groups

From the 148 SSC groups that completed their SSC DATA for 2020, 32 (22%) did not provide any information related to their core partnership needs, and 8 (5.4%) noted that they do not have any core partnership needs for the performance of their operations.

Regarding the types of support and/or needs reported by the SSC groups (Fig. 14), 65 groups expressed that they need partnership or funding support, followed by 46 groups that pointed out their interest in increasing group’s core capacities, 39 groups expressed their needs of workshops and training courses, and 17 groups indicated that require technical expertise.

In relation to partnership and funding, the most frequent activities that require this type of support included: red listing assessments and reassessments (28.9%), host organization(s) for core support (11.8%), meetings (10.5%), conservation actions (10.5%), core operations (9.2%), conservation planning (6.6%) and hiring or funding of staff (6.6%). Within this category, 12 groups (15.8%) did not specify the activity that they plan to cover.
Regarding the interest for increasing groups’ core capacities, some groups require administrative support, expressed mainly in the need of program officers (40.4%), others want to enhance their website and social media platforms (21.2%), as well as to improve or develop their communications strategies (21.2%), while other groups expressed their interest in improving their capacities in group management (13.5%) and in increasing membership (3.8%).

In the category of workshops and training needs, there is a special interest in our groups for being trained in fundraising (38.5%), red listing (34.6%), and conservation planning (25.0%) as the main training requests within the network.

Finally, in relation to technical expertise, the main interests pointed out by SSC groups are in conservation strategy planning (52.6%), red listing (15.8%), policy (15.8%) and fundraising (10.5%).

It is important to highlight that the results obtained are used as a guideline for the SSC Partnership Team to outline the SSC partnership strategy, as well as to analyse and make decisions to better allocate resources and match needs with different SSC partners.

**Concluding remarks**

Overall, report submission for 2020 included almost 91% of all SSC groups, which represents a record level of participation during the 2017-2020 quadrennium. We very much value the commitment of the great majority of groups to inform the progress of their targets and their contribution to species conservation. With our new information system totally operative, we have high confidence in the massive involvement of the entire network in the annual reporting process during the next quadrennium. As we always say, our team at the SSC Chair’s Office will be ready to provide all the needed support to use the SSC DATA system and take advantage of all the benefits that this tool offers to the SSC community.

Thanks to the reports received during 2020, we were able to launch the new rounds of SSC Internal Grants and SSC EDGE Internal Grants, specifically aimed at supporting the SSC groups with some of their needs. The grants were assigned based on the group’s proposed targets, their declared needs, and their demonstrated progress pursuing each target. For the coming quadrennium, the possibilities of support to the network will grow as a function of the progress demonstrated throughout the years, and for this, contributing to the Annual Species Report is of the essence.

To close our report, all of us with the Chair’s office team reiterate our gratitude for your dedication to species conservation and to SSC. We also hope for the continued reduction of the worse stages of the COVID-19 pandemic and our progressive return to normality. Thank you all!
Species are critical for the survival of the planet but face threats to their own survival: habitat destruction, invasive alien species, overexploitation, illegal wildlife trade, pollution and climate change are some of the most significant. IUCN’s Global Species Programme (GSP) works hand in hand with IUCN’s Species Survival Commission (SSC) at the forefront of the global fight to save species from extinction.

As part of the IUCN Secretariat, the Global Species Programme has distinct roles and responsibilities, and jointly implements the IUCN Species Plan with the IUCN SSC. The IUCN Global Species Programme has staff in IUCN offices in Belgrade, Brussels, Cambridge, Gland Washington D.C., and Yaoundé. The major roles of the IUCN Global Species Programme include ensuring The IUCN Red List of Threatened Species™ is the primary website for global species information in the world, coordinating the input into global policy from across IUCN on species conservation issues and catalysing conservation action through empowering IUCN Members to undertake conservation action.

The IUCN Global Species Programme contributes to Assess, Plan and Act through:

**ASSESS: Knowledge for species conservation** – species conservation is directed to priority taxa, sites and places based on biodiversity knowledge. GSP provides many of the roles and functions that both maintain and promote The IUCN Red List of Threatened Species.

**PLAN: Policy and planning for species conservation** – the status of species is improved through decisions that limit further significant declines in wild species and their habitats, and catalyse population recoveries across all scales. GSP coordinates the knowledge and expertise of IUCN and delivers them to global policy makers through policy processes of multilateral environment agreements.

**ACT: Species conservation action** – improved status of wild species and habitats in key conservation sites through targeted interventions. GSP provides grants to conservation organisations.

**Assessments for Species Conservation**

**The IUCN Red List of Threatened Species™**

The IUCN-Toyota Red List Partnership together with other project donors supported a significant increase in the number of species assessments published on The IUCN Red List in 2020. As part of the plan to try and reach the Barometer of Life target of having 160,000 species published on the IUCN Red List, three updates to the Red List were released in 2020 (March, July and December) and 16,604 new species assessments were processed and published, more than a thousand more species than in 2019. The majority of these new assessments were for plants (11,763 species), invertebrates (1,572 species), marine fishes (1,308 species), freshwater fishes (931 species), reptiles (417 species), and fungi (128 species). At the end of 2020, The IUCN Red List included assessments for 128,917 species, of which 35,765 are threatened with extinction (i.e. they are listed as Vulnerable, Endangered, or Critically Endangered) compared with 112,432 species (30,178...
threatened) in 2019. The IUCN media releases which communicated the updates to
The IUCN Red List received significant global media coverage despite the COVID-19 pandemic and continued to raise the awareness of species conservation and the work of IUCN, the SSC and the Red List Partnership. The March 2020 media release featured a message of cautious optimism for African rhinos. The July 2020 media release focussed more on the deteriorating status of various species highlighting that one third of lemurs, the North Atlantic Right Whale and the European Hamster were now Critically Endangered. The December 2020 release was a mixture of good and bad news featuring the recovery of the European Bison against the extinction of 31 species. The latter media release generated strong coverage with 934 media articles in 60 countries including stories by most of the major news agencies. That release was the top performer of all Red List media releases since 2016.

Many improvements were made to the IUCN Red List website, with new pages, enhancements and functionality added. New features added in 2020 include:

- New advanced search filters enable users to exclude introduced species, or vagrant and uncertain occurrences from their searches, and filter for ‘Possibly Extinct’, ‘Possibly Extinct in the Wild’, or endemic species.
- Red List Index Data is available via the Advanced Search and arranged in different subsets – global, regional and sub-regional, national and thematic.
- Species Richness and Range Rarity maps and GIS layers based on the spatial data for amphibians, birds and mammals are available for download.
- Range maps are available for download as jpeg images for all mapped species.
- The Summary statistics tables for summaries by taxonomic group (Tables 3 and 4) and summaries by country (Tables 5 and 6) are automated and interactive. These tables are available for download as PDF documents and are now also available as CSV files.
- New pages include Frequently Asked Questions (FAQ), based on questions received by the IUCN Red List Unit; Supporting Information provides a comprehensive overview of all the information included in the online Red List assessments; to keep users informed about all the new changes to the website a ‘What’s New’ page has been created; two new pages and a resources page on the Green Status Assessment of species in preparation for this new standard to be implemented under the Red List.
- The Home page and all pages under the ‘About’ section have been translated into Japanese and Spanish (the linked pages are examples); the French translations are underway.
- The system which generates the PDFs and assigns the digital object identifiers was upgraded and the PDFs of new assessments are made available as downloadable PDFs within 2–3 days after a Red List update.

Use of the IUCN Red List website remained high overall (16.5 million page views) but underwent a decline between July to November 2020 because of reduced traffic from schools and universities that were impacted by COVID-19 measures. In 2020, there were 13,206 downloads of tabular search results; an increase on 2019. In
addition, there were 290,459 downloads of the PDF versions of the species assessments (similar to the number in 2019).

Users also downloaded spatial data for individual species and for sets of species based on specified search criteria or through the Spatial Data Download page where spatial data for multiple species are pre-packaged for download (e.g., for all mammals). There were over 9,000 downloads of pre-packaged data in 2020, comprising over 35 million individual species files (this was significantly down from 2019). There were also 50,274 downloads of spatial data generated through search queries; once again a drop on 2019, but still higher than previous years.

**Building Capacity for Red List Assessments**

Key to the growth of the Red List is the provision of Red List training. The COVID-19 pandemic has provided challenges and new opportunities for training. While some training events had to be postponed, new methods of facilitating training sessions virtually are being used. With so many people around the world in various degrees of lockdown, the online Red List Training Course saw a surge of new enrolments with more people enrolling on the course (2,607 people) and taking the exam (597 people) in 2020 than the totals for the whole of 2019 or any of the previous years. Hopefully, the increased interest will translate into an increased number of assessments being completed and submitted.

In 2020, the network of certified Red List Trainers dropped from 81 to 67 as a result of people changing jobs plus some Trainers allowing their certification to lapse. The network of trainers provided Red List training and guidance to global and national Red List assessors through 21 facilitated events involving more than 450 participants. This was fewer workshops than in 2019, however, the pandemic in 2020 and subsequent travel restrictions resulted in many cancelled workshops, and fewer Red List Trainers were available due to being on furlough or having additional responsibilities while working at home. All training materials, including the online courses, are available in English, French and Spanish. In 2020, work to update and modernise the online course was completed and a new lesson on the Mapping Standards was also released.

**Global Red List Assessments**

**Reptiles.** The Global Reptile Assessment (GRA), a collaboration between IUCN, Conservation International and NatureServe, was completed at the end of 2020. All ~10,500 reptile species have now been globally assessed against the IUCN Red List Categories and Criteria (often at regional workshops) and submitted for publication on the IUCN Red List in 2021. Additionally, the joint IUCN Conservation International Biodiversity Assessment Unit worked closely with 50 reptile experts to develop a manuscript describing the findings of the GRA - this will be submitted for publication in a major journal in 2021.

**Freshwater.** In 2020, an additional 3,676 new assessments / re-assessments were published for freshwater fishes, molluscs, decapods, odonates and plants. Assessments of fishes included completion of comprehensive assessments of the Sunda Basin (437 additional spp. assessed), New Guinea (233 spp.) and central Asia
and additional assessments of the Philippines (17 spp., highlighting the 15 species declared Extinct in Lake Lanao), Russia (54 spp.) and Brazilian endemic fishes (155 spp.). An additional 1,266 freshwater fish species have been submitted for publication in 2021. Ongoing assessments include 1,045 freshwater species (fishes, molluscs, plants and decapods) from West Africa, 3,500 South American fish, 1289 dragonflies the Atlantic salmon and the fish of China.

**Marine.** In 2020, 163 species of flatfishes were published on the Red List. Due to COVID-related travel restrictions, in-person assessment workshops we had planned were cancelled. We have been completing the remaining assessments virtually (over Zoom and through email). Despite these challenges, substantial progress has been made and the remaining species are scheduled for submission and publication in 2021.

We continued the initiative to complete assessments for 275 marine ornamental fishes on the Red List, including gobies, cardinalfishes, and damselfishes. Due to COVID-related travel restrictions, all assessments are being completed virtually, rather than at a workshop as originally planned. Assessments for 53 gobies in the marine ornamental fish trade were submitted in 2020 for publication in 2021.

In collaboration with the IUCN SSC Sciaenidae Red List Authority and the IUCN SSC Snapper, Seabream and Grunt Specialist Group (SG) 271 sciaenid species assessments were published on the Red List in 2020. The remaining 14 species are scheduled for publication in 2021. The Sunflower Seastar, *Pycnopodia* assessment was published in 2020 and received media coverage due to the sea star wasting disease.

**Regional and National Red List Assessments**

In 2020, the Brussels-based GSP Team continued to develop the European Red List of Hoverflies (2019-2022), via which approx. 900 European hoverflies are being assessed. Three virtual assessment workshops took place during this timeframe. In September 2020, the final assessment workshop was held jointly with the IUCN SSC Conservation Planning Specialist Group to lay the ground for conservation action for hoverflies in Europe.

The United Arab Emirates national Red List project neared completion. Working with the UAE Ministry of Climate Change and the Environment, this project will result in the production of a series of UAE national Red Lists, policy briefs and an overall synthesis report. However, due to the COVID-19 pandemic, finalisation of the reports was delayed by the UAE Ministry to 2021. In June 2020 the Ministry of Environment of the Republic of Korea signed an IUCN and Republic of Korea Global Red List Partnership through which the Red List Unit will support the production of a National Red List of Endemics for the Republic of Korea (ROK). The initial training sessions for staff at the National Institute of Biodiversity Research, ROK were held virtually, and following that the assessment work was initiated.

**Key Biodiversity Area Assessments**

A total of 413 of the 555 legacy freshwater KBAs were revised during 2020 and proposals for a further 22 were prepared (in Italy, Morocco, Tunisia, Bosnia and Herzegovina, Albania and Greece). Legacy and new KBAs were proposed and
identified in West Africa. KBA Training was delivered to the Nigerian National Coordination Group in November, using the latest KBA Training materials including presentations, exercises and knowledge checks. Some thirty participants attended from the Nigerian Conservation Foundation (BirdLife Nigeria), APLORI, WCS, National Parks Service, Federal Ministry of Environment and several other NGOs and academic institutes. IUCN also delivered KBA training to Lilongwe University of Agriculture and Natural Resources (LUANAR) as part of a project to monitor freshwater KBAs in Malawi. Additional support to the KBA partnership was provided through GSP staff supervising PhD students, fund raising and participating in the governance, scientific, technological working groups.

**Invasive Species Assessments**

In 2020, IUCN Council adopted the Environmental Impact Classification of Alien Taxa (EICAT) as the IUCN standard classification of the impact of invasive alien species to the environment, implementing IUCN Resolution WCC-2016-Res-018-EN. EICAT, officially launched in September 2020, is a simple, objective and transparent assessment process that classifies alien species into one of five categories, according to the magnitude of the detrimental impacts to the environment. The SSC’s Invasive Species Specialist Group (ISSG) has also continued the integration of EICAT into the IUCN Global Invasive Species Database, which will provide the data structure and interface to display EICAT results and data. In addition, alongside the ISSG a virtual EICAT training course was held for the Ministry of Environment of Brazil and its National Strategy for Conservation of Threatened Species (PROSPECIES) project in September 2020. The IUCN Global Species Programme and IUCN ISSG also continued to actively engage in the Post-2020 Global Biodiversity Framework process to further the development of a 2030 Target on invasive alien species.

**Policy and Planning for Species Conservation**

In collaboration with the IUCN SSC, we engage in a number of different policy arenas through our global and regional teams.

Continued collaboration with the IUCN SSC Invasive Species Specialist Group on invasive alien species policy development and implementation in Europe through a series of contracts with the European Commission. One of these contracts provides technical and scientific support in the implementation of the EU invasive alien species Regulation (No. 1143/2014), directly linking IUCN SSC science and expertise to policy implementation. The other project, which began in October 2019, is working with stakeholders to identify and assess measures for the humane management of invasive alien species, by looking at lethal and non-lethal measures that can be used to control the 22 vertebrate species that are included on the list of invasive alien species of Union concern. This project will provide information on the feasibility, effectiveness and humaneness of the different management measures that can be used to contain, control or eradicate these species, in order to strengthen the application of the EU IAS Regulation.

Co-led a consortium of five partners to implement the EU Pollinators Initiative (2019-2020). During 2020, 14 expert guidance documents with recommendations on how
to tackle pollinator decline for invasive alien species managers, cities/local authorities, citizens, farmers and the business sector, including agri-food and beverage, retail, forestry, horticulture, building sector, landscape architecture, tourism, energy, apiculture and extractive industries were published. Other measures to promote pollinator conservation by policy makers included a report on best practices across Europe to protect pollinators implemented by Member States, a workshop to identify the best management measures and approaches being implemented for pollinator conservation across Natura 2000 sites, a conference to promote effective measures for pollinators under the Common Agricultural Policy, and assisted the European Commission to raise awareness of pollinator decline through the development of the EU Pollinators Information Hive.

The Post-2020 Global Biodiversity Framework

GSP continued to engage with the Post-2020 Global Biodiversity Framework development process with other parts of IUCN. GSP led the UCN Delegation at the Second meeting of the Open-ended Working Group on the Post-2020 Global Biodiversity Framework in Rome, Italy to advocate for a species target in the post-2020 global biodiversity framework. This was reflected in the updated zero draft of the post-2020. GSP continued to engage with the post-2020 process throughout the year with a strong focus on advocating for species, contributing to IUCN’s interim position on the updated zero draft of the post-2020 global biodiversity framework - December 2020. COVID-19 delayed most of the post-2020 process meetings scheduled for 2020 into 2021.

The Global Species Action Plan (GSAP)

To implement the Declaration of the SSC Leaders’ Meeting – the Abu Dhabi Call for Global Species Conservation Action, GSP has been working together with SSC Network, IUCN members, partners and biodiversity-related conventions to develop the GSAP to support the implementation of the Abu Dhabi Call aligning with the Post-2020 Global Biodiversity Framework (GBF).
The GSAP will bring together, in one place, all the work that needs to be done, together with all the tools and guidelines available, to support the implementation of the GBF; help countries and other stakeholders achieve the species elements of the GBF. The GSAP will be a unified plan to recognise the irreplaceable and vital role of species and massively scale-up efforts to conserve all species; to ensure that any use of them is legal and sustainable and not a threat to the health of humans or other species, and that their benefits are equitably shared. Ultimately, action ‘on-the-ground’ is the crucial step in alleviating threats, halting declines in threatened species and improving the status of all species.

The GSAP team had many working meetings to develop the GSAP in 2020. GSP introduced the GSAP concept at the CMS COP13 in February 2020 in Gandhinagar, India during side events. The GSAP concept is highly welcomed by heads of MEAs, governments and civil society.

Engagement with the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES)

GSP has continued to work closely with the IUCN SSC Specialist Groups, harnessing the expertise of the SSC experts to deliver a coordinated global response to issues regarding the sustainable use of species and the illegal wildlife trade. This has become a more relevant issue in the public eye with the COVID-19 pandemic and its ties to the international wildlife trade. GSP and the extensive SSC network carry on supporting global environmental agreements such as CITES, from their legal and policy mechanisms to their implementation. In 2021, the anticipated meetings of the Standing, Animals and Plants Committees, which had been postponed from 2020 due to COVID-19, are in the midst of taking place. GSP and SSC experts have attended the virtual 73rd meeting of the Standing Committee in May, which allowed a higher number of participants engaged in the policy process. The 31st meeting of the Animals Committee, and the 25th meeting of the Plants Committee are due to be held online in June, and will be attended by GSP and SSC network leaders. Since the beginning of this year, GSP has continued implementing CITES decisions taken at the last Conference of the Parties, primarily funded by the CITES Secretariat. Work has focussed on marine ornamental fishes, pangolins, African rhinos, tigers, and livelihoods tied to the international wildlife trade. SSC experts continue to provide advice on recommended actions to ensure effective implementation for these groups of species and thematic areas with work becoming more virtual, GSP and its collaborative partners have adapted to the changing landscape; workshops initially set to be held in West...
Africa to provide capacity building on captive breeding was moved online, with an app developed to reach wider audiences, to a more efficient outcome. GSP is continuing to be active in its collaborative work with UNEP-WCMC, and is currently supporting work on a rapid assessment for CMS Appendix I species following the outcome of last year’s rapid assessment for CITES Appendix I species.

In support of these efforts, IUCN is supporting and reviewing its partnership agreement with TRAFFIC and WWF, to carry on the essential collaborations which support the conservation and sustainable use of species.

The anticipated meetings of the CITES Animals, Plants and Standing Committees in 2020 were postponed to 2021. IUCN continues to collaborate with the CITES Secretariat to implement decisions taken at the last CITES Co. Since the last SSC Steering Committee, this collaboration is funded in most cases by the CITES Secretariat and is focussed on amphibians, marine ornamental fish, pangolins, capacity building in West Africa and African Elephants, working closely with the relevant part of the SSC. IUCN also teamed up with UNEP-WCMC for a rapid study on the conservation status of Appendix I species. Significant support for the implementation of CITES is also being provided directly by some specialist groups (e.g., Seahorse, Pipefish and Seadragon Specialist Group). In support of these efforts IUCN is renewing its MOU with CITES.

**Engagement with the Convention on the Conservation of Migratory Species of Wild Animal (CMS)**

GSP coordinated the engagement with CMS policy processes in the lead to and at the Thirteenth Session of the Conference of the Parties to CMS (COP13), in close connection with the SSC Network, and the IUCN WCPA Connectivity Conservation Specialist Group and Beyond Aichi Target Task Force. The IUCN SSC Network, IUCN WCPA’s Connectivity Conservation Specialist Group and Beyond Aichi Target Task Force and the IUCN Secretariat engaged and provided inputs into many CMS migratory listing proposals, concerted action plans, specifics regarding ecological connectivity, and input to the post-2020 global biodiversity framework in the lead-up to CMS COP13.

GSP led the IUCN Delegation at the CMS COP13. Overall, IUCN’s presence was highly visible during CMS COP13. IUCN’s knowledge products and expertise were important to CMS’s decision making and implementation. There are more opportunities for IUCN to increase collaboration with CMS to better promote species conservation action within and beyond the Convention. IUCN led and supported over 13 side events at CMS COP13, including Global Swimways - a global map of the most important freshwater fish migration routes based on a set of test criteria.

GSP together with the IUCN SSC Network and WCPA have been in dialogues with the CMS Secretariat to influence the post-2020 global biodiversity framework as well as seek collaboration on conservation efforts towards CMS listed species and conservation initiatives such as the Central Asian Mammal Initiative and the joint CITES-CMS African Carnivore Initiative.
IUCN Save Our Species have been engaging with CMS on the Central Asian Mammals Initiative (CAMI), which is the framework within which IUCN Save Our Species aims to further develop its ongoing Central Asia Initiative. In addition, discussions have been held with the CMS and CITES Secretariats on the joint CMS-CITES African Carnivores Initiative (ACI) and on how the IUCN Save Our Species African Wildlife Initiative (AWI) can support the implementation of the ACI as the four priority species of the ACI overlaps with IUCN SOS AWI’s targeted species. Both the CITES and the CMS Secretariats are interested in further exploring the use of IUCN Save Our Species as a funding delivery mechanism.

**Species Conservation Action**

The IUCN Global Species Programme works to improve the long-term survival prospects of threatened species in line with IUCN’s mission of a just world that values and conserves nature. Key to this is the process of translating species knowledge, policy and planning into results-oriented conservation action. To facilitate this, IUCN has developed competency in coordinated grant making and grant management through its funding mechanisms, IUCN Save Our Species and the Integrated Tiger Habitat Conservation Programme.

Together, these programmes support both landscape scale and site-based conservation projects that benefit species, habitats and communities; as well as their respective interactions. To date these programmes have invested in more than 260 projects across the world, including the 67 projects launched in 2020 by IUCN Save Our Species and the Integrated Tiger Habitat Conservation Programme.

Another IUCN Save Our Species project, co-funded by the European Union, is transforming wire snares into sculptures. This project in Uganda works with youth and converted poachers who transform the wire from the wire snares into pieces of art. The initiative currently has 324 artisans creating more than 1000 sculptures per month, with markets as far as the United States.

Photo: Snares to Wares

**IUCN Save Our Species**

The IUCN Save Our Species portfolio grew to include initiatives to conserve the Addax, Mountain Chicken, African Manatee, Goitered Gazelle and Mountain Gorillas, in addition to the existing wide range of carnivores and various species of Lemurs and Gibbons already in our portfolio.

SOS African Wildlife, co-funded by the European Union launched two Calls for Proposals for Rapid Action Grants. This emergency funding was designed to enable immediate responses to threats linked to the COVID-19 pandemic. 23 projects were selected, and more than EUR 2 million were invested over the course of several
months across Sub-Saharan Africa, South Africa and Madagascar. Combined with our ongoing projects, these various conservation initiatives have had a positive impact on wildlife. Across a sample of 11 different SOS African Wildlife projects, our grantees have been able to remove 1'928 snares, arrest 256 poachers and rescue 20 animals.

SOS Lemurs also expanded in 2020. Sixteen projects began during the course of the year, and they have already yielded strong results. 581,505 native trees have been planted within 17 different dry and humid forests across the country. A total of 227,085 additional young seedlings are currently being prepared and will be planted over five different forests in 2021 to restore habitats and reconnect protected areas within the wider landscape.

Elsewhere, IUCN Save Our Species’ partnership with Lacoste entered its third year. As part of this collaboration, a project to conserve the Critically Endangered Mountain Chicken was funded after an open Call for Proposals in 2019. The species was featured as one of the ten threatened species in the 2019 campaign, and fewer than 50 individuals are estimated to remain in the wild.

**Integrated Tiger Habitat Conservation**

In 2014, IUCN launched the Integrated Tiger Habitat Conservation Programme (ITHCP) to contribute to the Global Tiger Recovery Programme (GTRP) – the landmark global agreement that aims to double wild tiger populations by 2022. Funded by the German Cooperation (BMZ), through the German Development Bank (KfW), the Tiger Programme aims to foster a collaborative approach between stakeholders from local communities, grassroots organisations, NGOs and governmental organisations. It is now one of the largest funds for tiger conservation globally and one of the major contributors to the GTRP.

The second phase of the Tiger Programme started in December 2018 thanks to a contribution of EUR 7.5 million by BMZ via KfW. Furthermore, in December 2020, thanks to an additional EUR 5 million contribution, the third phase of the Tiger Programme officially began development, which will allow funding another three to four large-scale projects in key Tiger Conservation Landscapes. With this, tiger conservation efforts will be pursued by IUCN and our grantees until at least the end of 2024, making ITHCP a ten-year programme. The first phase of the Tiger Programme, which was initiated in 2014 and consisted of 12 landscape projects, the largest of which is EUR 2.6 million, will end in December 2021. Projects of the second phase of the tiger programme are about to start in India, Bangladesh, Nepal and Myanmar after an initial design and preparation phase.

**Communications**

**Species in the news**

In 2020, the IUCN Red List was the singular most popular product that IUCN received media queries about, reflecting the significant media demand for the kind of data and news the Red List provides. SSC and GSP expertise and collaboration proved invaluable to answer queries, contributing to IUCN’s media presence.
A global media release accompanied each of the three IUCN Red List updates in 2020. All of these were among the five highest performing media releases across IUCN in 2020, measured by the overall number of online articles and the number of target media outlets that covered the news. The updates received coverage around the world, by news agencies such as the Associated Press, Reuters, Agence France-Presse, dpa (the German Press Agency) and the African News Agency, and outlets including The New York Times, The Nikkei, ABC News and the BBC. Working closely with experts to hone key messages, collaboration across the Union to promote news in relevant regions, and coordination with Red List Partners to highlight their contributions were key to the success of these media releases.

Other outreach focused on particular species and species groups resulted in especially relevant media coverage. For example, Mongabay published an IUCN commentary on the Chinese paddlefish ahead of the Convention on the Conservation of Migratory Species of Wild Animals meeting in Gandhinagar in February 2020. GSP, SSC and the IUCN Mexico, Central America and the Caribbean Regional Office combined efforts to issue a regional release for the publication of The Status and Distribution of Freshwater Fishes in Mexico.

**Reaching the public through social media**

The IUCN Red List following on Twitter and Facebook grew in 2020, with Red List updates attracting substantial interest. The July Red List update reached the most people and attracted the greatest engagement on the IUCN Red List Facebook of any update since records began in 2018. All three Red List updates generated strong engagement on the IUCN Red List Twitter, with the July and December updates achieving the highest engagement rates on record of any Red List update.

Collaboration between GSP, SSC and other IUCN social media channels proved effective. For example, the IUCN Red List Facebook post featuring a video provided through IUCN Save Our Species for World Snow Leopard Day reached over 900,000 people within the first week of being published.

**IUCN websites: a source of species expertise**

In 2020, the Species section of the IUCN website linked with the new SSC part of the website, strengthening its role as a central source of information on IUCN’s species work. The Species website introduced IUCN’s work in influencing international, regional and national conservation policy, the IUCN Red List and species conservation action on the ground, and thematic areas such as freshwater biodiversity and invasive alien species. In addition to sharing announcements such as the launch of the Environmental Impact Classification for Alien Taxa, a new IUCN Standard, the news section highlighted work with partners and the role of IUCN expertise in recently published reports.

The Amazing Species series published on IUCN Red List website restarted with the support of the IUCN-Toyota Red List Partnership. These illustrated features highlight the variety of assessed animals, fungi and plants, raising public awareness of the IUCN Red List as an essential information source on species’ global extinction risk and highlighting conservation needs.
Updating the IUCN species network
The Species E-bulletin continued to share announcements relevant to species conservation from SSC Specialist Groups, GSP and across the Union. Its audience rose to over 13,000 recipients by the end of 2020.

Acknowledgements
We would like to thank our many generous partners and donors, including Toyota Motor Corporation, the European Commission, The German Cooperation via KfW Development Bank, Environment Agency Abu Dhabi, Global Wildlife Conservation, National Geographic Society, Lacoste, Coq en Pâte, the JRS Biodiversity Foundation, Synchronicity Earth, CEPF, Cambridge Conservation Initiative, private foundations and other companies who continue to fund our species conservation work.
Reports of IUCN SSC Groups

This section contains the individual reports of all SSC Groups that submitted their information through SSC DATA. The reports have been ordered by major SSC Groups, each marked with a specific coloured band: Animalia (dark blue), Fungi (brown), Plantae (green), Disciplinary (grey), Action Partnership (purple), Working Group (light blue), Stand-alone Red List Authority (red), and Committee (yellow). Within Animalia, the reports have been ordered alphabetically by major zoological groups and within them, also alphabetically, by zoological groups.

Following, is a succinct explanation of the structure of the individual reports and what information is found in each part of it.

Title of the SSC Group

Photograph(s) of the Chair / Co-Chairs

Group information
Includes names of Chair / Co-Chairs, Vice-Chairs, Deputy Chairs and Red List Authority Coordinator(s), their institutional affiliations, number of members and social networks (currently active).

Logo of the SSC Group

Mission statement

Projected impact for the 2017-2020 quadrennium
This narration indicates how the planned activities, as a whole, will impact on the conservation status of species during the 2017-2020 quadrennium.

Targets for the 2017-2020 quadrennium
Targets planned by the SSC Group for the 2017-2020 quadrennium, first ordered alphabetically by component of the Species Conservation Cycle, and second by Activity Category. For each Activity Category listed, all the planned targets are indicated.

Activities and results 2020
Activities conducted during the 2020 period, ordered alphabetically first by component of the Species Conservation Cycle (see page 38 for description of each component), and second by Activity Category. Under each Activity Category, succinct descriptions of each activity and result achieved are listed. Each activity and result described, if applicable, includes the Key Species Result to which it is mainly associated to (see page 39 for complete description of KSRs).

Acknowledgements

Summary of activities 2020
Numerical summary of the achievements of the SSC Group in terms of components of the Species Conservation Cycle addressed (Species Conservation Cycle ratio: # components addressed/total # of components), activities conducted per Activity Category, main KSRs addressed and 2016 WCC Resolutions linked to the activities.
Mission statement

The Amphibian Specialist Group (ASG) provides the scientific foundation to inform effective amphibian conservation action around the world. More specifically, the ASG stimulates, develops and conducts scientific research to inform the conservation of amphibians and their habitats around the world, supports the assessment of the conservation status of amphibian biodiversity and informs the general public of amphibian conservation-related issues and priorities. This is attained by supporting and mobilising a global network of members to develop capacity, improve coordination and integration so as to achieve shared, strategic amphibian conservation goals.

Projected impact for the 2017-2020 quadrennium

At the ASG membership level, we envision a more proactive and engaged specialist group, with greater participation and more cross-pollination within and between regions and thematic groups. We expected to conclude the update of global amphibian assessments on The IUCN Red List (GAA2) and the update of the Amphibian Conservation Action Plan in 2020, but both of these deliverables were impacted by the pandemic.

Targets for the 2017-2020 quadrennium

Assess

Green Status: the ASG Red List Authority (RLA) provides technical feedback and expertise to the Red List Committee and Red List Technical Working Group, as necessary.

Proposal development and funding: ASG has a fully funded Global Amphibian Assessment (GAA2) update project.

Red List: (1) completion of the Global Amphibian Assessment update (GAA2); (2) the ASG Red List Authority (RLA) provides advice and expertise for national Red List processes.

Research activities: (1) ASG supports the update of Alliance for Zero Extinction (AZE) sites; (2) ASG actively contributes to the production of scientific publications related to amphibian research and conservation.

Plan

Planning: (1) ASG Secretariat, Regional Chairs and members contribute towards single- or multi-species conservation action plans at the international or national levels; (2) update of the Amphibian Conservation Action Plan (ACAP); (3) completion of Amphibian Reintroduction Guidelines; (4) a framework for single- and multi-species amphibian action planning is created through collaboration with the Conservation Planning Specialist Group’s efforts to develop multi-species planning guidance.

Policy: ASG provides scientific advice and information for the identification and conservation of species of concern in national and international contexts.
Act
Proposal development and funding: increasing uptake of the ACAP among donors.

Technical advice: ASG provides technical advice to organisations and institutions globally.

Network
Agreements: ASG has donors that provide financial and institutional support to ASG RLA staff time.

Capacity building: (1) development of the Grant Writing Mentorship Program; (2) ASG RLA will provide Red List training through its Red List workshops and other venues when the opportunity arises; training day(s) may be open to the public or an audience wider than amphibian experts.

Membership: (1) ASG membership and regional and thematic leadership are renewed, new members are brought on board and regional representation is improved; (2) ASG proactively recruits new members, focusing on regions with little or no representation at the start of the quadrennium.

Proposal development and funding: ASG has donors that provide financial and institutional support to ASG staff time.

Synergy: (1) ASG is a key ally of Amphibian Ark and the Amphibian Survival Alliance with the shared vision of “Amphibians thriving in nature”; (2) ASG has a Strategic Plan for the remainder of the 2017–2020 quadrennium.

Communicate
Communication: (1) ASG reports its activities to SSC DATA; (2) ASG will participate in, and in some cases organise, public presentations to communicate the work of IUCN, SSC, ASG, and the Red List; (3) ASG will develop and launch its own website (we have shared our site with the Amphibian Survival Alliance (ASA) since 2013) to continue providing information about our work and amphibian conservation globally; (4) the IUCN Red List is used to inform the project and funding priorities of NGOs and funding mechanisms with the aim of ensuring that effective amphibian conservation is taking place globally; (5) ASG develops a communications plan that will lay out the intended use of each of its communications tools (email, FrogLog, website, social media [Facebook, Twitter]); (6) together with ASA, ASG continues to produce FrogLog.

Research activities: maintain the Halliday-Bishop Conservation Library, a regularly updated reference list of amphibian conservation literature.

Scientific meetings: (1) ASG actively participates in scientific meetings; (2) ASG actively contributes to the organisation of scientific meetings; (3) ASG will participate in, and in some cases organise, symposia to communicate the work of IUCN, SSC, ASG, and the Red List.
Least Concern Black-spotted Rock Frog, *Staurois guttatus*
Photo: Debbie Bishop
Activities and results 2020

Assess

Green Status

i. ASG members provided preliminary Green Status assessments for four highly threatened priority species. (KSR #11)

Red List

i. The Amphibian RLA increased the number of up-to-date assessments by 1,621. As of 31 December 2020, there are now 5,295 amphibian species with recent assessments on the Red List. (KSR #2)

ii. We supported national Red List processes in Mozambique, Kenya and Australia in 2020. (KSR #2)

iii. The Amphibian RLA worked with Resit Ackakaya of the Red List Technical Working Group to devise the appropriate application of the Red List Categories and Criteria for (1) South American tepui-dwelling amphibians for which studies have estimated future rates of habitat loss based on climate modelling; (2) the extinction risk of European salamanders in light of the spread of the non-native invasive fungal pathogen Batrachochytrium salamandrivorans. (KSR #6)

Research activities

i. The Amphibian RLA continues to work with Global Wildlife Conservation and the Amphibian Survival Alliance to provide expert input, propose new sites, and propose revisions to existing sites to the AZE database. (KSR #22, 31)


Plan

Planning

i. We provided input into two species action plans (Heleophryne rosei and Mantella cowanii). (KSR #15, 17)

ii. Given the kind and generous support provided by Detroit Zoological Society (DZS) and ASA, we have been able to proceed with the ACAP update and are now in mid to advanced stages in most chapters. However, the pandemic has impacted our timelines, and we foresee ACAP being published in mid to late 2021. (KSR #15, 17)

iii. There were some personnel/logistic difficulties encountered by the Conservation Translocation Specialist Group (CTSG; formerly Reintroduction Specialist Group, who are leading on this target) over the last year. However, the guidelines are now finalised (currently pending an updated logo for CTSG and final instructions from IUCN) and are expected to be produced in 2021. (KSR #18)

Policy

i. We provided input into CITES Decisions 18.281 to 18.285 regarding the Titicaca Water Frog (Telmatobius culeus). (KSR #26)

ii. We coordinated communications around the Titicaca Water Frog reassessment and review of the press release. (KSR #26)

iii. We coordinated the creation of the ASG Atelopus Task Force with Atelopus Survival Initiative. (KSR #26)

iv. We coordinated input into the SSC Chair’s request for selection of Critically Endangered species. (KSR #26)

v. We provided 13 letters of support for threatened amphibians and inform multi-species conservation planning for these species. This would be done through participating in a Red Listing workshop to trial the CPSG A2P framework for multi-species amphibian action plans. Unfortunately, because of the pandemic, the workshop which was going to act as a basis for this project had to be migrated to an online format, making it difficult to implement this particular project in that new framework. We are planning to request a change of focus, so that the grant can go to support the ACAP update instead. (KSR #15, 17, 18, 20)

vi. Together with Amphibian Ark, we supported the Amphibian Survival Alliance (ASA) on various matters associated with the development of the ASA’s new Strategic Plan and partnership assessment. (KSR #15, 29)

vii. We reviewed the draft Action Plan for the Table Mountain Ghost Frog (Heleophryne rosei). (KSR #15, 29)

viii. We reviewed the draft Cowan’s Mantella (Mantella cowanii) Action Plan. (KSR #15, 29)

ix. We provided input into the IUCN Species Annual Report 2020.
Act
Proposal development and funding
i. By 2020, we had two major granting agencies accepting ACAP as a priority framework. It is generally difficult to track the number of externally funded projects that are supported by funding entities, but we know that there are ten currently active amphibian projects supported by one of these agencies. Please note, however, that these projects were approved in previous years. Given the pandemic, granting agencies also had to adjust to restrictions. (KSR #19, 30)

Technical advice
i. We provided input into IUCN World Conservation Congress motion 86 – Wildlife-friendly linear infrastructure, on behalf of the Species Survival Commission. (KSR #29)

ii. We reviewed various drafts of the agreement between Vesty Pakos Zoo, Bolivian Amphibian Initiative and ASG Bolivia. (KSR #29)

iii. We reviewed a proposal for the Save Our Species Threatened Species Grant. (KSR #29)

iv. We collated ASG input into CITES Decisions 18.281 to 18.285 regarding the Titicaca Water Frog and submitted the resulting ASG document to the CITES Secretariat. (KSR #29)

v. We provided input into a Scientific Authority – Slovakia enquiry. (KSR #29)

Network
Agreements
i. Operations in 2020 were conducted from 2-year grants obtained in 2019 and ongoing staff contracts from the Amphibian RLA host organisation, Global Wildlife Conservation. (KSR #27)

Capacity building
Proposal development and funding
i. Thanks to a generous financial donation and in-kind support from Detroit Zoological Society (DZS), as well as the Amphibian Survival Alliance (ASA), it has been possible to support two part-time positions (ASG Programme Officers) for the update of the Amphibian Conservation Action Plan. Thanks to the generous support of the ASA, it was possible to secure a part-time ASG Co-Chair (Ariadne Angulo) for 2020. University of Otago kindly supported ASG Co-Chair Phil Bishop. (KSR #30)

ii. Given the COVID-19 pandemic, this year it was not possible to participate in public events. We looked at possibly organising webinars, but we do not have the IT capacities and software subscription that would allow us to do this. (KSR #28)

iii. ASG website is being used and maintained. (KSR #28)

iv. We interacted with Wildlife Trust India, Minister of Environment in the Republic of Korea, and Ministry of Land and Environment Planning in Democratic People’s Republic of Korea to promote the use of the IUCN Red List. (KSR #8)

v. An initial communications matrix listing all ASG communication tools was compiled in mid-2019. In consulting with the then Co-Chair of the ASG Communications & Education Working Group, it became clear that we needed to further define our goals and audiences, as it would allow us to distil down the outcomes that we want to see. We were unable to move forward with this priority in 2020 given our lack of in-house communications expertise. In the meantime, we continue to communicate about amphibian conservation through the website and social media (i.e. Twitter, Facebook), inclusive of ACAP-related Facebook groups. (KSR #28)

Research activities
i. Thanks to Phil Bishop’s efforts, it was possible to secure resources to maintain the Tim Halliday Conservation Library for 2020, which has been

i. The Grant Writing Mentorship Program was launched in May 2019 (https://www.iucn-amphibians.org/getinvolved-news-blog-new-asg-grant-writing-mentorship-program/). Since then, we have matched one ASG mentee to an ASG mentor. (KSR #30)

ii. Key staff from Amphibian Ark and ASA are co-chairs of three ACAP thematic working groups and are proactively updating three ACAP chapers. On the other hand, ASG is providing significant support to ASA Strategic Planning and Partnership processes. (KSR #29)

Communications
i. One (1) SSC DATA report was submitted on time. (KSR #28)
publishing updated amphibian conservation literature lists (https://www.iucn-amphibians.org/resources/publications/haliday-conservation-library/). This was a joint project funded by the ASG, the Amphibian Survival Alliance (ASA) and the University of Otago.

Scientific meetings
i. We attended the World Congress of Herpetology (WCH; Dunedin, New Zealand, January 2020 – Phil Bishop, Sally Wren, Amael Borzee and Ruth Marcec-Greaves). (KSR #28)

ii. We held an ASG symposium at WCH (Sally Wren, Ruth Marcec-Greaves and Amael Borzee). With meetings and events being cancelled the world over, this target was significantly impacted by the COVID-19 pandemic. (KSR #28)

iii. We participated in an #AmphibianWeek webinar series through a video presentation for the Bolivian Amphibian Initiative (BAI) and ASA, entitled ‘Conservation in times of a pandemic’ (https://www.facebook.com/watch/live/?v=607324193474855&ref=watch_permalink). (KSR #28)

Acknowledgements

Summary of activities 2020
Species Conservation Cycle ratio: 5/5

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Main KSRs addressed: 2, 5, 8, 11, 15, 17, 18, 19, 20, 22, 26, 27, 28, 29, 30, 31, 32, 43

KSR: Key Species Result
Mission statement

The Boa and Python Specialist Group (BPSG) mission is to provide expert opinion and scientific advice to IUCN and other conservation organisations, government and non-government agencies, applicable to the conservation of boas and pythons and snakes in general.

Projected impact for the 2017-2020 quadrennium

By the end of 2020, we envision: (1) an improved knowledge of the trade of Southeast Asian reptiles; (2) a change in the supply chain of skins from Southeast Asian reptiles due to a better interaction with traders and local governments; (3) a substantial advance in CITES provisions related to snake trade; (4) a better knowledge on the status of several threatened species, but particularly of the Endangered Cropani's Boa (Corallus cropanii); (5) a significant advance in Red List assessments of the species in our remit; and (6) a more integrated and communicated group which will redound to more effective conservation actions worldwide.

Targets for the 2017-2020 quadrennium

Assess

Red List: complete assessment of Boidae and Pythonidae species.
Research activities: (1) develop a standard reference for BPSG species taxonomy; (2) improve knowledge and status of Cropani’s Boa; (3) develop research programmes on priorities established under Southeast Asian Reptile Conservation Alliance (SARCA) cooperation.

Plan

Planning: develop BPSG Strategy Planning.
Proposal development and funding: increase the number of grants delivered.

Network

Capacity building: train two BPSG members in Red List assessments.
Membership: increase BPSG membership in species’ range countries.
Synergy: (1) keep participating in international forums (e.g. CITES); (2) attend Southeast Asian Reptile Conservation Alliance (SARCA) Steering Committee meetings.

Communicate

Communication: (1) increase frequency of Serpens newsletter to twice a year; (2) publish scientific and technical reports.
Membership: improve communication with the membership.
Scientific meetings: organise the first BPSG global members meeting.

Activities and results 2020

Assess

Red List

i. During the year 2020, all the pending species of the group were completed (N=79) in coordination with the Snake and Lizard Red List Authority. The group participated mainly through the review of evaluations carried out in the framework of the Global Reptile Assessment as well as in the evaluation of some species in particular. (KSR #1)

Research activities

i. During 2020, the Cropani’s Boa Project was able to register two new specimens of the species, totalling nine individuals known to science. The support of the community in the detection of all recent findings shows the success of the project in awakening the interest of the community for its conservation. No additional funding was provided to this project in 2020. (KSR #12)
ii. Seven publications were produced by BPSG members as part of SARCA, specifically on python biology, ecology, management and trade. (KSR #32)

Network
Membership
i. The year 2020 has been a unique and transitional year, where a new BPSG Chair was elected and there was greater interaction between the BPSG members.

Synergy
i. The BPSG Chair remains on the SARCA Steering Committee and provides input into the successful delivery of several research and conservation management projects involving pythons in Southeast Asia. Several SARCA projects were directly tendered to the BPSG, and a number of members were authors on publications and reports. (KSR #29)

Communicate
Communication
i. A new issue of the newsletter Serpens was issued in 2020. (KSR #28)
ii. In 2020, no report was published on behalf of the BPSG. Several members published scientific papers independently and with their academic affiliations. (KSR #43)

Scientific meetings
i. The organisation of a first global membership meeting is pending. The emerging situation due to COVID-19, added to the restructuring of the group as a result of the transition to a new quadrennium, has not allowed us to advance in the organisation of the first BPSG global members’ meeting during 2020. (KSR #28)

Acknowledgements
We thank the following entities for supporting the work of the BPSG in 2020: IUCN Species Survival Commission, Fundación Biodiversidad, CITES Secretariat and the Southeast Asian Reptile Conservation Alliance (SARCA). Thanks to Phil Bowles and Mark Auliya for contributing to the completion of Red List assessments. Thanks to Victoria Lichtschein, Daniel Natusch, Jess Lyons and Patrick Aust for their dedicated service to the progress of the Group during 2020.

Summary of activities 2020

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Least Concern Green Tree Python, Morelia viridis, found in the tropical forests of Yapen, Papua, Indonesia
Photo: Daniel Natusch

Christine Strussmann (left), Tomás Waller (middle) and Everton Miranda (right) with Argentine boa
Photo: Mariano Barros
Mission statement
The mission of the Chameleon Specialist Group is to improve the conservation status and sustainable use of wild chameleons.

Projected impact for the 2017-2020 quadrennium
By the end of 2020, we envision having developed a comprehensive picture of the conservation status of the world’s chameleons, so that conservation efforts can be targeted effectively. Specifically, we have focused on assessing all described chameleon species on the IUCN Red List, most for the first time, and on ensuring that these assessments are current, so that we can identify conservation focal points. Further, by supporting the implementation of CITES and assisting in national management efforts, we aim to improve the conservation status and sustainable use of wild chameleons.

Targets for the 2017-2020 quadrennium
Assess
Red List: (1) ensure all newly described chameleons are assessed on the IUCN Red List; (2) ensure all chameleon assessments are re-assessed before 10 years old.
Research activities: Alliance for Zero Extinction (AZE) sites for chameleons identified and approved.

Plan
Policy: support implementation of CITES.

Network
Membership: expand membership to improve geographic coverage and representation of taxonomic experts.

Communicate
Communication: establish and develop a new website for the group.

Activities and results 2020
Assess
Red List
i. Of the 202 chameleon assessments currently on the IUCN Red List, 193 were completed within the last 10 years. Seventeen chameleon re-assessments were performed in 2020 and are currently in draft. Nine chameleon assessments from 2009 are in the process of being re-assessed. (KSR #1)

Plan
Policy
i. Regular contributions are made to national CITES management authorities on chameleon-related issues in support of the implementation of CITES. (KSR #27)

Network
Membership
i. We added 11 new members from six countries, doubling our membership from 2019 and expanding our geographic coverage and expertise.
Communicate

Communication

1. A domain name for the new website was acquired, a new website design was created, and completion of page content is in progress. (KSR #28)

Acknowledgements

The Chameleon Specialist Group would like to thank Nikki Roach, Orlando Salamanca and Jafet Nassar for administrative assistance.

Summary of activities 2020

Components of Species Conservation Cycle: 4/5

- Assess: 1
- Plan: 1
- Network: 1
- Communicate: 1

Main KSRs addressed: 1, 27, 28

KSR: Key Species Result

Amphibians and Reptiles

Least Concern Namaqua Chameleon, Chamaeleo namaquensis
Photo: Krystal A. Tolley

Critically Endangered Chapman’s Pygmy Chameleon, Rhampholeon chapmanorum
Photo: Krystal A. Tolley

Endangered Pondo Dwarf Chameleon, Bradypodion caffer
Photo: Krystal A. Tolley
Chair
Grahame J.W. Webb (1)

Red List Authority Coordinator
James Perran Ross (2)

Location/Affiliation
(1) Wildlife Management International Pty. Limited, Darwin, Australia
(2) Rocky Point Consulting LLC, Gainesville, Florida, US

Number of members
690

Mission statement
The Mission of the IUCN SSC Crocodile Specialist Group (CSG) is to assist the International Union for Conservation of Nature (IUCN) and the Species Survival Commission (SSC) to meet their missions with regard to the conservation, management and sustainable use of world crocodilians.

Projected impact for the 2017-2020 quadrennium
By the end of 2020, we envisage: (1) increased reintroductions and improved status of wild populations of Critically Endangered (CR) crocodilian species (e.g. *Alligator sinensis* in China, *Crocodylus siamensis* in Cambodia and Thailand, *C. mindorensis* and *C. porosus* in the Philippines, *C. rhombifer* in Cuba and *C. intermedius* in Venezuela and Colombia); (2) improved legal protection status of habitat for *C. siamensis* and *Tomistoma schlegeli* in Mesangat Lake, East Kalimantan, Indonesia; (3) publication of ‘CSG Conservation Priorities for World Crocodilians’ and species action plans.

Targets for the 2017-2020 quadrennium

Assess
Red List: review and progress Red List assessments for crocodilians.

Plan
Planning: (1) update and review Species Action Plans; (2) improve protection status of Lake Mesangat, Kalimantan, Indonesia, for Siamese Crocodile (*Crocodylus siamensis*) and False Gharial (*Tomistoma schlegeli*).

Policy: (1) complete at least two country/species reviews; (2) maintain involvement at international forums (e.g. CITES); (3) develop ‘CSG Conservation Priorities for World Crocodilians’; (4) update the ‘Crocodilian Capacity Building Manual’.


Act
Conservation actions: improve the status of wild Siamese Crocodile (*Crocodylus siamensis*) populations through reintroduction programmes (Cambodia, Viet Nam, and Thailand).

Network
Capacity building: (1) fund up to 20 postgraduate students per annum through the CSG Student Research Assistance Scheme; (2) continue promoting the CSG Future Leaders Program.

Communication: investigate the concept of a ‘Junior CSG’.


Proposal development and funding: establish a fundraising advisory group.

Technical advice: develop an updated standard reference source for crocodilian taxonomy and phylogenetic relationships.

Synergy: improve communication with the membership.
Acknowledgements

CSG wishes to acknowledge its CSG members, who individually and collectively make an enormous contribution to crocodilian conservation, management and sustainable use, in line with the IUCN and SSC mission statements. CSG also wishes to thank the individuals and organisations that donate towards the operations of the CSG through the International Association of Crocodile Specialists Incorporated.

Summary of activities 2020

Components of Species Conservation Cycle: 5/5

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Main KSRs addressed: 5, 15, 17, 24, 25, 26, 27

CSG wishes to acknowledge its CSG members, who individually and collectively make an enormous contribution to crocodilian conservation, management and sustainable use, in line with the IUCN and SSC mission statements. CSG also wishes to thank the individuals and organisations that donate towards the operations of the CSG through the International Association of Crocodile Specialists Incorporated.

Activities and results 2020

Assess

Red List

i. Three assessments for crocodilians drafted, but not yet completed. (KSR #5)

Plan

Planning

i. Draft Action Plans were updated in 2020. (KSR #15)

ii. Travel to Indonesia was restricted by COVID-19; however, identification of a suitable candidate to undertake research to improve protection status of Lake Mesangat, Kalimantan, Indonesia for Siamese Crocodiles and False Gharial remains problematic. (KSR #15)

Policy

i. Updates of 'Crocodilian Capacity Building Manual carried out as required. (KSR #27)

Act

Conservation actions

i. COVID-19 meant plans to release head-started animals in 2020 could not go ahead. At this stage, releases in Cambodia have been postponed to 2021. (KSR #24)

Network

Capacity building

i. Twenty-three postgraduate students were funded in 2020 through the CSG Student Research Assistance Scheme. (KSR #17)

Communication

i. An initial Junior CSG programme was established in the US but was not considered broad enough for a global education programme for young people. How a future Junior CSG programme would address education will be addressed within the scope of a Communications Strategy now being developed.

Documents review

i. Update of Best Management Practices for Crocodilian Farming carried out as required. (KSR #25)

Technical advice

i. Assessment of Mecistops (2), Osteolaemus (3) and C. halli/C. novaeguineae carried out by the CSG Taxonomy Group. (KSR #26)

Communicate

Synergy

i. Drafting of a Communications Strategy was initiated.

**Amphibians and Reptiles**

Training an adult male Mugger, Crocodylus palustris, at Madras Crocodile Bank Trust

Photo: Akanksha Mukherjee

Twenty captive-bred adult Chinese Alligators, Alligator sinensis, were released in the newly constructed wetlands at Gaojingmiao Forest Reserve, Anhui Province, China, on 3 June 2020. This was followed by a second release of 100 captive-bred alligators later that month

Photo: Lu Shunging
Mission statement

The mission of the IUCN SSC Iguana Specialist Group (ISG) is to prioritise and facilitate conservation, science, and awareness programmes that help ensure the survival of wild iguanas and their habitats. To achieve this, we implement, advise and fundraise for programmes that include population surveys, protected areas management, invasive species control, field research, genetic studies, education and captive breeding/headstarting initiatives. Headstarting, in which hatchling iguanas are raised in a safe, captive environment until they reach a larger, less vulnerable size, is proving invaluable in rescuing several Critically Endangered iguanid taxa from the brink of extinction.

Projected impact for the 2017-2020 quadrennium

By the end of 2020, we envision improved status for many of our threatened species in Central America, the Caribbean, Fiji, and the Galapagos. Most of our programmes focus on species that are Critically Endangered or Endangered, due to habitat alteration and invasive alien species (IAS). The Jamaican Rock Iguana (Cyclura collei) is a flagship species for our group and one of the most threatened species of iguana in the world. Efforts are underway to expand its area of occupancy through intensive IAS control efforts. Due to recent devastating events, intensive efforts are underway to prevent the extinction of Lesser Antillean Iguana (Iguana delicatissima) by hybridisation with Common Green Iguana (Iguana iguana). Capacity building is ongoing for several species in Honduras, listed in a threatened category. Taxonomic work is underway to better understand the diversity within Iguaninae and thus guide our management and conservation actions. COVID-19 has increased the threats to some iguana species, because of increased economic hardship resulting in increased iguana harvesting. Other populations have suffered from reduced research and outreach activities. We hope to be able to combat these threats and improve conditions during the next quadrennium.

Targets for the 2017-2020 quadrennium

Assess
Red List: complete Red List assessments for 40 species of iguanas.

Plan
Planning: (1) complete action plans for 22 species of iguana; (2) compile and curate public outreach assets that can be modified and used by group members; (3) develop a rapid response protocol for assisting partners impacted by hurricanes.

Act
Conservation actions: advance the conservation and management of at least 50% of threatened iguana taxa.

Network
Membership: maintain and increase the use of the membership listserv by 50%.

Communicate
Communication: (1) publish four annual issues of Iguana Specialist Group Newsletter; (2) increase publications in the virtual library by 50 articles; (3) update the Invasive Iguana Position Statement.

Scientific meetings: convene four annual meetings.
Activities and results 2020

Assess
Red List
i. We completed 40 Red List assessments (2018–2020). (KSR #1)

Plan
Planning
i. Priorities shifted to focus on individual plans instead of a genus-wide plan, which slows the process but increases likelihood of completion. (KSR #15)

ii. Resources were gathered to compile and curate public outreach assets, but we are behind schedule on database construction. (KSR #18)

Act
Conservation actions
i. We have advanced the conservation of 50% of threatened iguana taxa. (KSR #12, 13, 24, 30, 31, 32, 34, 37)

Network
Membership
i. We maintained and have increased the use of our listserv by 50%.

Communicate
Communication
i. We completed the 2017 and 2018 newsletters and are currently working on the 2019 newsletter. (KSR #28)

ii. We have uploaded an additional 766 publications to our online library. (KSR #28)

iii. We updated our Invasive Iguana Position Statement. (KSR #28)

Scientific meetings
i. We have held an annual meeting each year, with our 2020 meeting being a virtual zoom event. (KSR #28)

Acknowledgements

We thank the International Iguana Foundation (IIF) and their donors for the financial support of seven projects awarded in 2019, totalling US$ 60,623, focused on iguana conservation in Central America, the Caribbean, Fiji, and the Galápagos. Due to COVID-19 restrictions, all these projects are ongoing into 2021. In addition, the IIF held an emergency funding cycle in 2020 supporting four projects in Central America and Fiji, totalling US$ 19,881, to combat COVID-19 related impacts on iguanas. Further, we are grateful to the IIF for the End of Year campaign focusing on protecting the last stronghold for Iguana delicatissima on Dominica, which raised over US$ 40,000 for these efforts. We also thank those members who made donations in 2020 to our ISG fund for future meetings, contributed to Red List assessments and action plans, and participated in other ISG activities. Lastly, we thank all those who attended our annual meeting virtually for presenting project updates, taking part in lively discussions, and contributing to the preliminary discussions concerning a regional Conservation Action Plan for Iguana delicatissima.

Summary of activities 2020

Components of Species Conservation Cycle: 5/5

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Main KSRs addressed: 1, 12, 13, 15, 18, 24, 28, 30, 31, 32, 34, 37

KSR: Key Species Result
Mission statement
The mission of the IUCN SSC Marine Turtle Specialist Group (MTSG) is to develop and support strategies, set priorities, and provide tools that promote and guide the conservation of marine turtles, and their ecological roles and habitats.

Projected impact for the 2017-2020 quadrennium
By 2020, we envision vastly improved global and first-ever subpopulation Red List assessments being completed for six of the seven sea turtle species, providing greater focus and clarity to conservation planning for marine turtles.

Targets for the 2017-2020 quadrennium

Assess
Red List: (1) complete global Red List assessments of the Kemp’s Ridley (Lepidochelys kempi), Olive Ridley (Lepidochelys olivacea), and Hawksbill (Eretmochelys imbricata) turtles; (2) complete 11 subpopulation assessments of the Green Turtle (Chelonia mydas).

Research activities: (1) ten Regional Reports (at least partially completed) covering >50% of countries where sea turtles occur; (2) plan, fundraise, conduct pre-workshop analyses, and implement the seventh MTSG ‘Burning Issues’ Workshop (BI-7) focused on validating regional management units (RMUs), re-assessing vulnerability of all taxa, and creating a framework for ‘Important Marine Turtle Areas’, which will be attended by 30 MTSG experts in Monaco in June 2020.

Activities and results 2020

Assess
Red List
i. Several subpopulation assessments of the Green Turtle are in draft form, to be completed in the next quadrennium. (KSR #1)

Research activities
i. Nine Regional Reports are underway (three complete and six partially complete), covering 51% of the countries where sea turtles occur. Many country chapters were added to the 2019 Regional Reports, and additional editors and authors are being strategically recruited to draft the missing country chapters and Regional Report for 2021. (KSR #1, 2, 4)

ii. Fundraising and initial planning phases of the Seventh MTSG ‘Burning Issues’ Workshop (BI-7) were completed, but the meeting scheduled for 21–25 June 2020 in Monaco was postponed due to COVID-19. We now plan to conduct the workshop online and are in the process of planning this event. (KSR #3, 4)
Acknowledgements
We acknowledge the Oceanic Society.

Summary of activities 2020
Components of Species Conservation Cycle: 1/5
Assess 3
Main KSRs addressed: 1, 2, 3, 4

KSR: Key Species Result

A Leatherback Turtle, Dermochelys coriacea, returns to the ocean after completing her nesting process. Photo: Brian Hutchinson
Co-Chairs
Mark Auliya (1)
André Koch (1)

Red List Authority Coordinator
Daniel Bennett †
Michael Cota (2)

Location/Affiliation
(1) Zoologisches Forschungsmuseum Alexander Koenig, Adenauerallee 160, 53113 Bonn, Germany
(2) Pathum Thani/Natural History Museum, National Science Museum, Thailand

Number of members
50

Mission statement
Knowledge of the conservation status of monitor lizards (Varanus spp.) is essential for the formulation of appropriate conservation measures that would also support the protection of demarcated ecosystems. In gaining this knowledge, it is fundamental to work hand in hand with national authorities and local communities. In addition, it is important to raise awareness among the local people about the ecological function and conservation status of monitor lizards in their distribution ranges, where they are often exploited for various purposes such as traditional medicine, human consumption, and superstitious practices.

Projected impact for the 2017-2020 quadrennium
By the end of 2020, we wish to have greatly improved networking with Monitor Lizard Specialist Group (MLSG) members to reach the following goals, as a baseline for achieving the resulting impacts:

Goal 1: compile a species reference and image database including information on the distribution of natural history traits, population status and threats of single species. Impact 1: development of more efficient and accurate communication and sharing of current data on the species among group members.

Goal 2: nomination of new members to the group, particularly from range states in Africa and Asia. Impact 2: enrichment of knowledge and refinement of, e.g., national assessments.

Goal 3: continuing investigation of the taxonomic status of several species/species groups with unresolved diversity. Impact 3: establishment of regional species management plans, e.g., based on Evolutionary Significant Units (ESUs).

Goal 4: initiation of field studies, particularly on species from insular Southeast Asia and New Guinea, due to uncertainties regarding population densities and conservation status of wild populations, in cooperation with local students and scientists. Impact 4: rising public awareness for the species group, and reduction in current uncertainties to improve assessments of the conservation status of Varanus species.

Goal 5: establishment of collaborations with scientific-management authorities to improve current management schemes to maintain the viability of species/populations. Impact 5: improvement and implementation of conservation measures together with authorities of range states that harbour Varanus species.

Goal 6: based on collaborative projects, the inclusion of non-detriment findings (NDFs) and evaluation of other mechanism tools to assess the threat status of a species, e.g. environmental vulnerability scores (EVS) and refining population viability analyses (PVAs). Impact 6: see impact 4 (reduction of uncertainties).

Targets for the 2017-2020 quadrennium
Assess
Red List: complete all assessments and update earlier assessments (e.g. Varanus komodoensis).

Research activities: (1) support research in monitor lizards, especially early-career researchers from range states; (2) produce scientific publications about biology and taxonomy as well as exploitation and threats of monitor lizards.
Plan

Technical advice: support CITES authorities, customs officers and other organisations entrusted with law enforcement and conservation of monitor lizards worldwide by providing expert knowledge from our Specialist Group.

Network

Membership: grow the Specialist Group by invitation of new members.

Scientific meetings: organise the Second MLSG Meeting.

Communicate

Capacity building: raise awareness among the local population for conservation concerns of monitor lizards in their home range countries.

Communication: (1) produce an identification guide for customs and authorities of all monitor lizard species involved in the pet and leather trade; (2) provide essential information about all monitor lizard species via our newly planned website.

Activities and results 2020

Assess

Red List

i. Twenty-two species were assessed, and Red List assessments are pending for publication. Distribution maps of Philippine Varanus spp. have been created. (KSR #1, 2)

Research activities

Vulnerable Komodo Dragon, Varanus komodoensis, Rinca Island, Indonesia
Photo: Paul Hien

Network

Membership

i. Gerardo Garcia from Chester Zoo was appointed as a member of the MLSG. He is Curator of Lower Vertebrae & Invertebrates and Coordinator of the European Association of Zoos and Aquaria (EAZA) Ex situ programme (EEP) Studbook of the Komodo Dragon.

Communicate

Capacity building

i. For summer 2020, we intended to continue the awareness workshops in various parts of India, together with the Environment, Agriculture and Education Society. The objectives of these workshops, which were initiated in 2019, were to create awareness among the local youth regarding conservation and exploitation of wildlife with a focus on monitor lizards. Although we were able to successfully raise funds from the Zoological Society for Species and Population Protection (ZGAP), activities could not be realised due to the COVID-19 pandemic. The report on the 2019 workshops was featured in the IUCN SSC e-bulletin, January 2020. A Letter of Cooperation from Prof. Parthankar Choudhury, Department of Ecology and Environmental Science, Assam University, Silchar, has been received for future projects in the region. (KSR #28, 37)

Communication

i. The ‘Visual Identification Guide to the Monitor Lizard Species of the World (Genus Varanus) | Guidance for the Identification of Monitor Lizards with current Distribution Data as well as short Explanations on Reproductive Characteristics and Captive Breeding to support CITES Authorities’ was published in 2020 in a German and an English version, covering 82 species over 201 pages. The publication is available online at https://www.bfn.de/fileadmin/BfN/service/Dokumente/skripten/Skript552.pdf and has been distributed to various stakeholders responsible for overseeing CITES and national legislation. On the occasion of the publication, a joint press release was issued by the German Federal Agency for Nature Conservation and the Zoological Research Museum Alexander Koenig, Bonn. (KSR #28, 43)

ii. A new website is currently being created (2021), due to the fact that the former one constructed by our Red List Authority Coordinator, D. Bennett, was hacked and is no longer available. (KSR #28)

Acknowledgements

We thank the German Federal Agency for Nature Conservation (BfN), namely Dr. Mona van Schingen and Dipl. Geogr. Ulrich Schepp, for support and assistance during the publication of the ‘Visual Identification Guide to the Monitor Lizard Species of the World (Genus Varanus)’. Shai Meiri kindly assisted with creating the distribution maps for Philippine species for the Red List assessments. On behalf of the MLSG, we would like to thank the late Daniel Bennett for his commitment as Red List Authority Coordinator.

Summary of activities 2020

Components of Species Conservation Cycle: 3/5

| Assess | 4 |
| Network | 1 |
| Communicate | 3 |

Main KSRs addressed: 1, 2, 12, 28, 32, 37, 43

KSR: Key Species Result
Mission statement
The IUCN Skink Specialist Group (SSG) aims to complete Red List assessments for all skink species to identify species with high extinction risk, determine the factors underlying high extinction risk, develop strategies to manage risk and improve the status of threatened skink species, and coordinate conservation management for threatened skink species.

Projected impact for the 2017-2020 quadrennium
By the end of 2020, we anticipate making substantial progress towards assessing all remaining non-assessed species, coordinating re-assessment of species as their assessments expire, and coordinating the assessment of newly described species. We aim to promote and foster collaboration among the world’s skink experts and provide an avenue for regular interaction and collaboration (annual newsletter, website, email list, assessment workshops, skink conferences). We aim to: (i) conduct analyses to determine the factors underlying extinction risk in skinks; (ii) identify regions, and taxonomic groups within skinks, that have elevated extinction risk; and (iii) determine the intrinsic and extrinsic factors that are associated with extinction risk in skinks. This will be communicated via scientific publications, regional assessment reports, our website, and through the popular media.

Targets for the 2017-2020 quadrennium
Assess
Red List: (1) complete assessment of all described skink species; (2) complete re-assessment of all skink species with expired assessments; (3) complete assessments for all newly described skink species.
Research activities: (1) assess the current conservation status of skinks globally; (2) determine the biogeography of skinks globally.
Communicate
Communication: launch a website for the Specialist Group (Internal Grants 2019).

Activities and results 2020
Assess
i. Substantial progress has been made towards assessment of all described skink species in 2020. We have updated the list of described skink species (1,725 species are recognised by the SSG). We have 20 volunteers helping to prepare draft assessments for species. We have prepared a list of 136 skink species that remain to be assessed as at the completion of the first Global Reptile Assessment (GRA). (KSR #1)
ii. The SSG reviewed the re-assessment of the skinks from the Seychelles and is involved in the upcoming reassessment of the skink species from Europe. We have made a list of the 335 skink assessments that are more than 10 years old or will expire over the next three years. Draft re-assessments will be prepared for as many of these species as possible during 2021–2022. (KSR #1)
iii. The SSG keeps track of all new species descriptions and relevant taxonomic papers that are published. Draft assessments for new species are currently underway, as are re-assessments for species impacted by this taxonomic activity. (KSR #1)

Research activities

i. We have written a manuscript on the conservation status of the world’s skinks. It is currently in its second round of review at Biological Conservation and will hopefully be accepted for publication shortly. This publication will outline the current state of knowledge regarding the conservation of the world’s skinks and will act as the SSG’s action plan for the next five years. The publication outlines the SSG’s priorities over the next few years. (KSR #4)

ii. A paper is currently in preparation on the biogeography of the world’s skinks. The preparation of this study was delayed by the increased workload at Monash University due to COVID-19. We have just brought on new members to the Specialist Group to diversify our membership base and provide additional expertise for this publication. (KSR #4)

Acknowledgements

We thank the people that have volunteered to assist the Skink Specialist Group (Randini Dissanayake, Aponi Langsford-Smith, Austin Jenish, Elise Hore, Sophie Kase, Charis Jones, Caitlyn Benson, Sarah Adams, Daniella Conser, Thomas Madarevic, Amy Nelson, Tysha Crowley-David, Jonathan Edwards, Alice Turner, Lucy Wotherspoon, Christina Paizis, Katherine Robertson, Nazifa, Christopher Vournazos, Kelsey Graham and Sanduni Katupothage). In particular, we thank the membership of the SSG for contributing valuable time and effort to Specialist Group activities. We thank Monash University (School of Biological Sciences) and Tel Aviv University (Steinhardt Museum of Natural History, and School of Zoology). David Chapple also thanks the Australian Research Council (grant FT200100108) for their support.

Summary of activities 2020

Components of Species Conservation Cycle: 1/5

Assess 5

Main KSRs addressed: 1, 4

KSR: Key Species Result
Mission statement

The Mission of the IUCN SSC Tortoise and Freshwater Turtle Specialist Group (TFTSG) is to identify and document threats to the survival of all species of tortoises and freshwater turtles, and to help catalyse conservation action to ensure that none become extinct and that sustainable populations of all species persist in the wild.

Projected impact for the 2017-2020 quadrennium

In addition to helping the Red List Committee supervise the assessment of half the species in the group over the next four years, we have published Turtles in Trouble: The World’s 25+ Most Endangered Tortoises and Freshwater Turtles – 2018 in February 2018; we also aim to achieve (2) publication of global/regional action plans (currently in progress) by late-2019; (3) publication of a top tier scientific journal article analysing patterns of extinction risk for chelonians (this will be the most important scientific publication on chelonian conservation biology ever published, in review as of 2019); (4) site visits to conservation projects for species of concern, during the Chair’s four-year term (nine site visits in the US and overseas in 24 months so far); (5) encourage publications by other TFTSG members (a good example is Lovich, J.E., et al. (2018). ‘Where Have All the Turtles Gone, and Why Does It Matter?’ Bioscience 68(10):771–781. https://doi.org/10.1093/biosci/biy095); (6) increase international and gender diversity within TFTSG; and (7) increase visibility of group through public lectures, social media and fundraising.

Targets for the 2017-2020 quadrennium

Assess

Red List: complete regional Red List assessments (Asia, South America, Madagascar and Mexico/Central America; 50% total species assessed).

Research activities: (1) publish ‘The top 25 world’s rarest tortoises and freshwater turtles’; (2) publish a top tier scientific journal article analysing patterns of extinction risk for chelonians; (3) encourage publications by other TFTSG members.

Plan

Planning: plan and publish global/regional action plans.

Act

Conservation actions: (1) conduct site visits to conservation projects for species of concern; (2) advance the conservation and management of at least 50% of threatened taxa.

Proposal development and funding: administer conservation and research grants award cycle (in collaboration with Turtle Conservation Fund).

Network

Membership: (1) increase international and gender diversity within TFTSG; (2) develop and implement a policy and published statement on diversity, equity and inclusivity for TFTSG.

Synergy: convene annual TFTSG Steering Committee meetings.

Communicate

Communication: (1) increase visibility of TFTSG through public lectures and fundraising; (2) grant annual awards for conservation and for lifetime achievement.
Activities and results 2020

Assess

Red List
i. Two regional Red List assessments were conducted. (KSR #2)

Research activities
i. Four top tier scientific journal articles were published, analysing patterns of extinction risk for chelonians. (KSR #43)

Act

Proposal development and funding
i. Nineteen (19) awards were granted, with US$ 80,490 disbursed.

Network

Membership
i. A policy and published statement on diversity, equity and inclusivity for TFTSG was developed and implemented.

ii. The 2020 annual meeting of the TFTSG Steering Committee was celebrated.

Communicate

Communication
i. Annual awards for conservation and for lifetime achievement were granted. (KSR #28)

Acknowledgements

TFTSG gratefully acknowledges the support of the Turtle Conservation Fund (TCF), which has provided more than US$ 1.25 million in small grant support since 2002. These grants average US$ 4,000, and TCF has given out 296 grants from 833 submitted proposals. During 2020, TCF made 19 awards totalling US$ 80,490. In 2020, the decision was made to create an annual small grant fund targeting women conservation biologists from developing countries as well. We also thank private donors who gave funds to TCF and directly to TFTSG.

Summary of activities 2020

Species Conservation Cycle ratio: 4/5

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Main KSRs addressed: 2, 28, 43

KSR: Key Species Result
Mission statement
The Viper Specialist Group (VSG) is a platform from which conservation biologists can work to increase our scientific understanding of viper biology and implement conservation actions to prevent declines and extinctions.

Projected impact for the 2017-2020 quadrennium
By the end of 2020, we will have strengthened the organisation and effectiveness of the Viper Specialist Group in order to have a more meaningful impact on the conservation of vipers globally. We will do this by supporting the individual activities of the members, increasing the membership, repositioning the VSG officers, continuing to publish the VSG newsletter, launching a new website, reactivating the presence of the VSG in social media, continuing to support Red List assessment activities, participating more in academic meetings to network with academic institutions, zoos, NGOs and other actors interested in the conservation of vipers, continuing to explore the possibilities to purchase land for the conservation of vipers, and publishing scientific and produce outreach material for vipers, among other things.

Targets for the 2017-2020 quadrennium
Assess
Red List: (1) complete Red List assessments for as many species of vipers in the world as possible; (2) complete assessments for European and North Asian vipers; (3) consider the assessment of Kuhrang Mountain Viper (Montivipera kuhrangica) for the IUCN Red List. Research activities: (1) identify priority sites for the conservation of vipers; (2) identify Black-headed Bushmaster (Lachesis melanocephala) distribution in relation to human presence; (3) update the distribution maps for vipers in the Western Hemisphere; (4) obtain missing ecological information for poorly known viper species in Mesoamerica; (5) project the impact of climate change on selected species of vipers in Mesoamerica.

Plan
Planning: (1) define regional priority species for European and North Asian vipers; (2) develop a Viper Action Plan with specific actionable items; (3) complete and publish the VSG Strategic Plan; (4) complete conservation action plans for at least 50% of VSG regions.

Policy: (1) provide guidance on the harvesting of vipers in Iran.

Act
Conservation actions: (1) define regional priority species for European and North Asian vipers; (2) promote the creation of areas for the conservation of vipers in each region.
Network
Documents review: identify knowledge gaps in species assessments.
Membership: increase representativeness in membership.
Synergy: develop effective partnerships between zoos and the VSG.
Communicate
Communication: (1) create a webpage about the VSG with taxonomic updates to make this information more widely available; (2) continue to publish the Viper Specialist Group newsletter; (3) restructure the editorial board of the newsletter; (4) create outreach materials for living with vipers that can be customised by region; (5) increase the efficiency and amount of internal and external communication; (6) implement subpages for each region in the VSG website.
Scientific meetings: (1) determine how to develop and implement focal species initiatives; (2) hold regular virtual meetings among the Regional Coordinators; (3) hold at least one in-person meeting with most of the Regional Coordinators in this quadrennium.

Activities and results 2020
Assess
Documents review
i. Several species are being studied; however, this is done mainly through the research carried out by the individual members of the group, and we have to find a way to consolidate that effort in a coherent and effective programme to identify knowledge gaps in species assessments.

Red List
i. Completing Red List assessments for as many species of vipers in the world as possible was part of the Global Reptile Assessment (GRA), and the assessments were done to comply with the goals of the GRA. However, we want to continue with the momentum to re-assess many species that were assessed more than 10 years ago. (KSR #1)
ii. An updated analysis on the phylogeny of Eurasian vipers was carried out and is available as open access in *Amphibia-Reptilia* now. The assessments are still pending until the lifting of COVID-19 restrictions. (KSR #2)

Research activities
i. A map was produced with areas of high viper diversity in Mexico, the country with the largest number of viper species, that could translate into priority sites for conservation. China is also identified as the second most speciose country. (KSR #22)
ii. A field study to use conservation detection dogs to locate bushmasters was postponed due to COVID-19; however, we continued to collect new observations through landowner networks and plan to submit a manuscript of bushmaster distribution in 2021. (KSR #43)
iii. Distribution maps were updated for vipers in the Western Hemisphere, but the products are not yet published because they are maps. We still must find the best possible repository for them. (KSR #12)

Plan
Policy
i. Advice was given for the Memorandum of Understanding for harvesting of vipers in Iran, but no official document was generated. (KSR #27)
ii. We are reorganising the structure of the group and did not have time to continue working on the reorganisation of our newsletter. This is currently on hold, but we will reactivate it again once we complete the other organisational priorities within the group. (KSR #28)

iii. We recently started to plan the creation of outreach material with the leadership of the Middle Eastern regional coordinator. We will consult our base and will develop a format to send to the membership to gather data for all viper species that will translate into outreach material. Independent to this, the support that we obtained to create our new website allowed us to produce some outreach material that will be available on the new website. (KSR #28)

iv. Increased efficiency and quantity of internal and external communication was accomplished by having two Co-Chairs and distributing the workload among them, something that immediately changed the dynamics of the group in a very positive way. (KSR #28)
Acknowledgements

Thanks to Gabrielle Rougeaux, Sofia Sigala-Meza, José Luis Reyes-Hernández, and Stepen Roussos for help with the new website, to the Species Survival Commission for the internal grant to work on the website and to Orianne Society for the administration of the grant. Jesús Sigala-Rodríguez thanks the authorities of the Universidad Autónoma de Aguascalientes for the flexibility and support to carry out his activities as Co-Chair of the group, and Steve Spear thanks The Wilds for their support of him serving as Co-Chair in 2020. Both Co-Chairs sincerely acknowledge the involvement of the VSG regional coordinators and the members of all the new committees for their continued involvement in and support of our group’s activities, particularly in this transition toward working in a more committee-structured group.

Summary of activities 2020

Components of Species Conservation Cycle: 5/5

Assess 6
Plan 1
Act 1
Network 3
Communicate 5

Main KSRs addressed: 1, 2, 12, 22, 27, 28, 29, 43

KSR: Key Species Result

Least Concern Tzotzil Montane Pit Viper, Cerrophidion tzotzilorum, a Mesoamerican pit viper with a small distribution area
Photo: Jesús Sigala

Endangered Greek Meadow Viper, Vipera graeca
Photo: Stephen Roussos
Mission statement
The mission statement of the SSC Bustard Specialist Group (BSG) is to actively promote bustard research and conservation by developing conservation action plans for the most threatened species, and by encouraging information exchange and cooperation amongst bustard specialists and with other relevant organisations to enhance conservation of bustards and their habitats worldwide.

Projected impact for the 2017-2020 quadrennium
Detailed status review of all six Asian species of bustard, and enumeration and promotion of appropriate necessary interventions. Consultation with Rajasthan officials over the preservation of the Great Indian Bustard (*Ardeotis nigriceps*). Continuing programme of research on the Asian Houbara (*Chlamydotis macqueenii*).

Targets for the 2017-2020 quadrennium

Assess
Red List: feed information into Red List reassessments of all bustard species. Research activities: (1) inspire immediate management interventions on a grand scale for all six species of Asian bustards; (2) generate key data on Asian Houbara (*Chlamydotis macqueenii*); (3) coordinate regional surveys for Great Bustard (*Otis tarda*) in Asia.

Plan

Act
Conservation actions: provide advice on the conservation of the African Houbara (*Chlamydotis undulata*) in Lanzarote.
Technical advice: (1) provide policy advice on Asian Houbara; (2) provide advice on the conservation of the Great Indian Bustard in situ in Rajasthan.

Network
Membership: expand the membership of BSG.
Communication: (1) deliver weekly news and research output updates; (2) create a website for the Asian Houbara project; (3) communicate the importance of bustard conservation to audiences in North Eurasia.
Scientific meetings: facilitate communication between Specialist Group members and external researchers via symposia.
Technical advice: develop guidelines for the optimal management of power lines in bustard areas to minimise mortalities caused by collisions.

Activities and results 2020

Assess
Red List
i. Reassessments have been supported for all threatened species of bustards. (KSR #2, 4)

Research activities
i. We published a paper on migration of Asian Houbara. (KSR #12)
ii. Regional surveys for Great Bustards in Asia were coordinated from 2019–2020. (KSR #12)
Plan

Planning
i. The Action Plan for Great Bustards in Asia has been reviewed by data contributors, and now should undergo review by additional stakeholders. (KSR #15, 26)

Policy
i. BSG members played a role in achieving a global uplisting for Little Bustard (Tetrax tetrax), Great Indian Bustard and Bengal Florican (Houbaropsis bengalensis) under the Convention of Migratory Species. (KSR #26, 27)

Act

Conservation actions
i. A manuscript on the conservation of the African Houbara in Lanzarote was drafted for submission in 2021. (KSR #31)

Technical advice
i. We produced a position statement on sustainable hunting, which is in publication. We also produced a position statement on the use of captive breeding in Houbara conservation, yet to be published. (KSR #27)

ii. We played a role in creation of a spatial sensitivity map for Great Indian Bustard and renewable energy development. (KSR #32)

Network

Membership
i. Membership of the group has tripled.

Communicate

Communication
i. A weekly update is consistently published. (KSR #28)

ii. New materials on bustard conservation for audiences in North Eurasia have been added to the website of the Eurasian Bustard Alliance (eurasianbustardalliance.org) in multiple languages. (KSR #28)

Scientific meetings
i. Planning for an online conference for Specialist Group members is underway. (KSR #17, 28, 29)

Technical advice

i. Data have been gathered, and guidelines for the optimal management of power lines in bustard areas to minimise mortalities caused by collisions are under development. (KSR #32)

Acknowledgements

Our greatest appreciation to BSG Secretary Sara Hallager for her vital work in facilitating communications among the group members. Great thanks also to the group members who have dedicated their expertise and time to the conservation of bustards.

Summary of activities 2020

Components of Species Conservation Cycle: 5/5

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Main KSRs addressed: 2, 4, 12, 15, 17, 26, 27, 28, 29, 31, 32

KSR: Key Species Result
Mission statement
The mission of the IUCN SSC Crane Specialist Group is to promote the study of cranes and their threats, develop and disseminate solutions to those threats and enhance conservation of cranes and their habitats worldwide.

Projected impact for the 2017-2020 quadrennium
By the end of 2020, we will have a good understanding of the current situation for each of the world’s 15 species of crane, forming the foundation for a Crane Conservation Strategy that aims to address the key threats to each of the cranes across their distribution range. Published literature through personal experiences will be assessed to provide an understanding of the interface between cranes and agriculture that we will then use to address threats to cranes across this landscape, providing the opportunity to use cranes as a flagship for biodiversity in agricultural landscapes. We will also have improved the situation for cranes across their range over this period.

Targets for the 2017-2020 quadrennium

Assess
Research activities: (1) publish and disseminate the Cranes and Agriculture Handbook; (2) estimate the impact of poisoning on threatened crane species and identify strategies; (3) implement the 1,000 Crane Tracking Project; (4) set up the Research and Monitoring Working Group, starting with crane tracking and movement studies.

Plan
Planning: (1) publish the Crane Conservation Strategy; (2) implement the Crane Conservation Strategy; (3) develop a user-friendly resource of the Cranes and Agriculture document.
Policy: (1) advocate for reduced poisoning at hotspots; (2) secure or upgrade level of legal protection for three or more crane sites.

Act
Conservation actions: (1) implement the Single Species Action Plan for Grey Crowned Cranes (*Balearica regulorum*); (2) implement the Conservation Plan for the Eastern Population of the Siberian Crane (*Leucogeranus leucogeranus*); (3) estimate the impact of power lines on threatened crane species and work with power utilities in high impact areas to reduce/mitigate their impact.

Network
Capacity building: complete four field training courses.
Synergy: hold regular meetings of species-level networks for Red-crowned Crane (*Grus japonensis*), White-naped Crane (*Grus vipio*), Hooded Crane (*Grus monacha*) and Black-necked Crane (*Grus nigricollis*).

Activities and results 2020
Assess
Research activities
1. Although no progress was made on improving our understanding of crane poisoning, seven crane biologists in Africa attended a virtual course presented by Andre Botha. The purpose of the course is to better understand wildlife poisoning and learn how to handle a poisoning scene to ensure personnel safety.
IUCN Species Annual Report 2020

whilst collecting the correct information and accurately managing the scene. The IUCN SSC Crane Specialist Group organised a side event at the 13th Meeting of the Conference of the Parties to the Convention on the Conservation of Migratory Species (CMS COP13) on ‘Reducing Impacts of Poison on Migratory Birds from Agricultural Chemicals and Poison Baits’. The session’s goals were to review impacts of accidental and intentional poisoning on various migratory bird taxa in Asia and to identify the next steps to be taken to understand and reduce impacts. Case studies documenting mortality on cranes, Great Bustards (Otis tarda) and Anatidae indicated common problems and needs. Experience to reduce mortality of vultures in Europe following ingestion of poison baits used to kill predators provided valuable models for potential application to migratory birds in Asia. Proposed next steps include monitoring and research to identify high risk areas, document mortality, and establishing a shared database; identification of chemicals; collaboration with toxicologists; work with decision makers on policy and enforcement; train volunteers to rescue birds and local enforcement officers to identify species; training in handling and testing of samples; better understanding of motivations and socio-economic aspects; and highlight human health aspects to government agencies and other stakeholders. (KSR #32)

ii. The Research and Monitoring Group submitted a manuscript titled ‘TELEMETRY AND MARKING IMPACT ON CRANES: AN ISSUE PAPER’ to the Proceedings of the North American Crane Workshop. This paper is the culmination of a Symposium on issues surrounding the marking of cranes, presented at the conference in January 2020 and following up on a group discussion initiated at the European Crane Working Group in December 2018. A survey of crane members is also underway to obtain information on their use of marking, telemetry and any potential ill effects to cranes. GSM tracking studies continue for Siberian and White-napped Cranes in East Asia, identifying new sites and changes in habitat use. Results are used to improve the protection and management of these critical sites. GSM studies on Demoiselle Cranes (Anthropoides virgo) provide new information on migration routes and threats, especially illegal hunting and poisoning. (KSR #12)

Plan

Policy

i. Awareness materials around the poisoning threat were produced and distributed at core crane sites in China, and messaging was incorporated into awareness activities. (KSR #27)

ii. In South Africa, one Nature Reserve was declared, supporting Grey Crowned Cranes. In Russia, Kytalyk was upgraded to a National Park and has been officially placed on a candidate list for World Heritage Site status. In Mongolia, the Khurkh and Khuiten River Valleys have formally been upgraded to a national-level nature reserve. (KSR #27)
Vulnerable Blue Cranes, *Anthropoides paradiseus*, flying next to powerlines in South Africa
Photo: Wicus Leeuwner

Poisoned Least Concern Eurasian Cranes, *Grus grus*, and Least Concern Ruddy Shelducks, *Tadorna ferruginea*
Photo: International Crane Foundation

A family of Vulnerable Blue Cranes, *Anthropoides paradiseus*, in KwaZulu-Natal, South Africa
Photo: Jacque Van der Westhuizen
Act

**Conservation actions**

i. Good progress was made on the African Eurasian Migratory Waterbird Assessment’s International Single Species Action Plan for Grey Crowned Cranes. Ongoing monitoring of Grey Crowned Cranes in South Africa, Zambia, Uganda, Kenya and Rwanda provides us with information on the trends in the population. In both South Africa and Rwanda, stable to increasing trends have been recorded. We also now have baseline breeding productivity data from South Africa, Uganda, Rwanda and Kenya, against which we can monitor trends. Crane ringing efforts in Uganda and Rwanda and satellite tracking of cranes in Rwanda are starting to provide us with crucial information on the movement patterns of the species and the threats they face. Poisoning, powerlines, illegal and legal trade, invasive species, disturbance, and the encroachment of agriculture into their wetland breeding habitats are being addressed in all the critical range states for Grey Crowned Cranes. This work is happening through integrated community-based conservation efforts and direct threat mitigation. (KSR #37)

ii. Synchronised surveys were completed in spring, fall and winter with a maximum of 5,521 Siberian Cranes counted, indicating a population increase. Changes in habitat use and foraging behaviour were documented, including the increased use of agricultural lands, with changes in protection and management strategies. It was noted that a renewed threat of an outlet dam at Poyang Lake could significantly impact the lake ecosystem. To ensure migratory connectivity, we are working hard to promote the necessary conditions at enough wetlands each year to support Siberian Cranes. Due to the project’s awareness and partnership efforts, local authorities are releasing water to create suitable habitat at critical periods. With many important changes in crane behaviour, habitat threats, and opportunities for more significant impact, in 2021 we will do a substantial re-look at the situation across the East Asia Flyway. This will include developing new strategic plans for securing Siberian Cranes as well as White-naped and Red-crowned Cranes. (KSR #37)

iii. Research and proactive approaches to powerline mitigation in South Africa, through the Endangered Wildlife Trust/Eskom Partnership, continue to reduce the threat of powerline collisions and electrocutions to cranes. The distribution of Blue Cranes (*Anthropoides paradiseus*), Grey Crowned Cranes and Wattled Cranes (*Bugeranus carunculatus*) was included in developing a collision sensitivity map for South Africa that will guide all future powerline developments and the reactive mitigation efforts underway. As Blue Cranes are particularly affected by powerline collisions, a specific Blue Crane collision risk model will be developed through research currently underway under the International Crane Foundation/Endangered Wildlife Trust Partnership. Eskom and the Leiden Conservation Foundation support this work. We are also gathering additional information on the collision and electrocution threat to Grey Crowned Cranes in Uganda. (KSR #27)

**Network**

**Capacity building**

i. Most training courses were delayed due to COVID-19. Training for volunteers for a monitoring network continued. University students were trained in China to work with community awareness programmes and reduce disturbance to feeding birds. (KSR #17)

**Synergy**

i. In-person meetings were delayed due to the pandemic. Online meetings and communications, as well as small group meetings, keep all four networks active in the interim. (KSR #29)

**Acknowledgements**

We would like to thank the International Crane Foundation (ICF) for hosting the IUCN Crane Specialist Group, the ICF/Endangered Wildlife Trust Partnership for supporting Kerryn Morrison’s involvement as the Chair, and ICF for supporting Claire Mirande’s involvement as the Programme Officer. We appreciate our numerous members who constructively led species or geographic subgroups for cranes, including the European Crane Working Group, North American Crane Working Group, Crane Working Group of Eurasia, International Red-crowned Crane Network, Black-necked Crane Network, East Asian Crane Network, and many others. To all our partners around the world and to our many donors and supporters – thank you. Crane conservation efforts require multi-stakeholder/multi-sector involvement, and our achievements have only been made possible with the input of all our members, partners and donors.

**Summary of activities 2020**

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Main KSRs addressed: 12, 16, 17, 27, 29, 32, 37
Co-chairs
Cathy King (1)
Paul Rose (2)

Red List Authority
BirdLife International

Location/Affiliation
(1) Zoo de Lagos, Portugal
(2) WWT Slimbridge Wetland Centre, UK

Number of members
135

Social networks
Facebook: Flamingo Specialist Group
Twitter: @FlamingoSpecGrp
Website: www.flamingo-sg.org

Mission statement
The mission statement of the WI-IUCN SSC Flamingo Specialist Group (FSG) is to actively promote flamingo research and conservation worldwide by developing conservation action plans for the most threatened species, and by encouraging information exchange and cooperation amongst flamingo specialists, and with other relevant organisations, particularly the IUCN Species Survival Commission (SSC), Wetlands International, Ramsar Convention, WWF International and BirdLife International.

Projected impact for the 2017-2020 quadrennium
By the end of 2020, we have succeeded in our aims of re-launching the FSG website and newsletter (as an online publication). We have strengthened and developed links within the membership to identify roles that individuals can play in the running of the FSG (for example, with communication aims, increasing our reach in South America by diversifying social media postings). We are recruiting new members from specific areas of the world (i.e. the Middle East and Asia) and we are attempting to build our links with existing in situ flamingo conservation, management and ecology organisations (for example, with the Association of Zoos and Aquariums (AZA) SAFE: Saving Animals From Extinction Andean Highland Flamingo Programme). We aim to build capacity across our membership by encouraging interaction with online forums and across group email discussion, as well as encourage members to submit papers to the new, re-launched newsletter. Finally, we are providing a new resource centre of flamingo-centred information (both in situ and ex situ) in the form of our website, for all (members and non-members) to engage with.

Promoting the work of conservation scientists and flamingo biologists will result in increased exposure for these species and therefore a better chance of secured populations for the future. We hope that by continuing to support the work of scientists and flamingo biologists in the field, the conservation status of all six species does not deteriorate, and that those species currently Vulnerable or Near Threatened can be more secured in their habitats, so that future assessments of populations show an upward trend in numbers, rather than a decline. The important work undertaken for Andean and Puna Flamingo (Phoenicoparrus andinus and P. jamesi) conservation needs to be continued and effectively monitored, as the current Red List assessment shows potential future declines due to past poor breeding success and human-caused impacts on populations. This is partly due to the long generation time of flamingos and the impact of past threats on current population numbers. Continued observation of mining activities or industrial product extraction activities (e.g. lithium extraction) around key wetland sites in South America and in East Africa is essential to ensure that future populations of specialised flamingo species do not decline.

Targets for the 2017-2020 quadrennium
Assess
Green Status: assess flamingos as part of the IUCN Green Listing test.
Red List: provide new data for the 2020 Red List assessment.

Plan
Planning: (1) investigate logistical, technical and funding needs for a pan-African Lesser Flamingo (Phoeniconaias minor) population survey; (2) establish working groups to address three priority actions.
Act
Conservation actions: (1) work with the African-Eurasian Migratory Waterbird Agreement (AEWA) to assess implementation of Lesser Flamingo Species Action Plan conservation objectives and tasks; (2) work with the Association of Zoos and Aquariums (AZA) on the Andean Highland Flamingo SAFE programme.

Network
Membership: renew and overhaul membership, including collecting details on individual member roles in FSG.
Proposal development and funding: develop funding opportunities and availability of grants for in situ flamingo conservation. Advertise and promote funding options for in situ flamingo conservation and work on the Wildfowl and Wetlands Trust (WWT) small grants fund.
Synergy: (1) identify and recruit a programme officer for the FSG; (2) maintain collaboration with field-based programmes (e.g. Grupo Conservación de Flamencos Altoandinos – Peru, Tour du Valat) and continue to help, support and promote in situ flamingo conservation strategies with those organisations working in the field.

Communicate
Communication: (1) re-launch the Flamingo newsletter in the form of an online scientific publication; (2) develop a new website for the FSG to link to current activities and social media campaigns; (3) build a media presence across various platforms to promote wider education on flamingo conservation issues; and to use as a platform for fundraising or capacity building; (4) re-visit and re-draw the FSG mission statement.
Scientific meetings: (1) organise a workshop for flamingo keepers to increase awareness of current science in flamingo management (provide information based on best practice to zoo professionals); (2) integrate the role of the FSG with the European Association of Zoos and Aquaria (EAZA; FSG aims at annual EAZA meetings to encourage links between different flamingo stakeholders).

Activities and results 2020
Assess
Green Status
i. Two species were green listed in a paper being published in Conservation Biology as part of a larger group of authors. (KSR #11, 12)

Act
Conservation actions
i. Communication between AZA and the FSG steering committee has been instrumental in linking together International Flamingo Day and AZA events around their SAFE conservation project for Andean Highland Flamingos. (KSR #21, 26, 29)

Network
Membership
i. Membership is being managed by a new listserv hosted by Tour du Valat and with the IUCN Portal.

Proposal development and funding
i. There is continued discussion by the FSG steering committee on how to manage and advertise the Small Grants Fund, including the number of grants per year. Four meetings have been held so far. This is to be developed into the future. (KSR #30)

Synergy
i. Dialogue and communication is ongoing between FSG and conservation organisations to respond to their needs. (KSR #29)

Communicate
Communication
i. The 2020 issue of the Flamingo journal is available on the FSG website. (KSR #28)
ii. The website is up and running and free to access at www.flamingo-sg.org. (KSR #28)

Scientific meetings
i. Dialogue and communication is ongoing between various parties, along with continued involvement between zoos and the FSG. (KSR #29)

Acknowledgements
Thank you to WWT for hosting the email listserv for the duration of 2020 and for assisting with support of the FSG website. We thank all those who participated in the inaugural International Flamingo Day 2020. We thank members of the FSG steering committee for their assistance with editing, translation and proof reading of manuscripts for Flamingo 2020. Finally, we thank our social media volunteers for their assistance with maintaining the FSG's presence on Facebook and Twitter.

Summary of activities 2020
Components of Species Conservation Cycle: 4/5
Assess 1

Act 1

Network 3

Communicate 4

Main KSRs addressed: 11, 12, 21, 26, 28, 29, 30
Resolutions addressed: WCC 2016 Res 041, WCC 2016 Res 085

KSR: Key Species Result
Mission statement

The Galliformes Specialist Group (GSG) is committed to the worldwide conservation and sustainable management of all native populations of Galliformes species and their habitats.

Projected impact for the 2017-2020 quadrennium

We expect to improve the protection of a suite of Galliformes species in Southeast Asia through a regionally focused action planning approach. This will be designed to influence conservation policy in one of the countries of this region containing important Galliformes species, most probably Myanmar, securing better protection for species and their habitats and leading to population recovery. In addition, we aim to use the expertise of the conservation breeding community together with field conservationists and partners to develop a ‘one plan’ approach that will enhance the population of the Critically Endangered Edwards’s Pheasant (Lophura edwardsi), also known as Viet Nam Pheasant, probably our most threatened extant species. Enhanced communications and support provided by the GSG will stimulate new conservation project work on the ground for threatened Galliformes in other regions of the world, designed to raise awareness and improve protection that will ultimately lead to population recovery. We aim to use the Green Listing process to predict and evaluate success.

Targets for the 2017-2020 quadrennium

Assess

Green Status: actively participate in the development of the Green Status by offering Galliformes species for piloting and being at the forefront of the introduction of the Green Listing process.

Plan

Planning: produce one regional action plan covering Galliformes species.

Act

Conservation actions: bring together the captive (conservation) breeding community and field conservationists by encouraging the development of more ‘one plan’ thinking towards the conservation of Galliformes.

Network

Proposal development and funding: develop and implement a proactive scheme for encouraging the Galliformes community to secure funding for the conservation of our species, including provision of a service to review, improve and endorse funding proposals. Synergy: develop a more formalised relationship between GSG and related groups, especially the Grouse Group.

Communicate

Communication: improve communications via online and virtual methods.

Activities and results 2020

Assess

Green Status

1. We were part of the pilot Green Status assessments and a PhD student at Newcastle University, Garima Gupta, included Green Status assessment as part of her thesis. Green Status assessments have been completed for 12 Himalayan Galliformes species and a number of other species from North America. Several members of GSG are co-authors on the upcoming Conservation Biology publication on Green Listing. (KSR #11, 27)
Plan

Planning

i. A Long-Term Management Plan (LTMP) for the Viet Nam Pheasant has been drafted (final published version released in 2020). Progress was made on developing a Species Recovery Plan for the Viet Nam Pheasant, involving both the in situ and ex situ community, including meetings held in September as part of a Galliformes conference held in Viet Nam. (KSR #15, 31)

Network

Proposal development and funding

i. Further funding reviews were received and processed via the Co-Chairs. The service to review, improve and endorse proposals has not yet been achieved. (KSR #30)

Synergy

i. Informal linkages and communications have been developed between GSG and related groups, but no agreements have yet been formed. (KSR #29)

Communicate

Communication

i. Due to lack of funding to update, we decided to pull back the GSG website. We are presently working on it offline to update software and security of the system. We continue to host a social media presence on Facebook and Twitter. (KSR #28)

ii. We maintain a Facebook page under ‘Galliformes Specialist Group’, managed by Co-Chair John Carroll. We believe this helps GSG reach more advocates for Galliformes who are not professional biologists. We typically post 1–10 items per week and usually try to focus on some combination of species news, interesting photos or videos, and communication of science and conservation for the public. We have a fairly stable group of followers representing 45+ countries and 600–800 individuals. Cumulatively during 2020, we reached almost 1,500 followers. Our typical post reach is usually about 150–250 reads with several up to 1,000. During 2020, we reached more than 1,400 likes our page. We have exclusively depended on organic engagement of our Facebook page. (KSR #28)

iii. Our Twitter account under '@galliformes_SG' is also managed by Co-Chair John Carroll. We typically post much less there and most of our followers are biologists. Again, the main focus is providing information. We are very selective in who we follow, and only follow six Twitter accounts to date. We are followed by 117 accounts. Our goal in 2021 is to significantly increase our followers and slowly increase the number of accounts we follow. (KSR #28)

Acknowledgements

Thanks to the World Pheasant Association for organisation of a successful Galliformes conference in Viet Nam in September 2020. Thanks to Viet Nature for their work on species recovery for the Viet Nam Pheasant and to other partners in this endeavour, including BirdLife, Berlin Zoo, Antwerp Zoo, Wild Planet Trust (Paignton Zoo) and North of England Zoological Society (Chester Zoo). Thanks to colleagues at Newcastle University, UK, for helping to test the Green Status with Galliformes.

Summary of activities 2020

Components of Species Conservation Cycle: 4/5

| Assess | 1 |
| Plan   | 1 |
| Network| 2 |
| Communicate | 3 |

Main KSRs addressed: 11, 15, 27, 28, 29, 30, 31

KSR: Key Species Result
Mission statement
The Goose Specialist Group (GSG) seeks to strengthen contacts between all researchers on migratory goose populations in the northern hemisphere by organising regular scientific conferences and stimulating research on population dynamics of geese.

Projected impact for the 2017-2020 quadrennium
By the end of 2020, we will make a revision of current IUCN Red List status of goose species of concern in Europe. Addressing the conservation and management of declining, as well as growing, goose populations in Europe calls for a coordinated flyway approach amongst all range states concerned. To facilitate and implement such an approach, a European Goose Management Platform was established under the African-Eurasian Migratory Waterbird Agreement (AEWA), as called for by the AEWA Parties through Resolution 6.14. By the end of 2020, we expect acceptance of the Platform in most AEWA countries.

Targets for the 2017-2020 quadrennium
Assess
Red List: assess global status of Red-breasted Goose (*Branta ruficollis*) through intensive monitoring and satellite tracking at staging and wintering areas.
Research activities: (1) investigate local movement and behaviour of geese wintering in Lower Saxony (Germany) and assess environmental factors affecting local movement and behaviour; (2) conduct big survey expedition in Kazakhstan for monitoring of the Red-breasted Goose wintering population; (3) assess survival of Barnacle Goose (*Branta leucopsis*) goslings and juveniles in Arctic breeding grounds and impacts of climate warming.

Plan
Planning: develop a coordinated flyway monitoring protocol for the Red-breasted Goose.

Act
Conservation actions: (1) promote recovery of the Red-breasted Goose population through reduction and mitigation of poaching and illegal hunting impact at key staging and wintering areas; (2) investigate changes in migration route and dynamic and search for possible new staging and wintering areas of the Red-breasted Goose through satellite tracking.

Communicate
Communication: (1) raise awareness about Red-breasted Goose and threatened waterfowl at key staging areas in range countries; (2) create a GSG page on Facebook; (3) publish Goose Bulletin.
Scientific meetings: organise the 19th Conference of the Goose Specialist Group.

Activities and results 2020
Assess
Red List

1. The autumn count of Red-breasted Goose in Kazakhstan was cancelled due to COVID-19 pandemic restrictions in 2020. A survey is planned in partnership with the AEWA Secretariat in autumn 2021. (KSR #1, 12)
Research activities

i. The report for the Ministry of Lower Saxony on local movement and behaviour of geese wintering in Lower Saxony (Germany) has been produced. Scientific publications are still under production. (KSR #32)

ii. The big survey expedition to repeat the 2016 census of Red-breasted Goose in Kazakhstan was cancelled in autumn 2020 and rescheduled for autumn 2021. (KSR #12)

Act

Conservation actions

i. Hunting patrols with local authorities were implemented in Romania, Bulgaria, Ukraine and Kazakhstan to help recovery of the Red-breasted Goose population. A high-profile case of a Red-breasted Goose poaching took place in January 2020 in Southern Romania. News about poaching the bird was seen by over 2 million viewers on the internet and television. In Kazakhstan, a hunter was prosecuted for killing Red-breasted Goose during hunting season in autumn 2020. Killing of vagrant Red-breasts was registered in Georgia. In winter season 2019–2020, hunting was banned for the winter in Romania and safe wintering secured. A report on hunting pressure along the flyway was produced. An audio study of hunting activities around key sites in Romania and Bulgaria is in preparation. Hunting was permanently banned in spring around Manych Lake (Russia) via state decree from Kalmykia and Rostov Region. Illegal killing, hunting disturbance and poaching continue to be threats during the autumn and winter period, but threats have been significantly reduced with the ban of spring hunting around Manych. (KSR #34, 37)

ii. Successful cannon netting of geese took place in February 2020 in Bulgaria. Nine Red-breasted Geese were tagged, but predominant tags were lost quickly. (KSR #12)

Communicate

Communication

i. An interactive exhibit was produced in four of five key countries: Bulgaria, Kazakhstan, Russia and Ukraine. The exhibit has been seen by over 20,000 people so far. In 2020, a short video was produced by the Bulgarian Society for the Protection of Birds (BSPB) and AEWA Red-breasted Goose International Working Group, on Red-breasted Goose migration and poaching threats to celebrate World Migratory Bird Day. The video has been seen by over 10,000 people so far. Due to the COVID-19 pandemic, the Tulip Festival was cancelled in 2020. (KSR #28)

ii. A Facebook page has been created (see: www.facebook.com/groups/417044005854612). (KSR #28)

iii. Two issues of Goose Bulletin were published in 2020 (Issue 25 – May 2020 and Issue 26 – November 2020). (KSR #28)

Scientific meetings

i. The 19th Conference of the Goose Specialist Group was held. Each of the conference days began with a 45-minute plenary lecture; in order of appearance, these sessions were: (1) 'Setting the scene - various aspects'; (2) 'Dynamics of small populations'; (3) 'European Goose Management Platform'; (4) 'Goose conflicts and management'; (5) 'Hunting and predation'; (6) 'Migration issues'; (7) 'Migration issues 2 plus tools'; (8) 'Breeding grey geese'; and (9) 'Dynamics of breeding geese' plus 'disturbance'. (KSR #28)

Acknowledgements

Field work on Red-breasted Goose was supported by staff, experts and volunteers of BSPB, Romanian Ornithological Society (SOR), Association for the Conservation of Biodiversity of Kazakhstan (ACBK), Goose, Swan and Duck study group of Northern Eurasia, Chernie Zemly Nature Reserve, Tuzlovski Lymany Nature Park, and Aydam 2012 Ltd. The 19th Conference of the Goose Specialist Group was financially supported by ECOTONE, Ornitela and Provincie Frysland.

Summary of activities 2020

Species Conservation Cycle ratio: 3/5

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<thead>
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<th>Assess</th>
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<td>Act</td>
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<tr>
<td>Communicate</td>
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Main KSRs addressed: 1, 12, 28, 32, 34, 37

KSR: Key Species Result
Mission statement

The mission of the Heron Specialist Group (HSG) is to promote the conservation of herons and their habitats worldwide by encouraging research, inventory, monitoring and conservation action. To achieve its mission, the HSG maintains worldwide communication linkages amongst heron specialists, assesses the conservation status of heron populations, provides syntheses of information and action plans for the conservation of heron populations, and otherwise facilitates conservation action on behalf of herons and their habitat.

Projected impact for the 2017-2020 quadrennium

By the end of 2020, we envision significant progress made towards range mapping and status update for all our species, especially those species under categories Vulnerable, Endangered or Critically Endangered. Through agreements with zoos and other Specialist Groups (e.g. Crane Specialist Group and Stork, Ibis, and Spoonbill Specialist Group) and the 2nd Herons of the World Symposium, the HSG will be better positioned to leverage resources to support species working groups and implementation of various aspects of the conservation action plan.

Targets for the 2017-2020 quadrennium

Assess

Red List: update the population status of Reddish Egret (Egretta rufescens) in Meso/ Central America (Belize, Guatemala, El Salvador, Honduras).

Plan

- Planning: (1) update the Heron Action Plan; (2) plan for the Herons of the World Symposium.
- Policy: restore functioning of the Waterbird Conservation for the Americas (WCA) initiative.

Network

Agreements: explore zoo sponsorship for HSG or species working groups.

Capacity building: coordinate the Agami Heron Working Group.


Synergy: (1) connect with the Crane Specialist Group and the Stork, Ibis and Spoonbill Specialist Group to facilitate communications between Specialist Groups and for capacity-building potential; (2) recruit an editor and establish an editorial board for HSG’s journal (Journal of Heron Biology and Conservation).

Communicate

Scientific meetings: organise the next Herons of the World Symposium.

Activities and results 2020

Assess

Red List

- Surveys were conducted in Belize to obtain the current status of Reddish Egret but were not completed in the remaining regions. (KSR #2, 7, 12)
Plan

Planning
i. The current plan and new goal for the 2021–2024 quadrennial is to develop/revise the Heron Action Plan in this quadrennial. (KSR #15)

Policy
i. Clay Green has been in contact with David Gordon with the US Fish and Wildlife Service about re-establishment of WCA. Movement continues to be slow but there is some hope that in 2021, the WCA and Waterbird Council will be restored and function again to implement the WCA Plan. (KSR #27)

Network

Agreements
i. The White-bellied Heron Working Group has working partnerships with several zoos to support their captive breeding programme in Bhutan. (KSR #29)

Capacity building
i. We have not achieved the coordination of the Agami Heron Working Group to date; since Anna Stier left her position at GEPOG (Groupe d’Etude et de Protection des Oiseaux en Guyane), there has not been a replacement to fill the void she left as Agami Heron Working Group Chair. (KSR #19, 29)

Membership

i. Since we initially established the goal of assessing needs and establishing several Working Groups in 2016, our priorities have changed in the establishment of these working groups.

Synergy

i. While there is no formal agreement (e.g. MOU) between groups, the HSG is in regular conversation with the Stork, Ibis and Spoonbill Specialist Group and we have discussed plans for future symposiums between groups. (KSR #29)

ii. An editorial board has been established for HSG’s journal (Journal of Heron Biology and Conservation): Chip Weseloh is Editor, Katsutoshi Matsunaga is Layout Editor, Clay Green is Associate Editor, and we have identified regional/continental associate editors to assist in soliciting manuscripts and reviews.

Communicate

Scientific meetings
i. Due to the COVID-19 pandemic, the Herons of World Symposium has been further delayed but is now scheduled for November 2022 as part of the Pan-African Ornithological Congress. (KSR #28)

Acknowledgements

HSG would like to thank Chip Weseloh, John Brzorad, Dale Gawlik, Katsutoshi Matsunaga, Andrew Kasner and Anne Mauro for assistance in hosting the 2020 Herons Roundtable as part of the North American Ornithological Congress (August 2020). HSG also thanks Indra Acharja, Chief, Species Conservation Division, Royal Society for Protection of Nature, Bhutan for his ongoing efforts to save the White-bellied Heron (Ardea insignis), the most Critically Endangered Ardeid in the world. Lastly, HSG thanks Kelli Stone, U.S. Fish and Wildlife Service, for her four-plus years of service as Chair, Reddish Egret International Working Group. During her time as Chair, the working group revised the Rangewide Conservation Plan, developed the US Business Plan and Mexico Business Plan and helped significantly strengthen the capacity building and structure of the working group.

Summary of activities 2020

Species Conservation Cycle ratio: 4/5

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<tr>
<td>Network</td>
<td><strong>5</strong></td>
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<tr>
<td>Communicate</td>
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Main KSRs addressed: 2, 7, 12, 15, 19, 27, 28, 29

KSR: Key Species Result
Co-Chairs
Lucy Kemp (1) (Africa)
Aparajita Datta (2) (Asia)

Red List Authority Coordinator
BirdLife International

Location/Affiliation
(1) Mabula Ground Hornbill Project, South Africa
(2) Nature Conservation Foundation, India

Number of members

Social networks
Facebook: IUCN SSC Hornbill Specialist Group
Instagram: @iucn_hornbills
Twitter: @iucn_hornbills
Website: https://iucnhornbills.org/

Mission statement
The Hornbill Specialist Group (HSG) aims to use our combined knowledge and skills for evidence-based conservation action for hornbills and their habitats.

Projected impact for the 2017-2020 quadrennium
By the end of 2020, the HSG will have definitive conservation plans in place for all Critically Endangered (CR) and Endangered (EN) hornbill species in both Asia and Africa, with implementation agencies supported by the HSG to meet their targets. Asia already has a strong and active hornbill conservation network, and by 2020 we aim to have initiated and developed an African hornbill conservation network. Efforts will be made to ensure that conservation planning takes into account Indigenous Knowledge Systems to ensure that cultural data are also considered and used in designing bespoke conservation actions where the threats are anthropogenic in nature.

Targets for the 2017-2020 quadrennium
Assess
Red List: review Red List status and information for all 62 hornbill species.
Research activities: promote and support research on hornbill species in Africa.

Plan
Planning: (1) prioritise species requiring formal conservation plans; (2) initiate an action plan workshop for the Critically Endangered Sulu Hornbill (Anthracoceros montani).

Network
Capacity building: hold annual regional capacity building workshops.
Membership: increase African membership.
Proposal development and funding: fundraise for conservation planning workshops and for support of various HSG activities.

Communicate
Communication: (1) produce one newsletter per year; (2) establish and maintain the website and social media.
Scientific meetings: support the International Hornbill Conference, scheduled for 2022 in Bhutan.

Activities and results 2020
Assess
Red List
i. All of the 32 Asian hornbill species fact sheets have been revised with inputs from the HSG members and submitted to BirdLife International. Most of these have been updated on the IUCN Red List website. The threat category/status of three species were revised based on wide consultations and on the HSG’s recommendations. Two species were suggested for a threat level uplisting after evaluating the criteria set by IUCN: the Malabar Grey Hornbill (Ocyceros griseus), from Least Concern to Vulnerable, and Sumba Hornbill (Rhyticeros everetti), from Vulnerable to Endangered. The Narcondam Hornbill (Rhyticeros narcondami) was suggested for a downlisting from Endangered to Vulnerable based on a review of its status given new population data. These changes have been implemented. The African species require more work, due to very little data being available. The team is currently...
mapping all known distribution records and will submit to BirdLife International by the end of 2021. A research project has been initiated to resolve the taxonomy of the African Red-billed Hornbills (Tockus erythrorhynchus) and to lump/split Horizocerus albocristatus and H. cassini. (KSR #1, 4)

Research activities

i. We now have a PhD working on the Northern Ground Hornbill (Bucorvus abyssinicus), based in Ghana, and two MSc students working on the Southern Ground Hornbill (Bucorvus leadbeateri) in South Africa and Eswatini. (KSR #12)

Plan

Planning

i. Africa: The Northern Ground Hornbill (Bucorvus abyssinicus) and Coroptogymna spp. are prioritised for conservation planning for Africa in the next quadrennium. Asia: Several of the threatened and endemic Philippine hornbill species have been prioritised for conservation action planning as well as range-wide action plans for several of the Vulnerable and Endangered species (Indo-China and Southeast Asia). The Conservation Planning Specialist Group-led workshop held for the Critically Endangered Rufous-headed Hornbill (Rhabdotorhinus waldeni) and Endangered Visayan Hornbill (Penelopides panini) was done in June 2019, however, report completion has been delayed by partners. (KSR #15)

ii. The conservation plan for the Critically Endangered Sulu Hornbill has catalysed international funding and excellent on-the-ground fieldwork, education and conservation action for the species. (KSR #15)

Network

Membership

i. We were able to add two new members. We also expanded our Steering Committee by adding three more people, including a new African representative.

Proposal development and funding

i. Fundraising for conservation planning workshops and for support of various types of HSG activities was accomplished. (KSR #19)

Communicate

Communication

i. Two issues of the HSG Newsletter were produced in 2020 (January 2020 and October 2020). (KSR #28)

ii. The website and various social media platforms are up and running and gaining many new followers every day. (KSR #28)

Scientific meetings

i. The 2021 International Hornbill Conference in Bhutan has been postponed to May 2022 due to the global pandemic. (KSR #28)

Acknowledgements

All of us are working in a voluntary capacity for the HSG and we thank our members, our Advisory Board, the Steering Committee, the Editorial Board of the newsletter and those in the IUCN SSC Chair and their office for their support. The key partner organisations who have supported the activities/work undertaken thus far are the Mabula Ground Hornbill Project, Nature Conservation Foundation, Wildlife Reserves Singapore, Hornbill Research Foundation, Rangkong Indonesia, Attica Zoological Park, Malaysian Nature Society, Disney Animal Kingdom, Kasetsart University, EAZA Hornbill Tag, Maguari-One Zoo and Wildlife Consultants, and the Wildlife Conservation Society. Individuals from several other institutions such as TRAFFIC, Chester Zoo, North Carolina Zoo, Philippines Biodiversity Conservation Foundation Inc. (PBCFI) now known as PhilBio, BirdLife International, Talarak Foundation, Milwaukee Zoo, Dr Kathryn Gamble, and the IUCN SSC Conservation Planning Specialist Group have helped during the conservation action planning workshops and/or participated or worked in collaboration with the HSG. We thank PhilBio and the rest of the teams working so hard to conserve the Sulu Hornbill in the Philippines. We thank the Hornbill Research Foundation in Thailand for supporting the Programme Officer.

Summary of activities 2020

Components of Species Conservation Cycle: 4/5

Assess 2

Plan 2

Network 2

Communicate 3

Main KSRs addressed: 1, 4, 12, 15, 19, 28

Resolutions addressed: WCC-2016-Res-009

KSR: Key Species Result
Mission statement
The mission of the Loon Specialist Group is to contribute to increase current knowledge on the ecology of all five species across their entire geographic range of distribution and promote long-term conservation.

Projected impact for the 2017-2020 quadrennium
By the end of 2020, we envision that the population and distribution of all species of divers/loons will remain strong. Breeding populations are generally in protected areas (although stressors such as mercury pollution and oil drilling may have impacts in some areas), while wintering populations are potentially in conflict with stressors associated with marine ecosystems (e.g. oil spills, cyanobacteria outbreaks, and degraded fisheries). To assess the status of each of the five loon species, an international symposium will occur in late 2020 followed by a 'State of Global Loon Populations' publication in a special issue of a peer-reviewed journal. A global stressor of particular concern for global loon populations is mercury. That concern will be assessed through the international symposium as well as through a new initiative to better understand mercury exposure and effects on loon populations and other IUCN SSC Groups.

Targets for the 2017-2020 quadrennium
Act
Conservation actions: establish 1–2 new breeding populations of Common Loons (Gavia immer) in Massachusetts, US.

Network
Synergy: initiate and network with other SSC Groups on the new project called 'The Global Footprint of Mercury: Understanding the patterns of exposure and effects to biota'.

Communicate
Research activities: generate a scientific publication on research and conservation of loons around the world. Scientific meetings: complete one international diver/loon conference.

Activities and results 2020
Act
Conservation actions
i. In a new breeding population established in Massachusetts, one Common Loon nested and produced the first chicks in 120 years for the area. (KSR #24, 27)

Network
Synergy
i. Initial discussions with the global SSC group have been made on the new project called 'The Global Footprint of Mercury: Understanding the patterns of exposure and effects to biota'. (KSR #7, 16, 18, 21, 23, 32, 36, 37)

Communicate
Research activities
i. Meetings have been initiated to generate a scientific publication on research and conservation of loons around the world. (KSR #18, 20, 25, 28, 29)

Scientific meetings
i. COVID-19 restrictions continue to delay the international diver/loon conference. (KSR #18, 20, 25, 28, 29)
Acknowledgements

The Loon Specialist Group would like to acknowledge Biodiversity Research Institute for its support.

Summary of activities 2020

Components of Species Conservation Cycle: 3/5

- Act 1
- Network 1
- Communicate 2

Main KSRs addressed: 7, 16, 18, 20, 21, 23, 24, 25, 27, 28, 29, 32, 36, 37

KSR: Key Species Result
Mission statement
The mission of the Pelican Specialist Group (Old World and New World Sections) is to carry out, support and promote scientific research and conservation activities aimed at Old World and New World pelicans and enhance cooperation and diffusion of knowledge.

Projected impact for the 2017-2020 quadrennium
By the end of 2021, we envision increasing our membership (both Old World and New World sections) and being able to collect and compile better data on the global status and populations of the two (out of five) Old World pelicans which are classified as Near Threatened: the Dalmatian Pelican (*Pelecanus crispus*) and the Spot-billed Pelican (*Pelecanus philippensis*). Particularly, we will strive to assist in obtaining more knowledge about the status (distribution, populations and threats) of the highly endangered Mongolian subpopulation of the Dalmatian Pelican of the East Asian flyway. In parallel, this knowledge will allow us to plan and implement necessary conservation measures. We would also like to have a better understanding of what is happening with the breeding populations of the Great White Pelican (*Pelecanus onocrotalus*) in its Eurasian range, as important changes have been observed in recent years. Finally, we would like to contribute to the maintenance of the small and dwindling populations of Dalmatian Pelican in South-eastern Europe and Turkey. In addition to the above, we will establish a New World membership roster.

Targets for the 2017-2020 quadrennium

Assess
Red List: improve the assessment of the global population of the Dalmatian Pelican.
Research activities: (1) collect and disseminate data on the status of pelicans in Kazakhstan; (2) review publication on the causes of morbidity and mortality for the Dalmatian Pelican in South-eastern Europe.

Plan

Network
Membership: (1) expand membership to experts on species other than Dalmatian Pelican and Great White Pelican; (2) recruit more members working in Central Asian countries and the Russian Federation; (3) build New World membership list.
Proposal development and funding: provide substantial support to individuals and organisations keen to set up new conservation projects for pelicans.
Synergy: enhance interaction with the WI-IUCN SSC Cormorant Research Group.

Communicate
Communication: enhance the degree of contact and information exchange between our members.
Scientific meetings: organise and chair a ‘Pelicans of the World Symposium’, jointly with both Old World and New World Pelican Specialist Group sections, at the 2019 Waterbird Society Annual Conference and General Meeting.
Activities and results 2020

Assess

Red List
i. The European Breeding Bird Atlas 2 (EBBA2; Keller, V., et al. (2020). European Breeding Bird Atlas 2: Distribution, Abundance and Change. Barcelona: European Bird Census Council & Lynx Edicions.) contains information from Russia that contributes to a much better global estimation of the Dalmatian Pelican, but much is still to be done. (KSR #1)

Network

Proposal development and funding
i. Two projects were supported, namely the Mongolian–Chinese initiatives (Wildlife Science and Conservation Center of Mongolia; we provided some colour rings and continued offering advice) for the conservation of the endangered small population of the Dalmatian Pelican. We also continued participating in the Task Force (East Asian-Australasian Flyway Partnership Dalmatian Pelican Task Force) for the same goal. We also supported one initiative in India for the Spot-billed Pelican (Aksheeta Mahapatra).

Communicate

Scientific meetings
i. Nothing special was done to enhance the degree of contact and information exchange between our members. However, we continued the operation of our dedicated email list titled PELECANUS GROUP, which now has 79 members. We also produced two hopefully useful documents, one for monitoring methods of ground nesting pelicans (Society for the Protection of Prespa. 2020. Dalmatian Pelican Monitoring Manual. Rewilding Europe, Nijmegen. Produced within the framework of Pelican Way of LIFE Project (LIFE18/NAT/NL/716)) and the other an identification guide for the Dalmatian Pelican (Society for the Protection of Prespa. 2020. Dalmatian Pelican identification Manual. Companion document to “The Dalmatian Pelican Monitoring Manual”. Rewilding Europe, Nijmegen. Produced within the framework of Pelican Way of LIFE Project (LIFE18/NAT/NL/716)). (KSR #28)

Acknowledgements

The work of Giorgos Catsadorakis is supported by the Society for the Protection of Prespa through a donation from the Prespa Ohrid Nature Trust (PONT).

Summary of activities 2020

Components of Species Conservation Cycle: 3/5

Assess 1

Network 1

Communicate 1

Main KSRs addressed: 1, 28

KSR: Key Species Result
Co-Chairs
Pablo García-Borboroglu (1,2,3)
P. Dee Boersma (2,3)

Red List Authority Coordinator
Pablo García-Borboroglu (1,2,3)

Location/Affiliation
(1) CONICET, Puerto Madryn, Chubut, Argentina
(2) Global Penguin Society
(3) Department of Biology, University of Washington, Seattle, Washington, US

Number of members
70

Social networks
Twitter: @IUCNPenguin
Website: www.penguinsg.org

Mission statement
The mission of the IUCN SSC Penguin Specialist Group (PSG) is to provide scientific advice that informs policy and engages people in effective conservation action.

Projected impact for the 2017-2020 quadrennium
The disconcerting and rapid population decreases reported for most of the world’s penguin species will be reversed only through immediate and affirmative action on the part of the global community of researchers, governmental entities, conservation organisations, fisheries’ managers and the general public. If we address the identified threats, undertake priority research needs using an interdisciplinary and integrated approach, and begin to implement appropriate conservation actions, management could perhaps slow or stop the observed decreases in penguin populations. We wish to call attention to the plight of this important and charismatic taxonomic group, whose dire situation is a clear reflection of the current escalating crisis facing the world’s marine ecosystems, and as indicators of future global warming scenarios.

Assess
Red List: (1) complete assessment of Little Penguin (Eudyptula minor); (2) reassess Red List status of penguin species.
Research activities: (1) publish a paper with the most recent update on the ecology and conservation of all penguin species; (2) identify priority areas of research needed; (3) identify the three penguin species in most critical need of help; (4) publish a paper on the priority conservation and research needs for all species and the identification of three species in need of most help.

Plan
Planning: (1) convene a meeting of the PSG Steering Committee focused on catalysing a Wild Penguins in Perpetuity Conservation Strategy; (2) convene a meeting of the PSG Steering Committee to define priorities for global penguin conservation prior to the International Penguin Congress in New Zealand; (3) define priority conservation actions needed.
Policy: (1) hold a Steering Committee meeting in May 2018 to define priorities for global penguin conservation; (2) hold a Steering Committee meeting in August 2019 to update the status of the PSG, suggest new members and define future goals.

Network
Membership: continue to add expert members as needed.
Synergy: (1) convene a meeting of the PSG Steering Committee to update on the progress made since our last meeting in New Zealand in September 2019; (2) convene virtual meetings with Steering Committee members in June and November 2020.
Communicate

Communication: (1) start process to design the Specialist Group official website; (2) start process to elaborate the logo of the Specialist Group.

Activities and results 2020

Network

Membership
i. We have twenty-four new members.

Synergy
i. A meeting of the PSG Steering Committee was held.

ii. Four virtual meetings with Steering Committee members were held.

Communicate

Communication
i. The website has been designed. (KSR #28)

ii. Our logo has been elaborated and agreed upon.

Summary of activities 2020

Components of Species Conservation Cycle: 2/5

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Main KSRs addressed: 28

KSR: Key Species Result
Mission statement
The Stork, Ibis and Spoonbill Specialist Group (SIS-SG) is a global network of scientists, conservationists, governmental and non-governmental institutions and people committed to the scientific understanding and conservation of SIS species and their habitats.

Projected impact for the 2017-2020 quadrennium
By the end of 2020, we envision a substantial advance in creating a strong network, and a sustainable and active Specialist Group based on participation of the best specialists on our species of concern worldwide. Specifically, our focus will be to raise enough resources to maintain the activity of the Specialist Group, creating a scientific network and promoting scientific research, meetings and conservation actions among members and partners, including other Specialist Groups, who will contribute to improve the knowledge of our species of concern and their threats.

Targets for the 2017-2020 quadrennium

Network
Capacity building: organise the First World Symposium of Stork, Ibis and Spoonbill.
Proposal development and funding: obtain sponsorship for the functioning of the SIS-SG.
Synergy: (1) facilitate communications with related waterbird Specialist Groups to help with capacity building; (2) establish at least two new working groups.

Communicate
Communication: enhance wider communication and share research and conservation findings related to Stork, Ibis and Spoonbill (SIS) species worldwide.

Activities and results 2020

Network
Proposal development and funding
i. The SIS-SG was granted with an IUCN SSC Internal Small Grant. This grant is used to fund communication issues such as the website and the publication SIS Conservation. (KSR #19)

Synergy
i. We organised the discussion for reassessment of the status of Woolly-necked Stork (Ciconia episcopus), and this led to the downlisting of the species from Vulnerable to Near Threatened. Most of the information provided for the status assessment discussion was also compiled as papers in the Special Section of Issue 2 of SIS Conservation (SISC). (KSR #27)

ii. We intended to establish a second working group in 2020 (likely Black Stork or Black-headed Ibis International Network), but because of various challenges due to the COVID-19 pandemic, this was not accomplished. (KSR #27)

Communicate
Communication
i. Twelve original articles completed the second Issue of SIS Conservation (available on our website as open access in December 2020), nine of them under a special section devoted to Woolly-necked Stork. Some new sections were established: Opinion, Letters to SISC and Reviewers. (KSR #28)
Acknowledgements

We thank Global Wildlife Conservation for its support with an SSC Internal Small Grant to support the SIS-5G in 2020–2021. We want to acknowledge Alejandro Torés for his support to manage the website and Nahomy de Andrade from the SSC in the process to manage the small grant. We also want to acknowledge M.O. Anand, Luis M. Bautista, Kate Brandis, Megan Diamond, Jonah Gula, Swati Kittur, Suresh Kumar, Pablo Alberto Refoyo Román, Jennifer Spencer, Nawin Kumar Tiwary, Robert Tizard and Abdul J. Urfi for their time to review the articles accepted in SIS Conservation in 2020. Jonah Gula and Juan Pablo Resino have donated wonderful pictures to this IUCN SSC Specialist Group.

Summary of activities 2020

Components of Species Conservation Cycle: 2/5

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Main KSRs addressed: 9, 27, 28

Resolutions addressed: WCC-2016-Res-027

KSR: Key Species Result
IUCN SSC
Swan
Specialist Group

2020 Report

Chair
Eileen Rees

Red List Authority Coordinator
BirdLife International (focal point: Eileen Rees)

Location/Affiliation
Wildfowl & Wetlands Trust, Slimbridge, Gloucester GL2 7BT, UK (retired)

Number of members
310

Social networks
Website: www.swansg.org

Mission statement
The Swan Specialist Group (SSG) is an international network of swan specialists who undertake monitoring, research, conservation and management of swan populations. Its mission is to facilitate effective communication between members and others with an interest in swan management and conservation worldwide, in order to improve national and international links for cooperative research, to identify gaps in knowledge and to provide a forum for addressing swan conservation issues.

Projected impact for the 2017-2020 quadrennium
By the end of 2020, we will have undertaken a further census of the Northwest European Bewick’s Swan (Cygnus columbianus bewickii) population to determine whether we have achieved the initial target of the African-Eurasian Migratory Waterbirds (AEWA) Bewick’s Swan Action Plan, of halting the ongoing decline in the Northwest European population and, if necessary, begin recovery of the population to its 2000 level. By 2020, we also envisage having a better understanding of the environmental factors contributing to the decline, and to have started addressing these where necessary. For the other swan species, which are currently classed as Least Concern by IUCN, we will maintain our monitoring of population trends, or collect such information where the monitoring is being undertaken by other organisations, to identify any conservation issues that may arise for the swans.

Targets for the 2017-2020 quadrennium
Assess
Research activities: (1) AEWA Bewick’s Swan Action Plan: identify reasons for the population decline; (2) population monitoring: conduct international censuses of migratory swan populations in the Northern Hemisphere; (3) gap-filling: improve knowledge of population trends and threats to swan species in the Southern Hemisphere.

Plan
Planning: (1) AEWA Bewick’s Swan Action Plan: hold an implementation workshop; (2) AEWA Bewick’s Swan Action Plan: put actions to reduce threats to Bewick’s Swans in place; (3) AEWA Bewick’s Swan Action Plan: halt and reverse population decline.
Policy: provide information and technical advice in support of the programmes of IUCN SSC, Wetlands International, BirdLife International, Ramsar and others as necessary.

Act
Conservation actions: implementation of AEWA Bewick’s Swan Action Plan: put actions to reduce threats to Bewick’s Swans in place.

Communicate
Communication: (1) publish Swan News newsletter annually: four issues in years 2017–2020; (2) launch Swan Specialist Group website; (3) maintain Swan Specialist Group listserv.
Activities and results 2020

Assess

Research activities


ii. Censuses of (1) Trumpeter Swan (*Cygnus buccinator*) and (2) Tundra Swan (also known as Whistling Swan, *Cygnus columbianus columbianus*) populations were carried out annually by the US Fish and Wildlife Service (USFWS), with results published in reports and summarised in: Rees, E.C. and Rozenfeld, S.B. (2019). ‘Conservation status of the world’s swan populations, *Cygnus sp.* and *Coscoroba* sp.: a review of current trends and gaps in knowledge’. *Wildfowl* Special Issue 5:35–72. The 5-yearly censuses of (3) Icelandic Whooper Swan (*Cygnus cygnus*) population, (4) Northwest Mainland Europe Whooper Swan population, and (5) Northwest European Bewick’s Swan population were undertaken on schedule in January 2020, with counts also extending to Bewick’s and Whooper Swans in the Caspian and Black Sea region. Additionally,
Bewick’s Swan, *Cygnus columbianus bewickii*, adult
Photo: Colin Butters

Mute Swan, *Cygnus olor*, on her nest with downy cygnets
Photo: Cathy Kerr

Girls with Tundra Swan, *Cygnus columbianus*, cygnet on the Yukon-Kuskokwim Delta, Alaska
Photo: Craig Ely

**Policy**

i. Letters expressing IUCN SSC Swan Specialist Group concern were sent regarding: (1) proposed redefinition of the scope of the US Migratory Bird Treaty Act (the ‘MBTA Rule’), and (2) Icelandic government debate on issuing hunting permits for Whooper Swans. We advised BirdLife International of a recently published paper (Rees et al. 2019) assessing the conservation status (including gaps in knowledge) of swan species/populations globally. (KSR #27)

**Act**

**Conservation actions**

i. Virtual bilateral (Anglo-Russian) ‘Swan Champions Project’ meetings continued online. A film on Bewick’s Swan conservation, with a particular focus on the Russian arctic, is now in development. Initial analysis of the collision risk posed by wind farms and powerlines to Bewick’s Swans across Europe was completed. (KSR #18, 29)

**Communicate**

i. Swan News 16 is in full draft. It will be finalised and circulated in 2021. (KSR #28)

ii. The ssg-forum listserv, hosted by the Wildfowl & Wetlands Trust (WWT), continues to be the main method for maintaining communication between Swan Specialist Group members, along with the annual newsletter. (KSR #28)

**Acknowledgements**

The IUCN SSC Swan Specialist Group is grateful to its members for their continued active and enthusiastic involvement in swan research and conservation work during 2020 which, as a result of the COVID-19 pandemic, has been an unusual and particularly difficult year in many regions. We thank the IUCN SSC Secretariat for its support and the Wildfowl & Wetlands Trust (WWT) for hosting the Swan Specialist Group website. The WWT and Wetlands International also co-funded swan survey work in the north Caspian region, which contributed to the international swan censuses. The Chinese Academy of Sciences kindly supported analysis and publication of data on the flyways, population trends and conservation challenges for Anatidae, including swan species, in East Asia.

**Summary of activities 2020**

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Main KSRs addressed: 12, 16, 18, 27, 28, 29, 32

KSR: Key Species Result
Mission statement
To conserve the world’s most threatened waterfowl by focusing on direct action; developing, demonstrating and disseminating best conservation practice and processes; and actively promoting and encouraging information exchange on threatened waterfowl monitoring, research, conservation and public awareness worldwide. We will do this through producing and implementing international action plans, incorporating in situ and ex situ conservation tools, as necessary; by providing advice to policy makers, international conventions and practitioners; and by encouraging information exchange and cooperation amongst threatened waterfowl conservationists and with other relevant conventions and organisations.

Projected impact for the 2017-2020 quadrennium

By the end of 2020, the Threatened Waterfowl Specialist Group (TWSG) will have held the Baer’s Pochard (Aythya baeri) workshop, produced a prioritised list of conservation actions and fundraised for the highest conservation priority projects. Until the workshop is held in March 2018 it is not possible to say what these will be. By the end of 2020, we will have released over 100 Madagascar Pochard (Aythya innotata) into the wild at Lake Sofia, we will understand how best to release birds at Lake Sofia, and we will have developed clear targets for success. We will have a better understanding of the past ecology of the breeding site and will understand the impact of conservation interventions. By 2020 we hope that the population of Ruddy Ducks (Oxyura jamaicensis) in France will have been significantly reduced.

Targets for the 2017-2020 quadrennium

Assess
Research activities: (1) Madagascar Pochard: conduct paleoecology PhD study to determine past ecology of Lake Sofia to inform future management of the lake; (2) Madagascar Pochard: conduct PhD study to understand the effect of conservation interventions at the last remaining breeding site.

Plan

Act
Conservation actions: (1) Baer’s Pochard: maintain a viable captive population of Baer’s Pochard at Slimbridge; (2) Madagascar Pochard: maintain a captive breeding population of Madagascar Pochard in Madagascar; (3) Madagascar Pochard: conduct Madagascar Pochard Disease Risk Assessment; (4) Madagascar Pochard: produce a Madagascar Pochard release plan; (5) Madagascar Pochard: begin releases of Madagascar Pochard into the wild; (6) Madagascar Pochard: release up to 40 Madagascar Pochard per annum into the wild at Lake Sofia; (7) Madagascar Pochard: conduct post-release monitoring to improve understanding of pochard ecology and inform future management of the lake; (8) Madagascar Pochard: maintain Aquaponics systems in the Slimbridge captive breeding facilities; (9) Madagascar Pochard: produce plan for how
and when the Aquaponics system will be rolled out in Madagascar; (10) Madagascar Pochard: continue habitat management and restoration activities at the proposed release site, working through local associations; (11) White-headed Duck (Oxyura leucocephala): review implementation of the European Ruddy Duck eradication strategy and produce recommendations for its further implementation; (12) White-headed Duck: support the European Commission LIFE project to eradicate the Ruddy Duck from France, and provide advice as required.

Technical advice: provide information and technical advice in support of the programmes of IUCN SSC, Wetlands International, BirdLife International, Ramsar and others as necessary.

Communicate
Communication: maintain the TWSG forum list server to facilitate communication between TWSG members.

Activities and results 2020
Assess
Research activities
i. Madagascar Pochard: A PhD using palaeo-olimnology to inform freshwater restoration in Madagascar began with UK Natural Environment Research Council (NERC) funding, through University College London. Project details are available at https://www.geog.ucl.ac.uk/people/research-students/lilian-unger, and a project blog at https://madagascar-lakesphd.wordpress.com/the-project/.
(KSR #32)
**ii. Madagascar Pochard: The PhD thesis**

"Etat des zones humides de Haut Plateau et de l’ouest et conservation des trois espèces d’anatidés endémiques: Aythya innotata (Salvadori, 1894), Anas bernieri Hartlaub, 1860 et Anas melleri, Sclater, 1864 (State of the high plateau and western wetlands and conservation of three endemic Anatidae: Aythya innotata (Salvadori, 1894), Anas bernieri Hartlaub, 1860 and Anas melleri Sclater, 1864)" was submitted in 2020, and will be defended by Dr Felix Razafindrajao in 2021. (KSR #32)

**Ac**

**Conservation actions**

**i.** The captive population of Baer’s Pochard at Slimbridge is maintained in good health. (KSR #25)

**ii.** Two breeding centres for Madagascar Pochard are established and running in Antsohohiha, Madagascar; 196 pochards were bred at the two centres in the period 2011–2021. (KSR #25)

**iii.** Release of Madagascar Pochard into the wild at Lake Sofia: Release in 2019 was not possible due to a poor breeding season and, despite ideal numbers produced at captive breeding centres, release in 2020 was postponed due to local and international COVID-19 travel restrictions. Release of captive-bred birds is planned for the third quarter of 2021. (KSR #25)

**iv.** Madagascar Pochard: Monitoring is ongoing throughout the year. The report ‘Rapport Suivi des Fotsimaso lâchés au lac Sofia 2018–2021’ was prepared and will be submitted to the Government of Madagascar in June 2021.

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Endangered White-headed Duck, *Oxyura leucocephala*  
Photo: Gary Kramer
v. Madagascar Pochard: The Programmes initiated through the “Establishing Sustainable Management of the Lake Sofia Catchment Madagascar” project (see https://www.darwininitiative.org.uk/project/DAR22007/) are ongoing through Wildfowl & Wetlands Trust (WWT), Durrell Wildlife Conservation Trust and Asity Madagascar, with several additional partners. (KSR #25)

vi. An expert meeting on the implementation of the Action Plan for the eradication of European Ruddy Duck (Oxyura jamaicensis) in Europe was held in London on 25 February 2020 (see https://rm.coe.int/expert-meeting-report-on-the-ruddy-duck-25-feb-2020/16809e17d3). (KSR #25)


viii. Eradication of Ruddy Duck in France is ongoing and successful with potentially fewer than 10 birds remaining in late 2020. (KSR #13)

Technical advice
i. BirdLife Red List team: Species updates 2019–2021. (KSR #27)

Communicate

Communication
i. The TWSG forum list was moved from Wildfowl & Wetlands Trust to an independent TWSG group through the groups.io website. (KSR #28)

Acknowledgements

TWSG would like to thank members for their regular updates and points of interest on the many taxa of concern to the group. We particularly want to thank Richard Hearn and Nigel Jarrett for their contribution to the understanding of Baer’s Pochards, Iain Henderson for reports on Ruddy Ducks, Andy Green and Anthony Dabadie for news of White-headed Duck, and Hannah Robson, Richard Lewis, Felix Razafindrajao, Floriot Randrianarimangason and Andy Bamford for news of Madagascar Pochard. We once again thank Gary Kramer for the use of his photographs included in the report and Dan Wright for producing the group’s logo and the new website.

Summary of activities 2020

Components of Species Conservation Cycle: 3/5

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Main KSRs addressed: 13, 25, 27, 28, 32

KSR: Key Species Result
Mission statement

The IUCN SSC Vulture Specialist Group (VSG) aims to advocate and create greater awareness of the plight of vultures and coordinate and support effective conservation activities to their benefit.

Projected impact for the 2017-2020 quadrennium

Completion and planned implementation of the Convention on the Conservation of Migratory Species of Wild Animals (CMS) Vulture Multi-species Action Plan (MsAP) aims to halt the decline in Old World Vulture populations in Africa-Eurasia over the next 12 years, commencing in 2018.

Targets for the 2017-2020 quadrennium

Assess

Research activities: publish four editions of the VSG journal Vulture News.

Plan

Planning: (1) engage members and others to implement the Vulture Multi-species Action Plan (MsAP) for all Old World vultures; (2) support implementation of the MsAP at a regional and sub-regional level; (3) act as a key partner in promoting the CMS Multi-species Action Plan for African-Eurasian Vultures.

Activities and results 2020

Assess

Research activities

i. Two editions of the VSG journal Vulture News were published, including a special edition on harnessing guidelines (Vol 78 and 78a). (KSR #28)

Plan

Planning

i. Nine letters of support for implementation of the Multi-species Action Plan (MsAP) at a regional and sub-regional level and one official letter were obtained. (KSR #15)
Summary of activities 2020

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Main KSRs addressed: 15, 21, 26, 28, 29

Acknowledgements

We would like to again thank the Royal Society for the Protection of Birds and the Endangered Wildlife Trust for enabling the Co-Chairs to continue in their roles and allocate substantial amounts of their time to the IUCN SSC Vulture Specialist Group. Thank you also to our Steering Committee members/Regional Chairs Darcy Ogada, José Tavares, Sergio Lambertucci and Keith Bildstein for their continued support and input. Particular thanks are due to Campbell Murn who stepped down as Editor of Vulture News at the end of 2020 after a decade of service. We also welcomed Louis Phipps as his replacement. Further acknowledgement is due to the Hawk Conservancy Trust, especially volunteer Lesley Jerome, for their continued administrative support and for initiating work on the VSG website. We continue to work closely with a range of other organisations, but would like to acknowledge BirdLife International, Vulture Conservation Foundation, the CMS Raptors MoU and IUCN SSC staff for their continued support.

Critical Endangered California Condor, Gymnogyps californianus, Pinnacles National Park, California
Photo: Andre Botha

Critical Endangered Ruppell’s Vulture, Gyps rueppelli, Tanzania
Photo: Andre Botha

IUCN SSC VSG Harnessing guide cover
Photo: IUCN SSC VSG

Critically Endangered California Condor, Gymnogyps californianus, Pinnacles National Park, California
Photo: Andre Botha

Critically Endangered Ruppell’s Vulture, Gyps rueppelli, Tanzania
Photo: Andre Botha

We published guidelines for the harnessing of vultures for research purposes as a special edition of Vulture News (Vol 78a). (KSR #15)

We continue engagement of members and others to implement the Vulture Multi-species Action Plan for all Old World vultures. (KSR #15)

Promotion of the CMS Multi-species Action Plan for African-Eurasian Vultures continues. (KSR #21)

One position statement was developed and lodged on the VSG website. (KSR #26)

Membership increased from 108 to 121 members.

We established contact with the Conservation Translocation Specialist Group to receive assistance with the West African Vulture Strategy. (KSR #29)

We engaged the Conservation Planning Specialist Group in the drafting of the West African Vulture Strategy, focused on the impact of belief-based use on vultures. (KSR #29)

A total of 93 organisations from 32 countries on five continents participated in the 2020 International Vulture Awareness Day. (KSR #28)

Two newsletters produced annually. (KSR #28)

Website presence accomplished (www.iucnvsg.org), hosted by the Hawk Conservancy Trust. (KSR #28)
Mission statement
The first aim of the Woodcock and Snipe Specialist Group (WSSG) is to provide up-to-date knowledge on eight woodcock and 18 snipe species in the world. It is also expected to encourage new research and to facilitate contacts between researchers. WSSG plays the role of expertise platform for biologists, conservationists and wildlife managers interested in woodcocks and snipes to share and exchange information. As these are game species, the final objective is to ensure the sustainable use of the populations.

Projected impact for the 2017-2020 quadrennium
The group’s workshop, held in Pico in 2017, the publication of the respective minutes and the annual newsletter, all contribute to increased knowledge about our target species and their conservation and sustainable management. In this sense, we also perceive an increasingly important role for our members alongside the entities responsible for assuring effective conservation and management. In 2019–2020, we will participate in the re-evaluation of the IUCN Red List status of the world’s birds, along with BirdLife, the IUCN Red List Authority for birds. In 2020, we also envisage having new data on the populations of some poorly known woodcock and snipe species from Africa, South America and Asia.

Targets for the 2017-2020 quadrennium
Assess
Research activities: (1) improve knowledge on the conservation status of African, South American and Asian woodcock and snipe species; (2) participate in the re-evaluation of the IUCN Red List status of the world’s birds, with BirdLife (IUCN Red List Authority for birds).

Plan
Policy: continue working closely with entities involved in hunting management.

Network
Membership: visit the US to meet American colleagues, strengthen collaboration within the group and recruit new members.

Communicate
Communication: (1) publish the WSSG Annual Newsletter (numbers 43, 44, 45 and 46); (2) publish the Proceedings of the 8th Woodcock and Snipe Workshop.

Scientific meetings: (1) organise the 8th Woodcock and Snipe Workshop, (2) participate in the 11th American Woodcock Symposium, 24–27 October 2017, Roscommon, Michigan, US.
Activities and results 2020

Assess

Red List

i. Several members of the group were involved in the revision of the information on the factsheets of 9 species (six snipes and three woodcocks), the majority not globally threatened. (KSR #1)

Research activities

i. We started searching for regional/local collaborators, and we are getting some interesting contacts and feedback, mainly from the Asian–Australasian region. (KSR #23)

Plan

Policy

i. Many group members work closely with (or even within) entities involved in hunting management, promoting the sustainable use of woodcock and snipe populations. This is a permanent target, in the sights and daily tasks of members who work in various parts of the globe. (KSR #26)

Acknowledgements

We would like to thank all members and collaborators who sent us articles to be included in the group newsletters.

Summary of activities 2020

Components of Species Conservation Cycle: 2/5

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Main KSRs addressed: 1, 23, 26

KSR: Key Species Result

Least Concern Common Snipe, *Gallinago gallinago*
Photo: David Goncalves

Least Concern Eurasian Woodcock, *Scolopax rusticola*
Photo: Rémi Fontaine
Mission statement
To coordinate effective conservation and management activities for the benefit of eel species, as well as acting as advocates and increasing awareness of the threats to them.

Projected impact for the 2017-2020 quadrennium
Despite the fact that three anguillids are listed as Endangered or Critically Endangered – the European Eel (Anguilla anguilla), Japanese Eel (Anguilla japonica) and American Eel (Anguilla rostrata) – these are relatively well studied, and it is arguable that the other 13 species are in greater need of conservation attention, as little is understood of their status. The Anguillid Eel Specialist Group’s (AESG) aim is to increase our understanding of all anguillids, the tropical species in particular, in order that conservation actions, policy interventions and use are guided by up-to-date science. Further, it is becoming clear that there are lessons to be learnt from interventions relating to the better studied species that can be applied when working directly with and/or advising managers and policymakers, and catalysing communication between range states of all species. Over the past five years, trade and use of anguillids has altered dramatically – both in relation to species traded and countries trading – to meet the ongoing demand in East Asia; therefore, increasing our understanding of the global dynamics of import and export will be essential to ensure sustainable use.

Targets for the 2017-2020 quadrennium
Assess
Red List: (1) hold a Red List assessment workshop for all 16 anguillid eel species (13 updates and three new) in 2018; (2) maintain ongoing engagement with academic institutions, government agencies and NGOs who can provide and/or initiate the collection of robust monitoring data for inclusion in Red List assessments, including from CITES processes if draft decisions from the 17th meeting of the Conference of the Parties to CITES (CoP17) are adopted. Research activities: (1) increase engagement in relation to the practice of re-stocking of anguillids and determine how effective this measure is locally, regionally and globally; (2) monitor use and trade in anguillid species; (3) initiate a PhD on the socio-economics of eel fisheries and trade; (4) initiate monitoring in key sites for species where no data is being collected or gaps exist in species ranges; (5) develop a ‘threat index’ for anguillid eels using the European Eel as a case study.

Plan
Planning: (1) develop a Species Action Plan for the Japanese Eel in Japan; (2) develop a Species Action Plan for the American Eel in Costa Rica. Policy: (1) engage Japanese stakeholders and the Ministry of the Environment with regards to updating the national assessment of the Japanese Eel; (2) ensure all relevant information on anguillids is shared in relation to the needs of conventions such as CITES and the Convention on the Conservation of Migratory Species of Wild Animals (CMS); (3) continue engagement with the Sargasso Sea Commission regarding the importance of this region for American and European Eels.
Act
Conservation actions: produce a national management plan for eel fisheries in the Philippines.

Network
Synergy: engage with range states encompassing transboundary watercourses in Europe as part of CMS cooperative actions.

Communicate
Communication: (1) expand ongoing engagement with policy makers and industry stakeholders in range states to improve the understanding of Red List assessments, the data used in them and the benefits of incorporating information in them in conservation and management activities. Ensure information from Red List assessments is used as species/trade reviews are carried out on behalf of CITES parties; (2) develop the strategy of using eels as a flagship species for aquatic conservation.

Activities and results 2020

Assess
Red List
i. We are finalising the last Red List Assessment, for the American Eel, with a view to submitting this year. This is an update, so all 16 species have now been assessed. (KSR #1)
ii. We are in the process of identifying thematic and geographical gaps in our memberships and expertise in order to engage with relevant individuals and organisations. (KSR #1, 2, 32)

Research activities
i. Studies are taking place in Japan that aim to better understand the effectiveness of re-stocking anguillids. (KSR #33)
ii. Monitoring of use and trade in anguillid species is ongoing through our work with CITES. (KSR #33)

iii. The PhD on the socio-economics of eel fisheries and trade is ongoing, however, it has been delayed due to health issues of the candidate. (KSR #32)

iv. Monitoring has now been initiated in the Philippines. (KSR #12)

v. The staff member working on development of a ‘threat index’ for anguillid eels using the European Eel as a case study left the organisation and the project halted. (KSR #32)

Plan

ii. A workshop is planned for 2021 that will aim to strengthen communication and collaboration across American Eel range states. (KSR #26)

Communicate

Communication
i. We have kept engagement in CITES and CMS. (KSR #3)
ii. We aim to continue using eels as a flagship species for aquatic conservation. (KSR #3, 28)

Acknowledgements
We wish to thank all those who helped with the two Red List assessments that were finalised in 2020. We also wish to thank the CITES and CMS Secretariats, and the Sargasso Sea Commission, with whom we have been engaging closely over the past 12 months to deliver joint work packages.

Summary of activities 2020

Components of Species Conservation Cycle: 5/5

Assess 7
Plan 3
Act 1
Network 1
Communicate 2

Main KSRs addressed: 1, 2, 3, 12, 15, 26, 27, 28, 32, 33, 36

Resolutions addressed: WCC-2016-Res-099

KSR: Key Species Result
Mission statement
To achieve conservation and sustainable use of freshwater fishes and their habitats through: (1) generating and disseminating sound scientific knowledge, (2) creating widespread awareness of their values, and (3) influencing decision-making processes at all levels.

Projected impact for the 2017-2020 quadrennium
By 2020, the Freshwater Fish Specialist Group (FFSG) envisions we can provide stronger recommendations for freshwater conservation priorities, in terms of which species and regions require most urgent action, and how to link conservation action between regions through habitat connectivity. We can achieve this through mobilising the newly assimilated Red List assessment data for application to management and policy. Conservation action will be directed at selected, leading threats to freshwater ecosystems, in particular, invasive species and fragmentation of habitats by dams. By working with partners such as the IUCN World Commission on Protected Areas (WCPA), we can provide guidance for better conservation of freshwater ecosystems in protected areas. By facilitating communication and collaboration between SSC Specialist Groups with a freshwater interest, and by linking this to the work of other IUCN Commissions and the Secretariat, as well as contributing to other major freshwater initiatives beyond IUCN, we will ensure that future freshwater conservation planning is more fully integrated across IUCN’s programmes. Conservation of freshwater species and habitats will be given a higher profile as a core component in wider landscape management, conservation and policy making. Freshwater conservation initiatives will be better coordinated to complement each other, rather than operating in parallel.

Targets for the 2017-2020 quadrennium
Assess
Red List: complete Red List assessments of all freshwater fishes (ca. 15,000 species).
Research activities: (1) expand taxonomic, geographic and ecosystem coverage of freshwater fishes included in World Wildlife Fund’s Freshwater Living Planet Index (FLPI); (2) review the conservation status of migratory fishes relative to dam development.

Plan
Planning: (1) develop programmes on the sustainable, wild-caught fishery for aquarium fishes, with initial focus in the Amazon and Congo; (2) develop projects and collaborations focused on freshwater invasive species; (3) promote the objectives of the IUCN Recommendation WCC-2016-Rec-099-EN: ‘Promotion of Anguillid eels as flagship species for aquatic conservation’; (4) survey and conservation of the Rio Marañón and its fishes.

Policy: (1) review relationships between freshwater biodiversity conservation and inland fisheries; (2) apply the IUCN Guidelines document on recreational fisheries.

Network
Synergy: (1) be a key partner in a new initiative/NGO – Shoal – focused on fundraising for freshwater biodiversity conservation; (2) be a key partner in developing the new initiative, the Alliance for Freshwater Life (AFL); (3) be a key...
partner in developing the IUCN One Programme for Freshwater Biodiversity; (4) support the proposed development of an Aquatic Migratory Species Task Force.

Communicate

Communication: (1) implement World Fish Migration Day (WFMD) for 2018 and 2020; (2) Contribute to Freshwater Theme events at the 2020 World Conservation Congress.

Activities and results 2020

Assess

Red List

i. Will Darwall (IUCN Freshwater Biodiversity Unit) reports that in 2020, assessments of fishes included completion of comprehensive assessments of the Sunda Basin (437 additional spp. assessed), New Guinea (233 spp.) and central Asia (79 spp.), and additional assessments of the Philippines (17 spp., highlighting the 15 species declared Extinct in Lake Lanao), Russia (54 spp.) and Brazilian endemic fishes (155 spp.). An additional 1,266 freshwater fish species have been submitted for publication in 2021. For the South American fishes, a further 3,500 drafted assessments and maps await final checks and external review for publication in 2021/2022 at which point the Freshwater Biodiversity Unit will have achieved comprehensive coverage for all South American freshwater fishes. While FFSG does not claim credit for this success, FFSG members have been important collaborators in the process of compiling and reviewing Red List assessments of freshwater fishes. (KSR #1)

Research activities

i. IUCN’s Freshwater Biodiversity Unit has been leading work analysing fish migration swimways. FFSG member Kerry Brink has started the Africa Swimways project (www.reachingrivers.com/africanswimways) and FFSG members Michael Cooperman, Abebe Getahun and Ian Harrison are part of the Advisory Board. (KSR #43)

Plan

Planning

i. Project Piaba continues to operate their programme on the Rio Negro. Work on the Congo has not been initiated yet. Ian Harrison, Scott Dowd, and Tim Lyons have been in communication with the leaders of the Amazon Research Center for Ornamental Fishes in Peru (www.amazonresearchcenter.org), who are planning the development of conservation breeding programmes at a facility they are developing near Iquitos. (KSR #18)

ii. We have not had a strong focus on invasive species work in 2020. FFSG members collaborated on preparing a session proposal for the IUCN World Congress on a ‘Global Invasive Alien Species Target for the Post-2020 Global Biodiversity Framework’. We provided a letter to the Minister for the Environment, Australia, highlighting the threat caused to native fishes by the proposed development of the Snowy 2.0 Pumped Hydro Scheme Main Works, which would allow transfer of invasive species. Unfortunately, this letter did not prevent the decision to approve this project. FFSG members Ian Harrison, Topsi Contreras MacBeath and Tim Lyons have been providing feedback on a project on ‘Where can we eradicate invasive fish to protect Mexico’s threatened fish?’, which is being conducted by a Mexican MSc student at McGill, Ilse Esparza Magaña, working with the organisation Freshwater Life. Prior to this, in 2019, we reported that FFSG members have worked with the new initiative ‘Freshwater Life’ (https://fwlife.org/) that is focused on the removal of freshwater invasive species and restoration of ecosystems. Ian Harrison has assisted ‘Freshwater Life’ in seeking funding opportunities, providing contact to at least one funding organisation. FFSG Regional Chair Topsi Contreras MacBeath developed a project (funded by the Mohamed bin Zayed Species Conservation Fund) on eradicating
invasive trout and carp from lakes in Lagunas de Zempoala National Park, Mexico, to protect an Endangered species of salamander, the Zempoala Axolotl or Mountain Stream Siredon (Ambystoma altamirani). Ian Harrison worked with colleagues in Argentina to find funding to protect a highly range restricted species, the Naked Characin (Gymnocharacinus bergii), from extinction through threats from invasive species and habitat destruction. (KSR #31)

iii. FFSG member Nathan Lujan has conducted fieldwork in the area, but a full programme of surveys needs to be implemented. Nathan Lujan is leading on seeking funding for this project and is working with Marañón WaterKeeper on advancing this project. The initiative Shoal has expressed interest in seeking funding for the project. A motion for protection of the Marañón was submitted to the 2020 IUCN World Conservation Congress and was tabled for further discussion at the Congress. (KSR #27, 32)

**Policy**

i. There are several members of FFSG who are interested in the relationships between freshwater biodiversity conservation and inland fisheries; for example, Kathy Hughes and Ian Harrison have contributed to the development of the Inland Fisheries Alliance (www.inlandfisheriesalliance.org), but this has not been a priority for the group as a whole. (KSR #26)

ii. Input was previously made to the Draft IUCN SSC Guiding Principles for Recreational Fishing of Threatened Species. The Document remained in review/revision for a lengthy period of time. (KSR #26)
**Network**

**Synergy**

i. The mission of Shoal is to engage a wide range of organisations to accelerate and escalate action to save the most threatened fish and other freshwater species. FFSG member Michael Cooperman has been a supporter of Shoal via his foundation, PlusFish, and he has provided advice to the Shoal staff team during 2020. Technical Assistant Ian Harrison assisted in the process of interviewing and selecting a Conservation Programme Manager for Shoal, has participated in weekly meetings with the Shoal staff team to identify shared areas of interest between Shoal and FFSG, and has introduced Shoal staff to potential collaborators. Other FFSG Steering Committee members (e.g. Topis Contreras MacBeath, Tim Lyons) have also provided advice and input to Shoal. Kathy Hughes, Brian Zimmerman, Ian Harrison and Rajeev Ragavan are all on the Shoal Advisory Board, as are several FFSG members. (KSR #29)

ii. Members of FFSG have remained closely involved with the development of the Alliance for Freshwater Life (AFL); however, there was relatively little further development of the AFL during 2020. (KSR #29)

iii. The plan for developing the IUCN One Programme Strategy for Freshwater Biodiversity Conservation is being managed by the IUCN Global Water Programme (IUCN Water). However, administrative changes within IUCN Water in 2018 stopped the process, and the Strategy document for developing the plan has not been prepared. FFSG Technical Assistant Ian Harrison remains in communication with IUCN Water about the One Programme Strategy for Freshwater Biodiversity Conservation. IUCN Water have stated their continued interest in advancing this agenda when they have greater capacity, but this is not likely to occur in the near future. (KSR #29)

**Communicate**

**Communication**

i. WFMD 2020 was postponed from its original date in May 2020 to October 2020 (due to COVID-19). In May, the World Fish Migration Foundation held a 24-hour webinar marathon focused on global swimways, fish species population statuses and trends, from around the world. The webinar included presentations from over 50 local, national and global experts. FFSG members contributed to this event. In October, WFMD engaged 72 countries in 362 events organised by 1,500+ organisations working together. FFSG members assisted in planning WFMD and in implementing some events. (KSR #28)

ii. Working with the SSC Freshwater Conservation Committee, the FFSG will contribute to sessions at the 2021 World Conservation Congress focused on freshwater biodiversity. (KSR #28, 29)

**Summary of activities 2020**

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<td>Communicate</td>
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Main KSRs addressed: 1, 18, 26, 27, 28, 29, 31, 32, 43

KSR: Key Species Result
Mission statement
The Mission of the Grouper and Wrasse Specialist Group (GWSG) is to promote the conservation, management and wise use of groupers and wrasses, and to enhance awareness of the vulnerability of this group of fishes, which includes the groupers (family Epinephelidae) and wrasses (family Labridae), and of the habitats upon which they depend.

Projected impact for the 2017-2020 quadrennium
By the end of 2020, we would like to see conservation and management attention paid to groupers that are threatened and Near Threatened and international trade reduced to sustainable levels in the case of the CITES-listed Humphead (Napoleon) Wrasse (*Cheilinus undulatus*). We hope to increase our representation in Asia, which will support the development of national planning in the region, and to stimulate research into species that are listed as Data Deficient. More educational materials will be developed on species that are important for fisheries.

Assess
Red List: complete Red List assessments for all groupers. Since these will be reassessments of all the species in the taxon (all 160-plus species are published on the Red List), an Indicator Analysis could be conducted if sufficient changes in status are determined.

Research activities: (1) publish one high impact paper on the outcomes of the grouper Red List reassessments; (2) publish proof of concept paper on the use of facial recognition to improve enforcement of the CITES listing of Humphead Wrasse in Hong Kong; (3) publish a report on Live Reef Fish Trade for the International Coral Reef Initiative.

Plan
Planning: develop an Action Plan for Asia focusing on Data Deficient and threatened species.

Policy: (1) publish a report on live reef fish trade, which is a major threatening factor for groupers and Humphead Wrasse; (2) publish outcomes of 10 years of surveys of Humphead Wrasse in Indonesia following its CITES Appendix II listing.

Act
Conservation actions: develop educational materials for Humphead Wrasse for selected aquaria exhibits.

Network
Membership: (1) enhance GWSG membership in Asia (increase the number to at least eight members in Asia); (2) review and update membership of GWSG.
Activities and results 2020

Network

Membership

i. GWSG membership in Asia has increased to at least eight members.

ii. Membership of GWSG has been updated.

Acknowledgements

The Grouper and Wrasse Specialist Group would like to thank University of Hong Kong Ecology and Biodiversity Division, the ADM Capital Foundation, and the Caribbean Fishery Management Council.

Summary of activities 2020

Species Conservation Cycle ratio: 3/5

Network 2

Main KSRs addressed:

KSR: Key Species Result

The Goliath Grouper, Epinephelus itajara, of the Western Tropical Atlantic and Caribbean shown during a spawning aggregation off Florida, US. This largest of all reef fishes was reassessed as Vulnerable; a non-genuine status change from the initial assessment of Critically Endangered, which reflects an improved application of the IUCN Red List Categories and Criteria. There is a premature move to open up its fishery in Florida in the absence of supportive scientific data.

Photo: Walt Stearns
Mission statement
The mission of the IUCN Salmonid Specialist Group (SSG) is to assess status and act to conserve wild salmonids throughout their native range.

Projected impact for the 2017-2020 quadrennium
Our work is focused on assessing fishes in the salmon family that have received scant attention in the past, particularly in Asia, and our actions and outreach work highlight the importance of protecting critical habitat and maintaining migratory linkages between marine and freshwater ecosystems. Our work helps promote fishing practices that minimize impact on threatened salmonids.

Targets for the 2017-2020 quadrennium

Assess
Red List: assess Red List status of salmonids from North America and Russia.
Research activities: produce a scientific publication on migration behaviour of a Critically Endangered salmonid in Japan.

Act
Conservation actions: (1) review progress on river restoration at Shiretoko Natural World Heritage Site, Japan; (2) help support conservation of African native trout in Morocco.

Network
Membership: expand membership, particularly in Asia.

Communicate
Communication: review chapter in ‘Status and Conservation of Trout and Char Worldwide’.

Activities and results 2020

Assess
Red List
i. Thirty-five species are currently undergoing final review for the IUCN Red List and are on track to be submitted to the Red List in 2021. (KSR #1)

Research activities

Act
Conservation actions
i. We are waiting on the outcome of the latest pending funding proposal to support conservation of African native trout, as the previous one was unsuccessful. (KSR #31)

Network
Membership
i. The group seeks to expand and diversify the group membership, especially recruiting members from Asia, but this activity is running behind schedule and is carried over to the new work plan for 2021–2024.

Summary of activities 2020
Species Conservation Cycle ratio: 3/5

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Main KSRs addressed: 1, 31, 43

KSR: Key Species Result
Fishes

Modified dam in Shiretoko Natural WHS, 2019
Photo: Pete Rand

Dam removal in Shiretoko Natural WHS, 2019
Photo: Pete Rand
Mission statement
To promote the long-term conservation of the world’s Syngnathiform fishes (seahorses, pipefishes, seadragons and their relatives) through the illumination and alleviation of threats to wild populations and their ocean habitat.

Projected impact for the 2017-2020 quadrennium
The Seahorse, Pipefish and Seadragon Specialist Group (SPS SG) will seize these four years to understand and help reduce pressures on syngnathids in at least three geographic areas – Southeast Asia, South Africa and Atlantic South America – that are home to species of particular conservation concern. We will do this through integrated research, management support and policy development. We plan a special effort to urge reduction in perverse incentives (such as fuel subsidies) and to foster enhanced enforcement of existing laws. We hope other Specialist Groups will join us in promoting such changes, which would be of broad benefit. At the same time, we will be making a real effort to reduce the number of our species that are assessed as Data Deficient on the IUCN Red List by expanding our knowledge base. These four years will further see us grow our membership, with respect for diversity of sex, ethnic background, taxonomic focus and technical experience. We are particularly keen to engage youth and non-scientists to add to our effectiveness. Using all members, we plan to raise the profile of our species to help grow the constituency of their supporters.

Targets for the 2017-2020 quadrennium

Assess
Red List: (1) monitor and evaluate priority species (redo Red List assessments); (2) redo Red List assessments for priority Data Deficient species.
Research activities: (1) marshal obscure/grey information on Data Deficient species; (2) promote research agenda for all species; (3) collate new data and knowledge.

Plan
Planning: (1) complete priority action statement for Knysna Seahorse (Hippocampus capensis; Endangered – South Africa); (2) complete priority action statement for White’s Seahorse (Hippocampus whitei; Endangered – Australia); (3) complete priority action statement for Estuarine Pipefish (Syngnathus watermeyeri; Critically Endangered – South Africa); (4) complete priority action statement for Luzon River Pipefish (Microphis pleurostictus; Endangered – Philippines); (5) complete priority action statements for Vulnerable species; (6) monitor and evaluate perverse subsidies for Southeast Asian marine environments; (7) determine priority Data Deficient species.
Policy: (1) select priority regions in which to promote greater implementation of rules and laws that affect syngnathids; (2) create scoping document on implementation for most relevant rules and laws that affect syngnathids in the following regions: Southeast Asian marine, South African estuarine, India and Southeast Asian freshwater, and Brazil and Argentina marine; (3) disseminate scoping document to resource managers and policy makers; (4) complete matrix on perverse incentives that affect syngnathids in Southeast Asian marine environments; (5) complete scoping document on perverse incentives for Southeast Asian marine environments.
Network
Capacity building: mentor next generation leaders/succession planning.
Membership: grow the SPS SG membership in strategic ways by taxon, region, discipline, etc.
Proposal development and funding: source funding for SPS SG programme officer and meetings.
Synergy: (1) collaborate with aquariums; (2) collaborate with multiplier organisations; (3) tighten links with other IUCN units; (4) develop strategic partnerships/synergies with multiplier organisations.
Technical advice: develop urgent action response capacity.

Communicate
Communication: (1) catalyse campaign to effect change in Southeast Asian marine environments; (2) develop outreach capacity for syngnathid conservation issues; (3) create synopsis of issues for donors, policy makers and the public; (4) deploy social media campaign; (5) create a taking action toolkit; (6) create a set of communication tools for the SPS SG.
Scientific meetings: (1) catalyse joint meetings with Specialist Groups for other marine taxa; (2) hold annual meetings of the SPS SG.

Activities and results 2020
Assess
Red List
i. Draft assessments for priority Data Deficient species, Short-snouted Seahorse (*Hippocampus hippocampus*) and Long-snouted Seahorse (*H. guttulatus*), are under review and will be submitted and updated to the IUCN Red List of Threatened Species in 2021. (KSR #1, 32)

Research activities
i. Species focal points were assigned for our threatened species including: Estuarine Pipefish, Knysna Seahorse, White’s Seahorse, Tiger-tail Seahorse (*H. comes*; Vulnerable), Spotted Seahorse (*H. kuda*; Vulnerable), Patagonian Seahorse (*H. patagonicus*; Vulnerable), Three-spot Seahorse (*H. trimaculatus*; Vulnerable), Long-snout Seahorse (*H. reidi*; Near Threatened). (KSR #1, 32)

ii. New data and knowledge were collated in a number of regions across the world through: (1) continued monitoring, community outreach and research in Argentina, Australia, Brazil, Greece, France, Kenya, Malaysia, Mozambique, Portugal, South Africa, and the US; (2) SPS SG members published a paper describing a new species of pipefish in Australia, the Red Wide-bodied Pipefish, *Stigmatopora harasti*; (3) SPS SG members published a paper describing a new species of pygmy seahorse, the Sodwana Pygmy Seahorse, *Hippocampus nalu*, in South Africa. (KSR #12)

Plan
Planning
i. A priority action statement for the Endangered Knysna Seahorse was completed in 2018 but was revised with additional information in 2020. Local government and stakeholders were invited to engage and contribute to the revised priority action statement. (KSR #15)

ii. A priority action statement for the Critically Endangered Estuarine Pipefish was completed in 2018 but was revised with additional information in 2020 including new data indicating main threats. Local governments and/or stakeholders were invited to engage and contribute to the revised priority action statement. SPS SG member and our regional focal point for Africa completed Green Status assessments in South Africa. (KSR #15)

iii. Although a preliminary list of priority Data Deficient species was drafted, we are hoping to expand and finalise this list in 2021 with input from Specialist Group members to determine the number of priority Data Deficient species where we have new knowledge or data to warrant conservation reassessments. (KSR #15)

Policy
i. The implementation of relevant rules and laws that affect syngnathids was documented for Argentina, Brazil and South Africa. A large review funded by the IUCN Internal SSC Grant
documented national conservation assessments and legislation for the over 130 countries where syngnathids are found. This review will be completed and added to our SPS SG website as a living document in 2021. (KSR #26)

Network

Capacity building

i. New members were appointed as regional or thematic focal points: (1) Dr Nuno Monteiro as the thematic focal point for climate change; (2) Graham Short as the thematic focal point for taxonomy and evolutions; (3) Dr Louw Claassens as regional focal point for Africa; (4) Dr Miguel Correia as the regional focal point for Europe; (5) Dr David Harasti as the regional focal point for Oceania; (6) Dr Adam Lim as the regional focal point for Southeast Asia; (7) Dr Tacyana Oliviera as the regional focal point for South America; and (8) Dr Xiong Zhang as the regional focal point for South Asia in the IUCN SSC Seahorse, Pipefish and Seadragon Specialist Group. (KSR #17)

Membership

i. We have eight new members from Australia, Canada, Kenya, Mexico, Peru, and the US with specialities ranging from Aquaculture, Taxonomy and Evolution, Trade, eDNA, Seadragons and Ghost pipefishes.

Synergy

i. One new member was appointed from the Birch Aquarium. Consultations took place with Association of Zoos & Aquariums (AZA) members on IUCN World Conservation Congress (WCC) motions. (KSR #25, 29)

ii. We have collaborations with over 35 multiplier organisations, including the AZA and the home institutions of all our IUCN SPS SG members. Connections were also made through promoting and endorsing multiplier organisations’ campaigns and messages on social media (e.g., Twitter). (KSR #29)

iii. Connections made with IUCN units include: (1) discussions with the Chair of the IUCN Conservation Translocation Specialist Group for advice on developing guidelines for the release of captive-bred syngnathids; (2) communications with the Freshwater Fish Specialist Group to determine researchers who may be working on freshwater pipefish species; (3) promoting the IUCN SSC Marine Conservation Committee, IUCN SSC Cetacean Specialist Group and IUCN SSC Shark Specialist Group on their submitted IUCN WCC 2020 motions (all now accepted as Resolutions). Motions (now Resolutions) were actively supported through social media and include: Resolution WCC-2020-Res-023: Reducing impacts of incidental capture on threatened marine species; Resolution WCC-2020-Res-025: Ecosystem conservation, restoration and remediation in the ocean; Resolution WCC-2020-Res-091: Global Conservation of rhino rays (Rhinidae, Glaucostegidae, Rhinobatidae); Resolution WCC-2020-Res-094: Safeguarding the Endangered narrow-ridged finless porpoise (Neophocaena asiaeorientalis) in the Yellow Sea; Resolution WCC-2020-Res-095: Conservation of seahorses, pipefishes and seadragons (family Syngnathidae); Resolution WCC-2020-Res-107: Reducing the impact of fisheries on marine biodiversity. (KSR #29)

Technical advice

i. SPS SG assisted and connected people/organisations to address urgent requests and concerns for seahorse conservation. Plans are in place to develop guidelines on how to deploy our urgent action response in 2021. We connect SPS SG members with members of our citizen science programme (Seahorse Ambassadors and Trends Monitors) as well as general public requests to address pressing conservation concerns and provide them with tools and resources to increase their capacity and knowledge and capacity to respond. (KSR #18)
Communicate

i. We developed and increased outreach capacity for syngnathid conservation issues by: (1) creating briefing documents and videos on ‘bottom trawling’ and ‘why seahorses?’ through Project Seahorse initiatives; (2) raising the profile for IUCN Motion 111, now Resolution WCC-2020-Res-095: Conservation of seahorses, pipefishes and seadragons (family Syngnathiidae), and all marine-related IUCN WCC motions. (KSR #28)

ii. The now accepted Resolution WCC-2020-Res-095: Conservation of seahorses, pipefishes and seadragons (family Syngnathiidae) will serve as a vital tool providing a synopsis of issues for donors, policy makers and the public to both raise awareness and catalyse action. (KSR #14)

iii. Our Specialist Group remains active on social media through Twitter, Instagram and Facebook, where we share our many successes and achievements including four blogs covering research on the Critically Endangered Estuarine Pipefish in South Africa, documenting our SPS SG meeting in May 2020, and bringing attention to IUCN WCC Resolution 95 on seahorses and how seahorses are an index of global fishing pressure. A further three blogs were created to highlight amazing species observed through our iSeahorse community science platform. Significant communication and outreach through regular posts on social media serve to promote the great conservation, research and outreach activities made by our SPS SG members. These posts showcase the work they are doing around the world to protect these magical fishes. (KSR #28)

Scientific meetings

i. We met with Chair of the IUCN SSC Conservation Translocation Specialist Group to discuss updating our guidelines and protocols for release of captive-bred syngnathids. (KSR #14)

ii. Our Specialist Group held a three-day meeting each lasting four hours in May 2020 and a separate 4-hour meeting was held in November 2020. (KSR #28)

Acknowledgements

The SPS SG benefits from support to Project Seahorse, acting as the core of the SPS SG. Project Seahorse is hugely grateful to our long-time major partner in marine conservation, Guylian Belgian Chocolates, and to our faithful supporters at the Langar Foundation. We would also like to thank the IUCN SSC for providing an external grant to support a portion of our work documenting national conservation assessments and legislation for syngnathids globally. Sincere thanks to the home institutions of all our valued SPS SG members. Project Seahorse also thanks our host institutions, the University of British Columbia in Canada and Zoological Society of London in the UK, who provide support for the Chair and some SPS SG and Project Seahorse activities.

Summary of activities 2020

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Main KSRs addressed: 1, 12, 14, 15, 17, 18, 25, 26, 28, 29, 32

Resolutions: WCC-2016-Res-016, WCC-2016-Res-021

KSR: Key Species Result
**Mission statement**
To secure the conservation, management and, where necessary, the recovery of the world’s sharks, rays and chimaeras by mobilising global technical and scientific expertise to provide the knowledge that enables action.

**Projected impact for the 2017-2020 quadrennium**
By the end of 2020, we envision a substantial advance in reducing the extinction risk of the top three most threatened groups of chondrichthians, namely the Sawfishes, Angel Sharks and Guitarfishes. Eight regional and two thematic workshops will be undertaken to inform updated Red List assessments for all remaining chondrichthians (942 species), thereby informing conservation prioritisation beyond these most threatened groups moving forward.

**Targets for the 2017-2020 quadrennium**

**Assess**

Policy: develop a Living Planet Index for Chondrichthians.
Red List: (1) complete nine hundred and forty-five assessments/reassessments through eight regional and two thematic workshops (all chondrichthians not recently assessed); (2) develop a Global Red List Index for chondrichthians; (3) predict the conservation status for all species assessed as Data Deficient.

**Act**

Policy: (1) provide policy advice on the use of Red List Categories and Criteria in fisheries management to the International Council for the Exploration of the Sea (ICES); (2) provide policy advice on chondrichthians to the Convention on Migratory Species (CMS).

Research activities: (1) create EDGE (Evolutionarily Distinct and Globally Endangered) Sharks with the Zoological Society of London (ZSL); (2) begin funding and development of a Sawfish sightings database.

Technological advice: (1) provide advice on shark and ray conservation priorities to donors, including the Shark Conservation Fund; (2) provide advice on reintroduction to zoos and aquaria; (3) provide advice as part of progress reporting on implementation of the Protocol for Specially Protected Areas and Biodiversity Information on the reporting party; (4) advance national shark report card work.

**Network**

Synergy: create a collaborative network focused on Wedgefish and Guitarfish conservation.
Communicate
Communication: (1) launch the Sawfish Progress and Priorities report; (2) raise awareness about extinction risk in Sawfishes; (3) maintain an active and engaged Shark Specialist Group membership; (4) make contributions to the SSC e-Bulletin; (5) launch the International Angel Shark Day.

Technical advice: provide advice to Humane Society International.

Activities and results 2020

Assess

Policy
i. A Living Planet Index was produced and communicated for oceanic sharks and rays. Remaining Living Planet Indices will be produced in 2021. (KSR #11, 12)

Red List
i. Four-hundred and ninety (490) assessments were published in 2020. This brings the total number published since 2013 to 1,092. Two virtual workshops were held: Southeast Asia (to assess 124 species, involving 31 participants over 13 Zoom meetings spanning 15 April–28 May 2020) and West Africa (to assess 50 species, involving 37 participants over 10 Zoom meetings spanning 7 July–5 August 2020). (KSR #1)

ii. We produced three Red List Indices for: (1) Oceanic sharks and rays, (2) Wedgefishes and Giant Guitarfishes; and (3) Regional Red List Index of Northeast Atlantic and Mediterranean Sea. The remaining Red List Indices will be produced in 2021. (KSR #3)


Plan
Planning
i. A short-form conservation strategy for Wedgefishes and Guitarfishes was funded and due to be completed at the end of 2020 but has been delayed to late 2021 (due to COVID-19). (KSR #15)


Research activities
i. The Shark and Ray MPA project was completed. (KSR #26, 32)

Act

Technical advice
i. Through science-based development of conservation strategies, we have driven the funding agenda of a major donor driving USD 1,004,670 into delivering on Angel Shark conservation strategies. The following projects were funded: (1) Mediterranean Angel Shark Project (USD 263,285): https://www.sharkconservation-fund.org/project/angel-sharks-a-regional-action-plan-for-the-mediterranean/; (2) ‘Securing the long-term conservation of Angelsharks in...
Vulnerable Northern River Shark, *Glyphis garricki*

Photo: Grant Johnson

**Communicate**

**Communication**

i. Eight membership newsletters were produced. (KSR #28, 29)

ii. SSC e-Bulletin: We had five entries in every IUCN Species e-Bulletin in 2020. (KSR #28, 29)

iii. We have continued engagement with International Sawfish Day. (KSR #28)

iv. We undertook considerable coordination and communication for the tweets and webinar around the hashtag #AngelsharkDay on 26 June 2020. (KSR #28)

**Acknowledgements**

The IUCN SSC Shark Specialist Group would like to thank all our funders, partners, collaborators and workshop participants. In particular, special thanks are due to Ahmed Bin Ali, Jo Barker, John Carlson, Patricia Charvet, Martin Clark, Zoe Crysler, Will Darwall, Danielle Derrick, Mika Diop, Al Dove, Fahmi, Brit Finucci, Sonja Fordham, Sarah Gravel, Katelyn Herman, Ali Hood, Rima Jabado, Peter Kyne, Dave Kulka, Julia Lawson, Jennifer Lutzke, Nathan Pacoureau, Caroline Pollock, Riley Poliom, Cassie Rigby, Catherine Sawyer, Samantha Sherman, Wade Vander Wright, Rachel Walls and Helen Yan. Thanks are also due to institutional partners including the Angel Shark Project, Comms Inc., the IUCN Red List Unit, the IUCN Freshwater Biodiversity Unit, the IUCN SSC Amphibian Specialist Group, the IUCN SSC Chair’s Office, James Cook University, the Shark Trust, and the Zoological Society of London. Funding and in-kind contributions were graciously provided by the Shark Conservation Fund, the Disney Conservation Fund, Georgia Aquarium, The Mohamed bin Zayed Species Conservation Fund, the National Science and Engineering Research Council of Canada and the Canada Research Chairs Program, and the Save Our Seas Foundation.

**Summary of activities 2020**

Components of Species Conservation Cycle: 4/5

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Communicate  4  

Main KSRs addressed: 1, 3, 11, 12, 15, 26, 27, 28, 29, 32

Resolutions addressed: WCC-2016-Res-016

KSR: Key Species Result
Mission statement
To achieve conservation and sustainable use of snappers, seabreams, grunts and associated reef fish species through the application of improved scientific knowledge and community engagement to management decision making.

Projected impact for the 2017-2020 quadrennium
By the end of 2020, the Snapper, Seabream and Grunt Specialist Group (SSG SG) aims to complete over 90% of the Red Listing of all snapper, seabream and grunt (SSG) families (more than 400 species) with conservation planning underway for at least two species in two regions (with implementation beginning by 2021). Given limited resources, there is a focus on the conservation of threatened spawning aggregations of major SSG species. We also plan to develop Red List training workshops and assessments in understudied regions with diverse SSG species, some of which are highly vulnerable and need species conservation planning linked to applied fishery management of snappers, seabreams and grunts: basket fishes of global warm water shores. We also envision climate change research on key species in the SSG as well as continued efforts to bring fishers and other sources of traditional ecological knowledge (TEK) into fishery management and conservation.

Targets for the 2017-2020 quadrennium
Assess
Red List: (1) complete global assessment of Family Nemipteridae (target completion of 73 species total); (2) complete global assessment of Family Lutjanidae (target completion of 113 species total); (3) complete global assessment of Family Haemulidae (target completion of 136 species total); (4) complete global assessment of Family Lethrinidae (target completion of 44 species total); (5) complete global assessment of Family Caesionidae (target completion of 23 species total); (6) update global assessment of Family Sparidae (target completion of 166 species total).
Research activities: (1) assess climate change impacts on 20 Haemulid and Lutjanid species; (2) develop a collaborative report on TEK in SSG Science and Management.

Plan

Act
Conservation actions: assist Regional Fisheries Management Organisation (RFMO) implementation of five new spawning reserves.
Network
Capacity building: foster training of at least two members per region using species conservation planning tools, with preliminary development of new conservation planning efforts in two regions.

Communicate
Communication: (1) complete and maintain a website for the Specialist Group; (2) produce guides in three languages for common, difficult to identify life history species of nearshore snappers, grunts and porgies.

Activities and results 2020

Assess
Red List
i. Reviews of 31 species in Family Nemipteridae are underway; we anticipate publication in late 2021. (KSR #1)

ii. Reviews of 10 species in Family Lutjanidae are underway; we anticipate publication in late 2021. (KSR #1)

iii. Reviews of 30 species in Family Haemulidae are underway; we anticipate publication in late 2021. (KSR #1)

iv. Reviews of five species in Family Lethrinidae are underway; we anticipate publication in late 2021. (KSR #1)

v. Review of one species in Family Caesionidae is underway; we anticipate publication in late 2021. (KSR #1)

vi. Reviews of 14 species in Family Sparidae are underway; we anticipate publication in late 2021. (KSR #1)

Research activities
i. Completion of the Red List assessment text on climate change impacts for five species is underway for 2021. Manuscript completion is anticipated in 2022. (KSR #12)

ii. Major IUCN Guidelines on traditional ecological knowledge (TEK) in SSG science and management were published in 2020: Cowie, W., et al. (2020). *IUCN Guidelines for gathering of fishers’ knowledge for policy development and applied use.* IUCN, Gland, Switzerland; and Environment Agency – Abu Dhabi, United Arab Emirates. (KSR #32)

Act
Conservation actions
i. Evaluation efforts of five spawning reserves are underway by a Regional Fisheries Management Organisation team. (KSR #22)

Communicate

Communication
i. Frequent use of the website continues; it is upgraded at intervals. (KSR #28)

ii. One and a half of three guides for common but difficult to identify life history species of nearshore snappers, grunts, and porgies have been drafted. (KSR #28)

Acknowledgements
We thank the many members of the SSG SG for their input, particularly for efforts on the hundreds of species-scale Red List assessments among diverse global regions, often with limited data. We greatly appreciate the support and assistance of Kent Carpenter, Gina Ralph, and their staff at the Marine Biodiversity Unit, Old Dominion University, IUCN Species Programme. We also appreciate the assistance of the Steering Committee members of the SSG SG, and Amanda Vincent and the IUCN Marine Conservation Committee.

Summary of activities 2020

Components of Species Conservation Cycle: 3/5

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Main KSRs addressed: 1, 12, 22, 28, 32

KSR: Key Species Result

Near Threatened Mutton Snapper,
*Lutjanus analis*, juvenile, East Florida
Photo: D. B. Snyder
Co-Chairs
Phaedra Doukakis (1)
Arne Ludwig (2)

Red List Authority Coordinator
Leonardo Congiu (3)

Location/Affiliation
(1) National Marine Fisheries Service, US
(2) Leibniz Institute for Zoo and Wildlife Research (IZW), Berlin, Germany
(3) Department of Biology, University of Padova, Padova, Italy

Number of members
49

Mission statement
The mission of the IUCN Sturgeon Specialist Group (SSG) is to provide accurate information on the status of sturgeons and paddlefishes and promote their conservation and recovery.

Projected impact for the 2017-2020 quadrennium
By 2020, we envision an SSG with enhanced capacity to contribute to the conservation of sturgeons and paddlefishes on global, regional and local scales. The SSG will have greater impact on decision making at global meetings (CITES, Convention on the Conservation of Migratory Species of Wild Animals (CMS)) and will provide expertise in the areas of conservation of wild stocks and impact of aquaculture. With an up-to-date Red List for all species, accurate information on the status of wild species and necessary conservation actions will be available. For the most threatened species, action plans will be under development to guide restoration and recovery efforts.

Targets for the 2017-2020 quadrennium

Assess
Red List: (1) update Red List assessments for European and Asian species; (2) publish updated Red List assessments for North American species.

Plan
Planning: ensure action plans are in development for at least four of the most imperilled species.
Policy: (1) increased presence at CMS; (2) prepare position papers/information documents for CITES meetings where sturgeon is discussed, particularly in areas of aquaculture, labelling and stock identification.

Network
Membership: enhance regional representation (e.g. Hungary, Bulgaria, Georgia, Azerbaijan and Uzbekistan).
Proposal development and funding: ensure at least two grants are submitted by SSG members as a result of SSG activities.
Scientific meetings: hold annual meetings for regional representatives.
Synergy: create strong working groups on topics of importance (e.g. identification of management units, stock assessments, trade control and link to aquaculture).

Communicate
Communication: (1) revise mission statement, website and portal membership list; (2) ensure better communication internally and with outside groups (e.g. World Sturgeon Conservation Society, North American Sturgeon and Paddlefish Society); (3) publish at least two position papers.

Activities and results 2020

Assess
Red List

i. Eighteen species assessments plus several subpopulation assessments for European and Asian species will be submitted to the IUCN Red List Unit in 2021. (KSR #2)

ii. Nine species assessments plus several subpopulation assessments for North American species will be submitted to the IUCN Red List Unit in 2021. (KSR #2)
Plan

Policy

i. Several members joined five online meetings of CMS. (KSR #26)

ii. Two IUCN position documents and guidelines were published: identification of species and hybrids, source and geographical origin of sturgeon and paddlefish (Acipenseriformes spp.) specimens and products in trade. (KSR #26)

Network

Membership

i. New members joined SSG from Georgia and Bulgaria.

Proposal development and funding

i. We applied for two IUCN grants and support from the Chinese Academy of Sciences for an assessment meeting.

Synergy

i. The World Sturgeon Conservation Congress has been postponed to 2022 or 2023 due to COVID-19.

Communicate

Communication

i. We worked in close cooperation with WWF and the World Sturgeon Conservation Society (WSCS). (KSR #28)

ii. We produced a letter to the EU Commission, a joint statement with WWF and WSCS on the conservation of European sturgeons. (KSR #28)

Acknowledgements

The IUCN Sturgeon Specialist Group wants to thank the Chinese Academy of Sciences and the Wuhan Fisheries Research Institute for financial support for the Red List Assessment Meeting in Shanghai 2019. We also thank WWF Austria for financial support for support for meeting organisation. Special thanks go to our long-term partner, WSCS.

Summary of activities 2020

Species Conservation Cycle ratio: 4/5

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Main KSRs addressed: 2, 26, 28

KSR: Key Species Result

Young of the year wild Beluga (Huso huso) caught in Danube
Photos: Tudor Ionescu

Stomach content of a pikeperch captured in June 2021 that had three sturgeons in its stomach. The two individuals above are almost certainly Sterlet (Acipenser ruthenus), although they could be hybrids; and the one below may be a Russian Sturgeon (Acipenser gueldenstaedtii)
Photo: Tudor Ionescu
Mission statement
To bring together a variety of stakeholders to increase knowledge on the global status and conservation of the world’s tuna and billfish species.

Projected impact for the 2017-2020 quadrennium
Reassessments of the world’s tunas and billfishes will greatly improve and consolidate the current state of knowledge of these species around the globe. Many regional and national fisheries management organisations, in addition to other sustainable seafood and research organisations, are relying on these data to inform and update current policies and management recommendations.

Targets for the 2017-2020 quadrennium
Assess
Red List: complete reassessments for 51 scobrids and 10 billfishes.
Research activities: complete the book Tunas and Billfishes of the World.

Activities and results 2020
Assess
Research activities

Acknowledgements
The Tuna and Billfish Specialist Group would like to thank Arizona State University, IUCN Integrated Biodiversity Assessment Tool (IBAT), and private philanthropy for funding.
Sailfish (Istiophorus platypterus) off Cancun
Photo: Daniel Botelho
IUCN SSC
Butterfly Specialist Group

Mission statement
The mission of the IUCN SSC Butterfly Specialist Group is to increase knowledge on the taxonomy, ecology and conservation status of butterflies and moths around the world and promote their long-term conservation.

Projected impact for the 2017-2020 quadrennium
By the end of 2020, the group will be re-established with an active membership driving forward the assessment of species’ conservation status. By the end of 2020, the group will have completed its first major assessment project by publishing the findings of a status assessment of the world’s swallowtails. The group will have also re-established its presence on social communication platforms, built a membership throughout the world’s regions and pinpointed additional projects for the next quadrennium.

Targets for the 2017-2020 quadrennium

Assess
Green Status: complete assessment of 1–2 species of butterfly for the IUCN Green Status testing process.
Proposal development and funding: establish a collaboration with Butterfly Conservation to inventory butterfly monitoring schemes and available data worldwide (time series of abundance data and presence/absence data, to help us assess data gaps, capacity needs and build a Living Planet Index for butterflies). The first target is to secure funding for this.

Red List: (1) complete assessment of ~550 species of swallowtail butterfly (comprehensive assessment); (2) complete assessment of 29 species of North American prairie butterfly, led by Minnesota Zoo; (3) implement assessment of 400 South Asian endemic butterflies, in conjunction with the South Asian Invertebrate Specialist Group; (4) support the Red List Unit with upload of at least 400 butterfly species assessments compiled through the Southern African assessment processes: Southern African Butterfly Conservation Assessment (SABCA) and Southern African Lepidoptera Conservation Assessment (SALCA); (5) support and work with Albuquerque BioPark invertebrate coordinator Anna Walker on at least 20 Red List assessments of North American species or subspecies of butterflies and moths.

Network
Capacity building: carry out capacity building for Red Listing within the group via targeted Skype or online sessions/have members sign up for the online Red List training course.
Membership: build a global network of members, covering at least 20% of Lepidoptera range countries.

Activities and results 2020

Assess
Proposal development and funding
A funding proposal was completed to inventory butterfly monitoring schemes, but further efforts to push this forward were put on hold in 2020 due to limited capacity during the COVID-19 pandemic. At the start of 2021, we will reconvene a meeting with the partners involved to plan a route ahead for this ambitious project. (KSR #12)
i. By 2020, we have published assessments for a total of 158 species of swallowtail on the IUCN Red List, with another 15 accepted for publication in 2021. Another 210 species have been drafted and are in the final review stages. Sign off on these species slowed during 2020 due to limited capacity but are priorities to be achieved in the first half of 2021. At the start of 2021, the day-to-day running of the project will remain at the Institute of Zoology, Zoological Society of London, following the move of Monni Bohm to the Global Center for Species Survival at Indianapolis Zoo. (KSR #1)

ii. By 2019, two species assessments of North American prairie butterflies were published and another 11 drafted. This project has not progressed further due to staff changes at Minnesota Zoo. However, the publication of the 11 drafted species will become a priority in 2021. (KSR #1, 2)

iii. As of the end of 2020, 129 South African endemic species (Red List update 2020.1), 42 near-endemic species (Red List update 2020.1), 37 Southern African species (Red List update 2020.3) and 113 widespread African species (Red List update 2020.3) have been published. Another set of 30 widespread African species will be published on Red List update 2021.1. Other species are still undergoing final review. The Red List Unit has also worked hard at reviewing and publishing subspecies assessments from the Southern African assessment processes. (KSR #1)

iv. Seventeen species assessments of North American species or subspecies of butterflies and moths were published on Red List update 2020.3. Another five, including four swallowtails, are accepted for publication on Red List update 2021.1. (KSR #1)

Network

Capacity building

i. Our plans for online training in early 2020 were not initiated due to the COVID-19 pandemic, which put considerable time constrictions on the Red List Authority coordinator. However, regular Specialist Group virtual meetings are planned to commence in 2021 to improve the communication within the group and as part of this we will also scope the needs for Red List training and other SSC-relevant workshops (e.g. conservation planning, etc.). (KSR #5)

Membership

i. So far, the network comprises 31 members representing 20 countries. We are now in the process of expanding the network into Africa on the back of the global swallowtail assessment.

Acknowledgements

We want to thank The IUCN-Toyota Red List Partnership for supporting the assessment of swallowtails.

Summary of activities 2020

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KSR: Key Species Result
Mission statement

The mission of the IUCN SSC Dragonfly Specialist Group (DSG) is to increase the knowledge on taxonomy, ecology and biogeography of all Odonata (damselflies and dragonflies). Based on this information, we are currently working on the final steps towards assessing all species globally against the criteria of The IUCN Red List of Threatened Species, while outdated assessments are updated. In parallel, we help conservationists and countries to protect threatened species.

Projected impact for the 2017-2020 quadrennium

By the end of 2020, we want to see all Odonata assessed on the IUCN Red List of Threatened Species. We hope to be able to help more countries with their National Red Lists and their endeavours with Biodiversity Action Plans. Hopefully, more conservation projects and capacity building, not only for threatened species, can be established. Another goal is to establish dragonflies as ‘guardians of the watershed’, enabling a better understanding of biodiversity, a healthy environment and human well-being.

Targets for the 2017-2020 quadrennium

Assess

Red List: (1) complete the global dragonfly assessment (6,300 species); (2) add assessments focusing on African and South American dragonflies to National Red Lists; (3) contribute to the Barometer of Life by completing the assessments of ca. 500 dragonflies in Southeast Asia; (4) contribute to the Barometer of Life by completing the remaining assessments of ca. 1,000 dragonflies globally; (5) gather data in North America through Odonata Central to feed into global Red List assessments.

Research activities: (1) gain more information on Lestes umbrinus to assist conservation planning; (2) research and produce a scientific publication on dragonflies in Tatamá National Park and its buffer area in the Colombian western Andes; (3) contribute to the process of delineating Key Biodiversity Areas (KBAs) for freshwater conservation; (4) delineate KBAs for freshwater conservation in Lake Tanganyika Catchment, Africa; (5) develop an Atlas of the dragonflies of Bhutan/the Eastern Himalaya; (6) use the atlas to develop a Dragonfly Biotic Index for the Eastern Himalaya; (7) develop a field guide for the odonates in the Tatamá region; (8) conduct research on impacts of climate change on mountainous dragonflies in the Andes, Colombia; (9) delineate KBAs for freshwater conservation in Lake Malawi Catchment, Africa; (10) create an open online database for Odonata; (11) contribute to producing a KBA monitoring plan; (12) contribute to KBA assessment for Greece.
Plan

Planning: (1) produce a Species Conservation Action Plan for Yellow Waxtail (*Ceriagrion citrinum*); (2) produce a Species Conservation Action Plan for Maathai’s Longleg (*Notogomphus maathaiae*); (3) produce a Species Conservation Action Plan for *Platycypha amboniensis*.

Policy: (1) develop a Dragonfly Biotic Index for Monitoring and Prioritising Restoration Sites within the Congo-Nile Crest Watershed, Rwanda; (2) develop a Dragonfly Biotic Index for Monitoring and Prioritising Restoration Sites within Europe.

Act

Conservation actions: (1) implement conservation action for *Lestes umbrinus*; (2) implement conservation actions for endemic dragonflies in the Cape Region.


Network

Agreements: develop a scientific research collaboration to generate conservation information for the Sarawak Forestry Corporation.

Capacity building: (1) carry out capacity building and training of Red List assessors worldwide (several people trained in workshops on various continents); (2) maintain a continued focus on capacity building and training in Africa and South America for Red Listing and on-the-ground conservation work; (3) increase the number of Red List trainers in the DSG; (4) conduct capacity building and training of a Red List facilitator.

Proposal development and funding: increase funding for scientific and research projects for dragonflies globally.

Scientific meetings: plan a meeting of the European DSG members at the European Congress on Odonatology (https://ecoo2016.wordpress.com/).

Synergy: expand the network of odonatologists and freshwater conservationists in Africa as members of the DSG.

Activities and results 2020

Assess

Red List

i. Global dragonfly assessments are more or less completed; the last assessments are done and reviewed, and all species are in the IUCN Species Information Service database (SIS). (KSR #1)

ii. Assessments for Kenya are finished; Rwanda will start soon; Brazil has started its update; Argentina is going to start soon; and Peru has assessed and included some species within its national Red List process, which are still under revision (2021). (KSR #2)

iii. All species of dragonflies assessed in Southeast Asia are in SIS, most in review. (KSR #1, 2, 4)

iv. The remaining species of dragonflies assessed globally are in SIS, most in review. (KSR #1, 2, 4)
Vulnerable Yellow-sided Jewel, *Stenocypha jacksoni*, a montane stream species in the Albertine Rift

After travel restrictions finally field work in Rwanda in 2021

Photo: Viola Clausnitzer, August 2021
Research activities

i. Development of an Atlas of the dragonflies of Bhutan/the eastern Himalaya is on track, but COVID-19 might postpone completion in 2021. (KSR #1, 3, 7, 14, 15)

ii. Use of the Atlas of the dragonflies of Bhutan/the eastern Himalaya to develop a Dragonfly Biotic Index for the eastern Himalaya is on track, but COVID-19 might postpone completion in 2021. (KSR #1, 3, 7, 14, 15)

iii. Research on the impacts of climate change on mountainous dragonflies in the Andes, Colombia, is on track, but COVID-19 might postpone completion in 2021. (KSR #38)

iv. Discussions between K.D. Dijkstra, Dennis Paulson and John Abbott on the creation of an open online database for Odonata continued and the database is on its way. (KSR #1, 2, 12, 32, 43)

v. Report delivered to the KBA Mediterranean office: ‘Final report of activities to assess the conservation status of species and habitats in freshwater Key Biodiversity Areas (KBAs), and key additional sites from the River Sebou basin in Morocco’. (KSR #22)

Plan

Planning

i. Species Conservation Action Plan for Yellow Waxtail (Ceriagrion citrinum): publications, sign boards and rules for local stakeholders have been prepared. (KSR #12, 15, 20)

ii. The Species Conservation Action Plan for Platycypha amboiensis was produced. (KSR #12, 15, 20, 34, 39)

Policy

i. Dragonfly Biotic Index for Monitoring and Prioritising Restoration Sites within the Congo-Nile Crest Watershed, Rwanda: the PhD from Erasme Uyizeye was published. (KSR #31, 34)

ii. A proposal to develop a Dragonfly Biotic Index for Monitoring and Prioritising Restoration Sites within Europe is under revision. (KSR #22)

Act

Technical advice


Network

Capacity building

i. Capacity building and training in South America: all Latin American Odonata are in SIS and assessed, and national Red Lists are starting. (KSR #5)

ii. Capacity building and training in Africa: there is frequent contact between African scientists/conservationists and Viola Clausnitzer and K.D. Dijkstra with respect to identification, help in projects and proposals. (KSR #5)

iii. Six people were trained in Red List assessment. (KSR #1, 2, 4)

Proposal development and funding

i. Proposals have been submitted to fund scientific and research projects for dragonflies globally, e.g. for Zambian Wetlands.

Acknowledgements

The Senckenberg Research Institute enables Viola Clausnitzer to work on SSC/IUCN matters as an affiliated scientist. All work for the IUCN SSC Dragonfly Specialist Group is done voluntarily by various researchers.

Summary of activities 2020

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<th>Species Conservation Cycle ratio: 4/5</th>
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<td>Assess 9</td>
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<td>Act 1</td>
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<td>Network 4</td>
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Main KSRs addressed: 1, 2, 3, 4, 5, 7, 12, 14, 15, 20, 22, 31, 32, 34, 38, 39, 43

Resolutions addressed: WCC-2016-Res-016, WCC-2016-Res-041

KSR: Key Species Result

Vulnerable Yellow-sided Jewel, Stenocypha jacksoni, a montane stream species in the Albertine Rift

Photo: Viola Clausnitzer
Mission statement
Our mission is to compile existing knowledge for ~2000 lampyrid species worldwide on their geographic range, population size, and population trends, to identify major extinction threats and risk factors, to increase public knowledge concerning firefly diversity, ecology and behaviour, and to promote long-term conservation efforts.

Projected impact for the 2017-2020 quadrennium
By the end of 2020, the Firefly Specialist Group (FSG) envisions: (1) compilation and publication of a global review of firefly extinction threats; (2) complete data compilation (extent of occurrence (EOO), area of occupancy (AOO), population size, risk factors) in preparation for Red List assessment for fireflies in certain regions (North America, others); (3) increased communication and educational initiatives through the newly announced World Firefly Day, the Selangor Declaration on firefly conservation, and awareness campaigns conducted in individual member countries.

Targets for the 2017-2020 quadrennium
Assess
Red List: (1) complete Red List assessments for a selection of 1–10 flagship species in one year; (2) complete global Red List assessments of 100–200 species for 2020; (3) develop and disseminate standardised methodologies for monitoring firefly species abundances.
Research activities: (1) develop a global distribution database for fireflies that includes relevant behavioural and life history data, then use this information to inform Red List assessments; (2) determine whether the congregating mangrove fireflies in Malaysia and other Southeast Asian countries could be used to establish Key Biodiversity Areas (KBAs); (3) develop a prioritised list of threats to firefly population persistence within different regions.

Network
Membership: Membership: provide guidance and work with local communities to protect threatened species and prevent their extinction.
Synergy: provide guidance and work with local communities to protect threatened species and prevent their extinction.

Communicate
Communication: (1) articulate and share guidelines to promote sustainable firefly ecotourism; (2) ignite public interest and garner local and regional support for firefly conservation and management; (3) develop a medium to track FSG activities and keep members updated; (4) post information about the FSG on the Fireflyers International Network (FIN) website: https://fireflyersinternational.net
Technical advice: disseminate technical information and advice about firefly conservation issues to interested parties.

Activities and results 2020
Assess
Research activities
i. ~130 North American species assessments were submitted to the Red List Unit in December 2020. (KSR #1)
ii. Workshops to determine whether the congregating mangrove fireflies in several Southeast Asian countries could be used to establish KBAs are planned for 2022. (KSR #14, 22)
### Summary of activities 2020

<table>
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Main KSRs addressed: 1, 14, 15, 22, 26, 28

KSR: Key Species Result

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### Technical advice

1. Eight scientific publications from group members plus Firefly Conservation Guidelines for the US and Canada were published and distributed online. (KSR #26)

### Acknowledgements

Thank you to the co-authors for collaborating on a major scientific review of global threats to fireflies published in 2020, and for working together to gather data on firefly tourism around the world. World Firefly Day (2020) was celebrated with support from Fireflyers International Network, Harriet Brooker (Species Media and Communications Officer, IUCN Global Species Programme) and Matthias Fiechter (Media and Communications Officer, IUCN Global Communications Unit). And thanks to the many artists who contributed their talents to raising awareness during the virtual celebration of World Firefly Day in 2020.

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**Invertebrates**

Females in many firefly species are flightless, reducing dispersal and increasing risk. In this photo *Phausis reticulate*, in North Carolina, US

**Photo:** Raphael De Cock

The mysterious Lantern Firefly, *Photuris mysticampas*, is an Endangered wetlands specialist in Delaware, US

**Photo:** Radim Schreiber

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**Skyrocketing firefly tourism brings both benefits and threats in many countries, including Mexico**

**Photo:** Tania Lopez-Palafox

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**Photo:** Tania Lopez-Palafox

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### Network

#### Membership

i. Thirty-two members recruited from five regions, including new members from Israel, Korea, Brazil, and mainland China; Anna Walker (New Mexico BioPark Society) joined as Project Manager.

### Synergy

i. We provided guidance and worked with seven groups to protect threatened species and prevent their extinction. (KSR #15)

### Communicate

#### Communication

i. One guideline to promote sustainable firefly ecotourism was submitted for publication in *Conservation Science and Practice*. (KSR #15)

ii. World Firefly Day 2020 garnered great interest from the public, media and on social media. (KSR #28)

iii. Firefly Specialist Group Facebook page launched. (KSR #28)

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**Invert**erbrates

Females in many firefly species are flightless, reducing dispersal and increasing risk. In this photo *Phausis reticulate*, in North Carolina, US.

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**Photo:** Radim Schreiber

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**Skyrocketing firefly tourism brings both benefits and threats in many countries, including Mexico**

**Photo:** Tania Lopez-Palafox
Mission statement

The mission of the IUCN SSC Freshwater Crustacean Specialist Group (FCSG) is to work towards all aspects of the long-term conservation of freshwater decapods (freshwater crabs, crayfish, freshwater shrimps, and aeglids) worldwide. Specific goals are: (1) to act as the Red List Authority and to update IUCN Red List species assessments; (2) to promote long-term conservation of freshwater decapods worldwide by management of habitats and by the development of conservation strategies and, where necessary, the recovery of populations; (3) to promote integrated research on biodiversity and conservation; (4) to educate non-specialists about all aspects of the group; and (5) to create and maintain an FCSG website that will provide up-to-date world species lists, keep track of the discovery of new species, and list the Red List status for each species.

Projected impact for the 2017-2020 quadrennium

By the end of 2020, we envisage that we will have made progress towards a second global reassessment of the freshwater crabs, including up to 300 newly described species assessed for the first time. This will guide the prioritisation of species for future conservation actions for Critically Endangered species of freshwater crabs. We will also have added the entire global fauna of the Aeglidae (South American anomuran freshwater crabs) to the IUCN Red List. Again, this will guide the prioritisation of species for future conservation actions, especially for Critically Endangered species. We are on track for the stabilisation of the populations of the Critically Endangered species *Johora singaporesis* in Singapore and the recovery of populations. We will have implemented additional conservation strategies for Critically Endangered species of highest priority, and our focus will be on developing conservation action plans for the two rediscovered threatened species of freshwater crabs in Cameroon. We will also have expanded our scope to include all the world’s land crabs and mangrove crabs.

Targets for the 2017-2020 quadrennium

### Assess

- Red List: begin the assessment of 1,500 species of primary freshwater crabs, plus about 90 species of newly described crayfish, and 86 species of aeglids. Also targeted are 27 species of land crabs, and more than 100 species of mangrove crabs.

### Plan

- Planning: develop conservation action plans for two threatened species recently re-discovered in Cameroon.

### Act

- Conservation actions: (1) follow up on the progress of the project initiated in 2015 to save a Critically Endangered species of freshwater crab from Singapore (*Johora singaporesis*) from extinction; (2) begin implementation of conservation action plans for two threatened species recently re-discovered in Cameroon.
Network
Capacity building: (1) organise two Red List training workshops; (2) organise one conservation planning training workshop.
Membership: increase membership from China, Taiwan, Singapore, Costa Rica, the US, Colombia and Australia.
Communicate
Communication: develop a website for the FCSG.

Activities and results 2020
Assess
Red List
i. Plans were made in early 2020 to fund and hold a series of workshops on different regions that, together, would allow us to achieve the reassessment of 1,500 species of primary freshwater crabs, plus about 90 species of newly described crayfish, and 86 species of aeglids.

The new global land crab and mangrove crab assessments were also begun, but progress was made only with the 27 species of land crabs. The assessments of the more than 100 species of mangrove crabs are currently on hold. This entire project was halted when the targeted funding did not materialise, and then the COVID-19 pandemic caused a global lockdown, and it is still in stasis. It could re-emerge as a series of Zoom meetings, but this is at present unclear. (KSR #1)

Act
Conservation actions
i. The status of *Johora singaporensis* is stable and unchanged in 2020. *Ex situ* breeding facilities have been established, and crabs have been producing eggs/young. But *ex situ* mating continues to elude. (KSR #24, 27)

ii. Implementation of conservation action plans for two threatened species recently re-discovered in Cameroon are poised to progress but the COVID-19 pandemic has put a hold on our initiatives. (KSR #31)

Summary of activities 2020
Components of Species Conservation Cycle: 2/5

<table>
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<th>Assess</th>
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Main KSRs addressed: 1, 24, 27, 31

KSR: Key Species Result
Co-Chairs:
Axel Hochkirch (1)
Kate Umbers (2)

Red List Authority Coordinator
Baudewijn Odé (3)

Location/Affiliation:
(1) Trier University, Germany
(2) Western Sydney University, Australia
(3) Stichting Floron, Amsterdam, The Netherlands

Number of members
111

Social networks
Website:
https://www.iucn.org/ SSC-groups/invertebrates/grasshopper

Mission statement
The mission of our group is to foster the conservation of orthopteroid insects (grasshoppers, katydids, crickets, mantids, stick insects) and their habitats around the world. We assess their conservation status, raise awareness and engage in practical conservation of this amazing and highly diverse group of insects.

Projected impact for the 2017-2020 quadrennium
By the end of 2020, we want to increase the number of Orthoptera, Phasmida and Mantodea species on the IUCN Red List by ca. 1,000 species. This will help to raise awareness for this species group and foster research and conservation activities. We are particularly interested in engaging local park managers to consider grasshoppers, bush-crickets, crickets, stick insects and mantids in conservation planning, monitoring and management. We want to increase the number of conservation strategies for threatened Orthoptera species and help to implement these plans. This will help to avoid future extinctions and set best practice examples for other projects.

Targets for the 2017-2020 quadrennium
Assess
Red List: (1) complete Red List assessments of 400 Tanzanian Orthoptera species, 17 Bladder Grasshoppers (Family Pneumoridae), 84 Agile Grasshoppers (Subfamily Euryphyminae), 36 European mantises, 80 Mediterranean mantises, four Razor-backed bush-hoppers (Xyronotidae), three Tanaoceridae grasshoppers, 270 Malagasy grasshoppers, 29 Socotran endemic Orthoptera, 68 Dichoroplini grasshoppers from South America, 30 grasshoppers from the Western Ghats (India), two Cameroon endemic Orthoptera species; (2) complete European Regional Red List assessments of 36 mantises; (3) complete Sampled Red List Index for Orthoptera (1,500 species).

Research activities: (1) develop and implement a population monitoring programme for the Critically Endangered Crau Plain Grasshopper, *Prionotropis rhodanica*; (2) develop monitoring standards for Orthoptera in Europe; (3) examine the effects of land use changes in dry karst regions on threatened Orthoptera; (4) examine the effects of wildfires on the Madeiran Green Bush-cricket, *Psalmatophanes barretoi*; (5) examine the effects of wildfires on Australian Orthoptera.

Plan

Act
Conservation actions: (1) implement the conservation action plan for the Adriatic Marbled Bush-cricket in Italy; (2) implement the conservation action plan for the Adriatic Marbled Bush-cricket in Slovenia; (3) conduct population monitoring for the Atlantic Beach-cricket, *Pseudomogoplistes vicentae*, in the British Isles; (4) conduct population monitoring for the Giant-cricket, *Brachytrupes megacephalus*.
Communicate


Activities and results 2020

Assess

Red List

i. A part of the Tanzanian grasshoppers have been previously assessed. Currently, the focus is on the Sampled Red List Index (SRLI) assessments. (KSR #1)

ii. It is difficult to obtain data for the North African mantises. Therefore, the Mediterranean assessments are no longer a priority. We will focus instead on the North American and Iranian species. (KSR #1)

iii. Ricardo Marino-Pérez wrote proposals to start some field work to obtain more data to assess Razor-backed bush-hoppers (Xyronotidae), which weren’t funded. (KSR #1)

iv. Ricardo Marino-Pérez wrote proposals to start some field work to obtain more data to assess Tanaoceridae grasshoppers, which weren’t funded. (KSR #1)

v. A part of the Malagasy grasshoppers have been previously assessed. Currently, the focus is on the SRLI assessments. (KSR #2)

vi. The Grasshopper Specialist Group is currently working on the third working set of 100 Orthoptera species to add them to the SRLI. (KSR #1)

vii. Celeste Scattolini is currently working on the assessments of Dichoroplini grasshoppers from South America, which will likely to be submitted in 2021. (KSR #1)

viii. Dhaneesh Bhaskar has raised a grant from the Mohamed bin Zayed Species Conservation Fund to do some initial field work in the Nigiri Mountains, to obtain data necessary to conduct Red List assessments. (KSR #1)

ix. European Regional Red List assessments of mantises have been initiated by Roberto Battiston and are nearly completed. (KSR #1)

x. Charly Oumarou Ngoute has started to assess the Red List status of Gemeneta opilionides. (KSR #1)

Research activities

i. Howon Rhee started a project to study the effects of wildfires on the Madeiran Green Bush-cricket. (KSR #12)

Plan

Planning

i. Michèle Lemonnier-Darcemont has raised funds from the Mohamed bin Zayed Species Conservation Fund and the Internal SSC Grant to conduct a conservation planning workshop in Albania for the Critically Endangered Cika Mountain Grasshopper. (KSR #21)

ii. Sofía Nuhličková has raised funds to develop a conservation strategy for Bei-Bienko’s Plump Bush-cricket. (KSR #21)

Act

Conservation actions

i. The national conservation action plan for the Adriatic Marbled Bush-cricket is being implemented in Italy. Four new populations were discovered in that country, and habitat management has been improved. (KSR #12)

ii. The national conservation action plan for the Adriatic Marbled Bush-cricket is being implemented in Slovenia. The population has been monitored and habitat management has been improved. (KSR #12)

iii. Karim Vahed has established a monitoring scheme for the Atlantic Beach-cricket. (KSR #12)

iv. Louis Cassar and Bruno Massa are planning a population monitoring scheme for the Giant-cricket. (KSR #12)

Communicate

Communication

i. Jeffrey Lockwood raised funds to perform the Locust Opera at the World Conservation Congress in Marseille. The congress has been postponed to September 2021. (KSR #31)

Scientific meetings

i. The third European Congress on Orthoptera Conservation has been postponed to 2022 due to the ongoing COVID-19 pandemic. (KSR #30)

Acknowledgements

We are particularly grateful to the Mohamed bin Zayed Species Conservation Fund for the support of many Orthoptera conservation projects.

Summary of activities 2020

Components of Species Conservation Cycle: 4/5

Assess 11

Plan 2

Act 4

Communicate 2

Main KSRs addressed: 1, 2, 12, 21, 30, 31

KSR: Key Species Result
Mission statement

The four extant species of horseshoe crabs are imperilled, because of overfishing for use as food, bait, production of biomedical products derived from their blood, and because of habitat loss or alteration due to shoreline development and armouring against coastal erosion. The group aims to protect horseshoe crabs in the world through collaborative effort in conservation of their populations and habitats, and in raising public awareness of their importance in evolutionary history, marine coastal ecology and biomedical uses.

Projected impact for the 2017-2020 quadrennium

The three species of horseshoe crabs in Asia, *Tachypleus tridentatus*, *T. gigas* and *Carcinoscorpius rotundicauda*, are currently listed as Data Deficient, and we expect that our current activities will lead to a change in this status in the current quadrennium. While it is premature to assign a status without a formal review of the data, most studies indicate a moderate to severe threat to local populations and a lack of genetic connectivity among populations. We expect to submit a Red List assessment for each of the three Asian horseshoe crabs as an important first step in leading to greater conservation measures for these animals, including greater protection for essential spawning and juvenile nursery habitats. Our group will continue being an active advocate for these unique animals through the support of various outreach and educational programmes that our members have developed.

**Targets for the 2017-2020 quadrennium**

**Assess**

Green Status: complete Green Status assessment of American Horseshoe Crab (*Limulus polyphemus*) and Tri-spine Horseshoe Crab (*Tachypleus tridentatus*) through assessing the recovery of species’ populations and measuring their conservation success.

Red List: update Red List assessments of all three Asian species of horseshoe crab.

**Network**

Capacity building: develop best practices for adult and juvenile horseshoe crab population assessments.

**Communicate**


Scientific meetings: (1) coordinate the 4th International Workshop on the Science and Conservation of Horseshoe Crabs in summer 2019; (2) organise a Special Session at the 148th Annual Meeting of the American Fisheries Society, Atlantic City, New Jersey, US, in August 2018.

**Activities and results 2020**

**Assess**

Green Status: i. A working team has been established to conduct the Green Status assessment for the Tri-spine Horseshoe Crab. Background information and guidelines on the assessment process have been forwarded to all team members for reference before the start of discussion and assessment in 2021. (KSR #11)
Red List

i. The Red List assessment for the remaining two Asian horseshoe crab species (Tachypleus gigas and Carcinoscorpius rotundicauda) has been ongoing and planned for completion in 2021. (KSR #2)

Network

Capacity building

i. An Asian Horseshoe Crab Observation Network has been established to train participating teams to use a standardised survey protocol to record and assess population of juvenile horseshoe crabs on their spawning/nursery beaches. Currently, 12 organisations in mainland China and Hong Kong have joined the network. (KSR #18)

Communicate

Research activities

i. All manuscripts for the book on the science and conservation of horseshoe crab have been reviewed, finalised and submitted to the publisher for typesetting. (KSR #28, 43)

Scientific meetings

i. One of the outcomes of the 2019 meeting was the designation of 20 June every year as International Horseshoe Crab Day. In 2020, we celebrated the First International Horseshoe Crab Day with activities hosted by many people and organisations across Asia and North America, including webinars, public talks, exhibitions, dramas and video clips. (KSR #28)

Acknowledgements

We thank the many people and organisations across Asia and North America who contributed to and participated in celebration of the First International Horseshoe Crab Day on 20 June 2020, so as to raise public awareness of the importance of conservation of horseshoe crabs globally.

Summary of activities 2020

Components of Species Conservation Cycle: 3/5

Assess 2

Network 1

Communicate 2

Main KSRs addressed: 2, 11, 18, 28, 43

KSR: Key Species Result
Mission statement

The mission of the IUCN SSC Hoverfly Specialist Group (HSG) is to accomplish the Red Listing of European hoverflies, and in so doing to increase current knowledge of the taxonomy, ecology and distribution of European hoverflies, promoting their long-term conservation.

Projected impact for the 2017-2020 quadrennium

By the end of 2020, we expect to have completed the Red Listing of a substantial proportion of European hoverflies, drawing together for the first time the European-wide distribution and status of the species. This will identify critical sets of species on which Europe-wide conservation efforts can be targeted and promote the inclusion of hoverflies in conservation planning and education.

Targets for the 2017-2020 quadrennium

Assess

Red List: (1) assess a selection of 650 European hoverfly species; (2) assess globally all species currently listed on existing national or regional Red Lists.

Research activities: (1) identify new Key Biodiversity Areas (KBA) according to IUCN standards; (2) stimulate research on the distribution of particular species and threats affecting them; (3) produce publications about the conservation of hoverflies.

Plan

Planning: develop conservation strategies for threatened Syrphidae.

Network

Capacity building: hold a training workshop for 17 European hoverfly experts to do Red List assessments.

Membership: increase and balance membership in terms of gender, age and geographic location.

Synergy: develop a network of institutions and individuals dealing with hoverflies.

Communicate

Communication: (1) develop guidelines for the conservation management of Syrphidae habitats; (2) establish an HSG communication platform among members; (3) establish HSG social media accounts; (4) create an HSG logo; (5) promote awareness about hoverflies through specialised and general social media; (6) accomplish a photographic competition and exhibition on syrphids.

Activities and results 2020

Assess

Red List
1. Draft assessments of European hoverfly species are all complete; consistency checking is in progress. (KSR #1)

Research activities
1. Red listing is proceeding well, with the first set of assessments ready for technical review. (KSR #28, 43)

Plan

Planning
1. A report on conservation strategies for threatened Syrphidae is in draft and being checked. (KSR #4, 7, 15, 21, 22, 26, 27)
Network

Synergy

i. Individuals are collaborating well to develop a network of institutions and individuals dealing with hoverflies. (KSR #28, 43)

Communicate

Communication

i. Three social media accounts have been established: (1) https://www.facebook.com/IUCNHoverfly/; (2) https://www.instagram.com/iucnhoverflysg/; (3) https://www.linkedin.com/company/iucn-hoverfly-specialist-group. (KSR #28, 43)

ii. Most members of the HSG are connected with promoting information about species, and identification. (KSR #28, 43)

Acknowledgements

We acknowledge Gabrielle Flinn of IUCN (for Red Listing), Caroline Lees, Claudine Gibson and Kristin Leus of the IUCN SSC Conservation Planning Specialist Group (for starting the project to move from assessment to conservation planning for European hoverflies).

Summary of activities 2020

Species Conservation Cycle ratio: 4/5

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Main KSRs addressed: 1, 4, 7, 15, 21, 22, 26, 27, 28, 43

KSR: Key Species Result
Co-Chairs
Craig Macadam (1)
Astrid Schmidt-Kloiber (2)

Red List Authority Coordinator
Lyndall Pereira da Conceição (3)

Location/Affiliation
(1) Buglife - The Invertebrate Conservation Trust, Stirling, UK
(2) BOKU - University of Natural Resources & Life Sciences, Vienna, Austria
(3) Natural History Museum, London, UK

Number of members
23

Social networks
Twitter: @IUCN_riverflies
Website: www.iucn.org/commissions/ssc-groups/invertebrates/mayfly-stonefly-and-caddisfly

Mission statement
The mission of our group is to promote the conservation of Mayfly, Stonefly and Caddisfly species and their habitats around the world. Our goal is to raise awareness of these small but important insect orders and undertake Red List assessments to inform practical conservation activities.

Projected impact for the 2017-2020 quadrennium
The focus of the Mayfly, Stonefly and Caddisfly Specialist Group (MSCSG) for the remaining years of the quadrennium is on fully establishing the group and undertaking assessments of a small number of Ephemeroptera, Plecoptera and Trichoptera species.

Targets for the 2017-2020 quadrennium
Assess
Red List: (1) organise a meeting to progress Red Listing of a selection of 20 African Ephemeroptera species thought to be endangered; (2) assess 25 micro-endemic and a further 25 randomly selected European Trichoptera species; (3) organise a meeting to progress Red Listing of 25 Plecoptera species at a global level.

Network
Membership: continue to invite members (taking into account a balanced representation across geography, gender and age) to join the newly established group.
Proposal development and funding: prepare a funding application to undertake Red List assessment of all European Trichoptera.
Synergy: (1) organise a meeting of the Co-Chairs and Red List Authority Coordinator; (2) organise a meeting for all members of the MSCSG.

Communicate
Communication: (1) develop a logo and a website for the group; (2) create Twitter and Instagram accounts to establish a social media presence for the MSCSG; (3) organise an awareness-raising campaign in connection to the World Fish Migration Day (16 May 2020).

Activities and results 2020
Assess
Red List
i. Preliminary assessments have been made for 97 species of Madagascan Ephemeroptera; however, these now need input from relevant experts. This has not been possible this year. (KSR #1)

Network
Membership
i. We have continued to invite members; however, we are now looking at targeting membership with group activities, particularly geographical assessments of taxa.

Proposal development and funding
i. A proposal to undertake assessments of European Trichoptera was included in the Red List strategic plan for 2020 to 2030. (KSR #9)

Synergy
i. Several meetings of the Co-Chairs and Red List Authority Coordinator have been held during the year.
ii. It was hoped that a meeting of the full group could be held during 2020; however, this was not possible, in part due to other pressures relating to the COVID-19 pandemic. We plan to organise meetings at the international conferences for Ephemeroptera and Plecoptera as well as Trichoptera (scheduled for June and September 2022).
Communicate

i. Webpages were produced and are now available at www.iucn.org/commissions/ssc-groups/invertebrates/mayfly-stonefly-and-caddisfly. Our logo was also produced and launched via our Twitter account on 27 April 2020. (KSR #28)

ii. Our Twitter account (@IUCN_riverflies, created in November 2019) has 326 followers to date. (KSR #28)

iii. Due to the COVID-19 pandemic, the World Fish Migration Day (16 May 2020) was postponed to October and mainly took place virtually. As we wanted to reach people at live events, this goal was not achieved. (KSR #28)

Acknowledgements

Thanks are due to BOKU, Buglife and Natural History Museum, London, for supporting the Co-Chairs and Red List Authority Coordinator. In addition, the Co-Chairs would like to thank the staff of the SSC for their ongoing assistance and encouragement.

Summary of activities 2020

Species Conservation Cycle ratio: 3/5

<table>
<thead>
<tr>
<th>Category</th>
<th>Value</th>
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<tr>
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<td>Network</td>
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<tr>
<td>Communicate</td>
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Main KSRs addressed: 1, 9, 28

KSR: Key Species Result
Mission statement

To increase the evidence and action for invertebrate conservation on the islands of: Gough, Tristan, St Helena, Ascension, Cape Verdes, Canaries, Madeira, Azores, and São Tomé and Príncipe.

Projected impact for the 2017-2020 quadrennium

We envision by the end of 2020 significant progress in raising awareness of invertebrates and their conservation issues across the Mid-Atlantic Islands; at least one other island that previously had no direct invertebrate conservation to have established programmes; a total of 500 invertebrate Red List assessments achieved; and another new conservation action plan to be operating. We also expect to contribute to conservation policy in Azores by informing the Azorean Conservation Agency about the arthropod species in urgent need of conservation. These combined efforts will create more secure invertebrate populations on these islands.

Targets for the 2017-2020 quadrennium

Assess
Red List: (1) complete assessments of 100 St Helena endemic invertebrates; (2) complete assessments of 40 Ascension Island endemic invertebrates; (3) complete assessments of 176 Azorean endemic arthropods; (4) complete assessments of 25 Azorean endemic spiders; (5) complete assessments of 120 Madeira endemic Carabidae and Staphylinidae; (6) the BIOS2020 project (2019–2022) was submitted by IFCN IP-RAM (Madeira Government) to the second call of the European Union Madeira-Açores-Canarias (EU MAC) Programme; if approved, it will contribute to the update of the conservation status of the endemic Madeiran land snail species, namely those from the Madeiran Natural Forest Laurissilva.

Plan
Planning: (1) assess invertebrate conservation needs on Tristan and Gough islands; (2) initiate conservation planning for threatened Azores invertebrates; (3) implement the European Commission LIFE Programme project "LIFE BEETLES – Bringing Environmental and Ecological Threats Lower to Endangered Species"; (4) accomplish Forest Giants project targets for awareness and conservation of Archachatina bicarinata and review Red Listing for the species; (5) submit application for LIFE project 'STM Invertebrates – Bringing Environmental and Ecological Threats Lower To Endangered Invertebrate Species'.

Act
Conservation actions: (1) initiate a project on the conservation of Ascension Island endemic invertebrates; (2) complete a project on increasing data on St Helena endemic invertebrates; (3) implement a species recovery project for the Spiky Yellow Woodlouse (Pseudolaureola atlantica) on St Helena.

Network
Document review: (1) review the St Helena Invertebrate Strategy; (2) review the Spiky Yellow Woodlouse Conservation Plan.

Communicate
Communication: (1) publish a paper on establishing conservation on St Helena; (2) finish invertebrate identification book for St Helena; (3) circulate group newsletter at least three times per year; (4) publish a paper on the
species conservation profile of Azorean endemic forest beetles; (5) submit a paper on the species conservation profile of Azorean endemic moths; (6) prepare a paper on the species conservation profile of Azorean endemic cave arthropods; (7) establish a webpage; (8) submit a paper on a Global Island Monitoring Scheme (GIMS) for the long-term coordinated survey and monitoring of forest biota across islands.

Activities and results 2020

Assess

Red List

i. Assessments of 100 St Helena endemic invertebrates completed. (KSR #2)

ii. Giant Pseudoscorpion (Garypus titanus) listed as a flagship to kick-start wider work. (KSR #3)

iii. Assessments of 120 Madeira endemic Carabidae and Staphylinidae partially completed. (KSR #2)

Plan

Planning

i. LIFE Programme project ‘LIFE BEETLES – Bringing Environmental and Ecological Threats Lower To Endangered Species’ initiated. (KSR #15)

ii. Application for LIFE project ‘STM Invertebrates – Bringing Environmental and Ecological Threats Lower To Endangered Invertebrate Species’ submitted to EU LIFE. (KSR #15)

Act

Conservation actions

i. Application for a project on the conservation of Ascension Island endemic invertebrates successful for Stage 1 of Darwin Plus. (KSR #27)

ii. Species recovery project for Spiky Yellow Woodlouse on St Helena embedded into plan on its habitat. (KSR #27)

Communicate

Communication

i. Three newsletters were delivered in 2020. Newsletters continue to be a good way to connect with the membership. (KSR #28)

ii. Paper on the species conservation profile of Azorean endemic cave arthropods published. (KSR #28)

Acknowledgements

MAiISG would like to acknowledge the ongoing hard work, support and enthusiasm of its fantastic membership.

Summary of activities 2020

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Main KSRs addressed: 2, 3, 15, 27, 28

KSR: Key Species Result
Mission statement
To provide information to IUCN on mollusc biodiversity conservation, the inherent value of species, their role in ecosystem health and functioning, the provision of ecosystem services, and their support to human livelihoods.

Projected impact for the 2017-2020 quadrennium
We aim to have over 8,700 species listed on the Red List by 2020. In terms of strategic importance, the Mollusc Specialist Group (MSG) expects to accomplish the following targets with direct or indirect impacts on the conservation of mollusc biodiversity: (1) completing the European Union (EU) combined report and presenting to ministers, to inform on the state of biodiversity and the possibility that without actions the EU would not achieve their Aichi Targets; (2) developing and testing on Key Biodiversity Area (KBA) monitoring protocols for freshwater systems (molluscs – gastropods and bivalves, fish, dragonflies, crustaceans and plants) in Morocco, that could be used in any freshwater system worldwide; (3) sharing knowledge on the conservation actions for land snails on islands: ex situ breeding, management of invasive species and reintroduction and translocation protocols, including papers from Australia, the US, South America, Asia, Russia, Japan, Europe, and Morocco; (5) recognition of an overlooked threatened habitat with endemic marine species in deep ocean hydrothermal vents; and (6) various small Mohamed bin Zayed Species Conservation Fund grants on local projects.

Targets for the 2017-2020 quadrennium

Assess
Red List: (1) conduct Red List assessment of assorted groups of land snails; (2) conduct Red List assessment of freshwater molluscs (snails and bivalves); (3) fundraise for Red List assessment of freshwater molluscs; (4) conduct Red List assessment of marine molluscs.

Research activities: (1) study freshwater bivalves in Morocco; (2) publish review paper on freshwater bivalves; (3) publish paper on threats to hydrothermal vents molluscs; (4) engage in the development of eDNA methods for detection of freshwater molluscs; (5) engage in additional national level planning for species conservation; (6) identify introduced species, threats to native biodiversity; (7) list and document introduced molluscs of India; (8) expand knowledge on freshwater molluscs in South America.

Plan
Planning: (1) develop protocols managed by MSG for the IUCN Centre for Mediterranean Cooperation on how to monitor freshwater KBAs, fish, dragonflies and plants; (2) test protocols scoping workshop managed by MSG for the IUCN Centre for Mediterranean Cooperation on how to monitor freshwater KBAs, fish, dragonflies and plants; (3) develop guidelines for management of molluscs in freshwater systems.
Conservation actions: (1) implement Partula Project in French Polynesia; (2) reintroduce Greater Bermuda Land Snails (Poecilozonites bermudensis); (3) support motion on preventing impact of bauxite mining on land snails of Atewa Forest, Ghana.

Communicate
Communication: publish the Mollusc Specialist Group newsletter, Tentacle.

Scientific meetings: (1) contribute to a conference on Pacific land snails, especially on management of alien invasive species; (2) ensure members regularly communicate on mollusc research and conservation.

Activities and results 2020

Assess Red List

i. Thirty-three (33) Australian land snails (out of around 100 submitted) and 21 Southeast Asian land snails were published on the IUCN Red List in 2020. In addition, members from Canada engaged in the preparation of draft status assessment summaries for two terrestrial gastropods (Magnipelta mycophaga, Vertigo rowelli) for the Committee on the Status of Endangered Wildlife in Canada (COSEWIC) Mollusc Specialist Subcommittee; these assessments are part of a 10-year reclassification required under the federal Species at Risk Act. (KSR #1)

ii. One hundred and thirty-two (132) assessments or reassessments for freshwater molluscs were published in 2020, mainly from Africa and Southeast Asia. (KSR #1, 2)

iii. In 2020, we assisted with the case to the EU for reassessment of Red Lists for land snails and freshwater molluscs (22% of land snails and 46% of freshwater snails were assessed as threatened in 2011). Reassessment of 1,200 land snails and 800 freshwater molluscs in Europe is due to start 2022–2023. (KSR #1, 2)

iv. Assessments of hydrothermal vent molluscs continued in 2020 and the assessment process for the Vent Red List will conclude in 2021. Forty-six (46) species were published in 2020, with another 50 or so species assessed and ready for submission. A manuscript on the assessment approach taken for these highly restricted and insular species was submitted to the journal Conservation Biology and will be published in 2021. Assessments of abalone were delayed due to COVID-19 but continue and will be submitted/published in 2021, with a scientific paper to follow. (KSR #1)

Research activities

i. Freshwater bivalves in Morocco: this project is ongoing. An assessment of fish hosts was carried out for the Critically Endangered Pseudunio marocanus, and results were submitted and accepted for publication (to be published in 2022): Benaisa, H., et al. (2022).


iii. There are several ongoing projects using eDNA methods for detection of freshwater molluscs in North America and Europe. For example, members in Texas began to develop eDNA methods to detect the presence of freshwater spring snails: 64 sites were surveyed for endangered spring snails of the families Hydrobiidae, Cochliopidae, and Assimineidae; in addition, around 20 sites were surveyed for phreatic and stygobitic snails of the family Cochliopidae. In France/Europe, an eDNA atlas for threatened species is being developed, which includes freshwater bivalves. (KSR #43)

iv. On Vancouver Island, Canada, studies of a relict population of Allogona townsendiana (federally listed in Canada) were curtailed in 2020 due to pandemic restrictions. (KSR #43)

v. The Daisy Project to identify introduced species and the threats they pose to native biodiversity is ongoing. (KSR #43)

vi. Introduced molluscs of India: the role of citizen scientists is immense in cataloguing biodiversity. Open-access platforms such as the India Biodiversity Portal and iNaturalist have provided a space for documenting introduced molluscs, especially in terrestrial habitats. For example, the recently introduced slug Hanleyella henrici; assessed in 2020 for the Vent Red List, which will be published in 2021; Photo: Julia Sigwart & CHong Chen

‘Preliminary data on fish hosts and their conservation importance for the Critically Endangered Pseudunio marocanus (Pallary, 1918)’. To be published in Aquatic Conservation: Marine and Freshwater Ecosystems. (KSR #12)
of these species on local biodiversity, ecosystem managers and policymakers to take proactive steps in managing the introduced species. This compilation also prompts researchers to undertake studies on the impact of introduced molluscs (and other species).

The compilation will help natural habitat and conservation assessment works. The second project, ‘Conservation of freshwater bivalves of Río de la Plata basin’, received funding in 2020 from the Mohamed bin Zayed Foundation. The main goal of this project is to evaluate the conservation status of the mussels of the Río de la Plata basin. The project will include field surveys, several analyses and finally a workshop for species evaluation, following the IUCN criteria. Because of the COVID-19 pandemic, the schedule is delayed. The field and museum surveys are now indefinitely postponed; however, we are working on a robust database as a baseline for future studies. (KSR #43)

**Plan**

**Planning**

i. The European Cooperation in Science and Technology (EU COST) project on guidelines for management of molluscs in freshwater systems continues into the new quadrennium (project is ongoing to 2022). A set-up meeting was held via Zoom in 2020, and various online meetings are planned for 2021. (KSR #15)

**Act**

Conservation actions

i. Partula Project in French Polynesia: the plan for 2020 was for four shipments of snails to be sent to Tahiti for release onto four islands; however, due to the severe restrictions imposed by SARS-CoV-2, no shipments occurred and consequently there were no releases in 2020. Reintroductions are set to resume in 2021. (KSR #24)

ii. Reintroduction of Bermuda land snails: during a field visit in February 2020, we monitored Greater Bermuda Land Snails (P. bermudensis) on three small islands with previous reintroductions, augmented populations on two islands, and carried out introductions on three new islands. We also initiated reintroduction of Lesser Bermuda Land Snail (P. circumfirmatus), reared in captivity since the early 1980s, to a small offshore island and experimented with both staged, soft release and hard release approaches. Additionally, presentations on monitoring, captive breeding and history of reintroductions of Bermuda land snails were given to the Bermuda Zoological Society. (KSR #24)

**Policy**

i. There is local and international opposition to the mining proposals in the Atewa Forest. Three species of land snails were assessed for the Red List and published in 2019/2020, and reports sent to assist drafting a proposal against strip mining for the IUCN World Conservation Congress and impact on birds, mammals, snails, etc. In 2020, associated with the postponed World Conservation Congress in Marseille, France, IUCN passed Motion 103 urging the Ghanaian Government to immediately and permanently halt all mining-related operations and other destructive activities in Atewa Forest, and to establish a national park over the entirety of Atewa Forest to ensure its conservation in perpetuity. (KSR #31)

**Communicate**

Communication

i. Tentacle newsletter 28 was published in March 2020. (KSR #28)

**Scientific meetings**

i. Notable meetings included the American Malacological Society, Virtual Meeting, 2020; however, many meetings, like Euromal 2020, were postponed to 2021 due to COVID-19. (KSR #28)
Summary of activities 2020

Species Conservation Cycle ratio: 4/5

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Main KSRs addressed: 1, 2, 12, 13, 15, 24, 28, 31, 43

KSR: Key Species Result

In memoriam Trevor Coote (1953-2021) – Partula Snail project. Trevor was the lynchpin of the partulid reintroduction programme in the Society Islands of French Polynesia and will be sorely missed.

Photo: Paul Pearce Kelly
Mission statement

The main objectives of the Spider and Scorpion Specialist Group (SSSG) are: (1) assess, plan and act towards arachnid conservation in collaboration with the other IUCN Task Forces, Specialist Groups and the Invertebrate Conservation Committee; (2) assist on international law and agreements (e.g. Habitats Directive, Convention on International Trade in Endangered Species – CITES) as well as towards national and regional legislation; (3) support and promote public knowledge of arachnids across different media; (4) develop scientifically sound species conservation strategies in cooperation with relevant authorities, to facilitate or mobilise resources for any activity promoting arachnid conservation, as well as those which promote the protection of their habitats; (5) identify gaps in expertise by taxa and/or region and engage with the global network of experts with a view to addressing these gaps, while increasing the diversity of active members.

Projected impact for the 2017-2020 quadrennium

By the end of 2020, we expect to: (1) develop tools that facilitate Red List assessments, (2) significantly increase the number of assessed species, (3) reduce the extinction risk of a number of species, (4) provide advice on CITES species, and (5) increase and diversify our membership.

Targets for the 2017-2020 quadrennium

Assess

Red List: (1) Red List assessments for Sampled Red List Index (SRLI): assess 200 species; (2) Red List Nephilidae: assess 35 species; (3) Red List Archaeidae: assess 80 species; (4) Red List Macaronesian endemics: assess 170 species; (5) Red List of spiders: assess 20 species; (6) develop R package to assist Red Listing; (7) conduct two assessment workshops (for SRLI and CITES); (8) conduct one Red List assessment workshop.

Research activities: develop an IUCN Data Paper in Biodiversity Data Journal.

Plan

Planning: develop a Species Conservation Plan for Desertas Wolf Spider (Hogna ingens).


Act

Conservation actions: establish ex situ breeding of Desertas Wolf Spider.

Network

Capacity building: conduct four Red List teaching workshops.

Membership: increase the number and range of group membership.

Communicate

Communicate: (1) conduct interviews with media outlets; (2) produce a group website.
Activities and results 2020

Assess

Red List

i. Due to the COVID-19 pandemic, no training workshops took place, but we are looking forward to making online training available. (KSR #1)

ii. Several assessments of spiders from Madagascar have been completed and are ready for revision, as are several from Australia. We are on track to achieve this target by 2024. (KSR #1)

Act

Conservation actions

i. Several populations of Desertas Wolf Spider have been successfully established ex situ, currently with 1,600 individuals across Europe, where six populations with captive stocks can feasibly be released in the wild. (KSR #25)

Network

Membership

i. The number and range of group membership has increased.

Acknowledgements

The group is sincerely grateful for an SSC Internal Grant award and we hope to be able to use those funds in the near future. We are also grateful to the Mohamed bin Zayed grant for supporting one of our members.

Summary of activities 2020

Species Conservation Cycle ratio: 3/5

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Main KSRs addressed: 1, 25

KSR: Key Species Result
Mission statement

The mission of the African Elephant Specialist Group (AfESG) is to promote the long-term conservation of Africa’s elephant throughout their range.

Projected impact for the 2017-2020 quadrennium

An average population decline of approximately 21%, mainly due to illegal killing, was reported between 2007 and 2016, a period that partly overlapped with the previous quadrennium. Illegal killing of elephants declined in the 2017–2020 quadrennium. A formal confirmation of the forest and savannah elephants as separate species in 2021 will lead to more conservation focus on each species separately, thus improving their conservation status. Similarly, the results of the Red List reassessment, due for publication in 2021, will reshape the conservation focus for African elephants. The July 2019 AfESG members meeting generated emerging issues and urgent areas of focus to improve on the science and conservation of the elephants. The publication of the 2016 African Elephant Status Report on a website platform now provides a wider audience with the latest population status of the species and is eliciting questions that would prompt the AfESG to update the status report through a revamped African Elephant Database. Its review and update from 2021 will contribute to improved policy and decision making.

Targets for the 2017-2020 quadrennium

Assess

Agreements: finalise African Elephant Database (AED) data acquisition and use license.


Research activities: (1) enhance functionality and performance of the African Elephant Database (AED); (2) carry out the African Elephant Taxonomy project; (3) scope the African Elephant Database’s integration into the IUCN database systems and capacity to host multiple elephant species.

Plan

Agreements: activate the Memorandum of Understanding on conservation of the West African elephant population with the Convention on Migratory Species (CMS).

Planning: provide technical support for National Elephant Action Plans (NEAPS).

Policy: (1) determine whether the African elephant is one or two species and revise policy accordingly; (2) review proposals for the 18th meeting of the Conference of the Parties to CITES (CITES CoP18) and attend the CoP; (3) participate in CITES Working Groups; (4) respond to CITES’ Notifications to the Parties; (5) report to CITES Standing Committee 73 (SC73).

Proposal development and funding: fundraise for AfESG activities and support for its Secretariat.

Synergy: endorse elephant conservation projects.

Act
Conservation actions: form task forces and working groups.
Technical advice: provide technical advice in an elephant crisis.

Network
Capacity building: strengthen the AfESG Secretariat.
Membership: strengthen AFESG membership.
Proposal development and funding: secure funding for the AfESG members meeting.
Scientific meetings: hold the AfESG meeting.
Synergy: (1) handover the AfESG leadership to the new Co-Chairs; (2) reach out to elephant technical experts within government conservation agencies; (3) build synergies with other Specialist Groups and multilateral agencies.

Communicate
Communication: (1) respond to the media regarding the effects of COVID-19 on elephant conservation; (2) respond to AED data requests; (3) communicate to AfESG members and wider audience;
Scientific meetings: (1) participate in the CITES Monitoring the Illegal Killing of Elephants-Elephant Trade Information System Technical Advisory Group (MIKE-ETIS TAG) meeting; (2) organise Pachyderm meetings.
Technical advice: respond to technical requests by the IUCN Global Species Programme.
Activities and results 2020

Assess

Agreements

I. The AED Data Terms of Use were forwarded to the IUCN Headquarters’ legal team in 2019 for review and approval before final implementation. A draft version is in use for all requests for AED data. (KSR #14)

Documents review

I. African Elephant Status Report (AESR) 2021: The Data Review Working Group (DRWG) initiated the process of producing a full status report, following recommendations made at the Members meeting in 2019 that we should be updating AESR every five to six years. The current full update process will involve Number replacement, Range revision, Protected Area compilation, and writing the accompanying Narratives. The aim is to produce the AESR in 2022. This timing may allow for a biological evaluation of CITES CoP19 proposals in 2022 using an updated status report. The 2021 AESR will incorporate surveys and population data including guestimates since 2015. All AfESG members are encouraged to provide any additional information or point us to sources for more data and information. In the meantime, the DRWG initiated a dry run status report 2021 for central Africa in December 2020 as part of the production process of the full AESR 2021. We have produced a Gantt chart to track the process of producing the AESR 2021, but the AfESG Secretariat is lacking both a professional projects manager to track the Gantt chart and funds to support that manager. We encourage support for these two aspects from the AfESG membership and donors as we source funds. (KSR #8, 14)

Red List

I. The African Elephant, as a single species (Loxodonta africana), was previously listed as Vulnerable (VU) on the IUCN Red List of Threatened Species™. In July 2017, a team of six assessors from the AfESG and an expert modeller were commissioned by the Chair of AfESG to reassess the African Elephant’s status. The assessors had experience of forest and savannah elephant populations across all regions of the continent. The process followed the established steps for IUCN’s Red List assessment process. The team delivered a revised assessment of the African Elephant in August 2020, after addressing all the issues raised by the IUCN SSC Standards and Petitions Committee (SPC) and AfESG members in 2019. This included the need to consider two species of African elephant, which required separate assessments for the Forest (Loxodonta cyclotis) and Savanna (Loxodonta africana) populations. Running separate models generated robust results and addressed a number of concerns raised in the review process. The SPC responded in November 2020 that the assessments for the Forest Elephant and the Savanna Elephant as separate species were acceptable pending minor changes. The team of assessors embarked on finalising the assessments for publication, expected to occur in 2021. (KSR #1)

Research activities

I. We are implementing some of the short- and longer-term priorities such as the data release policy, collation of reports on elephant surveys and review and documentation of the current AED schema, calculations and metrics. As of January 2020, we had collated some 128 new survey reports out of a possible 455 reports since the production of the Status Report of 2016. Activities are coordinated by a full-time AED officer hired in March 2019 under the European Union’s CITES Monitoring the Illegal Killing of Elephants (MIKES+) grant. We submitted a financial and technical requirement document to the Vulcan Inc. The Paul G. Allen Family Foundation for consideration of support. The purpose of the document was to provide information to various partners (consortium) for their endorsement and commitment to support the technical and financial sustainability of the AED, the generation of data and information for it, and production of its key outputs: mainly the African Elephant Status Report (AESR). It also proposed a budget of USD 1,015,830 to revamp and support the AED for five years, and to support the production of AESR 2021. The proposal’s consideration was delayed by COVID-19 but we expect feedback in 2021. The AfESG envisions a revamped AED, which is more responsive to users’ needs, including the generation of data that focuses on AfESG’s core mandates. (KSR #14)

II. There has been ongoing discussion as to whether the two subspecies of African elephant, the Forest Elephant (Loxodonta africana cyclotis) and the Savannah Elephant (Loxodonta africana africana), should each be elevated to species status. Accumulating genetic, ecological and demographic evidence indicates a separation between these two subspecies. The established IUCN Red List convention is to use the Third Edition of Mammal Species of the World as its main taxonomic source for mammals (Wilson, D.E. and Reeder, D.M. (eds.) (2005). Mammal Species of the World. A Taxonomic and Geographic Reference (3rd ed). Baltimore, MD, USA: John Hopkins University Press.), and this splits the African Elephant into two species (see https://www.departments.bucknell.edu/biology/resources/msw3/browse.asp?s=y&id=11500008). However, the hybridisation that occurs in some of the convergence...
zones separating the rainforest and woodland-savannah habitats poses uncertainty and conservation challenges. The AfESG commissioned a study to conduct further genetic analyses on the occurrence of hybrids after collecting additional sampling in the areas surrounding these convergence zones. The results of this study, completed in March 2019, showed that, despite numerous opportunities to hybridise, hybridisation was in fact extremely rare across Africa. There were, however, exceptions in areas of high human conflict, such as the Albertine Rift and in West Africa. Here, high levels of asymmetric poaching appeared to have increased hybridisation as elephants of one subspecies sought safe haven in the lesser poached habitat of the other. Individuals in a few populations that have a combined population size totalling <2000 elephants had evidence of hybridisation. As part of the Red List process, we have identified all populations known to have hybrids, and each has pure populations of only one or the other species present, and not both. For practical purposes, these populations have been assigned to the pure species which occurs there. Given the low level of hybridisation, this should not be of such a concern as to distract from the need to focus on the conservation of each of the species separately, with the new CEO of EPI in 2021. In 2020, AfESG was involved in the NEAPs for Kenya and South Africa. (KSR #15, 21)
collection and protection policies are based on the current subspecies designation. Most importantly, various national laws and regulations may need to be revised to accommodate two species instead of one, to assure that national and international laws continue to protect all African elephants under this revised designation. The Co-Chairs established a Task Force, convened by Dr John Hart’s team, to steer the process of formalising AFESG’s adoption of the two species. AFESG has engaged with the IUCN SSC leadership to initiate a process of engagement with some of the intergovernmental and law enforcement institutions. (KSR #26)

ii. Participation in CITES Working Groups: (1) Winnie Kiiru represented AFESG in the CITES working group on ivory stockpiles. The working group mandate is contained in Decision 18.182 and is to “review and consider for approval the practical guidance prepared by the Secretariat for the management of ivory stockpiles, including their disposal” (https://cites.org/eng/node/55976). The final version will be posted on the CITES website. (2) Rob Slotow is representing AFESG in the intersessional working group of the Animals Committee on the definition of ‘appropriate and acceptable destinations’ for species relocations. The Animals Committee intersessional working group started the implementation of their mandate in November 2020. The working group’s mandate is to prepare a draft best practice guide (non-binding) on how to determine whether “the trade would promote in situ conservation”, building on the existing non-binding guidance contained in document CITES CoP18 Doc 44.1. The group will also prepare a more detailed species-specific guide for living specimens of the African elephants and Southern White Rhinoceros (Ceratotherium simum simum). This will be carried out in consultation with relevant experts (including species and zoological facility experts) and the Secretariat; they will report on the outcomes of their work at the next meeting of the Animals Committee. (KSR #26)

iii. In May 2020, the AFESG, through its new task force on movement of elephants from in situ to ex situ, led by Rob Slotow, responded to the request from the CITES Secretariat as per Notification to the Parties No. 2019/070. The Secretariat sought any material that may assist the Animals Committee in their implementation of CITES decisions at CoP18, which direct the Animals Committee to prepare more detailed species-specific guidance for living specimens of African elephants and Southern White Rhinoceros, building on the existing non-binding guidance. Notification No. 2019/070 dealt specifically with non-binding guidance for determining whether a proposed recipient of a living specimen is suitably equipped to house and care for it. In its response, which was published on the CITES website, the AFESG task force noted that there are currently African elephants held in ex situ facilities, and not endorsing this; the AFESG provided inputs based on its experience and expertise with wild elephants in promotion of its mission on two specific components of the non-binding guidelines: dietary needs (species-specific food and nutritional requirements, access to potable water), and social well-being and animal behaviour (appropriate social groupings for the species, methods of integration, appropriate social and behavioural enrichment, ability to separate the group where needed). It concluded in its submission that the needs of African elephants, as studied in the wild, cannot be met by captive facilities. (KSR #26)

iv. AFESG draws its reporting requirement to, and participation in, CITES Standing Committee (SC) meetings from Resolution Conf. 10.10 (Rev. CoP18) which requires AFESG to share elephant conservation information with the CITES Secretariat (see details in paragraphs 12b, 27c & 27h of this Resolution). We compiled a report as per this resolution for the SC73 meeting, initially scheduled to take place in October 2020. We reported on the Status, Threats, Conservation Strategies, and Action Plan for African elephants and submitted the information to the MIKE Central Coordination Unit for compilation into a joint report with MIKE and ETIS. However, due to the COVID-19 pandemic the SC73 meeting did not take place, and the combined report will be dealt with intersessionally. The MIKE and ETIS reports will however be posted on the CITES website after consideration by the MIKE ETIS Subgroup. Therefore, AFESG will have to update its report in 2021 in preparation for the SC meeting, to be held on a date yet to be determined. (KSR #26)

Prof. George Wittemyer in Samburu National Reserve, Kenya, with a well known elephant bull
Photo: David Daballen/STE
Proposal development and funding

1. In April 2020, AFESG signed a 4-year contract of USD 300,000 with MIKES+, under the European Union’s funding for the maintenance and enhancement of the African Elephant Database (AED). This contract will enable ongoing monitoring of the status of Africa’s elephant populations and facilitate reporting to the CITES Standing Committee on the conservation status of African elephants. This was a new contract following the expiry of a similar agreement in December 2019. In addition, other organisations approached so far show strong commitments and interest to support our work. Proposals and concepts were submitted to Vulcan Inc. and Save the Elephants for longer term financial support for the AED and AFESG activities and targets for 2021–2024. It is estimated that running core AFESG activities and a functional secretariat would cost approx. USD 1,679,668 for five years beginning 2021. We are seeking to raise a deficit of USD 1,454,668.

Synergy

1. We endorsed a number of conservation and research proposals. If funded and implemented, these projects would contribute to the AFESG mission or to the African Elephant Action Plan. They include the following: (1) From milk to microbes: enhancing hand- and assist-rearing outcomes in African elephants, Loxodonta africana, through a multidisciplinary approach; by San Diego Zoo Global/USA. (2) Preventing local extinction of Namibia’s desert-dwelling elephants through a holistic long-term conservation and monitoring programme; by Elephant–Human Relations Aid/Namibia. (3) Community programmes that promote ecotourism, livelihoods and human–wildlife co-existence; by Big Life Foundation/Kenya. (4) Improved Security and Conservation of Elephant in Tsavo, Kenya; by Tsavo Trust/Kenya. (5) Investigation into the sudden mortality of elephants in Botswana; by Queen’s University Belfast and the Royal Veterinary College London. (KSR #15)

Technical advice

1. Developed and owned by all 37 African elephant range States and formalised in 2010, the AEAP aims to secure, and restore where possible, sustainable elephant populations throughout their present and potential range in Africa, recognising their potential to provide ecological, social, cultural and economic benefits. The AFESG acknowledges the AEAP as the framing plan for the conservation of elephants as provided, and agreed, by the range States. The range States, through the African Elephant Fund (AEF) Steering Committee, requested the AFESG to provide technical input for their consideration through their own process should they decide to review or update the Plan, which will be 10 years old in 2020. The AFESG members’ meeting in July 2019 presented an opportunity for a meaningful engagement and better understanding of the Plan. The expert members focused their attention on technical inputs and insights into the Plan’s vision, goal, and objectives (including prioritisation). Each of the Plan’s strategies and activities were considered for gaps, emerging issues, or rewording/reframing to make it more effective. We received the technical input document and submitted it to the range States through the AEF Steering Committee. In November, the AEF Secretariat informed us that the range States agreed through a postal procedure to review the plan through a process that was to be discussed and determined at a meeting in Uganda in March 2020. However, due to the widely restricted movement of people caused by COVID-19, the meeting was postponed to a later date that is yet to be announced. (KSR #32)

Network

Capacity building

1. Both Cecily Nyaga (Administration Officer) and Lamine Sebogo (Programme Officer) moved on for reasons beyond the AFESG’s control. We continue to work with them closely from time to time, when need arises. Rose Mayienda, the Database Officer, is helping with the administrative work of AFESG in addition to her AED duties.
Synergy

I. We encouraged AFESG members to read the Co-Chairs’ report published in the latest issue of Pachyderm (Volume 61), available at: https://pachydermjournal.org/index.php/pachyderm/article/view/66. In this report, we highlight progress on some of the AFESG activities. We also reported our group’s achievements for 2019 to the IUCN SSC, as far as the ’IUCN 2017–2020 Species Strategic Plan’ is concerned, as reported here: https://www.iucn.org/sites/dev/files/2019_african_elephant_sg_report_publication.pdf. AFESG scores contributed to 18 Key Species Results on the following four out of five components of IUCN’s Species Strategic Plan: Assess, Plan, Network and Communicate. In the next quadrennium, AFESG will initiate projects to contribute to the fifth component, ‘Act’. AFESG will also upload its 2021–2024 targets/priorities, that will align to the revised Species Strategic Plan, by 31 December 2020.

II. Task Forces and Working Groups formed: (1) Human–Elephant Coexistence Task Force: to develop and review human–elephant coexistence tools; (2) African Elephant Taxonomy Task Force: to finalise a statement on the two species of African elephant and develop a plan for the library, which is a key resource; (3) Sustainable Use Task Force: to provide a better understanding of the context and conceptualisation of sustainable use of African elephants through the consumptive and non-consumptive uses continuum, with the aim of bridging the sharply divergent views between regions on this issue; (4) Movement of Elephants from In-situ to Ex-situ Task Force: to be responsible for leading the review of the existing AFESG statement on the removal of elephants from the wild for captive use. The task force also considers principles or positions that the AFESG should have in terms of Resolution Conf. 11.20 (Rev. CoP18) in order to respond to requests relating to ‘appropriate and acceptable destinations’ with reference to the trade in live elephants taken from the wild; (5) African Elephant Action Plan (AEAP) Task Force: to identify opportunities to support range States in review of the plan if called upon and to build capacity across range States in conservation planning and management of elephants. To position the AFESG in a manner that actively supports the implementation of the AEAP and to build capacity across the group; (6) African Elephant Library (AEL) Task Force: to craft a long-term, sustainable plan for the library, which is a key resource; (7) Communication Task Force: for visibility and impact of the Group; (8) AED and Data Review Working Group: for data collection, methodological and analytical improvements, survey designs, data storage, strategic advice, and review of analytical outputs/products. (KSR #31)

III. We reached out to other countries in Eastern and Southern Africa. More work still needs to be done in reaching out to countries in West and Central Africa. (KSR #26).

Communicate

Communication

I. The AFESG issued a statement in July 2020 to express its concern, but most importantly its willingness to provide support in unravelling the cause(s) of the mass die-off of over 300 elephants in the areas around Seronga in the Okavango Panhandle of Botswana. The statement had the input of our membership and the Co-Chairs of the IUCN Wildlife Health Specialist Group (WHSG). The Government of Botswana received this AFESG gesture positively and were open to invite AFESG expertise when required. See https://www.iucn.org/news/species-survival-commission/202007/statement-iucn-ssc-african-elephant-specialist-group-elephant-deaths-botswana. In October 2020, the Government of Botswana revealed in a statement that field observations, clinical, post-mortem, histopathological, and laboratory findings suggested that the 330 elephants died from neurotoxic cyanobacterium (blue-green alga). Toxicosis was associated with a toxic bloom of cyanobacterium in seasonal pans in the region. Neurotoxins from cyanobacteria living in contaminated water could have affected the transmission of neurologic signals within an animal, causing paralysis and death, predominately related to respiratory failure. However, investigations are still ongoing in an attempt to answer unresolved questions, such as why did elephants only die, and why that area alone? Queen’s University Belfast and the Royal Veterinary College London approached WHSG and AFESG for a letter of support for their proposal to investigate the mass mortality further. (KSR #32)

II. Various experts in IUCN’s networks, especially across Africa, responded to questions about the impact of the unprecedented COVID-19 pandemic on the conservation of wildlife species. This was also done through IUCN’s communications departments with the support of some of our AFESG members. Importantly, we asked for a lot of caution in how stories were reported, because they could be counterproductive and worsen situations, especially if a number of media reports were to suggest that “the guards/rangers are down” (which they largely are not); poachers might actually perceive this as an opportunity to increase their activities, posing more risks to
the guards/rangers and to wildlife. It was essential not to create a distorted image of an easing of anti-poaching efforts. We set up a shared Google sheet for our AFESG expert members to update regularly with any anecdotes or their observations on the effects of COVID-19 on elephants. While some experts heard anecdotes of poaching incidents since COVID-19-related lockdowns began, we could not confirm an overall increase. As of December 2020, at the time of writing this report, we had not received reports of an increase in poaching of elephants. While the market for ivory has been depressed lately (though this could change), we have received mixed reports on a slight rising trend of killings for bush meat. In many countries, anti-poaching activities (considered a national essential service) by both the state and private sectors continue as normal despite the high costs and losses in revenue, especially from tourism. (KSR #28)

iii. AFESG’s AED Officer responded to data requests, mainly from students from various universities across the globe; we also responded to data requests from journalists. (KSR #43)

iv. Pachyderm fulfills the role of providing good quality, academically robust information, vital to progress research in relation to the essential area we work in for rhinos and elephants. It is not poaching alone that threatens the iconic megafauna; there are additional challenges to the long-term conservation of each species represented by the IUCN Specialist Groups AFESG, African Rhino Specialist Group (AfRSG) and Asian Rhino Specialist Group (AsRSG), from combatting the illegal ivory trade, to human-elephant conflict, and rapid and extensive land conversion. Addressing each threat, directly and indirectly, requires investigation, long-term cooperative action and sharing of solutions among managers, researchers, and policy makers. Pachyderm provides a forum for the Chairs of the three specialist groups to report back on group activities and conservation issues, trends and developments over the preceding year, and disseminates the Chair reports widely:

AFESG Chair report: https://pachydermjournal.org/index.php/pachyderm/article/view/66/381
AfRSG Chair report: https://pachydermjournal.org/index.php/pachyderm/article/view/67/382
AsRSG Chair report: https://pachydermjournal.org/index.php/pachyderm/article/view/68/383
The Pachyderm meeting deliberated on fundraising strategies for Pachyderm, migration of Pachyderm from print to online, and other strategies to improve/increase readership. (KSR #28)

Scientific meetings

i. The MIKE Central Coordination Unit convened the sixteenth meeting of the MIKE ETIS TAG virtually on 1–2 July 2020. Ben Okita represented the AFESG as a co-opted member to the TAG. Some AFESG members are also members of the TAG in their individual capacity either as technical experts in MIKE and ETIS, or as MIKE regional representatives. On the agenda were discussions on Proportion of Illegally Killed Elephants (PIKE) estimates with and without management related deaths, MIKE analysis for Africa, ETIS analyses, carcass detection probability, and the range of natural mortality rates based on a literature review in determining poaching rates. For more information visit: https://cites.org/eng/prog/mike/index.php/portal. (KSR #43)

Acknowledgements

The European Union through the CITES-MIKE project, WWF-Namibia (The Luc Hoffmann Institute), WWF International, Save the Elephants and The African Elephant Fund are thanked for their financial support during this reporting period. We also thank Vulcan Inc. the Paul G. Allen Family Foundation for its systematic and continued engagement with us on the technical and financial requirements of the AED and AESR 2021. The IUCN Global Species Programme, especially Richard Jenkins, Patricia Cremona and Ackbar Joolia, are thanked for their continued support and strategic advice. Rose Mayienda is thanked for helping with the administrative work of AFESG in addition to her AED duties. All the AFESG members are thanked for their continued support, commitment and contribution to the Group’s mission. We hope to achieve even more for happy elephants and happy people in the next quadrennium 2021–2024, despite the unprecedented COVID-19 pandemic.

Summary of activities 2020

Species Conservation Cycle ratio: 4/5
Assess 5 5
Plan 9 5
Network 5 5
Communicate 5 5
Main KSRs addressed: 1, 8, 12, 14, 15, 21, 26, 28, 31, 32, 43
Resolutions addressed: WCC-2016-Res-011

KSR: Key Species Result

Photo: Tempe Adams

Collecting harvest records from farmers involved in the EleSenses Elephants Without Borders repellent project. Tempe Adams, Jackson Maroza, Kavimba-Botswana

IUCN Species Annual Report 2020
Mission statement
The AfRSG guides and facilitates the conservation of viable African rhino populations across their natural range.

Projected impact for the 2017-2020 quadrennium
The African Rhino Specialist Group (AFRSG) wants: (1) secure, viable and valued rhino populations in their natural habitat; (2) rapidly growing and genetically diverse rhino populations facilitated through adaptive biological management; (3) a reduction in the threat to rhinos from poaching, driven primarily by the high illegal demand for rhino horn; and (4) an incentivised communal and private sector investing in rhino conservation through continued range expansion and numbers.

Targets for the 2017-2020 quadrennium

Assess
Red List: update Red List assessments for Black Rhinos (*Diceros bicornis*) and White Rhinos (*Ceratotherium simum*).

Plan
Planning: (1) review the South Africa Biodiversity Management Plan for Black Rhinos; (2) contribute to delivery of national plans; (3) assist with implementation of the Rhino Range State Plan; (4) provide official support for the Rhino Management Plan for Chad.

Policy: (1) compile joint IUCN/TRAFFIC report for the 18th CITES Conference of the Parties (CoP18); (2) review Range State proposals for IUCN/TRAFFIC analyses; (3) attend and play a technical role at CITES Conference of the Parties (CoP); (4) attend and play a technical role at CITES Standing Committee (SC) and Working Group (WG) meetings.

Act
Conservation actions: engage in the Rhino Impact Investment Project (RIIP).

Technical advice: (1) participate in the Black Rhino Range Expansion Project (BRREP); (2) participate on the Rhino DNA Indexing System (RhODIS) Advisory Board; (3) review hunting applications; (4) engage with ex situ conservation (European Association of Zoos and Aquaria (EAZA) Taxon Advisory Group (TAG), etc.); (5) provide expert advice to range states and conservation authorities; (6) provide expert advice to MyPlanet Rhino Fund; (7) improve efficiency of the AFRSG.

Network
Capacity building: (1) East African Rhino Management Group capacity building; (2) conduct biological management workshop.

Documents review: conduct scientific peer review of rhino papers.

Membership: diversify the AFRSG.

Proposal development and funding: (1) submit donor applications; (2) complete funding reports.

Synergy: (1) participate in Rhino and Elephant Security Group/INTERPOL Environmental Crime Working Group (ECWG) meetings; (2) establish a new management partner for AFRSG.

Technical advice: attend workshops/government meetings as invited or give presentations.

Communicate
Communication: (1) Southern African Development Community Rhino Management Group and Chairing; (2) publish the *Pachyderm* Chair Report; (3) respond to media requests; (4) improve communication of rhino issues to members, state and private sectors.

Scientific meetings: hold biennial AFRSG meetings.
Activities and results 2020

Assess

Red List

i. Black and White Rhino assessments were prepared for publication in March 2020. We have proposed novel methods of using the Red List criteria in assessing the status of long-lived species such as rhinos. (KSR #1)

Plan

Planning

i. We are waiting on the Department of Forestry, Fisheries and Environment (DEFF) to commence the review process of the South Africa Biodiversity Management Plan for Black Rhinos. (KSR #16)

ii. We engaged the Zimbabwe Government to finalise their national rhino action plan. It is expected to be finalised in 2020, though is not signed despite numerous requests. (KSR #27)

iii. Implementation of the Rhinoceros Range state plan needs to be followed up. (KSR #27)

Act

Conservation actions

i. For the Rhino Impact Investment Project (RIIP), the Global Environment Facility (GEF) agreed to be an outcome payer via the World Bank. A Wildlife Conservation Bond has been created. (KSR #11)

Technical advice

i. The Black Rhino Range Expansion Project meeting was postponed until March 2021. The project is successfully continuing onto its seventh cycle. (KSR #18)

ii. We recommended that an AFRSG member (Dr F von Houwald) sit on the CITES Working Group on ‘appropriate and acceptable destinations’. (KSR #27)

iii. Expert advice was provided to six African states on potential rhino introductions. Included Benin and Mozambique. (KSR #27)

iv. Nine task forces were established within the AFRSG to discuss the Benin introduction, US Fish and Wildlife Service indicators, population prioritisation, sustainable financing for rhino conservation, and review of Zakouma losses to name a number. (KSR #27)

Network

Documents review

i. Seven papers were reviewed by the Secretariat for scientific journals.

Proposal development and funding

i. Two funding reports were completed. (KSR #9)

Synergy

i. The Endangered Wildlife Trust (EWT) offered to manage finances of the AFRSG without charging a management fee.

Technical advice

i. We attended seven workshops/government meetings as invited or gave presentations: one with South African National Parks (SANParks)/DEFF, one with the Ministry of Environment and Tourism (Namibia), several with the US Fish and Wildlife Service, one with the Rhino and Elephant Security Group (RESP), with the High Level Panel to develop the Policy Position on the Conservation and Ecologically Sustainable Use of Elephant, Lion, Leopard and Rhinoceros. (KSR #27)

Communicate

Communication

i. The Pachyderm Chair report for 2020 was completed. (KSR #28)

ii. Responses to the media: The Secretariat (Chair and Scientific Officer) provided responses for numerous researchers/media outlets (Smithsonian, Namibia’s Radio Kosmos, BBC Inside Science, BBC World Service, The Art Newspaper, CBS News, IUCN communications, Tony Carnie, Edinburgh Napier University, Project Earth Films, Bonne de Bod), AFP and Tony Grogan’s documentary series, The Guardian, New Scientist, Buzzfeed and freelance. (KSR #28)

iii. A minimum of 100 communications were exchanged with AFRSG members. (KSR #28)

Summary of activities 2020

Components of Species Conservation Cycle: 5/5

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Main KSRs addressed: 1, 9, 11, 16, 18, 27, 28

KSR: Key Species Result
Mission statement
The IUCN SSC Afrotheria Specialist Group (ASG) facilitates the conservation of hyraxes, aardvarks, elephant-shrews or sengis, golden moles, tenrecs and their habitats by: (1) providing sound scientific advice and guidance to conservationists, governments, and other interested groups; (2) raising public awareness; and (3) developing research and conservation programmes.

Projected impact for the 2017-2020 quadrennium
If the ASG achieved all its targets, it would be able to deliver more accurate, data-driven Red List assessments for more Afrotherian species and, therefore, be in a better position to move to conservation planning, especially for priority species.

Targets for the 2017-2020 quadrennium
Assess
Red List: reassess Red List categories in species for which new information arises (e.g. Nimba Otter Shrew, Micropotamogale lamottei, for which we have new extent of occurrence (EOO) data) or for newly described species that may be described during the quadrennium (such as golden moles or sengis).

Research activities: (1) develop five standardised monitoring protocols for each group of Afrotherians to track trends over time and produce more data for Red List assessments; (2) complete 2–4 reassessments of taxonomy of golden moles in species where it is necessary (e.g. Amblysomus and Neamblysomus species); (3) collect basic data for 3–4 golden mole species, including geographic distributions and natural history data; (4) conduct surveys to determine distribution and abundance of five hyrax species; (5) revise taxonomy of five hyrax species; (6) develop and assess field trials for standardised camera trapping methods to determine population estimates for giant sengis; (7) conduct surveys to assess distribution, abundance, threats and taxonomic status of the Data Deficient sengi species; (8) build on current research to determine the systematics of giant sengis, especially Rhynchocyon species; (9) survey Aardvark (Orycteropus afer) populations to determine abundance, distribution and trends; (10) conduct taxonomic studies to determine the systematics of Aardvarks, with a focus on contrasting Aardvarks from central African forests with southern African savannah Aardvarks; (11) integrate the monitoring of tenrecs in the management of key protected areas with threatened species in order to track their status and threats and identify key conservation concerns; (12) conduct genetic studies to clarify the taxonomy and species diversity within the genus Microgale.

Communicate
Communication: (1) update and maintain the afrotheria.net website; (2) produce one Afrotheria Specialist Group newsletter every year.
Activities and results 2020

Assess

Red List
i. We have not had any need to re-assess any species during 2020, although new taxonomic assessments in the sengis may require such soon. As a Specialist Group, we are waiting to find out whether IUCN will request a full set of reassessments during the next quadrennium. (KSR #1)

Research activities
i. Phylogenetic analysis and species delimitation was conducted for Amblysomus. This analysis was conducted using BPP software and genetic data from ND2 and GHR genes. The dataset will be expanded upon before publication. (KSR #43)

ii. Samantha Mynhardt, in collaboration with the Drylands Conservation Programme of the Endangered Wildlife Trust, is developing a method for mammalian environmental DNA (eDNA) extraction from soil, and subsequent species identification through barcode sequencing of small DNA fragments. We have conducted a pilot study to test our eDNA method, which has proven very successful in obtaining eDNA from soil samples and obtaining DNA barcodes for species identification. We have completed sequence analysis and species identification for all samples and will be conducting another field trip to Port Nolloth in July 2021, in the hope of using our method to detect the Critically Endangered De Winton’s Golden Mole (Cryptochloris wintoni). We captured one specimen of golden mole at Lambert’s Bay, and conducted species identification (Grant’s Golden Mole, Eremitalpa granti) using a cytb DNA barcode. We collected 30 eDNA samples from various sites in the Lambert’s Bay area and obtained positive golden mole species identifications in all 30 samples. (KSR #12)

iii. An application for a National Geographic Society grant to conduct surveys to determine distribution and abundance of five hyrax species was re-submitted during 2020 but was rejected. (KSR #12)

iv. One project at Arabuko-Sokoke Forest in Kenya was initiated to camera survey Golden-rumped Sengi (Rhynchocyon chrysopygus) and other mammals. There is no news of updated methods or results yet. (KSR #12)

v. A survey in the Horn of Africa has yielded new distributional data, abundance estimates and taxonomic assessment for Somali Sengi (Elephantulus revollii). An updated Red List assessment for Somali Sengi has been started. A new taxonomic assessment has been generated for the unworked (thus Data Deficient) Rhynchocyon taxon from Boni Forest, Kenya. Work with the recent survey data for Dusky Sengi (Elephantulus fuscus) from Malawi is pending. (KSR #43)

vi. A systematic reassessment that includes a new subspecies of Golden-rumped Sengi (Rhynchocyon chrysopygus) was a focus for 2020 and published recently. More work is needed. (KSR #12)

vii. There has been no progress in relation to the project to survey Aardvark populations to determine abundance, distribution and trends. During 2020, the Aardvark section started discussions about how such a process might be conducted using photographic (camera trap) surveys and machine learning technology, but there has been no further progress. A new project being started in the Waterberg Region of South Africa, initiated by a private landowner and supported by the University of Witwatersrand, may lead to some progress with this work. (KSR #12)
Least Concern Taiva Shrew Terrec,
Microgale taiva, Parc Nacional de Midongy Sud,
Madagascar
Photo: L. E. Olson
As noted for 2019, the genomic work on Aardvark was put on hold after the postdoc in charge of the project was not confirmed in her position. The project remains on hold until new funding and a new candidate can be found. One major obstacle will be to get access to fresh DNA samples from Congo (or adjacent countries) within the framework of the Nagoya Protocol. Political instability is also a problem. (KSR #43)

At present, the biggest problem to integrating the monitoring of tenrecs in the management of key protected areas with threatened species is lack of a consistent approach to monitoring. ‘Monitoring’ means different things to different people, and for small-bodied tenrecs, particularly Shrew Tenrecs (Microgale and Nesogale), identification to species is almost impossible without collecting voucher specimens or genetic samples (although we are not yet at the point where a simple genetic test will allow a confident species determination). Also, there are very few longitudinal demographic studies, so we don’t yet know if and to what extent some species fluctuate. So ‘monitoring’ is likely a premature concept for these species, and inventories are still needed. (Interestingly, this is an issue the US National Park Service has struggled with in its federally mandated Inventory & Monitoring Program – where does the former stop and the latter begin?). So the primary need in this case is agreement, or at least consensus, as to what ‘monitoring’ entails. For large-bodied species, especially Tailless Tenrec (Tenrec ecaudatus) and Greater Hedgehog Tenrec (Setifer setosus), population declines have become apparent in some areas, and these are also more directly threatened by exploitation (e.g. bushmeat) and are likely being adversely affected by zoonotics. These species are easier to ‘monitor’ in that they can be confidently identified to species without having to inspect craniodental features that require specimen collection. But again, the primary need is for an actual strategy for monitoring. Expert taxonomic identifications and data analysis resulting from late-2020 inventories are pending. (KSR #32)


Communicate

Communication

The Afrottheria website continues to be maintained every year and we obtained funding from IUCN to pay for website maintenance during 2020. We have also started updating the web pages for aardvarks and tenrecs, but this is an ongoing process. (KSR #28)

We successfully produced our annual newsletter in September 2020. (KSR #28)

We are grateful to IUCN and Global Wildlife Conservation for the grant provided to maintain and update the Afrottheria.net website. We thank our Afrottheria Specialist Group members, all of whom are volunteers, who contributed towards ongoing work on our species and to those who contributed towards the annual newsletter. In particular, we are grateful to our section coordinators, Samantha Mynardt, Lee Koren, Thomas Lehmann, Voahangy Soarimalala, Link Olson and Steven Heritage, as well as our newsletter editor, P.J. Stephenson. We also thank Avian Designs for supporting our website at discounted rates.

Summary of activities 2020

Components of Species Conservation Cycle: 2/5

Assess 11

Communicate 2

Main KSRs addressed: 1, 12, 28, 32, 43

(KSR: Key Species Result)
Mission statement
The mission of the IUCN SSC Anteater, Sloth and Armadillo Specialist Group is to promote the long-term conservation of the extant species of xenarthrans (anteaters, sloths and armadillos) and their habitats.

Projected impact for the 2017-2020 quadrennium
By the end of 2020, we envision the Anteater, Sloth and Armadillo Specialist Group (ASASG) will have achieved increased protection for our priority species, the Critically Endangered Pygmy Three-toed Sloth (*Bradypus pygmaeus*) and the Vulnerable Brazilian Three-banded Armadillo (*Tolypeutes tricinctus*). We aim to reach this goal by increasing scientific knowledge, raising awareness, developing and implementing comprehensive action plans and securing protection of their habitat. Capacity building through training courses will allow us to increase the number of researchers dedicated to conservation-relevant research on armadillos, sloths and anteaters. We predict that our awareness campaigns will increase knowledge about our species and their conservation problems among the general public.

Targets for the 2017-2020 quadrennium

**Assess**
Red List: (1) complete assessment of seven silky anteater species; (2) complete re-assessment of all Xenarthra species; (3) facilitate assessments of other taxa for the IUCN Red List; (4) support assessment of mammals of Argentina.
Research activities: collection of scientific data about Brazilian Three-banded Armadillo (*Tolypeutes tricinctus*) and Pygmy Three-toed Sloth (*Bradypus pygmaeus*).

**Plan**
Planning: plan for protection of Brazilian Three-banded Armadillo and Pygmy Three-toed Sloth.

**Act**
Conservation actions: effective protection of Brazilian Three-banded Armadillo and Pygmy Three-toed Sloth.

**Network**
Capacity building: (1) teach five training courses; (2) train Argentinean mammalogists in Red List assessments.
Proposal development and funding: secure funding to replenish the Xenarthra Conservation Fund.
Synergy: enter into partnership with zoological institutions.

**Communicate**
Communication: (1) publish four issues of the ASASG Newsletter and Journal Edentata; (2) increase awareness through campaigns at zoos and other institutions; (3) increase awareness for Xenarthra.

Activities and results 2020

**Assess**

i. We have postponed the assessments of silky anteater species. We plan to organise a virtual assessment workshop with our Specialist Group members in 2021. (KSR #1)

ii. We have postponed the re-assessments of Xenarthra species. We plan to organise a virtual assessment workshop with our Specialist Group members in 2021. (KSR #1)

iii. Our Specialist Group Chair helped teach two Red List assessment courses; both were held online. (KSR #1)
Research activities

Fieldwork related to collection of scientific data on the Pygmy Three-toed Sloth priority species was interrupted due to the pandemic. (KSR #12)

Act

Conservation actions

We sent letters, signed by the IUCN Director General and the SSC Chair, to the Ministers of Tourism and Environment of Panama to express our concern about the impact of tourism on Isla Escudo de Veraguas, where Pygmy Three-toed Sloths are endemic. This high-level intervention was necessary because the island was being opened for tourism due to a proposed tourism development on the Caribbean coast of Panama, which is promoting Isla Escudo de Veraguas as a major attraction and “undiscovered jewel”. Through these letters, we requested the government of Panama to consider the potential negative and irreversible impacts of tourism on the fragile ecosystem of this small island, which is also home to other endemic, Critically Endangered species. (KSR #27)

Network

Capacity building

The planned courses were postponed due to the pandemic.

Synergy

We have entered a partnership with Nurtured by Nature. (KSR #29)

Communicate

Communication

In December 2020, we published volume 21 of the Newsletter and Journal Edentata, which included six articles related to the conservation of Xenarthra. (KSR #28)

We have been increasing awareness through different strategies: (1) by providing information on Xenarthra through our website (www.xenarthrans.org) and our Facebook page (www.facebook.com/xenarthrans); (2) by providing advice to researchers, students and schoolchildren; (3) by giving talks and interviews to different media and participating in documentaries. (KSR #28)

Acknowledgements

We would like to thank Animal Educators Inc. and Nurtured by Nature for their continuous support. We also thank Benison Pang for his generous donation.

Summary of activities 2020

Species Conservation Cycle ratio: 2/5

| Category   | KSR | | |
|------------|-----|-----|
| Assess     | 4   |   |   |
| Act        | 1   |   |   |
| Network    | 2   |   |   |
| Communicate| 2   |   |   |

Main KSRs addressed: 1, 12, 27, 28, 29

KSR: Key Species Result
Mission statement
The mission of ASG is to promote the conservation of the world’s antelope diversity and to contribute to the mission of SSC.

Projected impact for the 2017-2020 quadrennium
By the end of 2020, we expect: the Antelope Specialist Group’s (ASG) global framework for antelope conservation; road maps for all threatened taxa; action plans for key species; updated Red List assessments; advice to IUCN, CITES, the Convention on Migratory Species (CMS), governments and INGOs; support for project proposals; and dissemination of information will collectively have made a significant contribution to stabilising and/or improving the status of antelopes and also to specific targets on the SSC Strategic Plan.

Targets for the 2017-2020 quadrennium
Assess
Green Status: complete Green Status assessments for 93 species.
Red List: (1) maintain regular updates of 93 species’ Red List datasheets; (2) complete all 144 Red List reassessments.
Research activities: (1) enter baseline data for all 144 species and subspecies into the Antelope e-database; (2) expand fields of the Antelope e-database.

Plan
Planning: (1) publish the ASG planning guidelines; (2) develop the Global Antelope Strategy; (3) publish action plans for eight key antelope taxa; (4) enhance the link between Red List assessments and species planning.

Policy: (1) revise the Intensive Genetic Manipulation Policy; (2) liaise annually with the Convention on the Conservation of Migratory Species of Wild Animals (CMS); (3) provide advice to the SSC Chair and IUCN; (4) liaise annually with the CITES Animals Committee, Standing Committee and Conference of the Parties, and attend two standing meetings per year for two species, as well as additional events ad hoc; (5) liaise with, and provide advice to, national government agencies.

Act
Conservation actions: review Key Biodiversity Area (KBA) sites for antelopes.

Network
Agreements: sign Memorandum of Understanding (MoU) with Royal Zoological Society of Scotland (RZSS) on genetics and planning.
Membership: increase regional and gender diversity of members of the ASG.
Proposal development and funding: support preparation of grant proposals as requested.
Synergy: liaise with the UN Food and Agriculture Organization (FAO) and World Organisation for Animal Health (OIE) for the Global Eradication Campaign of “Peste des Petits Ruminants” (PPR GEP).

Communicate
Communication: (1) produce policy statements as appropriate; (2) publish Gnsletter regular issues (2 per year) and special issues; (3) re-launch website; (4) maintain Facebook page with one post per month; (5) create a Twitter account and a blog; (5) publish book project entitled The African Buffalo: ecology and management, containing 20 chapters and 100,000 words.

Scientific meetings: co-organise the 3rd and 4th African Buffalo (Syncerus caffer) workshops.
Activities and results 2020

Assess

Red List

i. Threatened species datasheets were updated. (KSR #1)

Plan

Planning

i. The Action Plan for Slender-horned Gazelle (Gazella leptoceros) is completed; the Action Plan for Addax (Addax nasomaculatus) has been started; funds were obtained for the Ethiopia National Antelope Action Plan, but progress was delayed by COVID-19. (KSR #15)

Policy

i. Liaison with CITES, Animals Committee, Standing Committee and Conference of the Parties accomplished. We responded to CITES on Saiga (Saiga tatarica) and Tibetan Antelope (Pantholops hodgsonii). (KSR #26)

ii. Liaised with CMS on: 13th meeting of the Conference of the Parties to the CMS (CMS COP13) in February 2020; Central Asia Mammals Initiative; Saiga MoU; Sahelo-Saharan Megafauna Concerted Action (including collaboration on grant application to Government of Germany focused on Addax). (KSR #26)

iii. We responded to all requests formulated by IUCN and the SSC Chair. (KSR #26)

iv. We worked with the government of Niger on Addax conservation. (KSR #26)

Act

Conservation actions

i. The target focused on review of KBA sites for antelopes was dropped as responsibility for KBAs lies with National Committees. (KSR #22)

Network

Membership

i. New members were invited to join the ASG.

Proposal development and funding

i. Several projects were supported, two successful.

Synergy

i. Liaison with FAO and OIE for the PPR GEP (Global Eradication Campaign of "Peste des Petits Ruminants") accomplished. (KSR #23)

Communicate

Communication

i. Gnusletter issues 37.1 and 37.2 were published in 2020. (KSR #28)

ii. A contract was signed in November 2020 with Cambridge University Press for publication of the book Ecology and Management of the African Buffalo. (KSR #28)

Acknowledgements

We are grateful to the following: Marwell Wildlife for supporting the ASG Programme Office; White Oak Conservation, Steve Shurter (Editor of Gnusletter) and Stephanie Rutan (Editorial Assistant); staff in the SSC Chair’s Office and Global Species Programme for their support and advice; and all members and others who responded to requests for information or contributed to Gnusletter. We are particularly grateful to the IUCN SOS African Wildlife Initiative Rapid Action Grants for funding the mission to Niger by the two Co-Chairs in January 2020 to discuss Addax conservation; to Awaiss Aboubacar of the IUCN Regional Office for Central and West Africa for his support during the mission; and to Richard Jenkins (Global Species Programme), Aliou Faye (IUCN-PACO), Remco van Merm (IUCN SOS), Stephen Edwards (IUCN Business and Biodiversity Unit) and the staff of the IUCN China Office for support throughout 2020 on the Addax project.

Summary of activities 2020

Species Conservation Cycle ratio: 5/5

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<th>Communicate</th>
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<tr>
<td>Main KSRs addressed:</td>
<td>1, 15, 22, 23, 26, 28</td>
<td>1</td>
<td>1</td>
<td>3</td>
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| Resolutions addressed: | WCC-2016-Res-041, WCC-2016-Res-100 | | | | | KSR: Key Species Result
Mission statement

The Asian Elephant Specialist Group (AsESG) does not have a mission statement but has developed a mandate for the group: (1) AsESG shall provide the best available scientifically grounded evidence as to the abundance, distribution and demographic status of Asian Elephant (Elephas maximus) populations in all 13 range States. It shall also set forth advisory guidelines for range States and assist in capacity building in performing their own assessments; (2) the AsESG shall analyse threats to wild populations and raise awareness by communicating both within and outside the scientific community, and also set forth standards/guidelines for management and welfare of wild and captive elephants, including but not limited to the surveillance of disease interfaces and economic activities that impact elephants; (3) the AsESG shall use its advisory mandate to guide conservation and welfare issues of Asian Elephants by governments, civil society or any other relevant stakeholder. Members will also work within and in collaboration with external experts to outline conservation strategies for Asian Elephants; and (4) the AsESG may choose to meet regularly to share information and conduct its own activities as well as convene gatherings in the form of conferences/workshops on specific themes open to external participants for furthering the protection of Asian Elephants.

Projected impact for the 2017-2020 quadrennium

Conservation prospect of Asian Elephant across 13 range States improved through collaborative efforts of range countries and AsESG members.

Targets for the 2017-2020 quadrennium

Assess
Research activities: (1) map the distribution of elephants in all 13 range States in Asia; (2) develop Asian Elephant database.

Plan
Conservation actions: produce National Action Plans (NAPs) on elephant conservation for 13 range countries in Asia.
Policy: (1) assist the Viet Nam Government in arresting the decline of the elephant population in Viet Nam; (2) identify select elephant conservation emergencies and plan mitigation measures with technical support from AsESG; (3) organise the 2nd Asian Elephant Range States meeting in Jakarta, Indonesia.
Technical advice: (1) facilitate effective data collection and reporting for the Monitoring the Illegal Killing of Elephants (MIKE) programme; (2) guidelines/protocols for the conservation of Asian Elephants developed by Working Groups.

Act
Proposal development and funding: generate financial resources to support AsESG conservation activities.
Network
Capacity building: (1) support at least 13 young emerging professionals working on Asian Elephants in 2019 and 2020; (2) provide capacity building training for range country officials. Membership: develop AsESG membership for the quadrennium.

Communicate
Communication: (1) communicate elephant conservation and research on Asian Elephants through Gajah journal; (2) communicate elephant conservation and research on Asian Elephants through other publications; (3) communicate information on Asian Elephants and the activities of the group through an updated website.

Scientific meetings: (1) organise two meetings of the Asian Elephant Specialist Group members in 2018 and 2020; (2) organise the 3rd Asian Elephant Range States meeting; (3) take up the elephant conservation issues and mitigation plan in at least three meetings/conventions.

Activities and results 2020
Assess
Red List
i. The Red List team for assessment of the Asian Elephant submitted the information in mid-2019, it was reviewed in early 2020 and was finally published in December 2020. This was possible because of the information generated from the research and conservation work of our members, other experts, organisations and range countries working on Asian Elephant, which has helped in undertaking the assessment. (KSR #1)

Research activities
i. Mapping of the distribution of elephants in all 13 range States in Asia could not be completed due to the COVID-19 pandemic, lockdown and delays on part of the team to collect relevant data for undertaking mapping. The team will try to do this in next quadrennium.

ii. The group decided on the need to develop the Asian Elephant database at the AsESG meeting in 2019 and had planned to start in 2020. This, however, could not be initiated due to the COVID-19 pandemic and will be taken up in the next quadrennium. (KSR #16)

Plan
Planning
i. The National Action Plan for conservation of elephants now exists for Sabah Malaysia, Bangladesh, Bhutan, Myanmar, Cambodia and Sri Lanka. The plans under preparation are of India, Lao PDR, Peninsular Malaysia and Nepal. Draft plans exist for Thailand, China and Indonesia. Viet Nam is also working to update their plan. The existing plans can be accessed at https://www.asesg.org/resources.php. (KSR #18)

Policy
i. The draft plan for arresting the decline of elephant populations in Viet Nam was prepared and is being finalised. The Viet Nam Government is coordinating with AsESG to update their National Action Plan. AsESG is also in discussion with Viet Nam Forest to have the National Red Listing of elephants in Viet Nam. This will be continued in next quadrennium. (KSR #27)

Technical advice
i. AsESG submitted a detailed report to the CITES MIKE Secretariat in August 2020 for the 73rd Standing Committee report. (KSR #16)

ii. The history of AsESG has been documented. Three Working Group documents are still pending. (KSR #26)

Act
Proposal development and funding
i. USD 25,000 were obtained as a new grant from International Fund for Animal Welfare (IFAW) and USD 29,750 as last year’s instalment from Elephant Family. (KSR #19)

Network
Membership
i. AsESG has 111 members with diverse skill sets from all 13 Asian Elephant range States. The group also has 15 ex officio government members nominated by range countries and five other ex officio members. AsESG undertook self-assessment of members in December
Elephant in Periyar National Park, Kerala India
Photo: Vivek Menon

Kui buri National Park, Thailand
Photo: Sandeep Kumar Tiwari AsESG
2020 to promote fairness and transparency in the membership process for next quadrennium. This was also an opportunity for introspection and feedback on how we have contributed to the conservation of elephants in Asia, our contribution to AsESG and our plans for ourselves and the group in coming years. One-hundred and three of the 111 members (110 now due to the death of one member) responded to the survey.

**Scientific meetings**

**i.** The 3rd Asian Elephant Range States meeting was scheduled to be organised in Nepal in April 2020 by the Nepal Government in collaboration with AsESG. This was postponed due to the COVID-19 pandemic. No new dates have been finalised. (KSR #28)

**ii.** AsESG took up elephant conservation issues in the following conventions/meetings in 2020: (1) 13th Conference of the Parties to the Convention on the Conservation of Migratory Species (CMS CoP13) in Gandhinagar, India. Asian Elephant (Elephas maximus indicus) was included in Appendix I and AsESG assisted in preparation of the proposal; (2) organised two side events at CMS CoP13 in Gandhinagar, India. AsESG along with the Ministry of Environment, Forest and Climate Change – Government of India (MoEFCC), Wildlife Institute of India, CMS, IUCN Bangladesh and Wildlife Trust of India organised a side event on 18 February 2020 to discuss ‘Elephant conservation beyond borders’. We also partnered with Project Elephant Division, MoEFCC and Wildlife Institute of India for a discussion on ‘Asian Elephant Conservation: Prospects and Challenges’ on 20 February 2020; (3) the Elephant Reintroduction Foundation, Thailand and AsESG also hosted the Elephant Reintroduction Workshop in Bangkok, from 5–7 February 2020. (KSR #28)

**Communicate**

**Communication**

**i.** Gajah journal has been able to publish two issues every year, covering a wide range of topics concerning elephant conservation in Asia in the wild and in captivity. In 2020, it published Gajah Volume 51 and 52 (available at https://www.asesg.org/gajah51.php and https://www.asesg.org/gajah52.php). (KSR #28)

**ii.** A minimum of 316 papers have been published by the members at individual levels as reported in the self-assessment by members. (KSR #43)

**iii.** Our website is updated regularly: www.asesg.org. (KSR #28)

**Acknowledgements**

The AsESG Secretariat would like to thank all the members for actively participating in discussion, assistance and contributing to the overall goal of the Specialist Group. We also acknowledge the support and participation of our members who undertook the self-assessment survey and reviewed the work of the AsESG Secretariat. The feedback will help us to further improve the performance of the group and the Secretariat. We would like to thank the Working Group convenors and the members who have successfully completed their outcome documents. Thanks to our Red List Coordinator and other members for successfully undertaking the Red List assessment of Asian elephants. The Chair would like to convey his sincere thanks to range States for updating/preparing their National Action Plan for Conservation of Elephants. We are thankful to the editorial board of Gajah journal for publishing the issues in time and proactively looking for quality papers. The Chair expresses his thanks to the AsESG Membership Advisory Committee (MAC) and proposal endorsement committee for their proactive support. Special thanks to Elephant Family and the International Fund for Animal Welfare (IFAW) for supporting the activities of AsESG and financial support. The AsESG Secretariat would also like to thank Prof Jon Paul Rodríguez, SSC Chair, and his team and the IUCN Office for extending all assistance and help to AsESG.

**Summary of activities 2020**

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<thead>
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<th>Species Conservation Cycle ratio</th>
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Main KSRs addressed: 1, 16, 18, 19, 26, 27, 28, 43

Resolutions addressed: WCC-2016-Res-068

KSR: Key Species Result
Mission statement
Foster conservation and management of three species of Asian rhinos and their habitats.

Projected impact for the 2017-2020 quadrennium
In the 2nd Asian Rhino Range States Meeting, organised by the Asian Rhino Specialist Group (AsRSG) in New Delhi, India, 26–28 February 2019, all five Asian rhino range states attended and decided to secure the future of all three species of Asian rhinos by adopting the New Delhi Declaration on Asian Rhino Conservation. The Greater One-horned Rhino (*Rhinoceros unicornis*) was downlisted from Endangered to Vulnerable on the IUCN Red List in 2008 as its status improved, which reflects the true sense of conservation success. However, the Critically Endangered Sumatran Rhino (*Dicerorhinus sumatrensis*) and Javan Rhino (*Rhinoceros sondaicus*), currently found in Indonesia, continue to face diverse challenges.

IUCN SSC along with National Geographic, the International Rhino Foundation, Global Wildlife Conservation and WWF joined hands with Indonesia’s Ministry for Environment and Forestry to launch the Sumatran Rhino Rescue Project in July 2019, to make extra efforts to save Sumatran Rhinos. Interactions among AsRSG members have also contributed new ideas to secure the three species of Asian rhinos in the wild.

Targets for the 2017-2020 quadrennium

**Plan**

**Planning**
1. (1) initiate preparation of the Javan Rhino (*Rhinoceros sondaicus*) Conservation Plan;
2. (2) initiate preparation of the Sumatran Rhino (*Dicerorhinus sumatrensis*) Conservation Plan;

Policy: hold the 2nd Asian Rhino Range States Meeting.

**Communicate**
Communication: initiate Asian Rhino Species Update webinars in 2020 using virtual mode.

**Activities and results 2020**

**Plan**

**i.** The initial framework and write-up of the Javan Rhino (*Rhinoceros sondaicus*) Conservation Plan was initiated. Collation of information needed for various chapters is in progress. Unfortunately, however, the focal AsRSG member entrusted with this task died due to COVID-19. (KSR #15)

**ii.** Collation of information needed for various chapters of the Sumatran Rhino Conservation Plan is in progress. Since Sumatran Rhino is currently found in Indonesia only, discussion with the Ministry for Environment and Forestry is also underway as the country itself is making an emergency action plan for Sumatran Rhino, as the species currently needs some urgent attention. The contents of various chapters are being assigned and maps, etc., are being prepared for Sumatran Rhino distribution. However, due to COVID-19, not much progress could be made with Indonesian Ministry officials during 2020 for wider participation to prepare the report. (KSR #15)
We achieved about 60% progress collating information needed for various chapters of the Greater One-horned Rhino Conservation Plan. The content of various chapters is being drafted for India and Nepal, as these two countries cover the current distribution range of Greater One-horned Rhino. However, due to COVID-19 restrictions in 2020, the remaining tasks could not be completed because of travel restrictions to follow up and mental stress among AsRSG members, resulting from the pandemic-related uncertainty. (KSR #15)

**Communicate**

**Communication**

Out of three planned Asian Rhino Species Update webinars, only the Sumatran Rhino webinar could be achieved. (KSR #28)

**Acknowledgements**

AsRSG would like to acknowledge Secretarial support being provided by Aaranyak and the International Rhino Foundation during 2020. Due to the COVID-19 pandemic standstill, no salient activities could be accomplished.

**Summary of activities 2020**

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Main KSRs addressed: 15, 28

KSR: Key Species Result
Mission statement

The mission of the Asian Wild Cattle Specialist Group (AWCSG) is to promote the long-term conservation of the Asian wild cattle species and their habitats by means of information sharing, identification of conservation priorities and facilitation/delivery of these priority actions through collaborative conservation work.

Projected impact for the 2017-2020 quadrennium

By the end of 2020, we will have enhanced the partner network, planning and coordinated action for four wild cattle species. For the Tamaraw (Bubalus mindorensis), range-wide conservation actions will be defined, agreed amongst stakeholders, and being implemented, following a Population and Habitat Viability Assessment (PHVA) workshop in 2018. The One Plan approach for conserving Anoa (Bubalus depressicornis and B. quarlesi) and Banteng (Bos javanicus) in Indonesia will be implementing two site-based projects, while the ex situ status will have been improved with cooperative breeding efforts in Indonesian zoos. This programme (Action Indonesia Global Species Management Plans) will have built capacity in the national zoo association and set up cooperative breeding programmes for the first time that can be used as a model for other species. The most likely remaining locations of Saola (Pseudoryx nghetinhensis) will have been searched, and efforts conducted to capture individuals for a captive breeding programme.

Targets for the 2017-2020 quadrennium

Assess

Red List: complete Red List assessments for eight of nine species.

Research activities: (1) produce publications on Anoa and Babirusa (Babyrousa babyrussa, B. celebensis, B. togeanensis) genetics, Tamaraw, Kouprey (Bos sauveli), and hunting in Sulawesi; (2) carry out Tamaraw population monitoring and improved assessment; (3) conduct Banteng monitoring in east Javan park; (4) conduct Anoa and Babirusa monitoring in Sulawesi park; (5) carry out Saola camera trapping study.

Plan

Planning: (1) hold first planning workshop for Banteng, Anoa and Babirusa Global Species Management Plans (GSMPs); (2) host the Saola working group biennial meeting; (3) participate in the Conservation Planning Specialist Group (CPSG) visioning workshop; (4) organise Sabah Banteng conservation planning workshop; (5) complete a GSMP master plan for Anoa, Banteng and Babirusa; (6) contribute to the European Association of Zoos and Aquaria (EAZA) Regional Collection Planning for wild cattle; (7) set up a programme to increase support for Tamaraw conservation.

Policy: sign memorandum of understanding (MOU) between the partners of Action Indonesia GSMPs for Banteng and Anoa, with Indonesian partners, SSC and the Wild Pig Specialist Group.

Act

Conservation actions: (1) construct Saola breeding centre in Viet Nam; (2) improve protection of Tamaraw population.
Network
Capacity building: (1) hold two training workshops for Indonesian zoo educators to set up network and test out materials; (2) hold a Tamaraw PHVA workshop and produce a report; (3) hold three animal husbandry training workshops for zookeepers on Banteng, Anoa and Babirusa; (4) hold one animal husbandry training workshop for forest ranger staff on Anoa and Babirusa; (5) assess Indonesian zoo experts to plan future training.

Communicate
Communication: launch AWCSG newsletter.

Activities and results 2020

Assess
Research activities
i. Additional data is being analysed to add to the publication on Anoa genetics, meaning completion is delayed. (KSR #32)
ii. A wider study has been initiated on Kouprey by partners that is adding modelling, so completion is delayed. (KSR #32)
iii. Tamaraw population monitoring and improved assessment were delayed due to the COVID-19 pandemic. (KSR #12)
iv. Initiation of a study on Banteng monitoring in east Javan park was not possible due to the COVID-19 pandemic, but much preparation has occurred and camera trapping will begin in mid-2021. (KSR #12)
v. Camera trapping to detect Saola has continued with increased effort at high priority sites in the quadrennium. Unfortunately, due to the rarity of Saola, no confirmation has occurred, but further increased effort and new techniques will be continued in the coming years. (KSR #27)

Plan
Planning
i. A masterplan for Anoa, Banteng and Babirusa was completed in 2019 following World Association of Zoos and Aquariums (WAZA) review. (KSR #15)

Act
Conservation actions
i. Employment of SMART monitoring by rangers is improving the effectiveness of Tamaraw population protection. (KSR #31)

Network
Capacity building
i. A training workshop for Indonesian zoo educators was delayed due to COVID-19. (KSR #32)
ii. A zookeeper husbandry training framework was developed and webinars given by international experts to improve animal husbandry in Indonesian zoos. (KSR #25)

Communicate
Communication
i. Three issues of the newsletter BULLETIN were published in 2020. (KSR #28)

Acknowledgements
We appreciate the support from the IUCN SSC office – Jon Paul Rodriguez, Kira Mileham, Nahomy De Andrade and Orlando Salamanca – to grow and strengthen our network. We are very grateful to all the active members of the AWCSG for their continuing hard work to conserve these species. The leadership by the Species Coordinators in really appreciated: Olivia Petre, Paul Buzzard, Penny Gardner, Simon Hedges, Rahul Kaul, Tom Gray and Emmanuel Schultz. The Saola Working Group has gone through some changes, and we appreciate the members’ input and understanding and look forward to engaging with them in early 2021. We thank WWF Viet Nam and IUCN Lao PDR for agreeing to host Saola Working Group National Coordinators in 2021. We thank all members of the GSMP Working Groups for adapting our activities and continuing to implement much in 2020. We are grateful to D’ABOVILLE Foundation, the Philippine Government, other NGOs and partners that continue to put much effort into conserving Tamaraw.

Summary of activities 2020

Components of Species Conservation Cycle: 5/5

Assess 5

Plan 1

Act 1

Network 2

Communicate 1

Main KSRs addressed: 12, 15, 25, 27, 28, 31, 32, 34

KSR: Key Species Result
Mission statement
To enhance the long-term conservation outlook for the marsupials and monotremes of Australia, Papua New Guinea and Indonesia.

Projected impact for the 2017-2020 quadrennium
Major focal areas in the 2017–20 period will be on increasing conservation efforts for marsupials and monotremes in Papua New Guinea and Indonesia; increasing the representation of stakeholders in those countries; completing conservation status assessments in all areas for the minority of species not covered by recent assessments; and seeking to catalyse research on Data Deficient species. Following the devastating wildfires in eastern and southern Australia in 2019–20, the group will also help progress recovery of fire-affected species and contribute to any consequent re-assessment of conservation status.

Targets for the 2017-2020 quadrennium
Assess
Red List: (1) complete conservation status assessment for all taxa not assessed within last 10 years; (2) undertake new assessments for the species most affected by the catastrophic 2019–20 Australian wildfires.

Network
Membership: enhance or expand group membership, including establishing annual or biennial meetings of SSC members.
Synergy: (1) hold face-to-face and remote meetings with members and other interested individuals; (2) review and re-establish internal structure, (3) establish an inclusive mailing list for members.

Communicate
Communication: enhance the communication within and beyond the SSC.

Activities and results 2020
Assess
Red List
i. There are some ongoing assessments still to complete with new data, including Sminthopsis fuliginosus. (KSR #1)

ii. Many post-fire assessments and field assessments of PNG and Indonesian species are still being completed by practitioners in the field. (KSR #1)

Network
Membership
i. There are 54 members, including 10 from Melanesia and Indonesia.

Synergy
i. The internal structure of the Australasian Marsupial and Monotreme Specialist Group (AMMSG) has been re-established. We have held two meetings and established a mailing list.

Communicate
Communication
i. Social media accounts (Twitter) have been developed, others are in development (Facebook). (KSR #28)
Acknowledgements

We thank the Australian Mammal Society, the Wild Pig Specialist Group, Wildlife Conservation Society Indonesia, AMMSG members who have provided photos, members who have provided information on bushfire effects on marsupials and monotremes, members who have facilitated communication with researchers and communities in Papua New Guinea and Indonesia, the IUCN Red List Unit, the Australian Committee for IUCN, Jon Paul Rodríguez and the SSC, and Angela Yang.

Summary of activities 2020

Components of Species Conservation Cycle: 3/5

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<td>Network</td>
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Main KSRs addressed: 1, 28
Resolutions addressed: WCC-2016-Res-016

Some threatened Australian mammal species are now benefiting from reintroductions to havens that exclude the introduced fox and cat. In this case, the Australian Wildlife Conservancy is working with traditional Indigenous owners to return the mala to Newhaven reserve in central Australia.

Photo: Brad Leue, courtesy of the Australian Wildlife Conservancy
Mission statement
(1) To contribute to the mission and goals of IUCN/SSC.
(2) To ensure the maintenance or recovery of populations of threatened bat populations.
(3) To ensure that other bat species remain at a favourable conservation status.

Projected impact for the 2017-2020 quadrennium

By the end of 2020, we envision that having effective Red List assessments in place, informed by current taxonomy, will underpin effective conservation planning for bat species globally. The Bat Specialist Group (BSG) anticipates a sustainable resolution to the human-bat conflict in Mauritius, and an end to Government culls of Greater Mascarene Flying Fox (Pteropus riper, also known as the Mauritius Fruit Bat). A conservation networking initiative in Oceania is intended to promote regional capacity and conservation of threatened island bat species. The North American Bat Conservation Alliance will be solidly in place and recognised by the three federal governments of Canada, the US and Mexico, as the entity to promote bat conservation on the continent. RELCOM, the Latin American Alliance, will have the network of important Areas for Bat Conservation (AICOMs) and Important Sites for Bat Conservation (SICOMs) articulated and integrated into a GIS platform upon which each country will enable investment in bat conservation priorities. Following the Convention on the Conservation of Migratory Species of Wild Animals (CMS) listing of four species of Lasiusurus, the implementation of the associated requirements is a priority for the quadrennium; additional species are likely to be listed. A survey to monitor the presence of Pseudogymnoascus destructans will have, by the end of 2020, expanded to Mexico and research for treatment and recovery of bats affected by White Nose Syndrome will continue.

Targets for the 2017-2020 quadrennium

Assess
Red List: (1) complete assessment of Old and New World bats; (2) establish a global bat taxonomy database and review process.
Research activities: compile all Important Areas for Bat Conservation (AICOMs) and Important Sites for Bat Conservation (SICOMs) in one GIS platform.

Plan
Capacity building: build capacity for disease management, surveys, important areas and sites for bat conservation, etc.
Research activities: secure standardised protocols to monitor Pseudogymnoascus destructans (Pd) in North America.

Network
Synergy: (1) resolve human-bat conflict and secure stable populations of Greater Mascarene Flying Fox; (2) strengthen interaction with wind energy companies for bat conservation; (3) develop a network of bat conservation researchers in Oceania; (4) create a network of networks around the world for bat conservation.

Communicate
Communication: (1) improve BSG communication with all its members; (2) produce a position statement on emergent diseases and bats.
Activities and results 2020

Assess

Red List

1. Two hundred and thirty-three (233) assessments from the Old World were published in 2020. (KSR #1, 2)

Research activities

1. An electronic book compiling all the information on AICOMs and SICOMs was planned, and the different parts assigned to several editors, all of them members of Red Latinoamericana del Caribe para la Conservación de los Murciélagos (RELCOM). A draft of the first three parts of the book on general topics was produced by the end of 2020. Writing of the book will continue in 2021, when a full first draft is expected. (KSR #43)

Plan

Capacity building

1. Many new materials on disease and surveys, among other topics, were developed and distributed. (KSR #18)

Research activities

1. The US Fish and Wildlife Service, Canadian Wildlife Service, and Mexican Wildlife Department have established a protocol, in place now, to monitor Pd in North America. This has quadrupled knowledge on hibernating bats in Mexico and covered a major portion of hibernacula in Canada and the US. (KSR #12)

Network

Synergy

1. In 2020, the Mauritian Government implemented a fifth cull, although the number of bats killed is uncertain. Co-Chair Kingston, with Alex Zimmerman (Chair, Human-Wildlife Conflict Task Force) and Ewan Macdonald, published an article in The Conversation, attempting to keep dialogue open (see https://theconversation.com/why-mauritius-is-culling-an-endangered-fruit-bat-that-exists-nowhere-else-150567). (KSR #29)

2. The pandemic has affected the progress to strengthen interaction with wind energy companies for conservation. Some companies are interested but there is no movement yet. (KSR #29)
iii. The Pacific Bat Conservation Network (PacBat) was formally launched in 2020 and its leadership team includes key representatives from Fiji, New Caledonia, Papua New Guinea, Samoa and Vanuatu. The Facebook membership is currently at 111 members. Leadership includes representatives from the IUCN Bat Specialist Group, IUCN Red List Authority, Secretariat of the Pacific Regional Environment Programme (SPREP), Global Union of Bat Diversity Networks (GBatNet), Australasian Bat Society, Birdlife – Oceania, academics, and national non-governmental groups from within the region. (KSR #29)

iv. The Global Union of Bat Diversity Networks – GBatNet – was launched. GBatNet is a network of 14 member networks from around the world. The networks include regional conservation networks such as Red Latinoamericana del Caribe para la Conservación de los Murciélagos (RELCOM), Southeast Asian Bat Conservation Research Unit (SEABCRU), Bat Conservation Africa (BCA), North American Bat Conservation Alliance (NABCA), UNEP/EUROBATS, BatLife Europe, Western Asia Bat Research Network (WAB-Net), The Australasian Bat Society, and thematic networks such as Bat 1K, Bat One Health Research Network (BOHRN), Bat Phenotypes and Evolution Network (BPEN), Global Bat Taxonomy Working Group (GBTWG) and of course the IUCN BSG. In September 2020 funds were received from the US National Science Foundation under its AccelNet programme. This provides five years of support for conservation research on drivers of bat diversification and conservation. (KSR #29)

Communicate

Communication

i. The BSG panel on the risk of human-to-bat transmission of SARS-CoV-2 met 2–4 times per month from May 2020 onwards, drawing in members from around the world and from
Out of concern of the risk of human-to-bat transmission of SARS-CoV-2, the BSG recommended a temporary suspension of fieldwork in April 2020 to ascertain the level of risk. In May 2020, we convened a global panel of BSG members with expertise ranging from bat ecology to virology to assess the scientific evidence for the potential of human-to-bat transmission and efficacy of risk mitigation strategies. It was the opinion of the panel that there is a credible risk of human-to-bat transmission of SARS-CoV-2 and the resulting strategy recommended actions to reduce this risk through MAP: Minimising contact with bats, Assessing the potential risk that the researcher poses to bats and not handling or working with bats if exposure risk is high, and Protecting bats by adopting good field hygiene practices – using masks and gloves when handling bats, regularly disinfecting equipment that comes in contact with bats, and minimising time and personnel in contact/proximity with bats. Guidelines based on the MAP strategy were then developed for researchers (June 2020), those who work in bat rescue and rehabilitation (June 2020), and cavers (August 2020). Infographics for each group were developed and translated into multiple languages (French, Spanish, Indonesian and Japanese). An infographic for guano collectors was also developed and disseminated, and a decision tree developed for researchers. All materials are on the BSG Publications and COVID-19 page of the BSG website. A FAQ page was developed for the general public. The expert panel became a Working Group that met weekly or every second week throughout 2020 to develop the materials and to also work on a manuscript explaining key terms in disease research that are commonly misinterpreted, with consequences for bat conservation. (KSR #28)
Mission statement

The Bear Specialist Group (BSG) strives to promote the conservation of bears living in their natural habitats across their worldwide distribution. We do this by gaining, synthesising and disseminating information; aiding, promoting and supporting conservation initiatives; providing technical assistance and building capacity of those involved or interested in bear conservation; and becoming directly involved in issues that reduce threats and foster the conservation of any of the seven species of terrestrial bears.

Projected impact for the 2017-2020 quadrennium

We will enhance the conservation status of bears in this quadrennium by (1) improving global outreach via completion of our website; (2) implementing several portions of the Sun Bear (Helarctos malayanus) conservation action plan; (3) providing guidelines for more rigorous monitoring of Asian bears; and (4) conducting or facilitating several on-the-ground conservation projects.

Targets for the 2017-2020 quadrennium

Assess

Red List: assess bear species at the population level.

Research activities: (1) finish bear farming situation analysis; (2) publish peer-reviewed paper on Asiatic Black Bear (Ursus thibetanus) range map.

Plan

Communication: issue position statement on bear collaring.

Planning: (1) set conservation priorities and develop a method for prioritisation of species planning; (2) finish and publish the Sun Bear (Helarctos malayanus) action plan; (3) finish and publish the Sloth Bear (Melursus ursinus) action plan.

Act

Conservation actions: (1) start implementing the Sun Bear action plan; (2) mitigate bear-human conflicts on the Tibetan Plateau.

Technical advice: (1) complete and publish the human-bear conflicts manual; (2) complete and publish monitoring protocols for Asian bears.

Network

Proposal development and funding: secure a longer-term and viable funding base.

Synergy: seek a Programme Officer.

Communicate

Communication: (1) build a new independent website; (2) maintain ongoing regular communication both internally and externally.

Activities and results 2020

Assess

Research activities

i. Regarding the bear bile situation analysis, one paper is in press, one is near acceptance, and three manuscripts are in preparation. (KSR #43)

ii. We are reworking the Asiatic Black Bear map. (KSR #43)
Plan
Planning
i. The Sloth Bear action plan is still in planning stage. (KSR #15)

Act
Conservation actions
i. The Sun Bear action plan is being implemented. We published an ex situ research prospectus for Sun Bear conservation (see https://bit.ly/ExSituSunBearResearch Prospectus). Studies were initiated on consumers of bear parts, motivations for hunting, and behaviour change (data collected, some preliminary results reported in the newsletter). (KSR #27)
ii. The issue of mitigation of bear-human conflicts on Tibetan Plateau was taken up by another researcher. This is no longer a BSG priority. (KSR #37)

Technical advice
i. Some draft components of the human-bear conflicts manual have been written. (KSR #37)
ii. Five papers on monitoring protocols for Asian bears are in draft form, to be submitted in 2021.

Network
Proposal development and funding
i. During 2020, we encountered some problems securing a longer-term and viable funding base. (KSR #19)

Communicate
Communication
i. We publish a triannual newsletter. (KSR #28)

Acknowledgements
We are thankful to close collaboration with the Taiwan Black Bear Conservation Association (on developing Asian bear monitoring protocols) and Free the Bears (for guiding implementation of the Sun Bear conservation action plan). Thanks to Ouwehands Zoo Foundation for funding the Sun Bear ex situ research prospectus, and to National Geographic for funding parts of the implementation of in situ conservation actions related to the Sun Bear action plan.

Summary of activities 2020
Species Conservation Cycle ratio: 5/5

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Main KSRs addressed: 15, 19, 27, 28, 37, 43

KSR: Key Species Result
Mission statement

The Bison Specialist Group (BSG) is committed to the development of comprehensive and viable strategies and management actions to enhance conservation and ecological restoration of European Bison (Bison bonasus) and American Bison (Bison bison), including Plains Bison (Bison bison bison) and Wood Bison (Bison bison athabascae), as wildlife where feasible across their original range. The BSG operates under the authority of the Species Survival Commission of the International Union for Conservation of Nature to conduct comprehensive assessments, provide evidence-based advice and support, and communication and outreach activities in support of this mission.

Projected impact for the 2017-2020 quadrennium

By the end of 2020, the American Bison Section of the BSG anticipates a substantial advance in the knowledge of the location and size of bison herds through a global bison census. The census will be critical to the understanding of the bison metapopulation across North America, as it will include all jurisdictions in all nations and management designs. This will be a crucial tool for recovering bison at local, national, and international levels.

A new Red List Assessment of European Bison in 2020 found that there were only eight subpopulations exceeding Minimum Viable Population (MVP), with a total of 2,518 mature animals and no subpopulation including more than 500 mature animals; thus making this species nearly qualify for Vulnerable C2a(i). Additional consideration of free-living subpopulations that are less than MVP indicates that this species warrants Near Threatened status, in light of its dependence on ongoing conservation programmes to persist beyond the next five years, a very limited number of viable free-living subpopulations (eight), and a large number of small isolated free-living subpopulations less than MVP (39).

Targets for the 2017-2020 quadrennium

Assess

Green Status: produce a new Green Status assessment.
Red List: produce an updated Red List assessment report.
Research activities: (1) produce a new global census of the Bison genus; (2) prepare guidelines for veterinarians about bison health protection.

Plan

Planning: (1) initiate a series of regional conservation guidelines/strategies; (2) produce new long-term conservation action plans for the American Bison and the European Bison.
Policy: advise decision makers regionally.

Communicate

Communication: (1) hold a BSG meeting; (2) create a library.
Scientific meetings: hold a yearly conference.
Activities and results 2020

Assess

Green Status
i. In 2019, an initial test Green Status Assessment (GLA) was completed for the North American Northern Great Plains as part of the IUCN protocol testing project. This initial GLA provided sufficient information and confidence in the GLA protocol to initiate an MSc project by Mr Luke Rogers at the University of Nebraska at Kearney (UNK), in partnership with the BSG and World Wildlife Fund, to conduct a GLA analysis for the American Bison in three ecoregions (Northern Great Plains, Boreal Forest, Southwest Grasslands). In 2020, BSG members served as contributing co-authors to the new IUCN SSC Green Status Protocol and a peer-reviewed manuscript submitted for publication in Conservation Biology. (KSR #11, 32)

Plan

Planning
i. In 2020, the BSG European Bison Section partnered with the World Wildlife Fund, Mammal Research Institute of the Polish Academy of Sciences, the German Federal Agency for Nature Conservation (BfN), Rewilding Europe, European Association of Zoos and Aquaria, Zoo Berlin and the IUCN SSC Conservation Planning Specialist Group to undertake conservation planning to produce an updated IUCN SSC BSG Conservation Action Plan that will serve as an innovative, efficient and effective milestone for its potential to empower new initiatives and result in better alignment of multinational conservation strategies and actions. A Scope of Work was developed, though a conservation planning meeting planned for spring 2020 was cancelled due to the COVID-19 pandemic. (KSR #15)

Communicate

i. The European Bison Section advised decision makers regionally. (KSR #27)

Research activities

i. The MSc student at UNK per above completed the Global Bison Census <bisonsurvey.com> in late 2020, which provides new detailed information on American Bison abundance, distribution, management and jurisdiction that will inform the Green Status assessment outlined above and be made available to the public. (KSR #32)

Red List

i. A Red List assessment for American Bison (Bison bison) was completed in 2017, and the American Bison Red List Assessment Committee is on track to conduct an updated Red List assessment in 2022, including training and updated information collection. (KSR #1, 2)

ii. A Red List assessment for European Bison (Bison bonasus) was completed in 2020 and was globally highlighted in the 2020 IUCN Red List news release. (KSR #1, 2)

Acknowledgements

The Bison Specialist Group would like to acknowledge the following individuals, institutions and organisations that significantly contributed to 2020 achievements: Dennis Jorgensen, Dr Dustin H. Ranglack, Dr Rafal Kowalczyk, Keith Aune, Tomasz Pezold Knezevic, Kathy Taylor-Holzer, Molly Grace, Jamie Copsey, Dr Jon Paul Rodriguez, Nahomy de Andrade, Luke Rogers, Noelle Guernsey, World Wildlife Fund Programmes (North America: Northern Great Plains; Europe: Poland, Ukraine, Germany), the German Federal Agency for Nature Conservation, the Mammal Research Institute of the Polish Academy of Sciences, Zoo Berlin, the European Association of Zoos and Aquaria, Rewilding Europe, the European Bison Conservation Center, the Wildlife Conservation Society/American Bison Society, the InterTribal Buffalo Council, the National Bison Association, Parks Canada, Comisión Nacional de Áreas Naturales Protegidas, the US Department of the Interior (National Park Service, US Fish and Wildlife Service, Bureau of Land Management, US Geological Survey, Bureau of Indian Affairs), Defenders of Wildlife, the National Wildlife Federation, the IUCN SSC Conservation Planning Specialist Group, and the University of Nebraska at Kearney.

Summary of activities 2020

Components of Species Conservation Cycle: 3/5

Assess 4
Plan 2
Communicate 2

Main KSRs addressed: 1, 2, 11, 15, 27, 28, 32

KSR: Key Species Result
Mission statement
Our mission is to promote the long-term conservation of all wild Canidae species throughout their ranges.

Projected impact for the 2017-2020 quadrennium
By the end of 2020, we aim to make advances in reducing the extinction risk of key threatened canid species. Our focus will be on species currently classified as Critically Endangered, Endangered, Vulnerable and Near Threatened. This aim will be achieved through the implementation of the following objectives: (1) to compile, synthesise and disseminate information on the conservation and status of all canid species across their range, with particular emphasis on species which are threatened or rare; (2) to provide and improve technical information and advice on all matters concerning wild canids, including their status in the wild, the threats they face and their conservation requirements, biology and natural history to all relevant bodies (range state government agencies; non-governmental organisations, including national and international organisations and potential funding bodies; inter-governmental organisations, e.g. IUCN, CITES; field projects concerned with canid conservation); (3) to promote and catalyse conservation activities benefitting wild canids, to be carried out by the above, prioritising and coordinating efforts of researchers and conservationists worldwide; (4) to help raise funding for canid research and conservation and undertake research directly when necessary or appropriate; (5) to improve management of the common and sometimes troublesome species; (6) to build capacity through the exchange of ideas, information, and technical expertise among the members of the Group.

Activities and results 2020
Assess
Green Status: complete Green Status assessment for two canid species.
Red List: complete Red List reassessment of all canid species.
Research activities: (1) complete update of status of Grey Wolves (Canis lupus) in Europe; (2) conduct survey of Kit Fox (Vulpes macrotis) and Swift Fox (Vulpes velox) research and conservation efforts; (3) resolve systematic ambiguity surrounding old ‘Canis lupus’ taxa; (4) monitor the status of the Darwin’s Fox (Lycalopex fulvipes) in two protected areas of southern Chile; (5) generate and maintain information on Dhole (Cuon alpinus) distribution and identify sub-populations and connectivity to ensure viable populations; (6) organise Dhole Population and Habitat Viability Assessment (PHVA); (7) develop context-specific methods for estimating Dhole abundance, demographic and ecological requirements; (8) develop range-wide health canid monitoring capacity and response; (9) evaluate human-Dhole conflict and relevant mitigation methods for use across the Dhole distribution range.

Plan
Planning: (1) implement regional strategies and support new national action plans under the Range Wide Conservation Program for Cheetah and African Wild Dogs; (2) develop national
conservation action plan for Darwin’s Fox (Lycalopex fulvipes); (3) contribute to the new document on guidance to species conservation of the European Commission.

**Act**

Conservation actions: (1) advance recovery of Red Wolf (Canis rufus) under the Endangered Species Act; (2) protect Ethiopian Wolves (Canis simensis) from disease through an integrated disease management strategy, with One Health benefits; (3) rescue Ethiopian Wolves through conservation translocations.

**Network**

Communication: establish Amazonian Canids listserv.

Membership: (1) develop Canid Specialist Group (CSG) membership and invigorate Working Groups; (2) address succession plan for the CSG.

Synergy: (1) develop methods to integrate results of the Global Integrated Collection Assessment and Planning (ICAP) Workshop for Canids and Hyaenids Report; (2) build more effective engagement within the Maned Wolf Working Group through developing collaborative actions; (3) establish the Dingo Working Group.

**Communicate**

Communication: (1) compile Dhole publications and post on the Dhole Conservation Fund website; (2) develop Amazonian Canids Section in canids.org.

Scientific meetings: (1) co-host the 2nd International Jackal Symposium, Marathon Bay, Greece; (2) endorse and contribute to the 6th Arctic Fox Conference in Svalbard; (3) organise the Annual Island Fox Group Meeting.
Activities and results 2020

Assess

Green Status

i. Green Status assessment for two canid species is complete. (KSR #11)

Red List

i. All canid species assessments are currently complete (and less than 10 years old). (KSR #1)

Research activities

i. The status update of Grey Wolves in Europe is complete. (KSR #12)

ii. A meeting was organised by CSG and CIBIO (Research Centre in Biodiversity and Genetic Resources, Porto University) to resolve the systematic ambiguity surrounding the old ‘Canis lupus’ taxa, in Porto, Portugal. It was attended by 14 experts, most CSG members (see www.canids.org/CBC/Old_World_Canis_Taxonomy_Workshop.pdf).

iii. We are monitoring the status of the Darwin’s Fox in two protected areas of southern Chile. (KSR #12)

iv. Work is ongoing to generate information on Dhole distribution and identification of sub-populations and connectivity to ensure viable populations. (KSR #17, 18)

v. The February 2019 Population and Habitat Viability Assessment (PHVA) workshop brought together 30 experts from nine range countries, to produce a plan for the Dhole for its entire range. Outcomes include: (1) species distribution model, (2) population viability model, and (3) identifying conservation priorities and actions specific to each range country. The report and action plan will be shared with stakeholders to help guide management policies for

Least Concern Red Fox, Vulpes vulpes, and bears in the background
Photo: Miha Krofel
Dhole in each country. Additionally a network of relevant professionals and institutions was established, leading to collaborative research, synergistic knowledge sharing and communication/outreach activities. See www.canids.org/resources/Dhole_PHVA_Report_2020.pdf.

vi. CSG developed context-specific methods for estimating Dhole abundance, demographic and ecological requirements. (KSR #12)

vii. Development of range-wide health canid monitoring capacity and response has been initiated. (KSR #17, 18)

viii. We evaluated human-Dhole conflict and relevant mitigation methods for use across the Dhole distribution range. (KSR #17, 18)

Plan

Planning

i. We contributed to developing the national conservation action plan for Darwin’s Fox. (KSR #15, 18, 20)

Act

Conservation actions

i. We advanced recovery of the Red Wolf under the Endangered Species Act. (KSR #32)

ii. Protection of Ethiopian Wolves from disease through an integrated disease management strategy: Refer to Ethiopian Wolf Conservation Programme Annual Reports (available at: www.ethiopianwolf.org). (KSR #23, 32)

Network

Communication

i. The Amazonian Canids listserv was established, followed by activity from its members. It promotes connections with new people interested in Amazonian Canids. (KSR #28)

Membership

i. Working Groups have been reinvigorated, a new Dingo Working Group was established, and membership reviewed, with 15 new members recruited.

ii. Geraldine Werhahn (PhD) was appointed as Deputy Chair.

Synergy

i. Integrating results of the Global ICAP Workshop for Canids and Hyaenids Report: The Working Group was re-established as the Ex Situ Working Group; at least two conference calls were facilitated with the Ex Situ Working Group, Chair and key members, to achieve the goal and create a plan of action. (KSR #14, 18, 32)

ii. More effective engagement within Maned Wolf Working Group has been partially achieved through developing collaborative actions. (KSR #15, 18, 20, 29, 32)

iii. Creation of the Dingo Working Group was successfully completed, and a position statement was developed and posted on canids.org.

Communicate

Communication

i. We compiled Dhole publications and posted them on the Dhole Conservation Fund website. (KSR #18)

ii. The Amazonian Canids section in canids.org has been implemented.

Scientific meetings

i. The 6th Arctic Fox Conference in Svalbard has been postponed to August 2021 due to COVID-19. (KSR #28)

ii. The Annual Island Fox group meeting has been conducted annually since 2004 and will be continued for the foreseeable future.

Acknowledgements

The CSG is hosted by the WildCRU at the University of Oxford. The Chair is kindly sponsored by the Born Free Foundation, who funds his Bill Travers Chair for Conservation Biology at Lady Margaret Hall, University of Oxford. We are grateful to the many organisations and charities, including Born Free Foundation, Fondation Segre, IUCN SOS, Wildlife Conservation Network, Wildlife Conservation Society, and many more that have supported key field activities to protect wild canids. We are grateful to the many colleagues that assisted in Red List reassessment and attended the Dhole and canid taxonomy meetings.

Summary of activities 2020

Species Conservation Cycle ratio: 5/5

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Main KSRs addressed: 1, 11, 12, 14, 15, 17, 18, 20, 23, 28, 29, 32

KSR: Key Species Result
Mission statement

To promote conservation of wild Caprinae and their environments, in collaboration with IUCN itself, international and local agencies, NGOs and anybody who struggles for the same objective of participating, endorsing and helping in any initiative that helps to promote the status and habitat of these species.

Projected impact for the 2017-2020 quadrennium

We plan to increase connections between stakeholders and specialists on Caprinae conservation. We plan to inform both Caprinae Specialist Group (CSG) members and other interested people about the results of relevant research, management and conservation initiatives through our revived newsletter Caprinae News. One topic several of us have been working on is the consequences of current climatic changes on the distribution and numbers of mountain-dwelling herbivores, especially wild sheep, goats and goat-antelopes. Furthermore, several of us have been working on the evolutionary effects of trophy hunting on the hunted populations and several papers on this very important, controversial issue will be published. The 7th World Mountain Ungulate Conference will be organised in Bozeman (Montana, US) in September 2019 and the Caprinae Specialist Group will cooperate in its organisation.

Co-Chairs
Sandro Lovari (1)
Juan Herrero (2)

Red List Authority Coordinator
Stefan Michel (3)

Location/Affiliation
(1) Maremma Natural History Museum, Grosseto, Italy
(2) Universidad de Zaragoza, Huesca, Spain
(3) Nature and Biodiversity Conservation Union (NABU), Germany

Number of members
35

Social networks
Facebook: IUCN Caprinae Specialist Group-CSG
Website: http://iucncaprinaesg.weebly.com/

Assess
Red List
i. We have progressed and nearly completed the Caprinae reassessment. In 2020, we conducted 21 reassessments, our main activity during this period. (KSR #1)

Network
Documents review
i. We completed a review of a Global Wildlife Conservation book. (KSR #35)

Technical advice
i. A Texas University survey was conducted on trophy hunting. (KSR #27)

Communicate
Communication: edition of Caprinae News, one issue per year.

Activities and results 2020

Assess
Red List
i. We have progressed and nearly completed the Caprinae reassessment. In 2020, we conducted 21 reassessments, our main activity during this period. (KSR #1)
Communicate

Communication

i. One issue of Caprinae News was published.
(KSR #28)

Acknowledgements

We acknowledge the tremendous amount of work done by the lead assessors of reassessments and their co-authors. We are also grateful for the ongoing work by assessors who are still in the process of finalising reassessments for submission in 2021. We further recognise the hard work of all assessors, co-authors and contributors, who show immense dedication despite the difficulties of locating and gathering data on often poorly-known species.

Summary of activities 2020

Components of Species Conservation Cycle: 3/5

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Main KSRs addressed: 1, 27, 28, 35

KSR: Key Species Result
IUCN SSC
Cat Specialist Group
2020 Report

Co-Chairs
Christine Breitenmoser (1)
Urs Breitenmoser (2)

Red List Authority Coordinator
Tabea Lanz (1)

Location/Affiliation
(1) KORA, Muri b. Bern, Switzerland
(2) FiWI/Universität Bern and KORA, Muri b. Bern, Switzerland

Number of members
193

Social networks
Facebook: IUCN SSC Cat Specialist Group
Website: www.catsg.org

Mission statement
Cat Manifesto

Projected impact for the 2017-2020 quadrennium
By 2020, we will have implemented the Assess-Plan-Act (APA) approach for additional cat species. We envision improving the status assessments and launching new conservation planning processes. These conservation initiatives will be combined with communicational and educational programmes for people and institutions living with these species.

Targets for the 2017-2020 quadrennium

Assess
Capacity building: attend and facilitate a workshop to develop recommendations for the conservation of the Persian Leopard (Panthera pardus tulliana) in July 2020.
Documents review: initiate the development of the Cat Specialist Group’s Small Cat Agenda that includes three over-arching themes, which are related to each other and serve the overall goal to advance the conservation of small cats and their living spaces. This is reached through improving our knowledge on small cats, raising awareness, building up a ‘small cat community’ and initiating specific conservation programmes wherever needed and possible.
Green Status: initiate Green Status assessments for Tiger (Panthera tigris) and Iberian Lynx (Lynx pardinus).

Red List: update key Red List assessments:
Fishing Cat (Prionailurus viverrinus), Chinese Mountain Cat (Felis bieti), Leopard (Panthera pardus) subspecies.

Research activities: develop a camera trapping database which feeds into the Global Mammal Assessment and the IUCN SIS database.
Technical advice: (1) develop Cat Monitoring Guidelines; (2) conservation of the Wild Cat (Felis silvestris) in Scotland; review the conservation status and assess conservation activities.

Plan
Planning: (1) revise the National Action Plan for Asiatic Cheetah (Acinonyx jubatus venaticus) in Iran; (2) participate in Javan Leopard (Panthera pardus melas) workshop; (3) facilitate lynx workshop; (4) develop a conservation strategy for the Pallas’s Cat (Otocolobus manul); (5) planning for the Leopard in Africa and Southeast Asia; (6) updating and coordination for the Lion (Panthera leo) Conservation Strategy; (7) facilitate a workshop to develop a conservation strategy for the Jaguar (Panthera onca) in a number of neglected countries in collaboration with San Diego Zoo Global.
Scientific meetings: attend a workshop on non-detriment findings in regard to trophy hunting in Sevilla, Spain.
Synergy: attend European Association of Zoos and Aquaria (EAZA) and Association of Zoos and Aquariums (AZA) Felid Taxon Advisory Group (TAG) meetings.

Technical advice: (2) attend CITES Animal Committee, Steering Committee meetings and Conference of the Parties; (4) organise a one-day workshop with CITES and Convention on Migratory Species (CMS) Secretariats to discuss cat items on their agenda and how we can support them, and to have an initial discussion of the Programme of Work for the joint African Carnivores Initiative.
Conservation actions: (1) support implementation of the revised strategy for Leopard in the Caucasus ecoregion; (2) support implementation of the revised National Action Plan for Asiatic Cheetah in Iran.

Technical advice: (1) attend Convention on Migratory Species (CMS) Central Asian Mammals Initiative (CAMI) midterm workshop; (2) attend the first range state meeting of the joint CITES-CMS African Carnivores Initiative (ACI); (3) finalise the Roadmap for the Conservation of the Leopard in Africa on a mandate from CMS under the African Carnivores Initiative for review by the different committees; (4) submit the final version of the Guidelines for the Conservation of Lions in Africa to the CITES Secretariat in time for the 18th meeting of the Conference of the Parties (CoP18); (5) support the Secretariats of CITES and CMS for the development of a Programme of Work for the African Carnivores Initiative; (6) organise a meeting with Lion specialists and the appointed Lion database manager to discuss the Lion database and the content of the Guidelines for the Conservation of Lions in Africa.

Communication: (1) maintain the Digital Cat Library; (2) attend the SSC Leaders’ Meeting in Abu Dhabi and contribute to various sessions. Policy: attend CITES Animal Committee, Steering Committee meetings and Conference of the Parties.

Synergy: attend the IUCN World Conservation Congress in Marseille in June 2020 and participate in a number of sessions during the forum.
Activities and results 2020

Assess
Documents review
i. Draft assessments of knowledge base and the quality of the Red List assessment are underway for 12 species: Fishing Cat, Marbled Cat (*Pardofelis marmorata*), Asiatic Golden Cat (*Catopuma temminckii*), Jaguarundi (*Herpailurus yagouaroundi*), Ocelot (*Leopardus pardalis*), Margay (*Leopardus wiedii*), Pampas Cat (*Leopardus colocolo*), Southern Tiger Cat (*Leopardus guttulus*), Northern Tiger Cat (*Leopardus jacobita*), Geoffroy’s Cat (*Leopardus geoffroyi*), Guiña (*Leopardus guigna*) and Caracal (*Caracal caracal*). We have so far integrated 7,422 new georeferenced observations into the Cat Specialist Group Spatial Database, and we have found 2,359 additional references, which we are now gradually integrating into the Digital Cat Library. (KSR #15)

Green Status
i. We participated in several meetings with Liz Bennett, Co-Chair of the Green Status of Species Core Team, and Molly Grace, coordinator of the Green Status of Species Core Team, to plan the Green Status Assessment for cats, and discussed it with Wildlife Conservation Society (WCS), Panthera and the Integrated Tiger Habitat Conservation Programme (ITHCP) for Tigers. (KSR #11)

Red List
i. We have been working on the re-assessments of Asiatic Cheetah, Javan Leopard, Arabian Leopard (*Panthera pardus nimr*), Wild Cat (*Felis silvestris*), Chinese Mountain Cat, Tiger, Andean Cat (*Leopardus jacobita*) and Clouded Leopard (*Neofelis nebulosa*); the re-assessment of Pallas’s Cat and Sri Lankan Leopard (*Panthera pardus kotiya*) were published. We have been working on new assessments of Indian Leopard (*Panthera pardus fusca*), Bornean Clouded Leopard (*Neofelis diardi borneensis*), Sumatran Clouded Leopard (*Neofelis diardi diardi*), African Wildcat (*Felis lybica*) and Mainland Leopard Cat (*Prionailurus bengalensis*). (KSR #1)

Act
Technical advice
i. The Roadmap for the Conservation of the Leopard in Africa has been submitted. (KSR #15)
ii. The final version of the Guidelines for the Conservation of Lions in Africa was submitted to the CITES Secretariat in time for CoP18. (KSR #15)
iii. The Programme of Work has been developed unifying all Decisions and Resolutions under CITES and CMS as well as formerly developed Conservation Strategies. (KSR #15)
Network

Communication
i. We have added and uploaded 1,157 publications to the Digital Cat Library, which had 12,969 publications at the end of 2020.

Communicate
Communication
i. The Special Issue on the status and conservation needs for Eurasian Lynx (Lynx lynx) in Continental Europe is well advanced and will be completed in 2021. (KSR #28)
ii. We published Cat News 71 and 72 with 35 peer reviewed articles. (KSR #28)
iii. Articles on biology and ecology, status in the Guiana Shield, a distribution model for South America, use and trade and ex situ conservation have been submitted. (KSR #28)

Scientific meetings
i. We attended the CMS CoP13 in India and participated in a side event on the African Carnivores initiative. (KSR #28)

Acknowledgements

Working very closely with the Cat Specialist Group Co-Chairs were Manuela von Arx (Digital Cat Library, Balkan Lynx Recovery Programme), Tabea Lanz (Assistant to the Chair, website, Red List Authority Coordinator), Roland Bürki (support to the Chair), Anna Huber and Valentyna Laskova (bookkeeping): a great thank you to all of them. We would like to thank the many dedicated people who helped develop and run the various projects: Keith Richmond, Brian Bertram, Juan Reppucci and Maximilian Allen (associate editors Cat News). Alex Sliwa, Patrick Meier and Sebastian Kennerknecht have generously made available their superb cat pictures for Cat Specialist Group purposes. Our projects would not be possible without financial support from many committed institutions and private persons. We are very grateful for the support of the Friends of the Cat Group, Zoo Leipzig, the Ayers Wild Cat Conservation Trust, CMS Convention on Migratory Species, Stämpfli AG, and especially Patrick Meier and Peter Stämpfli.

Summary of activities 2020

Components of Species Conservation Cycle: 4/5

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Main KSRs addressed: 1, 11, 15, 28

KSR: Key Species Result
Mission statement

The Cetacean Specialist Group (CSG) promotes and facilitates the conservation of cetaceans worldwide. It functions as a catalyst, clearing house, and facilitator for cetacean-related research and conservation action. Our guiding premise is that conservation ultimately depends upon good science, and the group’s credibility and value are based on maintaining high standards of scientific rigour. The advice we provide relates mainly to the status of populations, abundance, trends, the effects of current or potential threats, and the efficacy of mitigation. Our emphasis is on the recovery of endangered species and populations, but we also recognise the importance of maintaining the full diversity of the Cetartiodactyla (cetaceans), which includes about 90 species and many subspecies and populations.

Projected impact for the 2017-2020 quadrennium

Cetaceans are nominally protected under several international conventions and by national legislation in most countries, but they are incidentally affected by many human activities in marine and freshwater environments. Most of the conservation work by CSG members is linked, directly or indirectly, to that of other bodies or groups with shared objectives, and this makes it impossible in most instances to tease apart the influence or ‘impact’ made ‘by the CSG’ per se (other than in the case of Red Listing). It also means that the targets, activities and results reported here are only a sample of the many areas of cetacean conservation work in which members are engaged, and which they are often leading or sharing the lead with others. The CSG regularly ‘partners’ with bodies like the International Whaling Commission (IWC), Convention on the Conservation of Migratory Species of Wild Animals (CMS), US Marine Mammal Commission, other national government agencies, and NGOs responsible for conserving cetaceans. Our group’s traditional focus on Endangered and Critically Endangered small cetaceans, particularly those outside North America, Western Europe, Australia and New Zealand, continues.

Targets for the 2017-2020 quadrennium

Assess

Red List: (1) complete assessments and reassessments of all baleen whale species and selected subspecies and subpopulations; (2) complete assessments and reassessments of all toothed cetacean species and selected subspecies and populations.

Plan

Planning: (1) co-organise and co-convene a workshop for marine mammal experts regarding a One Plan approach for the conservation of small cetaceans in partnership with Conservation Planning Specialist Group; (2) ramp up conservation planning for cetacean species and populations.

Policy: (1) establish link with the Indian Ocean Tuna Commission (Ninth Session, co-led by Emirates Nature–WWF); (2) maintain ongoing links with the Indian Ocean Tuna Commission; (3) maintain ongoing involvement in the work of the International Whaling Commission’s Scientific and Conservation Committees; (4) serve on an independent expert panel to review New Zealand’s Threat Management Plan for the two endemic subspecies of Hector’s Dolphin.
**Cephalorhynchus hectori hectori** (Endangered) and **C. h. maui** (Critically Endangered); (5) provide support for relevant IUCN World Conservation Congress Motions; (6) advise the Food and Agriculture Organization on ways to reduce/mitigate cetacean bycatch in fisheries. **Act**

Conservation actions: (1) provide technical support for the IUCN Marine Mammal Protected Areas Task Force (https://www.marinemammalhabitat.org/); (2) launch and maintain an initiative to improve the conservation status of the Critically Endangered Atlantic Humpback Dolphin (**Sousa chinensis**); (2) support development of WWF’s Global River Dolphin Strategy.

Policy: (1) maintain ongoing involvement in work of the Society for Marine Mammalogy’s Conservation Committee; (2) help to prevent extinction of the Vaquita (**Phocoena sinus**); (2) support development of WWF’s Global River Dolphin Strategy.

Technical advice: (1) continue involvement in the IUCN Western Gray Whale Advisory Panel (https://www.iucn.org/western-gray-whale-advisory-panel); (2) assist efforts to prevent extinction of the Taiwanese Humpback Dolphin (**Sousa chinensis taiwanensis**); see iucn-csg.org/index.php/csg-special-projects/eastern-taiwan-strait-humpback-dolphins/); (3) assist efforts (mainly by WWF-Cambodia) to prevent extirpation of Mekong River Irrawaddy Dolphins (**Orcaella brevirostris**); see iucn-csg.org/index.php/mekong-dolphins/); (4) provide support to South Korean conservationists to reduce massive bycatch of Endangered Narrow-ridged Finless Porpoise (**Neophocaena asiaeorientalis**); (5) collaborate with the Convention on Migratory Species to advance Concerted Actions for threatened cetaceans.

**Network**

Capacity building: increase engagement with the Conservation Planning Specialist Group to ramp up conservation planning for cetacean species.

Membership: increase CSG membership in South Asia and Africa.

Synergy: (1) help to expand and consolidate the Arabian Sea Whale Network (see iucn-csg.org/index.php/csg-special-projects/arabian-sea-humpback-whales/); (2) respond to requests for advice and feedback (e.g. regarding CITES) from other IUCN bodies and Specialist Groups as requested; (3) participate in the biennial conference of the Society for Marine Mammalogy and associated workshops.

**Communicate**

Communication: maintain ongoing communication and outreach on all aspects of the Vaquita conservation effort.

Scientific meetings: (1) attend the SSC Leaders’ Meeting and present a poster report in Abu Dhabi; (2) participate in the biennial conference of Society for Marine Mammalogy and associated workshops.


**Activities and results 2020**

**Assess**

**Red List**

i. Twenty-five new or updated cetacean species Red List assessments were published in 2020, one of which was for a baleen whale and 24 were toothed whales (for details see https://iucn-csg.org/22-updated-cetacean-red-list-assessments-published-in-december-2020/).

(KSR #1, 2)

**Plan**

**Policy**

i. Multiple members of the CSG participated in the 2020 IWC Scientific Committee Meeting, ensuring synergy between many of the targets listed here and the work of the IWC. Also, multiple IWC workshops and ‘pre-meetings’ were attended. (KSR #26, 27, 29)

ii. CSG members took part in the IOTC’s Working Party on Ecosystems and Bycatch, also attending and supporting a joint pre-meeting of the IOTC and IWC to identify areas for collaboration. (KSR #26)

iii. CSG members played a leading role in the development of IUCN World Conservation Congress Motion 027 – Reducing impacts of incidental capture on threatened marine species, and Motion 110 – Safeguarding the Endangered narrow-ridged finless porpoise (**Neophocaena asiaeorientalis**) in the Yellow Sea. (KSR #26)

**Act**

**Conservation actions**

i. An expert workshop organised in Perth (Australia) from 10 to 14 February by the Marine Mammal Protected Areas Task Force proposed consideration of 45 candidate Important Marine Mammal Areas (cIMMAs) identified within the Australia-New Zealand and South East Indian Ocean region. Of these, 31 were accepted by reviewers for full IMMA status, with two remaining as cIMMAs and 13 becoming Areas of Interest (AoI). Twenty-five of the cIMMAs were deemed likely to fulfil the criteria including thresholds for KBAs. (KSR #26, 27, 43)

ii. CSG members helped to form the Consortium for the Conservation of the Atlantic Humpback Dolphin (CCAHD), an informal
e-Atlas showing the currently identified Important Marine Mammal Areas (IMMAs - in orange), candidate IMMAs (light red), and Areas of Interest (dark blue)
Photo: https://www.marinemammalhabitat.org/
iii. A conference and stakeholder workshop (virtual) was held on reduction of the massive bycatch of Endangered Narrow-ridged Finless Porpoises (Neophocaena asiaeorientalis), hosted by WWF-Korea, on 25 November 2020; see: https://www.youtube.com/watch?v=i4_1-9j2asI. (KSR #26, 27, 37)


Network Membership

i. Two new members were added, one from New Zealand and one from North America.

Synergy

i. Despite pandemic-related travel restrictions during 2020, the CSG was able to work closely with a range of organizations engaged in cetacean conservation through the following specific activities: 1) technical support and amplification of the Arabian Sea Whale Network and helping work toward a regional conservation management plan under the IWC and CMS; 2) participation in the 2020 virtual meeting of the IWC Scientific Committee and pre-meetings; 3) technical support for WWF’s River Dolphins Initiative; 4) participation in the December 2019 SMM biennial conference; and 5) provision of ad-hoc advice to other IUCN bodies and CITES in relation to cetacean conservation issues. (KSR #29)

Communicate

Communication

i. Eleven news articles were posted on the CSG website (https://iucn-csg.org/) providing updates on many topics, including Red List updates, the Vaquita and other conservation issues. The website received on average 2,000 hits per month in 2020. (KSR #28)

Acknowledgements

During 2020, the CSG benefitted greatly from project support provided by Tiergarten Nürnberg and YAQU PACHA e.V, US Marine Mammal Commission, National Marine Mammal Foundation, WWF, and from administrative support by The Marine Mammal Center.

Summary of activities 2020

Components of Species Conservation Cycle: 5/5

- Assess 1
- Plan 3
- Act 8

Network 2

Communicate 1

Main KSRs addressed: 1, 2, 12, 18, 21, 26, 27, 28, 29, 37, 43

Resolutions addressed: WCC-2016-Res-017; WCC-2016-Res-067

KSR: Key Species Result
Mission statement
The mission of the Deer Specialist Group (DSG) is to contribute to biodiversity conservation through improvement of the welfare and sustainability of deer populations around the world. Our challenge is to find conservation alternatives to mitigate conflict to enable rare and threatened species to survive.

Projected impact for the 2017-2020 quadrennium
We aim to explore new collaborations to evaluate possible monitoring methodologies to survey the deer species of the world. We will be seeking to share experiences and survey methodologies and how to create a database. We will be focused on promoting capacity building of new field deer biologists to obtain biological data to update the species information and advise policy makers on critical species and ecosystems, as well as problematic overabundant populations, and generate appropriate management guidelines.

Targets for the 2017-2020 quadrennium
Assess
Red List: complete reassessment of 71 deer species (20% increase in knowledge of species).
Research activities: (1) conduct genetic analysis of widespread species (20% of deer species analysed); (2) carry out a Pampas Deer (Ozotoceros bezoarticus) conservation assessment for performing an Action Plan for Uruguay.

Plan

Act
Conservation actions: contribute to the West Visayas Conservation Planning Workshop.

Network
Capacity building: hold three workshops to train field biologists to collect data on deer species and to provide capacity building to the Estación Fauna Cría Autóctona (EFCA) personnel. We plan to offer two workshops in 2018 and one in 2019.

Communicate
Communication: publish an annual newsletter.

Activities and results 2020
Assess
Red List
i. The Red List Authority Coordinator for Old World species resigned, and this activity was delayed. (KSR #1)

Research activities
i. The Pampas Deer conservation assessment project initiated in March 2020, but field expeditions were interrupted due to the COVID-19 pandemic. As the field expeditions were delayed, we only achieved 20% of the expected work. (KSR #21)
Communicate

Communication

i. Production of the annual newsletter of the DSG was achieved but its publication was delayed, because the time to review manuscript submissions increased. (KSR #28)

Acknowledgements

We thank our supporting agencies: Dirección Nacional de Medio Ambiente (DINAMA) and the Women in Science Award of the L’Oréal Foundation-UNESCO-MEC in Uruguay for awarding Susana González for her research and contribution to the advancement of scientific knowledge on Neotropical deer species.

Summary of activities 2020

Components of Species Conservation Cycle: 2/5

| Assess | 2
| Communicate | 1 |

Main KSRs addressed: 1, 21, 28

Resolutions addressed: WCC-2016-Res-085

KSR: Key Species Result
Co-Chairs
Patricia D. Moehlman (1)
Sarah R.B. King (2)

Red List Authority Coordinator
Sarah R.B. King (2)

Location/Affiliation
(1) EcoHealth Alliance, New York, NY, US; Columbia University, Adjunct Senior Research Scientist, EICES, NY, NY, US; TAWIRI, Arusha, Tanzania
(2) NREL, Warner College of Natural Resources, Colorado State University, Fort Collins, CO, US

Number of members
79

Social networks
Facebook: IUCN/SSC Equid Specialist Group
Website: www.equids.org

Mission statement
The mission of the IUCN SSC Equid Specialist Group (ESG) is to conserve biological diversity by developing and executing programmes to study, save, restore, and manage wisely wild equids and their habitats. Our greatest challenge is to improve wild equid conservation status, to sustain their ecosystems and to enhance the livelihoods of local communities.

Projected impact for the 2017-2020 quadrennium
By the end of 2020, we hope that the conservation status of the African Wild Ass (Equus africanus, Critically Endangered) is improved by capacity building in the two main range states, Ethiopia and Eritrea, and the establishment of a protected area in Eritrea. The Convention on the Conservation of Migratory Species of Wild Animals (CMS) Road Map for the Conservation of the African Wild Ass has been completed and the species is listed on Appendix I of CMS. Przewalski’s Horse (Equus ferus przewalskii, Endangered) populations are expected to increase in Mongolia, and further reintroduction sites may become necessary; a national Action Plan for the species will be developed. Equid species in Africa – Grevy’s Zebra (Equus grevyi, Endangered), Mountain Zebra (Equus zebra, Vulnerable), and Plains Zebra (Equus quagga, Near Threatened) – are at threat from catastrophic droughts; conservation efforts in range states will aim to ameliorate these effects. In Asia, conservation efforts of Asiatic Wild Ass (Equus hemionus, Near Threatened) and Kiang (Equus kiang, Least Concern) will continue, so we do not expect to see a decline in population numbers.

Targets for the 2017-2020 quadrennium
Assess
Red List: complete Red List assessments of all seven wild equid species.

Plan
Planning: complete Ethiopian national action plan for three wild equids.
Policy advice: (1) produce a CMS road map for African Wild Ass conservation; (2) African Wild Ass listed on CMS Appendix I; (3) Przewalski’s Horse listed on CMS Appendix I.

Act
Conservation actions: (1) demarcate an African Wild Ass protected area in Eritrea; (2) continue working with all ESG members towards conservation of wild equids.

Network
Capacity building: (1) Eritrean national to obtain PhD on African Wild Ass; (2) Ethiopian national to obtain PhD on African Wild Ass; (3) conduct scout training courses in Ethiopia and Eritrea.
Membership: increase membership diversity.

Communicate

Activities and results 2020
Plan
Policy
i. CMS COP13 adopted revised version of the Resolution 12.18 (Rev.COP13), encouraging current and former range states of the African Wild Ass (AWA) to implement the CMS Roadmap on the Conservation of the African Wild Ass. (KSR #26)
Act
Conservation actions
i. Funding for demarcation of an African Wild Ass protected area in Eritrea has been secured. (KSR #22, 30)
ii. Members of the ESG are active in at least nine locations conducting conservation activities. (KSR #15, 31)

Network
Capacity building
i. The Eritrean national is now doing a post doc. (KSR #32, 38)
ii. The Ethiopian national is now doing a post doc. (KSR #32, 38)

Communicate
Communication
i. Input to CMS COP13. Moehlman was a member of the IUCN delegation to CMS COP 13 where UNEP/CMS/COP13/Doc26.3.2 proposed amendment to decision 12.71 was adopted. (KSR #26)

Acknowledgements
We thank the following donors that have provided funding for operations, research, training and conservation action: EcoHealth Alliance, Basel Zoo, IUCN/SSC Species Conservation Planning Subcommittee, Knowsley Zoo, Plock Zoo, SeaWorld Busch Gardens Conservation Fund, Little Rock Zoo. We thank Dr David Mallon for facilitating the Ethiopia National Wild Equid Action Plan workshop. We thank the Ethiopian Wildlife Conservation Authority for hosting and organising the Ethiopia National Wild Equid Action Plan workshop. We are very grateful to the Convention on Migratory Species (CMS) for hosting the African Wild Ass Range State meeting in Bonn, Germany. The Government of the Federal Republic of Germany Ministry for the Environment, Nature Conservation, Building and Nuclear Safety provided funding for the range state meeting and the development of the African Wild Ass road map and participation of range state nationals at CMS CoP12. Subsequently the German Ministry for the Environment, Nature Conservation, Building and Nuclear Safety and CMS provided funding for implementing road map actions; we would particularly like to thank Dr Elsa Nickel, Christiane Paulus, Oliver Schall, Bert Lenten, Yelizaveta Protas and Clara Nobbe for their contributions and support. The IUCN Save Our Species fund provided support for the conservation work on African Wild Ass in Ethiopia, and we thank Remco van Merm for his support. We thank Dr Jon Paul Rodriguez and the SSC Internal Grant Programme for their support of the 2nd International Wild Equid Conference.

Summary of activities 2020
Components of Species Conservation Cycle: 2/5

| Plan | 1 |
| Act  | 2 |
| Network | 2 |
| Communicate | 1 |

Main KSRs addressed: 15, 22, 26, 30, 31, 32, 38

KSR: Key Species Result
Mission statement
We are committed to working with the global conservation network, governmental and other entities to ensure the long-term survival of the two hippo species (Common and Pygmy) and to support sustainable conservation and management of hippos across their range.

Projected impact for the 2017-2020 quadrennium
The Hippo Specialist Group (HSG) has identified three key priorities for the current (2017–2020) quadrennial to ensure that we can achieve the desired direct impact on hippo species conservation:

1. Communication and outreach: to strengthen and improve awareness of hippo conservation within the general public and conservation community. Key impact activities for this priority are website re-development and launch, social media engagement, and stronger intra-group communication.

2. Partnerships: it is clear that to catalyse conservation and research action the HSG needs partners. We are looking for partner institutions willing to host the HSG website, help fund management, and work collaboratively with the HSG to support shared vision and activities.

3. Conservation projects: Common Hippos (Hippopotamus amphibius) need regional action plans including coordination across West, Central, and East Africa; Pygmy Hippos (Choeropsis liberiensis) already have action plans in place but require a conservation network that has the ability to support key initiatives in implementing this action plan. There are eight key projects that HSG will initiate as soon as funding becomes available. We plan to work with our partners to secure resources that can support these and other conservation and research projects.

Targets for the 2017-2020 quadrennium

Assess
Red List: update the Red List assessment for the Common Hippo.

Plan
Planning: organise a Common Hippo West African regional conservation strategy workshop.

Act
Conservation actions: (1) support conservation mechanism of hippos in the Ruzizi River and Lake Tanganyika in South Kivu Province, eastern Democratic Republic of the Congo; (2) implement The Côte d’Ivoire Pygmy Hippo Project: Research and actions for the conservation of Pygmy Hippopotamus in Côte d’Ivoire; (3) protect Common Hippo in the Luama Landscape, Democratic Republic of the Congo; (4) implement the Pygmy Hippo community youth conservation volunteer programme of the Gola Rainforest National Park (GRNP), Sierra Leone; (5) protect Liberia’s Pygmy Hippo with community-based conservation initiatives; (6) implement monitoring, restauration and long-term conservation of Common Hippo population in the Mbari and Chinko drainage, eastern Central African Republic.

Research activities: (1) implement the project “Hippopotamuses as ecosystem engineers: Habitat use, ecology and behaviour of hippos in an important waterbody of Zululand”; (2) count Common Hippos in eight West African countries.
Network
Proposal development and funding: support hippo conservation projects through fundraising and capacity building.
Synergy: (1) strengthen HSG intra-group communication by initiating quarterly emails/informal newsletters to members; (2) strengthen HSG intra-group communication by creating an online resource site for HSG members.

Communicate
Communication: (1) update the HSG website; (2) launch Facebook account.
Scientific meetings: participate actively in the Pygmy Hippo regional conservation strategy workshop.

Activities and results 2020

Act

Conservation actions
i. The distribution and status of the Common Hippopotamus was explored in two sessions: along the Ruzizi River and important tributaries from February to April 2020, and investigations along the beach north of the mouth of Kavinvira and the entire city of Uvira from May to August 2020. In total, 26 km alongside rivers were examined. (KSR #37)

ii. In 2020, the team had to look for funding and write a scientific article by a Masters student on the feeding regime of the Pygmy Hippo in TAI National Park. Research and awareness raising activities should be done in the course of 2021. (KSR #12)
iii. The Luama Landscape Hippo project has been facing problems related not only to COVID-19 but essentially insecurity in the area. The area has been under Mai-Mai control for more than a year, preventing rangers from conducting patrols. However, the recent visit by rangers reported the persistence of Hippo on Luama River. (KSR #37)

iv. In 2018/2020, a new cohort of volunteers from the Gola Forest Edge Communities (FECs) was selected and trained by Gola Rainforest Conservation Limited by Guarantee (GRC-LG) research technicians, and with their help we have been able to deploy a series of camera traps that take images and video footages along key sites. This new camera trapping activity helped to confirm the presence of Pygmy Hippos in these areas for the first time, and to inform best practices to mitigate human-hippo conflict. At the same time, a theatre group from Kenema (Eastern Entertainers) was hired to support the implementation of a theatre component during the project and to showcase two theatrical drama shows focused on Pygmy Hippo conservation. These community theatre groups, together with our active involvement in community school activities and sensitisation events, helped to strengthen the link between the communities and the project, which is essential to reduce illegal activities that may be detrimental to wildlife. Through co-financing schemes, we are also in the process of establishing Pygmy Hippo schools in key sites adjacent to GRNP, and we will tentatively continue the fruitful collaboration with Community Youth Conservation Volunteers to build a next generation of youths with a vested interest in Pygmy Hippo conservation. (KSR #12)

v. The team trained technicians from Sierra Leone and Liberia, who are involved with Pygmy Hippo monitoring in the different organisations. We administered questionnaires to communities around Gola Forest National Park. Our ecoguards and research technicians were patrolling and know where exactly the Pygmy Hippos occur. Based on the different results from these patrols, we are now deploying Pygmy Hippo specific camera trappings. This will help greatly to map exactly where Pygmy Hippos still occur in northwest Liberia. (KSR #37)

vi. Ongoing aerial surveillance detected the permanent presence of Common Hippopotamuses in the main rivers Chinko and Vovodo, along more than 600 km of continuous pristine prime freshwater river habitat. Additionally, at least two hippo populations in small lake systems along the Mbari River were documented. Training of RANGER and unarmed ECHO sensitisation teams in the use of boats for river patrols was carried out. Permanent and temporary camps along the river that could later be used for high-end low impact tourism were established. (KSR #12)

Research activities

i. Some telemetry units were deployed in 2019, from which some data were gathered in early 2020. A Ph.D. thesis summarising the results was submitted in 2020. Drafts of most of those data chapters for publication were prepared. (KSR #12)

ii. Counting of Common Hippos in eight West African countries had to be temporarily stopped due to COVID-19 as no meetings or travel to some field sites were possible. Other actions in field could not occur due to lack of money. (KSR #12)

Network

Synergy

i. The newsletter Suiform Soundings regularly involves new reports on hippo conservation activities; the HSG succeeded in its application for an IUCN SSC Internal Grant; project leaders informed us regularly on progress of their work. Members are regularly informed about current issues and launching of IUCN SSC Internal Grants rounds, and are regularly requested to submit reports to the newsletter. (KSR #18)

Acknowledgements

We would like to thank all active members of HSG, namely Beatrice Steck, Gabriella Flacke, Ollie Dibloni, Josué Aruna, Colleen Downs, Camille Fritsch, Thierry Aebischer, Deo Kujirakwinja, Jerry Garteh, Elie Bogui, Lynne Baker and Alessandro Albani for their help as well as for their activities in the field. We are very grateful to Thiemo Braasch for his hard editorial work of our newsletter as well as web pages. Our thanks are due to Markéta Gloneková for processing new HSG web pages. Last but not least, we thank our new partner – Ostrava Zoo and Botanical Park – for establishment of the new websites.

Summary of activities 2020

Components of Species Conservation Cycle: 2/5

| Act | 8 |

Network 1

Main KSRs addressed: 12, 18, 37

KSR: Key Species Result
Mission statement

The mission of the IUCN SSC Hyaena Specialist Group (HSG) is to contribute to and promote the understanding and conservation of the species in the family Hyaenidae: Spotted Hyaenas (*Crocuta crocuta*), Striped Hyaenas (*Hyaena hyaena*), Brown Hyaenas (*Parahyaena brunnea*) and Aardwolves (*Proteles cristata*).

Projected impact for the 2017-2020 quadrennium

By the end of 2020, we will have completed the data collection and parts of the analysis for a new range-wide occurrence study and maps for the four species of hyaenas. This will hopefully then pave the way towards a new action plan, which is sorely needed; the current plan was published in 1998 and much has changed since then. Only after this study is completed can we determine whether we have achieved any targets in original plan. There has been little conservation planning for the hyaenids, especially when compared to the felids and canids with overlapping ranges, and despite their ecological importance and the potentially high rate of conflict between humans and the Spotted Hyaena. To the best of our knowledge, based on a review of the literature and all data collected to date, the conservation status of the four hyaenids has not changed since the most recent Red List assessment (2015).

Targets for the 2017-2020 quadrennium

Assess

Research activities: (1) develop an online threats assessment survey; (2) publish a range-wide occurrence study (action plan) for the four species of hyaena.

Plan

Planning: carry out strategic planning for the next quadrennium.

Synergy: develop methods to integrate results of the Global Integrated Collection Assessment and Planning (ICAP) Workshop for Canids and Hyaenids into HSG conservation planning.

Act

Conservation actions: (1) have a rabies vaccination day in two hyaena areas to treat 500 specimens in 2018, in two hyaena areas to treat 500 domestic dogs and cats in 2019, and in three hyaena areas to treat 750 domestic dogs and cats in 2020.

Network

Proposal development and funding: fundraise to support new research for hyaena conservation. Synergy: create three working groups within the HSG.

Communicate

Communication: (1) establish a new website; (2) establish additional social media.
Activities and results 2020

Assess

Research activities

i. Development of an online threats assessment survey was delayed due to the pandemic and lack of capacity. In 2021, we will have a Master’s student working on it with the Chair. (KSR #4, 12, 32)

ii. Publication of range-wide occurrence studies for the four species of hyaena was delayed in 2020 due to the pandemic and other commitments. We will analyse data in 2021 and will publish it in 2022. (KSR #32)

Communicate

Communication

i. We are applying for an SSC Internal Grant to fund the creation of a new website. (KSR #28)

Acknowledgements

We thank Andrew Jacobson and Florien Weise for their continued assistance with the Hyaena Distribution Mapping Project.

Summary of activities 2020

Species Conservation Cycle ratio: 2/5

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Main KSRs addressed: 4, 12, 28, 32

KSR: Key Species Result
Mission statement
To promote the conservation and effective sustainable management of all species of lagomorph through science, education and advocacy.

Projected impact for the 2017-2020 quadrennium
The Lagomorph Specialist Group (LSG) is ‘middle-sized’ – not a single species, nor composed of hundreds of species. We have slightly less than 100 species in our brief. However, these are distributed around the globe, and there are few similarities among any of our many forms that are Red List classified as Threatened. Thus, we do not have a single programme or a single thrust; there is no one-size-fits-all to our approach. LSG members largely work independently in their region, and the Co-Chairs serve more as a nerve centre. This has always had to be our approach; the broad geographic reach of our members and the cost that would be involved in attempting to meet as a body of the whole essentially prohibit planning such a meeting. We judge our success based on the terrific work done by our members in their respective regions, and as this summary of our activities shows, this body of work is encouraging. What we are all doing collectively is to make Lagomorph a known entity, and to ensure that lagomorph diversity worldwide is maintained by minimising extinction risk, addressing climate change, working with local communities, stopping horrific poisoning campaigns, etc.

Targets for the 2017-2020 quadrennium
Assess
Red List: (1) improve knowledge and assessment of lagomorph systematics; (2) complete all Red List reassessments of all lagomorph species.
Research activities: (1) improve knowledge of Pygmy Rabbit, (Brachylagus idahoensis); (2) examine population trends of all lagomorphs in the western United States; (3) improve knowledge of White-sided Jackrabbit (Lepus callotis); (4) improve knowledge of Ethiopian Hare (Lepus fagani), Abyssinian Hare (L. habessinicus) and Ethiopian Highland Hare (L. starcki) in Ethiopia; (5) improve knowledge of Tehuantepec Jackrabbit (Lepus flavigularis); (6) improve knowledge of all Chinese Lepus; (7) improve knowledge of Sumatran Striped Rabbit (Nesolagus netscheri); (8) improve knowledge of Annamite Striped Rabbit (Nesolagus timminsi); (9) improve knowledge of Ili Pika (Ochotona iliensis); (10) improve surveys of poorly-studied Ochotona in China; (11) understand the role of climate change in the determination of American Pika (Ochotona princeps) populations; (12) understand how climate change and reduced snow cover may affect populations of Snowshoe Hare (Lepus americanus); (13) try to find anyone to study the Pronolagus species in Africa; (14) improve understanding of Volcano Rabbit (Romerolagus diazi); (15) improve understanding of lesser-known species of Sylvilagus in North America and South America; (16) increase knowledge of lagomorphs via publication of peer-reviewed publications (as indicated via The Web of Science); (17) improve knowledge of Omiltemi Cottontail (Sylvilagus insonus).
Plan

Act
Conservation actions: (1) reintroduce Pygmy Rabbit into the Columbia Basin, Washington; (2) improve knowledge and conservation of Riverine Rabbit (Bunolagus monticularis); (3) improve knowledge and conservation of Hispid Hare (Caprolagus hispidus); (4) stop poisoning of Plateau Pika (Ochotona curzoniae); (5) control feral cats and their negative impact on Amami Rabbit (Pentalagus furnessi); (6) improve the status of European Rabbit (Oryctolagus cuniculus) in its native range, as a prey item of the endangered Iberian Lynx (Lynx pardinus); (7) improve conservation to recover New England Cottontail (Sylvilagus transitionalis); (8) protect Northern Pika (Ochotona hyperborea) in Hokkaido; (9) protect and monitor the endangered subspecies Sylvilagus bachmani riparius (Riparian Brush Rabbit); (10) monitor the endangered subspecies Sylvilagus palustris hefneri (Lower Keys Marsh Rabbit).

Network
Membership: review and expand the LSG membership.

Communicate
Communication: (1) develop a new improved LSG webpage; (2) publish overarching book on the biology and conservation of all lagomorphs. Scientific meetings: plan for 6th World Lagomorph Conference.

Least Concern Pallas’s Pika, Ochotona pallasi, found at the border between China and Mongolia in 2020
Photo: Weidong Li

Least Concern Marsh Rabbit, Sylvilagus palustris, occurs in SE United States, extending south along the Florida Keys. This is a game species throughout most of its range, but populations in the Everglades have been decimated due to predation by the invasive Burmese python (Python molurus bivittatus). Additionally the Florida Keys subspecies (S. p. hefneri) is listed as Endangered under the US Endangered Species Act. This population was recently reduced by 90-95% in 2017 by Hurricane Irma.
Photo: Rachel Smith
Endangered Hispid Hare, *Caprolagus hispidus*, captured by the National Tiger Survey camera trap system. Camera trap “bycatch” such as this is becoming an increasingly important monitoring tool for understanding the ranges of endangered lagomorphs
Photo: Nepal National Tiger Survey and Bhupendra Yadav

An image of the Critically Endangered Riverine Rabbit, *Bunolagus monticularis*, captured by a camera trap. Camera trap surveys are playing a critical role in conservation and management planning for this species
Photo: Endangered Wildlands Trust

Least Concern Antelope Jackrabbit, *Lepus alleni*, is found in the Sonoran Desert of southern Arizona and northern Mexico
Photo: David Brown
### Activities and results 2020

#### Assess

**Red List**

i. Two new publications were produced in 2020: one focused on Dice’s Cottontail (Sylvilagus dicei) and one focused on Ochotona. This research continues to be integrated into our understanding of the taxonomic boundaries and geographic distributions of lagomorph species and is being integrated into our Red List assessment. (KSR #6)

**Research activities**

i. Three new Pygmy Rabbit publications were published in 2020, which identified conditions for trapping success, evaluated the impacts of gas field infrastructure on the species, and evaluated the impact of sagebrush characteristics on foraging patterns. (KSR #12, 16)

ii. Contact and communication is ongoing with academic staff from Chihuahua to know the population status of White-sided Jackrabbit in relation to the rabbit viral haemorrhagic disease (RHDV Rabbit Haemorrhagic Disease Virus) with the presence of the RHDV2 serotype in the north of Mexico. Virtual meetings took place to learn about the progress of RHDV2 in Mexico and the situation of jackrabbit populations on islands. This has been organised by CONANP (Comisión Nacional de Áreas Naturales Protegidas), with participation by researchers, federal and state governments. (KSR #12, 16)

iii. One known survey of Lepus populations occurred in 2020, in an area southwest of Sichuan. Many Woolly Hare (Lepus oiostolus) were observed in the field, and samples from a road-killed individual were collected. (KSR #12, 16)

iv. While COVID-19 halted most of the field work on the Annamite Striped Rabbit, researchers were able to continue to use other indirect methods of assessing species presence, including working with camera trap data and eDNA from leaches to determine population presence and abundance. A new population ~400 km south of the species’ known distribution was identified, which is extremely exciting. (KSR #12, 16)

v. A comprehensive survey on Ili Pikas was carried out in No. 1 Tianshan Glacier Protection Area and Jinghe County Ili Pika Protection Area. With the use of infrared cameras at five monitoring points over two years, it was found that no Ili Pikas, fresh faeces or even traces were present in one monitoring point of each area. The monitored number of Ili Pikas dropped significantly. This decrease indicates that Ili Pikas are in a Critically Endangered position. In the coming year, we will increase monitoring those two areas. In the surrounding area survey in 2020, a new distribution point was found more than 100 km southeast of No. 1 Tianshan Glacier Protection Area, which is the easternmost distribution point of Ili Pikas. In August 2002, a local volunteer photographed one Ili Pika there, but they didn’t know what it was at the time. Later, it was confirmed as Ili Pika by us. In 2020, a local volunteer visited this place but could not find any Ili Pika. The reason was unknown. We plan to visit again in 2021. (KSR #12, 16)

vi. One survey occurred southwest of Sichuan, where Plateau Pika, Moupin Pika (Ochotona thibetana) and Gansu Pika (O. cansus) were observed, and samples were collected. In April and October 2020, investigations on Pallas’s Pika (O. pallasii) and Steppe Pika (O. pusilla) were conducted at the border between China and Mongolia and China and Kazakhstan, respectively. Pallas’s Pika was photographed. At the border between China and Kazakhstan, no Steppe Pika was found, only faeces, so an infrared camera was set up there. We will continue monitoring in 2021. (KSR #12, 16)

vii. The impact of climate change on American Pika populations continues to be debated, with studies examining temporal trends in food resource acquisition and body size as well as disease spillover related to climate change, and differences in foraging pattern in habitats of different temperatures. LSG Co-Chair Andrew Smith published a review pushing back against the narrative of widespread declines, which was of broad interest. (KSR #12, 16, 38)

viii. Research on how climate change and reduced snow cover may affect populations of Snowshoe Hare in 2020 has focused on evaluating how and where habitat mismatch is occurring, how introgression from Black-tailed Jackrabbit (L. californicus) may reduce climate mismatch and understanding the impacts of mismatch on predation risk and populations of Snowshoe Hares. (KSR #12, 16, 38)

ix. Despite continuing to seek interested parties, we have not yet had luck with locating a person or group to focus on Pronolagus. The International Congress for Conservation Biology is in Rwanda in December 2021, and if it is held it may represent an ideal time to try to recruit new African membership for the LSG. (KSR #12, 16)

x. Community brigades in Sierra Chichinautzin and Sierra Nevada have been conducting pellet counts for Volcano Rabbit to monitor population density, with the help of CONANP (Comisión Nacional de Areas Naturales Protegidas) and PROREST (Programa para la Protección y Restauración de Ecosistemas y Especies en Riesgo). (KSR #12, 16)
xi. A new publication on Dice’s Cottontail came out in 2020, better circumscribing the range and taxonomic boundaries of the species. (KSR #12, 16)

xii. Three-hundred and eighty-seven (387) publications on lagomorphs were published in 2020, according to the Web of Science. More than half of these focused on a single species (Oryctolagus cuniculus); no publications were produced on Caprolagus, Pronolagus or Poelagus, and only one for Bunolagus. (KSR #12, 16, 38)

xiii. In search of populations of Sylvilagus insonus: project was approved by Global Wildlife Conservation, including field trips in the surroundings of Omiltemi (type locality), Guerrero, as well as description of the surroundings of Omiltemi (type locality), Guerrero, and taxonomic boundaries of the species. (KSR #11, 12)

xiv. Due to COVID-19 restrictions in 2020, no field work was conducted on Tehuantepec Jackrabbit, Sumatran Striped Rabbit or Ethiopian species of Lepus. Field work is set to resume in 2021. (KSR #12, 16)

Act

Conservation actions

i. Following 11 years of captive breeding, follow by eight years of an in situ breeding programme, Pygmy Rabbits were re-established in the Columbia Basin of Washington, US, in three non-connected recovery areas with suitable deep soil sagebrush habitat in historically occupied sites. During 2020, Pygmy Rabbits were captured from neighbouring states (19 in Idaho and 7 in Nevada) and translocated into an in situ breeding programme for the Columbia Basin population. The translocated Pygmy Rabbits and resident Columbia Basin rabbits produced 105 young within breeding enclosures during the 2020 breeding season. This production was three times the number of young born in the previous couple of years. Subsequently, 70 juveniles were released into acclimation pens in two different recovery areas, and another 34 juveniles were retained within the enclosures for future breeding. During 2020, vaccines for RHDV2 were administered to most adults and juveniles within breeding enclosures. Smaller juveniles received half of the adult dose and would need another dose in early spring of 2021. Unfortunately, the recovery effort sustained a setback in September 2020, when a hot wildfire (the Pearl Hill/Cold Springs wildfire) burnt >170,000 ha of habitat. All suitable shrub-steppe habitat in one of the recovery areas was lost, along with two breeding enclosures, four release/acclimation pens, and wild/free-ranging rabbits occupying an area of approximately 400 ha. This loss represented almost half of all Columbia Basin Pygmy Rabbits. Although the number of individuals in the wild and breeding enclosures is currently low, no additional translocations are planned for 2021 due to COVID-19 restrictions and concerns about rabbit haemorrhagic fever (RHDV2). Recent genetic work has contributed to monitoring efforts, assessing maintenance of Columbia Basin ancestry in the population, and investigating genomic diversity across the species’ range. Using 12,084 single nucleotide polymorphisms (SNPs), Nerkowski (2021) identified four distinct genetic groups: (1) Washington, (2) Great Basin (California, Nevada, Idaho, Montana), (3) northern Utah/Wyoming and (4) southern Utah. The Washington population was most divergent compared to the other genetic groups, reinforcing its federal protected status as a distinct population segment. See: Nerkowski, S.A. (2021). ‘A Rabbit’s Tale: Genetic monitoring, genomic diversity, and habitat selection in the endangered Columbia Basin pygmy rabbit (Brachylagus idahoensis)’. PhD Dissertation. Moscow, Idaho: University of Idaho. (KSR #24)

ii. Despite COVID-19 restrictions, the Endangered Wildlife Trust was able to conduct camera trapping and limited field work on the Critically Endangered Riverine Rabbit. This included camera trapping and development of a niche model to estimate suitable habitat and connectivity between the eastern population of the species (verified in 2018) and the rest of the species. Based on this camera trapping, a 2,500 ha site near the northern population is being declared as a protected area. Genetic analyses are ongoing, and the team is investigating eDNA techniques for assessing presence and determining genetic distinctiveness. (KSR #11, 12)

iii. While COVID-19 restrictions diminished field work for the Hispid Hare, one of our members was able to survey for the species. There are also efforts to use existing camera trap data, such as the national tiger survey data, to evaluate presence of the Hispid Hare. A review of camera trap photos revealed 46 photos of the Hispid Hare in Suklaphanta National Park of Nepal. While this is not a new location, it does speak to the efficacy of this approach for documenting population size. (KSR #12, 16)

iv. Poisoning still goes on in nature reserves where pastoralists and Plateau Pikas coexist. Papers as recent as this year call for Pika numbers to be controlled, although more dissenting voices are appearing. Most authors now recommend reducing them to a “moderate” density, rather than getting rid of them completely. (KSR #27)

v. One of the most pressing threats against the Amami Rabbit on Amami-Oshima Island and Tokunoshima Island in Japan is predation.
impact by feral and outside cats *Felis catus*,

especially after almost complete success of

eradication of invasive Small Indian Mongoose (*Herpestes auropunctatus*) on Amami-Oshima Island. The Japanese Ministry of Environment (MOE) and local governments have started a 10-year management strategy and roadmap (2018–2027) to control the feral and outside cat population and to protect endangered species and ecosystems on islands. Good results have been steadily obtained but understanding and cooperation by people are necessary. Researchers have been supporting the management strategy with applied research to determine the source and effects of feral cats. Amami-Oshima Island and Tokunoshima Island plus two other islands, the northern part of Okinawa Island and Iriomote Island in the Ryuku Chain, will be considered for inclusion as a World Natural Heritage site at the Extended 44th Session of the UNESCO World Heritage Committee held in Fuzhou, China, by online meeting, 16–31 July 2021. The Amami Rabbit is one of the most important conservation species as an outstanding universal value in the natural heritage. (KSR #27)

**vi.** Recent work (Vaquerizas, P.H., et al. (2020). ‘The paradox of endangered European rabbits regarded as pests on the Iberian Peninsula: trends in subspecies matter’. *Endangered Species Research* 43:99–102. https://doi.org/10.3354/esr01058) indicates that the two subspecies of European Rabbit (*Oryctolagus cuniculus*) are experiencing independent trends, with stability or even positive growth in the northern subspecies (*O. c. cuniculus*) but declines in the southern subspecies (*O. c. algirus*). These results are being used to suggest different management strategies for each subspecies. (KSR #27)

**vii.** The different states managing New England Cottontail have established a goal of 21,650 rabbits and 42,440 acres of usable habitat. While the habitat goal has been achieved (with an estimated 92,489 acres of usable habitat), the current population estimate of 13,307 falls short of the stated goal. Funds have been allocated by all five states to support conservation activities over the next three years, and studies on species response to land management are ongoing. (KSR #15, 27)

**viii.** The Pika Fan Club, under the leadership of LSG member Toshimi Ichikawa, is documenting decreases in the numbers of Northern Pika in Hokkaido in recent years due to habitat loss caused by development. The Pika Fan Club has been successful arresting some development projects and continues to push for continued protection of the habitat of this subspecies. (KSR #21, 27)

**ix.** The Riparian Brush Rabbit (*Sylvilagus bachmani riparius*, RBR) has had federal endangered status since 2000. The RBR is found within the San Joaquin River National Wildlife Refuge and in several fragmented habitats along the San Joaquin, Stanislaus, and South Delta rivers. Camera trap surveys of the RBR were conducted in July and October of 2020 on 852 ha of restored riparian habitat. Survey estimates indicated an average of 1.74 RBR/ha for a total of 1,485 RBR on the San Joaquin River National Wildlife Refuge. Continued monitoring of population trends, as well as plans for vaccination and response to RHDV2, are underway for the species. (KSR #12, 16, 24)

**x.** Due to COVID-19 restrictions, no field work was conducted on the Lower Keys Marsh Rabbit in 2020. Field work is set to resume in 2021. (KSR #12, 16)

**Communicate**

**Scientific meetings**

**i.** The 6th World Lagomorph Conference was scheduled for 2020 in France but has been postponed until 2022, when we are hopeful that travel will be resumed, and the outbreak will be contained. (KSR #28)

**Acknowledgements**

Research on White-sided Jackrabbit was funded by the Phoenix Zoo and the Arizona Center for Nature Conservation. Global Wildlife Conservation has funded the search for Omiltemi Cottontail. Research on the Ili Pika was supported by the Silk Road Project Center – Social Entrepreneur Ecology (SEE FOUNDATION). Community groups in Sierra Chichinautzin and Sierra Nevada have been conducting pellet counts for Volcano Rabbit with the help of CONANP (Comisión Nacional de Áreas Naturales Protegidas) and PROREST (Programa para la Protección y Restauración de Ecosistemas y Especies en Riesgo).
Mission statement
Maintain and restore, in coexistence with people, viable populations of large carnivores as an integral part of ecosystems and landscapes across Europe.

Projected impact for the 2017-2020 quadrennium

The Large Carnivore Initiative for Europe (LCIE) report on the status of large carnivores in Europe is largely regarded as the most reliable information source on the status of these species. Our previous report was a highly cited paper published in *Science* (Chapron, G., et al. (2014). ‘Recovery of large carnivores in Europe’s modern human-dominated landscapes’. *Science* 346:1517–1519. https://doi.org/10.1126/science.1257553) and we intend to do similar scientific publications in 2019. Our report is also instrumental to inform the policy of the European Commission and several European countries on managing large carnivores and their conflicts with human activities. The LCIE regularly supports the European Commission’s work on large carnivores through scientific and technical advice. LCIE, through the Institute of Applied Ecology in Rome, has just been awarded (December 2017) a contract to develop four regional and national platforms of stakeholders on large carnivore management.

Targets for the 2017-2020 quadrennium

Assess
Research activities: (1) complete update of the status of large carnivores in Europe (numbers and distribution); (2) produce a technical document on defining and managing bold wolves; (3) produce a technical document on the impact of artificial feeding of carnivores and their prey; (4) produce a technical document of recommendations on how to survey and monitor carnivore populations; (5) produce a technical document on the legal and technical opportunities to establish management zones for large carnivores in Europe.

Network
Membership: focus on recruiting more young members to the LCIE Specialist Group.

Activities and results 2020

Species Conservation Cycle ratio: 1/5
Large carnivores, such as brown bears and wolves, are increasing in number and distribution areas across most of Europe. Their return to ranges where they were eradicated centuries or decades ago poses difficult challenges toward coexistence.
Mission statement

The mission of the New World Marsupials Specialist Group (NWMSG) is to increase our knowledge of the taxonomy and ecology of American marsupials, ensure that conservation status and species accounts have been correctly assessed based on IUCN Red List Categories and Criteria, and that these assessments have been correctly submitted to The IUCN Red List.

Projected impact for the 2017-2020 quadrennium

By the end of 2020, the remaining species that have been described in recent years should be added to the IUCN Red List with a species account. This would increase the taxonomic and geographic coverage of species analysed, bringing them closer to the recent taxonomic arrangements (i.e. newly described species).

We encourage our members to increase awareness of the IUCN Red List assessments, and to get involved in the categorisation at a country level.

Targets for the 2017-2020 quadrennium

Assess

Red List: (1) complete the assessment of 15 newly described species; (2) complete reassessments of the 110 species of New World marsupials.

Plan

Planning: generate a conservation plan for New World marsupials, combining geographic information with ecological, physiological and other natural history data, which should set a framework to identify areas of taxonomic singularity and richness, increase our knowledge on different ecological traits (e.g. reproduction, feeding), and help define species for which conservation efforts should be implemented.

Activities and results 2020

Assess

Red List

During 2020, we contacted several specialists to assess 15 new species. (KSR #1)

Plan

Planning

We gathered geographic, ecological, physiological and natural history data and generated a couple of papers. We identified areas of high species richness and taxonomic singularity and are gathering information on different ecological aspects of New World marsupials. This puts us on track for the development of a global analysis of New World marsupial conservation priorities. (KSR #15)

Acknowledgements

We thank the institutions that support our work: Universidade Federal de São Carlos - Campus Sorocaba for Ana Paula Carmignotto, and Centro de Investigación Esquel de Montaña y Estepa Patagónica (CONICET-UNPSJB) and Facultad de Ciencias Naturales y Ciencias de la Salud for Gabriel M. Martin.

Summary of activities 2020

Species Conservation Cycle ratio: 2/5

Assess  1

Plan  1

Main KSRs addressed: 1, 15

KSR: Key Species Result
Least Concern Brazilian Gracile Opossum, *Gracilinanus microtarsus*, Piñalito-Misiones, Argentina
Photo: Mariano Sánchez

Least Concern Tate’s Woolly Mouse Opossum, *Marmosa paraguayana*, Misiones, Argentina
Photo: Mariano Sánchez

Least Concern Brazilian Gracile Opossum, *Gracilinanus microtarsus*, Piñalito-Misiones, Argentina
Photo: Mariano Sánchez
Mission statement

The Otter Specialist Group (OSG), founded in 1974: (1) provides leadership for the conservation of all 13 otter species; (2) determines and reviews on a continuing basis the status and needs of otters, and promotes the implementation of necessary research, conservation and management programmes by appropriate organisations and governments; (3) communicates the status and conservation needs of otters and promotes the wise management of otter species.

Projected impact for the 2017-2020 quadrennium

By the end of 2020, we hope to reduce the extinction risk of four Asian otter species, our current high priority. We published the Asian Otter Conservation Manifesto in 2016 and our Global Otter Conservation Strategy in late 2018. The Strategy lists regional conservation priorities for each of the 13 otter species and the budgets required, which will help accelerate project funding and implementation. We published our second and third TRAFFIC reports on the Illegal Otter Trade in Asia in 2018, which will expand targeted conservation actions and community programmes. In South America, we bolstered national initiatives and programmes for three endangered otter species in Brazil, Peru, Chile and Argentina with targeted field research, local assistance from NGOs, and national parks. In April 2019, we held our 14th International Otter Congress in the Tangjiahe Nature Reserve, Sichuan, China, with 140 participants from 39 countries in attendance. Representatives from Chinese Nature Resources and National Park ministries participated and pledged to finance a China-wide survey with the OSG’s assistance.

Targets for the 2017-2020 quadrennium

Assess
Green Status: collaborate with setting up an Otter Green Status.
Red List: conduct Red List reassessment of 13 species.

Plan
Planning: (1) discuss conservation of otters at the ‘Southeast Asian Otter Conservation Planning Meeting’, Singapore, September 2018; (2) co-host the ‘European Otters in the Alps: towards a common strategy across boundaries’ meeting, October 2018; (3) develop the Nepal Otter Action Plan.

Act
Conservation actions: (1) expand projects of the African Otter Network; (2) expand the number of educational materials available for download on the OSG website and in print.
Policy: advise for uplisting of two Asian otter species to CITES Appendix I.

Network
Synergy: expand the OSG Otters in Zoos Task Force.

Communicate
Communication: (1) publish the Global Otter Conservation Strategy; (2) publish two issues of the OSG Bulletin per year; (3) launch the Indian subcontinent otter project.
Scientific meetings: (1) prepare the Eurasian Otter Workshop, Croatia, October 2020; (2) prepare the 14th International Otter Congress, Chengdu, China; (3) prepare and participate in the 2nd Nepal Otter Network meeting; (4) prepare the Third Himalayan Otter Network Meeting, Kathmandu, Nepal, February 21–23, 2020; (5) organise the XV International Otter Congress in Europe; (6) prepare the Sea Otter River Otter joint meeting at Seattle Aquarium.
Activities and results 2020

Assess

Green Status


Red List

i. Red List assessment of 13 species has been completed and submitted. (KSR #1)

Plan

Planning

i. The Nepal Otter Action Plan has been conceived and realised within the Himalayan Otter Network. It represents the first part of the action plan for Nepal and is focused on research needs. (KSR #15)

Act

Conservation actions

i. Projects of the African Otter Network have been achieved in Benin and Uganda.

ii. Educational materials are available for download on the OSG website and in print: map and information expanded to other languages in Russia and African countries.

Network

Synergy

i. The OSG Otters in Zoos Task Force has two leaders, one in the US and one in the UK. (KSR #29)

Communicate

Communication

i. Four issues of the OSG Bulletin were published in 2020. (KSR #28)

ii. Project Lighthouse was accomplished. A website has been developed, devoted to filling knowledge gaps on the three otter species occurring in India: Smooth-coated Otter (*Lutrogale perspicillata*), Asian Small-clawed Otter (*Aonyx cinereus*) and Eurasian Otter. (KSR #28)

Scientific meetings

i. The Eurasian Otter Workshop, Croatia, has been re-scheduled for February–March 2021.

ii. The Third Himalayan Otter Network Meeting was held in Katmandu, 21–23 February 2020, attended by 25 participants.

iii. Ongoing agreements are in place with the Parc National du Mercantour (France) and Parco Regionale Alpi Marittime (Italy) for a trans-boundary organisation of the XV International Otter Congress.

iv. The Sea Otter and River Otter joint conference originally was to take place in 2020 but planned dates had to be changed several times because of the pandemic. As the conference planning committee prefers that this meeting be held face-to-face, it is anticipated to take place in March 2023.

Acknowledgements

The IUCN Otter Specialist Group is grateful to the following: Fondation Segré (Southeast Asian illegal otter trade funding research and meetings); Houston Zoo Foundation (Pantanal Giant Otter research); Wildlife Reserves Singapore (meetings and research); World Animal Protection (otter trade research, CITES); Natural Resources Defense Council (otter trade research, CITES); Altman Foundation (OSG overhead and research); Columbus Zoo (Southeast Asian otter conservation action); Rufford Small Grants for Nature Conservation (Southeast Asian projects).

We are particularly grateful to our many OSG and SSC colleagues: Kira Mileham, Onnie Byers, Jamie Copsey, Rachel Hoffmann, Sonja Luz, and Molly Grace, plus so many others have always been generous with their time and support.

Summary of activities 2020

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Main KSRs addressed: 1, 11, 15, 28, 29

KSR: Key Species Result
Mission statement
To work within the framework of the IUCN SSC to secure a future for wild pangolins through advancing knowledge on pangolin status, threats and conservation priorities, and by catalysing action to conserve them.

Projected impact for the 2017-2020 quadrennium
By 2020, subject to secured resources, we envision publication of updated assessments for each species of pangolin on the IUCN Red List and a greater number of conservation strategies for pangolins developed at the national and regional level, to complement global conservation planning and guide investment in reducing the extinction risk to pangolins. The Pangolin Specialist Group will be a global hub of knowledge and best practice on pangolins and their conservation, including the rehabilitation of trade-confiscated pangolins and applicable ecological monitoring methods. It will continue to provide technical and scientific expertise to CITES, having developed a pangolin trade resource kit to assist countries in combating illegal trade in pangolins and their parts. We envision a larger, more diverse, proactive membership that readily collaborates with other stakeholders and communicates effectively internally and externally with diverse audiences.

Targets for the 2017-2020 quadrennium
Assess
Red List: re-assess all species of pangolin for the IUCN Red List.
Research activities: (1) publish research papers on the most suitable methods for monitoring wild pangolin populations; (2) conduct research to investigate the impact of pangolin farming on demand and wild populations.

Plan
Planning: (1) hold a workshop to develop a regional conservation strategy for the Sunda Pangolin (Manis javanica); (2) hold a workshop to develop a national conservation strategy for the Philippine Pangolin (Manis culionensis) in the Philippines; (3) hold a workshop to develop a national conservation strategy for the Chinese Pangolin (Manis pentadactyla) in Taiwan; (4) hold a workshop to develop a national conservation strategy for the Sunda Pangolin in Singapore; (5) hold workshops to develop regional conservation strategies for pangolins; (6) hold workshops to develop national conservation strategies for pangolins.
Policy: (1) complete an authoritative report on the status, trade, conservation and legislation affording protection to pangolins for the 69th meeting of the CITES Standing Committee (CITES SC69); (2) contribute scientific and technical expertise to CITES meetings.
Act
Scientific meetings: hold a workshop to determine the most appropriate methods for detecting and monitoring pangolin populations.
Technical advice: (1) provide technical support for implementation of existing national/regional strategies; (2) develop a pangolin trade resource kit for CITES parties; (3) provide technical advice on rehabilitation and husbandry of pangolins; (4) provide technical advice on methods for detecting and monitoring pangolin populations to key stakeholders; (5) provide technical guidance on collecting, storing and transporting samples for genetic analyses; (6) serve as a hub of knowledge and best practice on pangolin conservation.
Network
Membership: increase membership of the group to include at least one individual from each range state. Proposal development and funding: secure finances to support Pangolin Specialist Group priorities and conservation work. Synergy: build relationships with range state governments.

Communicate
Communication: (1) develop position statements on key issues facing pangolins; (2) communicate the Pangolin Specialist Group’s conservation work through strategic and targeted communication; (3) document and communicate successful local community engagement case studies to catalyse such engagement in other places; (4) document and communicate successful law enforcement effort through case studies; (5) develop educational resource packs to educate and inspire young people about pangolin conservation; (6) maintain and enhance where possible communications with members, donors and other key stakeholders.
Scientific meetings: convene Pangolin Specialist Group members to strengthen the network.

Activities and results 2020
Assess
Research activities
i. One paper was published on the impact of pangolin farming on demand and wild populations. (KSR #27)

Plan
Planning
i. Development of national conservation strategies for pangolins has been achieved through other targets, but there is still scope to do more here. (KSR #15)

Act
Technical advice
i. Technical support for implementation of existing national/regional strategies is ongoing but complete for 2017–2020. (KSR #18)
ii. A pangolin captive care guide was produced for CITES parties; other products are in progress. (KSR #27)
iii. A captive care guide on rehabilitation and husbandry of pangolins for first responders is about to be published. (KSR #27)
iv. Various papers and reports were published on methods for detecting and monitoring pangolin populations to key stakeholders. (KSR #27)
v. We have served as a hub of knowledge and best practice on pangolin conservation during the 2017–2020 quadrennium, and this remains ongoing. (KSR #27)

Network
Synergy
i. We continued building relationships with range state governments during 2020. (KSR #29)

Communicate
Communication
i. We made progress on position statements on key issues facing pangolins. (KSR #28)
ii. We continued communicating the Pangolin Specialist Group’s conservation work through strategic and targeted communication. (KSR #28)
iii. Communications with members, donors and other key stakeholders were maintained and enhanced where possible. (KSR #28)

Scientific meetings
i. Meetings took place throughout the quadrennium. (KSR #28)

Acknowledgements
We thank all our donors for their continued support of the Pangolin Specialist Group. We thank Rachel Hoffmann for her advice to the group in the last decade.

Summary of activities 2020
Components of Species Conservation Cycle: 5/5

<table>
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<th>Assess</th>
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<td>Act</td>
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<td>Network</td>
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<td>Communicate</td>
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Main KSRs addressed: 15, 18, 27, 28, 29

Resolutions addressed: WCC-2016-Res-015

KSR: Key Species Result
Mission statement
The overall aim of the Peccary Specialist Group is to promote the long-term conservation of peccaries and their natural habitats, and the recovery or restoration of peccary species, populations and communities. The specific objectives are: (1) contribute to peccary conservation through management and research; (2) consolidate the group of researchers and other people interested in the biology, conservation and management of peccaries; and (3) foster communication, coordination, collaboration and exchange of information.

Projected impact for the 2017-2020 quadrennium
We are focusing on the most endangered, endemic species in the Chaco region. We are uniting efforts with organisations that are addressing large scale deforestation and land title issues. We aim at promoting more awareness about the importance of this and the other species as ecosystem engineers.

Targets for the 2017-2020 quadrennium
Assess
Red List: reassess threat levels for White-lipped Peccary (Tayassu pecari).
Research activities: (1) obtain the most recent population density estimates of White-lipped Peccary across its geographical range; (2) conduct a research project on the mating system of White-lipped Peccaries utilising genetic samples from a large geographical region; (3) complete an assessment of the population crashes of White-lipped Peccary across its range as a collaboration among group members.

Plan
Planning: create a Species Conservation Plan for White-lipped Peccary.

Act
Conservation actions: (1) continue the implementation in the field of the Chacoan Peccary (Catagonus wagneri) Conservation Plan, which was published in 2016; (2) conduct a research project on the reintroduction of Collared Peccaries (Pecari tajacu) in South America; (3) expand environmental education programmes in the Chaco related to the conservation of the Chacoan Peccary.

Network

Communicate
Communication: reach a wider audience by developing a homepage and keeping an active Facebook group.
Activities and results 2020

Assess

Red List

i. The assessments of the conservation status for White-lipped Peccary (Tayassu pecari) started for the Mesoamerica region and Brazil. Plans for a re-assessment to be done during the XIV CIMFAUNA Latin American Wildlife conference in November 2020 were cancelled due to the COVID-19 pandemic. A team of researchers is working online to restart the process. (KSR #2)

Research activities

i. A paper is being written on population density estimates of White-lipped peccary across its geographical range by several group members and other non-members. This group has compiled the most recent information on the species’ population density. (KSR #12)

ii. A collaborative effort of about 23 researchers from different countries continues to complete an assessment of the population crashes of White-lipped Peccary across its range. The team is working on writing a paper for publication. (KSR #32)

Plan

Planning

i. The production of a Species Conservation Plan for White-lipped Peccary is restarting because the reassessment of the White-lipped Peccary had to be cancelled due to the COVID-19 pandemic. (KSR #15)

Act

Conservation actions

i. There are two active research and education programmes carried out in the Argentine Chaco responding directly to the goals identified in the conservation plan of the Chacoan Peccary (Catagonus wagneri). Another research and conservation project is being implemented in the Paraguayan Chaco. A scientific paper was just published addressing the hunting situation of the species. (KSR #27)

ii. A paper on spatial patterns of the first groups of Collared Peccaries (Pecari tajacu) reintro- duced in South America was published in Journal of Tropical Ecology at the end of 2020. (KSR #24)

iii. A local environmental educator is visiting local schools and giving talks about the Chacoan Peccary and its habitat. The team completed 45 visits to local schools. In the process, several printed educational materials were made (one banner and two flyers with information on the species). This material was bilingual, in Spanish and the Wichi indigenous language. (KSR #28)

Communicate

Communication

i. The space we had in the Hippo and Wild Pigs Specialist Group website no longer exists. We keep an active Facebook page. We have about 3,400 followers and users of our Facebook group. We would like to continue working on developing a website. (KSR #28)

Acknowledgements

We acknowledge the Mohamed Bin Zayed Fund for supporting conservation efforts of the Chacoan Peccary.

Summary of activities 2020

Species Conservation Cycle ratio: 4/5

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<th>Category</th>
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Main KSRs addressed: 12, 15, 24, 27, 28, 32

KSR: Key Species Result
Mission statement

The mission of the Pinniped Specialist Group (PSG) is to promote awareness regarding conservation threats to pinnipeds worldwide and to actively take a role in ensuring good management practices that ensure healthy, robust pinniped populations.

Projected impact for the 2017-2020 quadrennium

By the end of 2020, we envision assessments at the population level for all threatened subspecies of pinnipeds and accompanying action plans for these populations that will serve to improve their status.

Targets for the 2017-2020 quadrennium

Assess

Red List: (1) complete assessment at the population level of all threatened subspecies; (2) complete population level assessments for the Mediterranean Monk Seal (Monachus monachus).

Research activities: (1) serve as reviewers for IUCN assessments of Important Marine Mammal Areas; (2) engage with pinniped research and conservation-oriented programmes across the globe.

Plan

Policy: (1) advise the IUCN Climate Change Specialist Group and other IUCN instances; (2) advise governments around the world regarding conservation of pinniped populations.

Network

Capacity building: help launch grassroots efforts for threatened pinniped populations (for example, via participation in RAPCON - Rare Pinniped Conservation Network).

Communicate


Activities and results 2020

Assess

Red List

i. Population level assessments for the Mediterranean Monk Seals were accomplished. (KSR #1, 2)

Research activities

i. We carried out six Marine Protected Area reviews in the Southern Ocean. (KSR #32)

ii. We engaged with six pinniped research- and conservation-oriented projects in 2020. (KSR #12, 14, 23, 32, 38, 39)

Plan

Policy

i. Two advice events were accomplished. (KSR #7, 26, 38, 39, 40)

ii. Over 10 governments were advised around the world regarding conservation of pinniped populations. (KSR #7, 26, 40, 43)

Network

Capacity building

i. Three new members were recruited in 2020. (KSR #5, 8, 11, 12, 15, 17, 18, 28, 39)
Acknowledgements

PSG members thank their (respective) employers for allowing members to contribute to IUCN activities, and we are also grateful for the intermittent financial support from the Ministry of Climate and Environment (Norway).

Summary of activities 2020

Species Conservation Cycle ratio: 3/5

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<th>Status</th>
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Main KSRs addressed: 1, 2, 5, 7, 8, 11, 12, 14, 15, 17, 18, 23, 26, 28, 32, 38, 39, 40, 43

KSR: Key Species Result

Least Concern Bearded Seals, *Erignathus barbatus*, on a flow
Photo: Kit Kovacs and Christian Lydersen, Norwegian Polar Institute

Least Concern Harp Seal, *Pagophilus groenlandicus*, mother pup pair
Photo: Kit Kovacs and Christian Lydersen, Norwegian Polar Institute
Mission statement
The mission of the IUCN SSC Polar Bear Specialist Group (PBSG) is to coordinate, synthesise and distribute scientific information necessary to guide the long-term viability of polar bears and their habitats.

Projected impact for the 2017-2020 quadrennium
The Polar Bear (Ursus maritimus) is currently classified as Vulnerable (VU) on the basis of a projected reduction in global population size due to loss of sea ice habitat. Loss of Arctic sea ice due to climate change is the most serious threat to polar bears throughout their circum-polar range but action to mitigate this threat is beyond the ability of either the IUCN SSC Polar Bear Specialist Group or the five governments that comprise the Polar Bear Range States. Our assessment of global threats to polar bears and research priorities were critical pieces that were incorporated by the Polar Bear Range States into its 2015 Circumpolar Action Plan: Conservation Strategy for Polar Bears. We consider the commitment to the implementation of this plan critical to help secure the long-term persistence of polar bears in the wild that represent the genetic, behavioural, and ecological diversity of the species. During the current quadrennium, we would expect continued actions identified under this plan to be taken by the responsible authorities and that the Polar Bear Specialist Group would continue to provide technical advice and scientific oversight where appropriate.

Targets for the 2017-2020 quadrennium
Assess
Research activities: develop new criteria for describing the status/trend of polar bears and subsequently apply to all 19 currently recognised subpopulations.

Plan
Policy: (1) provide advice to the five governments comprising the Polar Bear Range States, with respect to priorities for multilateral actions that the Range States could take over the next 2–10 years to best address conservation and research needs for polar bears; (2) participate at the 2018 Biennial Meeting of the Parties to the 1973 Agreement on the Conservation of Polar Bears, 2–4 February 2018, Fairbanks, Alaska; (3) participate at a planned 2020 Biennial Meeting of the Parties to the 1973 Agreement on the Conservation of Polar Bears to be held in Norway.

Network
Agreements: in collaboration with the five governments comprising the Polar Bear Range States, develop Terms of Reference for the Specialist Group that will enable and facilitate its role as the independent scientific advisor to the Range States.

Communicate
Scientific meetings: hold the 19th Working Meeting of the Polar Bear Specialist Group.
**Activities and results 2020**

**Plan**

**Policy**

i. A report was provided to the Polar Bear Range States (PBRS) for their consideration that evaluated all the science-related actions in the PBRS Circumpolar Action Plan and prioritised them into two- and ten-year actions. (KSR #26)

ii. Both the PBSG Co-Chairs plus one other member participated at the Biennial Meeting held 4–6 March 2020, in Longyearbyen, Svalbard, Norway. PBSG made a presentation that provided an update on polar bear conservation status and research efforts. (KSR #26)

**Communicate**

**Scientific meetings**

i. The 19th Working Meeting of the Polar Bear Specialist Group was originally planned for June 2020 in Copenhagen, Denmark; however, it was indefinitely postponed due to global travel restrictions associated with the COVID-19 pandemic. (KSR #28)

**Acknowledgements**

We would like to acknowledge the governments, agencies, and organisations for their ongoing support of their employee’s participation on the PBSG.

**Summary of activities 2020**

Components of Species Conservation Cycle: 2/5

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Main KSRs addressed: 26, 28

KSR: Key Species Result
Mission statement
The mission of the Primate Specialist Group (PSG) is to maintain the current diversity of the order Primates by ensuring the survival of threatened species wherever they occur and providing effective protection for large numbers of primates in areas of high primate diversity and abundance. In essence, the PSG has a Zero Extinction policy for all primate species.

Projected impact for the 2017-2020 quadrennium
During this quadrennium, we will continue to support primate conservation activities worldwide through the maintenance of networks, especially our newsletters and journals, finalise Red Listing for all primate species, and continue to fund primate conservation projects through existing sources as well as new ones to be identified. There will also be a strong emphasis on stimulating appropriate primate ecotourism as a tool for primate conservation through the production of new field guides, pocket guides, apps, and other tools to facilitate primate-watching and primate life-listing. The ultimate goal of all our activities is zero extinctions for primates, i.e. not allowing any named taxon to go extinct.

Targets for the 2017-2020 quadrennium
Assess
Red List: complete Red List assessments.
Research activities: (1) maintain a taxonomic, geographic and conservation status (Red List) database for primates; (2) publish articles on the taxonomy, geographic distributions, surveys and conservation status of primates.

Plan
Planning: elaborate action plans for the conservation of primate species and species groups.
Act
Conservation actions: (1) stimulate primate ecotourism, i.e. primate-watching and primate life-listing, as a major conservation tool for primates; (2) operationalise the ARRC Task Force (Avoid, Reduce, Restore negative impacts from energy, extractive and associated infrastructure projects on apes and contribute positively to their Conservation).
Proposal development and funding: dramatically increase funding for primates by 2020.

Network
Capacity building: promote, organise, and participate in: (1) field courses for primate field research and conservation, and (2) congresses and meetings.
Proposal development and funding: (1) manage the Primate Action Fund, a small grants scheme for primate conservation, monitoring, surveys, research, and education; (2) manage the Lemur Conservation Action Fund, a small grants scheme for lemur conservation, monitoring, surveys, research, and education.
Communicate
Communication: (1) compile and edit regional newsletters/journals for the Neotropics, Africa, Asia, and Madagascar: Neotropical Primates, African Primates, Asian Primates Journal, Lemur News; (2) edit and publish the journal Primate Conservation; (3) maintain a list of the 25 Most Endangered Primates; (4) produce field guides and pocket field guides for primates;
(5) establish an advisory section on Great Apes; (6) establish the Ape Wiki Online Portal; (7) produce best practice guidelines for responsible images of non-human primates, through the Section for Human-Primate Interactions (SHPI).

Activities and results 2020

Assess

Red List

i. We published 532 primate assessments on the Red List and more were submitted. This included updating primate taxonomy in the Red List. As a result, all lemur assessments were submitted and published, bar an extinct species and two mouse lemurs; all outstanding African, Neotropical and Asian primate assessments were submitted, except for 17 species; and ad hoc corrections were completed across the whole portfolio of assessments where range maps were wrong, or information was outdated. Through the Section on Small Apes, all IUCN Red List updated accounts for gibbons were completed and published. (KSR #1)

Research activities

i. Lists and statistics of species and subspecies were maintained for all primates, primates in the four major regions (Neotropics, Africa, Madagascar and Asia) and in each country, and Red List assessments globally, in each major region and each country. Taxonomic updates were provided to the Integrated Taxonomic Information System (ITIS) of the Smithsonian Institution, Washington, DC. (KSR #43)

Plan

Planning

i. The Section on Great Apes published the IUCN Western Chimpanzee Conservation Action Plan. (KSR #15)

ii. The Red Colobus Action Plan, covering 19 species and subspecies of the genus Piliocolobus, is in final stages of preparation and will be published in early 2021. (KSR #15)

iii. The Mangabey and Drill Action Plan, covering three genera (Cercocebus, Lophocebus and Mandrillus) and 16 species and subspecies, is in preparation, to be published late 2021 or early 2022. (KSR #15)

iv. Through the Section on Small Apes (SSA), action plan initial spreadsheets have been completed for Bangladesh and Lao PDR. (KSR #15)

v. Through the Section on Small Apes (SSA), action plans are underway for Malaysia, China, India, Indonesia, Cambodia, Myanmar and Viet Nam. (KSR #15)

Act

Conservation actions


ii. We operationalised the ARRC Task Force to address International Finance Corporation Performance Standard 6 (IFC PS6), requiring industry to consult with the Section on Great Apes (SGA) on projects impacting ape habitat. This led to increased engagement of the SGA on industrial projects to reduce their impacts on great apes in Africa and Asia. Website: www.arrctaskforce.org. (KSR #26, 27)

Network

Proposal development and funding

i. Primate Action Fund: the total sum granted was US$134,466.59, divided as follows: Neotropics – US$44,784.00 (10 awards), Africa – US$66,642.59 (16 awards), and Asia – US$20,040.00 (5 awards). The maximum grant given was US$5,000. The average award of the 33 grants was US$4,074.74. (KSR #30)

ii. Lemur Conservation Action Fund (LCAF): the total sum granted was US$84,927.00. (KSR #30)

Communicate

Communication


ii. We published the following editorial work on the journal Primate Conservation: Vol. 34, 14 articles, 236 pp., including the description of a new subspecies of Cercopithecus mitis and a taxonomic review of the Collared Titis, Cheracebus, that revealed the true identity and range of C. torquatus. (KSR #28)


iv. Field guides and pocket field guides for primates: (1) the Lynx Illustrated Checklist *Mammals of Madagascar* was produced (to be published in 2021); (2) pocket guides for the following taxonomic groups, countries and regions are in preparation: Mesoamerica, Bioko, Atlantic Forest (2nd edition), Bolivia, Brazil (one already mentioned in list), China, Gola Primates, Indochina, Indonesia, Kenya, Mentawai Islands, South Asia (2nd edition), Northeast Africa, Southern Africa, Thailand, Venezuela, Galagos, Pottos and Angwantibos; (3) the following field guides are in preparation: Lemur Field Guide (4th edition), Neotropical primates. (KSR #28)

v. Through the Section on Great Apes, three advisories were issued on COVID-19 and Great Apes (General, Field Teams, Industrial Projects) in English, French, Bahasa and Spanish. (KSR #28)

vi. We established the Ape Wiki, an online portal providing site-based information for ape populations. Website: www.iucngreatapes.org. (KSR #28)


Acknowledgements

We thank the following organisations for their support: Global Wildlife Conservation, International Primatological Society (IPS), Bristol Zoological Society, and the Houston Zoo. The following organisations were generous in their funding: Margot Marsh Biodiversity Foundation, Mohamed bin Zayed Species Conservation Fund, Arcus Foundation, IUCN SOS Fund, Andrew Sabin Foundation, Primate Partnership Fund, and Virgin Unite. For the compilation, editing and submission of Red List assessments over the year, most notably: Liz Williamson, Sanjay Molur, Christoph Schwitzer, Kim Reuter, William Konstant, Thomas M. Butynski and Yvonne de Jong, with help from Craig Hilton-Taylor, Caroline Pollock and Federica Chiozzi.
Mission statement

The mission of the Sirenia Specialist Group (SSG) is to contribute to increasing current knowledge on the status and distribution of Order Sirenia across the entire geographic range of its distribution, to identify issues of concern, and to provide recommendations for research and conservation actions to ensure their long-term conservation.

Projected impact for the 2017-2020 quadrennium

By the end of 2020, we aim to have achieved a substantial advance in reducing the risk of extinction of:

1. West Indian Manatee (*Trichechus manatus*) and Amazonian Manatee (*Trichechus inunguis*) in Central and South American countries, by increasing community awareness of the risks of poaching and habitat loss through management tailored to specific countries or regions.

2. African Manatee (*Trichechus senegalensis*), through information sharing and training of African researchers throughout the species’ range via a collaborative network for manatee field work and conservation in 18 African countries, providing basic field research equipment and assisting with the development of plans tailored to specific countries or regions.

3. Dugong (*Dugong dugon*) through the Global Environment Facility Dugong and Seagrass Conservation Project, which focuses on conservation through sustainable community-led stewardship and socio-economic development in Indonesia, Madagascar, Malaysia, Mozambique, Sri Lanka, Timor-Leste, and Vanuatu, and in-country actions in the remaining range states.

Targets for the 2017-2020 quadrennium

Assess

Red List: (1) revise West Indian Manatee assessment; (2) complete Dugong regional assessment.

Communicate

Communication: (1) publish Sirenews regularly; (2) ensure sirenian bibliography is readily accessible.

Activities and results 2020

Assess

Red List

i. The West Indian Manatee assessment is delayed; we are waiting for US data. The species was downlisted on the Endangered Species Act in 2018, but a recent dieback has created concern. (KSR #2)

ii. Some work has been done on the Dugong East African regional assessment. (KSR #2)

Communicate

Communication

i. Three newsletters were published. (KSR #28)
Acknowledgements

The Sirenia Specialist Group would like to thank James Powell for enabling Sirenews to be published regularly, and the Clearwater Marine Aquarium Research Institute.

Summary of activities 2020

Species Conservation Cycle ratio: 2/5

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Main KSRs addressed: 2, 28


KSR: Key Species Result

Vulnerable West Indian Manatee, *Trichechus manatus*, Xcalak, Costa Sur de Quintana Roo

Photo: Luis. F. Amezcua

Vulnerable Dugong, *Dugong dugon*

Photo: Ahmed Shawky
Co-Chairs
Daniel Willcox (1)
José F. González-Maya (2)

Red List Authority Coordinator
Will Duckworth (3)

Location/Affiliation
(1) IUCN Asia Regional Office, Bangkok, Thailand
(2) ProCAT Colombia, Bogota, Colombia;
Universidad Autónoma Metropolitana -
Unidad Lerma, Lerma, Mexico
(3) Bath, United Kingdom

Number of members
111

Social networks
Facebook:
IUCN Small Carnivore Specialist Group
Twitter: @IUCN_SCSG
Website: www.iucn-scsg.org

Mission statement
The mission of the SCSG is to build capacity among small carnivore researchers and conservationists, particularly those that live or work in developing countries, to provide a venue to publish new knowledge, maintain the most up-to-date status assessments for its species, and to engage in priority research and conservation related to small carnivores.

Projected impact for the 2017-2020 quadrennium
By the end of 2020, the Small Carnivore Specialist Group (SCSG) aims to: (1) host a workshop to develop an action plan for all threatened species in the group; (2) acquire resources and develop a research programme for Data Deficient species (which are threatened but lack critical information to understand the extent of threats); (3) find an organisational host for the Small Carnivore Conservation journal, including resources for a part time Editor in Chief (currently managed by volunteers); (4) work with other specialists and Specialist Groups to capture and publicise ‘by-catch’ data on small carnivores from other programmes; and (5) help establish strategic partnerships with other Specialist Groups whose species are impacted by similar threats, for example indiscriminate snaring in protected areas.

Targets for the 2017-2020 quadrennium

Assess
Documents review: prepare an update on the knowledge and conservation status of Data Deficient species of the Americas.
Research activities: (1) explore the magnitude and implications of human-wildlife conflict for small carnivores globally; (2) develop a research strategy for Data Deficient species.

Plan
Planning: (1) complete Action Planning for threatened taxa; (2) publish a conservation strategy and action plan for Owston’s Civet (Chrotogale owstoni).

Act
Conservation actions: engage a programme officer for coordinating the Owston’s Civet conservation strategy.
Planning: assist implementation of three priority actions from the Owston’s Civet conservation strategy.
Synergy: engage with wider issues re: snaring, wild meat trade, and impacts on biodiversity loss in Southeast Asia.

Network
Membership: increase membership from priority countries/regions as they relate to distribution of globally threatened and Data Deficient small carnivores.

Communicate
Communication: (1) update SCSG’s website and other communication platforms; (2) reduce journal to one high quality issue per year.
Activities and results 2020

Assess

Documents review
i. Data compilation on the knowledge and conservation status of Data Deficient species of the Americas is ready for analyses and reporting. (KSR #1, 15, 18)

Research activities
i. A graduate thesis was developed on assessing magnitude, distribution and characteristics of small carnivore conflicts globally. (KSR #32)

ii. Two graduate theses were developed where we compiled all information available for Data Deficient species globally, including threats, ecology/biology and conservation. Databases were also systematically created and are available to begin the formulation of specific strategies. (KSR #12, 32)

Network

Membership
i. We increased membership from priority countries/regions.

Communicate

Communication
i. Funding was secured to update SCSG’s website and other communication platforms. (KSR #28)

ii. One issue of the Small Carnivore Conservation journal was published in 2020. (KSR #28)

Acknowledgements

To ProCAT Colombia and Universidad Autónoma Metropolitana for partially funding time from JFGM and facilitating research processes for the group. To Universidad Autónoma Metropolitana, Universidad de Sucre and Universidad Javeriana for facilitating resources, time and promoting students to contribute to some of the goals proposed for the group. To Arizona Center for Nature Conservation/Phoenix Zoo for renewing their interest in serving as host organisation for the group.

Summary of activities 2020

Components of Species Conservation Cycle: 3/5

Assess 3

Network 1

Communicate 2

Main KSRs addressed: 1, 12, 15, 18, 28, 32

KSR: Key Species Result

Mammals

Northern Raccoons, Procyon lotor, in Costa Rica
Photo: José F. González-Maya

White-nosed Coati, Nasua narica, recently reported considerably out of its range in Colombia
Photo: José F. González-Maya
Mission statement

The mission of the IUCN SSC Small Mammal Specialist Group (SMSG) is to serve as the global authority on the world’s small mammals through developing a greater scientific understanding of their diversity, status and threats, and by promoting effective conservation action to secure their future.

Projected impact for the 2017-2020 quadrennium

Within this quadrennium, we will have expanded our global-level research for small mammals and we will have made considerable progress in each of our three programmes of activities within our strategy: Key Regions, Key Species, and increasing our influence within the global zoo network. From our list of priority Key Regions, where there are high densities of globally threatened and Data Deficient species, we will specifically concentrate on Mexico, Borneo and Ethiopia. We will prioritise species and areas in most urgent need of conservation efforts and help to build capacity in country to begin research and conservation work. Additionally, we will catalyse conservation actions on the ground for at least 10 key species. This will involve recruiting species champions and assisting our champions with fundraising, training, research activities, networking opportunities and/or facilitating conservation planning. We will build on our work to promote small mammal conservation within the world’s leading zoos, in particular focusing on both the Association of Zoos & Aquariums (AZA) and the European Association of Zoos and Aquaria (EAZA). We will bring experts together for a series of regional planning workshops to secure support for small mammal conservation, both for financing conservation within wild habitats and to increase representation in zoo collections of small mammal species facing extinction. Finally, we will have grown the membership of the SMSG so that it is taxonomically and geographically balanced and covers all priority skills and knowledge areas.

Targets for the 2017-2020 quadrennium

Assess

Red List: Red List assessments published for 100% of small mammal species.
Research activities: (1) publish one high impact publication, 2–3 lower impact publications; (2) conduct two expeditions to areas with high densities of Data Deficient species; (3) appoint new taxonomic specialist, Dr Nate Upham.

Plan

Planning: hold eight action planning workshops (for zoos and regions).

Act

Conservation actions: ensure active conservation efforts are in place for 10 key species.

Network

Membership: ensure taxonomic and geographic coverage for the majority of species results from a geographically diverse membership.

Communicate

Communication: keep membership updated.

Activities and results 2020

Assess

Red List

1. Sixty-four species assessments and re-assessments were published in 2020. About 50 species remain to be reviewed and submitted. (KSR #1)
Research activities

i. Two publications were published in 2020: one for Caribbean SMSG species, and one on Brazilian rodent Red List status and geographical patterns. The global analysis paper has been under review for a longer time than expected due to the journal; we hope it is published in early 2021. (KSR #32)

ii. Expeditions to areas with high densities of Data Deficient species are no longer a priority for the quadrennium, because we have concentrated our efforts and resources on key species and key regions instead. We may revisit the target in the next quadrennium. (KSR #43)

Plan

Planning

i. There were delays to the Borneo workshop scheduled for 2020 due to COVID-19 restrictions. Funding applications for other regional workshops have been put on hold until we know more about when normal travel is likely to be possible. (KSR #17)

Act

Conservation actions

i. Delays to fieldwork, funding streams, etc., have meant that for many species, projects have not been accomplished. However, for the Cuban Solenodon (Atopogale cubana), Namdapha Flying Squirrel (Biswamoyopterus biswasi), Santa Catarina’s Guinea Pig (Cavia intermedia), Hainan Gymnure (Neohylomys hainanensis), Malagasy Giant Jumping Rat (Hypogeomys antitena), Brown’s Hutia (Geocapromys brownii), and Large Rock-rat (Cremnomys elvira), there have been significant developments. (KSR #27)

Network

Membership

i. We have steadily built the membership up during 2020. (KSR #28)

Communicate

Communication

i. The membership has been updated quarterly. (KSR #28)

Acknowledgements

We would like to thank Re:wild for their continued support for both the SMSG’s core costs and also a number of our Key Species projects, to which they have kindly provided financial and strategic support. We have also received funding support from Ernest Kleinwort Charitable Trust for our Key Species work. We also thank Texas A&M University for logistical support in space and funding for computer resources and software.

Summary of activities 2020

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KSR: Key Species Result
Mission statement

To promote the conservation and sustainable use of (wild) South American Camelids in their area of geographic distribution.

Projected impact for the 2017-2020 quadrennium

By the end of 2020, we envision a substantial advance in reducing the extinction risk of some reduced and isolated populations of camelids and reducing/managing the conflict between the species and human activities in recovered and abundant populations. Through scientific information, accurate assessment of the populations at regional scale for local classification in conservation categories, and the implementation of national conservation plans for Guanaco (Lama guanicoe) and Vicuña (Vicugna vicugna), we will build a governmental scenario for working with the species with local communities. We will continue to support sustainable use of species to benefit local people, and to fight against poaching and illegal trade in order to reduce their impact on natural populations. These conservation initiatives will be combined with communication and educational programmes that we predict will impact positively on the attitude of human communities across the camelids’ distribution.

Targets for the 2017-2020 quadrennium

Assess

Green Status: (1) complete Guanaco assessment for the Green Status; (2) complete Vicuña assessment for the Green Status.


Red List: (1) complete one Vicuña reassessment for the Red List; (2) complete Guanaco subspecies assessment for the Red List; (3) complete Vicuña subspecies assessment for the Red List; (4) carry out classification of the Vicuña in a conservation category in Chile.

Research activities: write scientific articles affiliated as a Specialist Group.

Plan

Planning: (1) complete a conservation plan for Vicuña in Peru; (2) complete a management and conservation plan for Vicuña in Bolivia; (3) complete a conservation plan for Vicuña in Argentina; (4) complete a conservation plan for Vicuña in Chile; (5) complete a conservation plan for Guanaco in Peru; (6) complete a conservation plan for Guanaco in Bolivia; (7) complete a conservation plan for Guanaco in Paraguay; (8) complete a conservation plan for Guanaco in Argentina; (9) complete a conservation plan for Guanaco in Chile; (10) plan and assess a meeting for a new Conservation and Management Plan for South American Camelids.

Network
Membership: (1) update the membership protocol; (2) develop membership cancellation protocol.
Proposal development and funding: sign three funding agreements.
Synergy: formalise the group’s host organisation.
Communicate
Communication: (1) publish four issues of the newsletter; (2) obtain a newsletter ISSN; (3) publish the Vicuña book (‘The southern subspecies’); (4) update the website; (5) develop a position statement about commercial hunting; (6) solicit a report about mange disease in Vicuña; (7) develop a report about methods of abundance estimates in large mammals; (8) review the proposal on a resolution about poaching and trafficking of Vicuña products for discussion at the 18th Conference of the Parties (CoP18) to CITES.
Activities and results 2020
Plan
Planning
i. There is no news from the Argentinean government or agencies regarding the conservation plan of Guanaco in Argentina. Nevertheless, a resolution for the next IUCN World Conservation Congress was approved for discussion. (KSR #18)
ii. There is no news from the Chilean government or agencies regarding the conservation plan of Guanaco in Chile. An initiative is only underway for central Chile. This initiative has been organised and headed by Wildlife Conservation Society. (KSR #18)
Communicate
Communication
i. Our 2020 newsletter was delayed because invited authors had not finished their articles. The newsletter will be published in the course of 2021. (KSR #28)
ii. The Vicuña book was finished in 2019, but it was printed in January 2020. (KSR #28)
iii. The website was updated at least four times during 2020. Nevertheless, funding is needed to continue with the updates. (KSR #28)
iv. Our position statement about commercial hunting is being reviewed by our members. (KSR #28, 36)
v. Our report about mange disease in Vicuña is underway. The final version must be sent to the Vicuña Convention. That meeting has been delayed because of the COVID-19 pandemic. (KSR #23)
Acknowledgements
We thank the following agencies and organisations: Vicuña Convention, Servicio Agrícola y Ganadero (SAG) and Corporación Nacional Forestal (CONAF), Chile; Faculty of Forestry Science and Conservation of Nature, University of Chile, Chile.
Summary of activities 2020
Species Conservation Cycle ratio: 2/5
Plan 2
Communicate 5
Main KSRs addressed: 18, 23, 28, 36
KSR: Key Species Result
Mission statement

The IUCN SSC Tapir Specialist Group (TSG) is a global group of biologists, zoo professionals, researchers and advocates dedicated to conserving tapirs and their habitat through strategic action-planning in countries where tapirs live, information sharing and through educational outreach that shows the importance of the tapir to local ecosystems and to the world at large.

Projected impact for the 2017-2020 quadrennium

By the end of 2020, we want to have a strong representation in all tapir range countries in Latin America and Southeast Asia and stable, long-term research and conservation programmes in several of these countries. In addition, we want to see our Action Plans implemented.

Targets for the 2017-2020 quadrennium

Assess

Research activities: (1) establish a working inventory of the tapirs under human care in tapir range countries; (2) work on and update a list/map for existing biosamples and biobanks; (3) augment the number of people/projects collecting biosamples for each tapir species; (4) raise, at least by one, the number of tapir-related citizen science projects; (5) establish a network of tapir research and conservation programmes representing all tapir range countries; (6) establish a project where several zoos in the United States and Brazil are photographing tapir calves over time as they lose their skin pattern (spots and stripes).

Plan


Network

Capacity building: integrate our education curriculum ‘Tapir Tracks’ with education programmes.

Documents review: enhance the *ex situ* Tapir Husbandry Manual.

Synergy: (1) have one governmental representative from each tapir range country present at the next Tapir Symposium; (2) establish three additional long-term partnerships between tapir projects with zoos; (3) ensure that *ex situ* tapir populations are utilised in basic and applied research contributing to conservation; (4) create a TSG full-time representative position to attend (participate in and report on) international meetings; (5) involve TSG members in at least three TSG Strategic Plan actions; (6) share information available through existing databases (Species 360) with *in situ* and *ex situ* partners; (7) obtain a minimum of 10 new alliances between *ex situ* and *in situ* conservation efforts; (8) prepare an evaluation survey for self-assessment in place for TSG Country and Species Coordinators; (9) implement an internal online communication channel; (10) establish a Global Species Management Plan in range countries of Malayan Tapir (*Tapirus indicus*); (11) liaise with other ecosystem/restoration stakeholders; (12) expand the TSG fellowship; (13) establish tapir conservation alliances for the purpose of networking, national action planning and fundraising.
Communicate

Communication: (1) publish a scientific article (newsletter) annually for a scientific audience to cover tapir conservation topics; (2) prepare an awareness campaign about tapir conservation that includes TSG talking points for every country with a TSG representative; (3) publish a visual, popular version of at least two TSG Action Plans (Baird’s Tapir and Mountain Tapir), condensed, accessible and mobile for use; (4) effectively communicate one success story from each species every year; (5) upload at least 100 papers to the TSG Virtual Library; (6) increase the search visibility of the TSG website.

Activities and results 2020

Assess

Research activities

i. An inventory of the tapirs under human care in tapir range countries has been achieved for Malayan Tapirs in Southeast Asia and for Baird’s Tapirs in Central America. We are working on compiling this information for Lowland Tapirs (Tapirus terrestris) in South America. (KSR #43)

ii. Updated list/map for existing biosamples and biobanks: This information is currently being compiled for European Zoos (EAZA Biobank). In addition, the Lowland Tapir Conservation Initiative (LTCI) in Brazil maintains a biobank. (KSR #43)

iii. People/projects collecting biosamples for each tapir species: The number of TSG members and long-term, systematic research programmes collecting biological samples has increased by 15%. (KSR #12)

iv. We have been running tapir-related citizen science projects in Brazil, Colombia and Costa Rica.

v. Project to photograph tapir calves over time as they lose their skin pattern (spots and stripes): We have six zoos participating in Brazil and at least three zoos in the United States. (KSR #12)

Network

Capacity building

i. TAPIR TRACKS was integrated into education programmes in Brazil and Honduras. (KSR #17)

Documents review

i. The AZA Tapir Care Manual has been enhanced and widely distributed.

Synergy

i. Due to the pandemic, we were not able to hold our International Tapir Symposium in 2020. We are trying to put together a virtual conference for the first half of 2021.

ii. We now have a number of tapir research and conservation programmes working in partnership with and/or receiving support from zoological institutions worldwide. (KSR #29)

iii. TSG members are involved with at least three TSG Strategic Plan actions.

iv. Expanding the TSG Fellowship: Despite the pandemic, we found different ways to stay in touch and support each other. We carried out a number of virtual workshops and seminars.

v. We have managed to establish a number of tapir conservation alliances: Latin American Tapir Species Programme (Fondation Segré), Malayan Tapir Conservation Programme (Fondation Segré), Baird’s Tapir Conservation Alliance, Mountain Tapir Conservation Alliance. These regional, national and international networks have been the main pillars of the work of the TSG. We do not yet have all tapir range countries represented. (KSR #29)

Communicate

Communication

i. We are currently trying to identify a new editor for our journal Tapir Conservation. (KSR #28)

ii. The TSG and its members run a number of awareness campaigns in different countries, particularly Brazil, Colombia, Costa Rica, Guatemala, and Nicaragua. Zoological institutions worldwide continue to be major forces towards communicating the tapir conservation cause. (KSR #28)

iii. We have uploaded ca. 50 scientific publications to the TSG Virtual Library.

Acknowledgements

TSG Steering Committee; Association of Zoos and Aquariums (AZA); Tapir Taxon Advisory Group (TAG); Copenhagen Zoo, Denmark; European Association of Zoos and Aquaria (EAZA); Fondation Segré, Switzerland; IPE - Institute for Ecological Research, Brazil; IUCN SSC Conservation Planning Specialist Group (CPSG); ProCAT Colombia; and so many others.

Summary of activities 2020

Species Conservation Cycle ratio: 3/5

Assess 5

Network 8

Communicate 3

Main KSRs addressed: 12, 17, 28, 29, 43

KSR: Key Species Result
Co-Chairs
Johanna Rode-Margono (1)

Red List Authority Coordinator
Kristin Leus (2)

Location/Affiliation
(1) Stiftung Artenschutz (Species Conservation Foundation), Berlin, Germany
(2) Scientific Department, Copenhagen Zoo, Denmark

Number of members
62

Social networks
Facebook: IUCN / SSC Wild Pig Specialist Group
Website: https://sites.google.com/site/wildpigspecialistgroup/home

Mission statement
The SSC Wild Pig Specialist Group (WPSG) has not yet defined a mission statement. Key components of such a statement would be:
(1) viable wild pig populations, (2) all wild pig taxa, (3) threat management, (4) conservation breeding, (5) reintroduction, (6) habitat restoration and management, and (7) resolution of conflicts with people. Most wild pig species are in decline, especially the various species and subspecies in Indonesia and the Philippines. The WPSG uses a combination of strategies to try to reduce these population declines. This primarily includes (1) research on taxonomy and distribution (the cornerstone of any conservation management), and (2) management of captive and wild populations to prevent the extinction of the most threatened species.

Projected impact for the 2017-2020 quadrennium
We aim to safeguard the small populations of the two Critically Endangered suid species, Pygmy Hog (Porcula salvania) and Visayan Warty Pig (Sus cebifrons), and to continue the captive breeding and release programmes. The target for Pygmy Hogs is to ensure a population in the wild of at least 250 individuals. For Visayan Warty Pig, we still need to confirm that the species survives in the wild, as no such information has been forthcoming. For all other species, we are still in the stage of assessing population status and trends, and we do not have conservation programmes that can realistically aim to stabilise populations in the wild. For Wild Boar (Sus scrofa), we aim to revise the taxonomy of the current 18 subspecies.

Targets for the 2017-2020 quadrennium
Assess
Red List: complete Red List assessment of all pig species.
Research activities: (1) complete status update of the Hairy Babirusa (Babyrousa babyrussa); (2) carry out Javan Warty Pig (Sus verrucosus) status surveys; (3) research genetics of Javan Warty Pig and Bawean Warty Pig (Sus verrucosus blouchi); (4) conduct taxonomic research on Giant Forest Hog (Hylochoerus meinertzhageni) and Wild Boar; (5) investigate Giant Forest Hog status in Uganda; (6) conduct warthogs research in Kenya; (7) conduct Red River Hog (Potamochoerus porcus) ecological research in Sierra Leone; (8) implement the Sulawesi ungulate project (phylogenetic/taxonomic research); (9) Philippines pigs programme: complete Mindoro Warty Pig (Sus oliveri) surveys (one intense ecology study, three distribution surveys); (10) conduct comprehensive surveys for all species of pigs in the Philippines and Indonesia; (11) study phylogeny of Philippine wild pigs; (12) publish the first worldwide scale book on wild pigs.

Plan
Planning: (1) develop a Conservation Needs Assessment and Planning Strategy with the Conservation Planning Specialist Group (CPSG); (2) plan collaborative captive breeding of Javan Warty Pigs; (3) hold a Pygmy Hog Species Action Plan workshop in Guwahati, Assam, in November 2018; (4) complete the update of the Pygmy Hog Species Action Plan (in progression of the Pygmy Hog Conservation Programme).
Policy: submit a recommendation to the UK Department for Environment, Food and Rural Affairs (DEFRA) for the status of Wild Boar in the UK.
**Act**

Conservation actions: (1) implement the Babirusa Global Species Management Plan; (2) implement a release programme for Javan Warty Pig; (3) develop the European Association of Zoos and Aquaria (EAZA) Tapir and Suiform Regional Collection Plan; (4) Visayan Warty Pig captive breeding programme 1: ensure stud-book with data of all breeding centres is ready and regularly updated; (5) Visayan Warty Pig captive breeding programme 2: complete annual transfer plan with breeding recommendations (regional and international) for Visayan Warty Pigs; (6) reintroduce wild populations of Visayan Warty Pigs on Negros island; (7) plan collaborative captive breeding of Javan Warty Pigs.

**Network**

Agreements: sign a new memorandum of understanding (International Conservation, Management and Research MoU) between the partners (Durrell Wildlife Conservation Trust; WPSG; Forest Department Government of Assam; Ministry of Environment and Forest, Government of India; and local partners Aaranyak and EcoSystems-India) for five years for continuation of the Pygmy Hog Conservation Programme.

Membership: update membership and recruit new members for neglected species and other disciplines.

Proposal development and funding: develop a fundraising plan, making contact with the pig production industry for fundraising.

Synergy: formalise the advisory committee and regional advisors.

**Communicate**

Communication: (1) publish *Suiform Soundings*; (2) update the website, including a restricted member area for communication.

Scientific meetings: organise an African Pigs Conference.

**Activities and results 2020**

**Assess**

**Research activities**

i. The survey was done for Hairy Babirusa, but data needs to be translated into the Red List assessment.  (KSR #12)

ii. Javan Warty Pig status surveys were extended into 2020 and results are not yet published; delays are due to COVID-19. (KSR #12)


iv. One paper was published on warthog research in Kenya. A few news items were produced concerning the discovery of Desert Warthog (*Phacocherous aethiopicus*), sympatric with Common Warthog (*Phacochoerus africanus*), on the Laikipia Plateau. A short manuscript for *Suiform Soundings* is in progress on areas of sympathy for the two warthogs in Kenya with an emphasis on our recent findings for the Laikipia Plateau. A nearly-final draft of a paper on the biogeography of the two warthogs in the Horn of Africa and Kenya should be ready for submission for publication by mid-May 2021.
Endangered Pygmy Hog, Porcula salvania, mother and newborns.
Photo: Pygmy Hog Conservation Programme
A draft paper on the taxonomic status of a few skulls that might be hybrids between the two species of warthog is underway. (KSR #32)

**v.** One paper on Babirusa is nearly finished. (KSR #43)

**vi.** In December 2020 we started to survey dung of Mindoro Warty Pig; data on various occasions were collected together with Tamaraw (Bubalus mindorensis) data. (KSR #12)

### Plan

**Planning**

i. We intended to hold a meeting during the International Symposium on Wild Boar and other Suids in March, and then in September 2020. Due to COVID-19 none of these meetings went ahead. The Symposium has been rescheduled to 2022. Discussions have been held within the group on how to accomplish a strategy meeting. (KSR #15)

### Policy

i. See the 2019 report: A report on UK Wild Boar was submitted to DEFRA, but the decision was that excessive Wild Boar numbers in the Forest of Dean need to be brought under control before any serious consideration can be given to translocations or a new modus operandi for this species in the UK. The Forestry Commission ranger team increased to eight rangers in the Forest of Dean, so any work beyond this region on boar wouldn’t be implemented until after the population here is at a manageable level. (KSR #27)

### Act

**Conservation actions**

i. The Babirusa Global Species Management Plan is a programme that runs continuously with many different activities in four areas: collaborative breeding, capacity building, education and awareness, and in situ conservation. (KSR #25)

ii. No Javan Warty Pigs have been released yet but there has been good progress, e.g. soft release enclosures, pigs on site. (KSR #25)

iii. The EAZA Tapir and Suiform Regional Collection Plan meeting was held in November 2020 and results were distributed immediately. The report still needs to be completed. It covered 18 suiform species. (KSR #25)

iv. The Visayan Warty Pig captive breeding programme continued as usual, but no additional activities to ensure collaborative efforts took place, due to COVID-19. (KSR #25)

v. The first release of Visayan Warty Pig was completed in Danapa Nature Reserve in southwest Negros. (KSR #25)

### Network

**Membership**

i. We have made good progress in recruiting new members, especially in regions that we have not yet covered well (e.g. Africa).

### Synergy

i. Discussions were initiated on how or if organisation needs to be formalised.

### Communicate

**Communication**

i. Two issues of Suiform Soundings were published. (KSR #28)

ii. The website exists but still needs work; it will launch as soon as it is finalised. (KSR #28)

### Acknowledgements

We highly appreciate the work of all WPSG members who actively contributed to the activities of the WPSG in 2020, with special thanks to the Regional Advisors, Red List Authority and Suiform Soundings Chief Editor and Social Media Officer. Our thank you extends to the members’ affiliated institutions supporting the members’ work on the conservation of wild pig species. As the chair, I would like to thank the Species Conservation Foundation and Association of Zoological Gardens for providing me with the time and space to work on WPSG activities. Finally, we thank all partners (governments, research institutions, funders, NGOs and other collaborators) for the cooperation that made the WPSG activities possible.

### Summary of activities 2020

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Main KSRs addressed: 12, 15, 25, 27, 28, 32, 42, 43

KSR: Key Species Result
Mission statement
The mission of our IUCN Specialist Group is to promote the conservation of chytrids, downy mildews, myxomycetes and zygomycetes.

Projected impact for the 2017-2020 quadrennium
By the end of 2020, we envision a substantial advance in understanding extinction risks for certain ecological groups of myxomycetes (slime moulds), chytrid, zygomycete, downy mildew and particular species. One of the most important aspects of evaluating possible impacts of climate change and anthropogenic influence is to demonstrate that changes are occurring in the distribution of particular species. In future research, at least two possible effects of climate change and other negative impacts should be clearly distinguished. First, the negative impacts on composition of species assemblages, which does not necessarily threaten particular species, must be assessed. Second, the negative impacts on a single species, which may well be threatened and thus would warrant inclusion on Red Lists, needs to be evaluated. In addition, promotion of conservation activities for neglected groups of living organisms will provide a more comprehensive vision of how nature processes function; in particular, attention needs to be focused on discovering the role of chytrids, zygomycetes, downy mildews, and myxomycetes in people’s lives and their relationships with other species. Furthermore, the conservation action network of experts and amateurs will expand.

Targets for the 2017-2020 quadrennium
Assess
Red List: complete assessment of 100 species of myxomycetes (slime moulds).
Research activities: (1) study climate change impacts on myxomycetes, chytrid, zygomycete, downy mildew; (2) analyse population trends, threats, and assess species using the IUCN Red List criteria and determine conservation actions for chytrids, zygomycetes, downy mildews, and slime moulds.

Plan
Policy: promote the conservation of different groups of living organisms that were not considered to be in danger before but are in need of protection today.

Network
Capacity building: train professionals on how to carry out Red List assessments.
Synergy: organise a network of specialists and stakeholders for discussing conservation problems for ‘lower fungi’ and for exchange of successful protection measures.

Communicate
Communication: advance conservation activity for chytrids, zygomycetes, downy mildews and slime moulds.

Activities and results 2020
Assess
Red List
i. During 2020, more attention has been paid to the collection and analysis of data to complete species assessment, raising awareness of conservation needs and of progress being made in myxomycetes and low fungal conservation. (KSR #1)
Research activities

i. Group members are working on the project ‘Multilevel local, nation- and region wide education and training in climate services, climate change adaptation and mitigation’, co-funded by the Erasmus+ Programme of the European Union. (KSR #43)

Plan

Policy

i. We raised awareness of the importance of conservation of different groups of living organisms that were not considered to be in danger before but need protection today. (KSR #2)

Network

Capacity building

i. Annual meetings in 2020 had to be cancelled due to quarantine, but online communication about fungi Red List assessments increased and were raised to a new level. (KSR #5)

Synergy

i. The creation of the Fungal Conservation Committee increased partnering for information and coordination of fungal conservation needs and activities for the mycological, land management, and conservation communities. (KSR #29)

Communicate

Communication

i. The new ideas for group strategy have developed as result of the online workshops ‘Assessing species’ extinction risk using IUCN Red List Methodology’. (KSR #28)

Acknowledgements

We acknowledge the Mohamed bin Zayed Species Conservation Fund for the opportunity to participate in International Union for Conservation of Nature Species Survival Commission Leaders’ Meeting.

Summary of activities 2020

Components of Species Conservation Cycle: 4/5

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KSR: Key Species Result

Metatrichia vesparia, Ukraine
Photo: Alain Michaud

Lamproderma lycopodiicola, Norway
Photo: Alain Michaud

Physarum tenerum, Guadeloupe
Photo: Alain Michaud

Fungi and Lichens
Mission statement
To promote conservation of ascomycete fungi by raising awareness that they have vital roles as nutrient recyclers, mutualistic symbionts of animals and plants, and as checks and balances in freshwater, marine and terrestrial ecosystems, and that like animals, plants and other fungi, they are endangered by climate change, habitat destruction, persecution and pollution.

Projected impact for the 2017-2020 quadrennium
By the end of 2020, we plan to have the basic infrastructure within IUCN to enable conservation of ascomycete fungi to be promoted, with global Red List evaluations for at least 150 species. This will in turn mean more Specialist Group members, their training in communication skills and in Red Listing procedures, and greater activity by those members, so that the group is nowhere dependent on a single person. We intend to achieve an increase in awareness of the vital role of fungi first among IUCN personnel, and thereafter in an expanding range of other conservation NGOs, in the public, and among national focal points for the Convention on Biological Diversity.

Targets for the 2017-2020 quadrennium

Assess
Red List: evaluate 150 non-lichen-forming ascomycetes for the IUCN Red List, particularly those with human food value (IUCN-Toyota Red List Partnership).

Network
Capacity building: develop a list of essential sources to consult for evaluating species.
Scientific meetings: collaborate with the European Mycological Association and International Society for Fungal Conservation in organising a European-level meeting on fungal conservation in Macedonia in October 2017.
Synergy: appoint a Specialist Group Co-Chair, Red List Authority Coordinator and Programme Officer.

Communicate
Communication: (1) register an Internet domain name for the Specialist Group; (2) establish a Specialist Group website; (3) establish dedicated email addresses for the Specialist Group Chair, Specialist Group Co-Chair, Red List Authority Coordinator and Programme Officer; (4) establish a Facebook account; (5) establish a Twitter account.
Activities and results 2020

Assess

Red List

i. Data gathering and draft evaluations of non-lichen-forming ascomycetes made for 30 of the species planned for 2017, 30 of the species planned for 2018 and 20 of the species planned for 2019, but these not yet transferred to the IUCN system. (KSR #1, 2)

Network

Capacity building

i. A list of essential sources to consult for evaluating species is in use but has not yet been made openly available. (KSR #5)

Communicate

Communication

i. Much of the website structure is now populated with text, but the website is still not live. (KSR #28)

Summary of activities 2020

Components of Species Conservation Cycle: 3/5

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KSR: Key Species Result
Mission statement
Promote studies assessing lichen diversity, population dynamics and conservation genetics in order to evaluate the conservation status of lichen species according to IUCN criteria.

Projected impact for the 2017-2020 quadrennium
By 2020, we will strengthen the visibility of lichens in biodiversity conservation strategies by (1) publishing Red List assessments of lichens from all continents, and (2) further developing research and outreach in lichen conservation in Asia.

Targets for the 2017-2020 quadrennium
Assess
Red List: carry out Red List assessments of 200 species with a focus on edible and otherwise economically important taxa and very rare and well-documented species.
Research activities: conduct detailed studies on rare and endangered species.

Act
Conservation actions: develop conservation actions in the respective regions for Erioderma pedicellatum.

Activities and results 2020
Assess
Red List
i. Thirty-three lichen species assessments were published in 2020. Many of them were the result of a workshop held virtually in May 2020. (KSR #1)

Acknowledgements
The group leaders would like to thank their respective institutions, Eastern Washington University, Royal Botanic Garden Edinburgh, and Swiss Federal Institute for Forest, Snow and Landscape Research. Generous support from the Mohamed Bin Zayed Species Conservation Fund was instrumental for the Red Listing Workshop and the subsequent publication of many assessments.

Summary of activities 2020
Components of Species Conservation Cycle: 1/5
Assess 1
Main KSRs addressed: 1

KSR: Key Species Result
Arctic Orange-Bush Lichen, *Seirophora aurantiaca*, occurs along the coast of the Inuvialuit Settlement Region in the Canadian Western Arctic, where it grows on the tundra. As an Arctic and coastal species, climate change impacts pose serious threats, including coastal erosion, saline wash from storm surges, and permafrost melting. Assessed by Paul Sokoloff and Troy McMullin as Endangered.

Photo: Troy McMullin

Niebla ramosissima is a calcareous soil dwelling species that is narrowly endemic to San Nicolas Island, California. It is adapted to absorb water through fog as the amount of precipitation on the island is very low. Shifting and degradation of its habitat due to invasive species and climate change are major threats to *N. ramosissima*. Assessed by Rikke Reese Naesborg as Vulnerable.

Photo: Rikke Reese Naesborg
Mission statement

The mission of the Mushroom, Bracket, and Puffball Specialist Group is to advance fungal conservation by raising awareness of the importance of fungi and the need to conserve them, building capacity among the mycological community, and greatly increasing the number of fungi on national and the global Red Lists.

Projected impact for the 2017-2020 quadrennium

By the end of this quadrennium, fungal conservation efforts will have developed substantially. There will be a broader interest in and understanding of the need for including fungi in conservation discussions and actions. The number and diversity of mycologists trained and engaged in generating conservation assessments will be greatly increased and processes for generating Red Lists will be enhanced. The number of mushrooms and relatives on national and global Red Lists will be significantly higher than in 2015, providing insight into the conservation status of mushrooms and related fungi. The Mushroom, Bracket, and Puffball Specialist Group will have begun to add conservation planning into their activities.

Targets for the 2017-2020 quadrennium

Assess

Red List: (1) complete commitment of 1,000 Red List assessments for the IUCN-Toyota Red List Partnership; (2) increase quantity and quality of fungal national Red Lists by providing advice and encouragement for national Red List committees that are either creating fungal Red Lists for the first time or in the process of revising their fungal Red List.

Network

Capacity building: build capacity among the mycological community (2–3 courses/workshops per year).
Synergy: establish a Fungal Conservation Committee to better coordinate efforts among the fungal Specialist Groups and other parts of IUCN, create a higher profile for fungal conservation, and diversify participants in fungal conservation.

Activities and results 2020

Assess

Red List

i. COVID-19 negatively impacted Red List assessment progress. In-person workshops were either cancelled or postponed and done virtually. Even so, significant progress was made, with approximately 120 new published assessments. (KSR #1)

ii. National fungal Red List assessment initiatives on Brazil and Colombia have begun, as well as efforts to significantly increase the number of US species on the Red List. (KSR #2)
i. COVID-19 negatively impacted plans to build capacity among the mycological community. In-person workshops were either cancelled or postponed and done virtually. Even so, significant progress was made with a total of four virtual workshops. (KSR #5)

**Synergy**

i. The Fungal Conservation Committee (FunCC) was established in late 2020. (KSR #2, 5, 28)

**Acknowledgements**

The financial support of the Mohamed bin Zayed Species Conservation Fund is gratefully acknowledged. Technical support and assistance by the IUCN Red List Unit was critical to the progress made. The facilitation by the Fungi Foundation was in large part responsible for the successful workshop and symposium at the virtual Latin American Mycological Congress.

**Summary of activities 2020**

Components of Species Conservation Cycle: 2/5

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Main KSRs addressed: 1, 2, 5, 28

KSR. Key Species Result
Mission statement

The mission of the Rust and Smut Specialist Group (RSSG) is to promote the study and conservation of the rust and smut fungi by:

1. increasing current knowledge on the taxonomy of the species,
2. identifying and documenting threats to the survival of the species, and
3. assessing and monitoring their conservation status.

Projected impact for the 2017-2020 quadrennium

The conservation status of 50 species of rust and smut fungi will be assessed.

Targets for the 2017-2020 quadrennium

Assess

Red List: Complete assessment of 50 species of smut fungi (subphylum Ustilaginomycotina) and rust fungi (subphylum Pucciniomycotina). The geographic regions considered for assessments include Europe; Central, East, and South Asia; Australasia; Africa; and Central and South America.
Fungi and Lichens

Urocystis primulae from Bulgaria
Photo: T.T. Denchev

Microbotryum intermedium from Bulgaria
Photo: T.T. Denchev
**Mission statement**

The mission of the IUCN SSC Bryophyte Specialist Group is to promote the exploration of bryological diversity across all geographic scales and its long-term conservation.

**Projected impact for the 2017-2020 quadrennium**

By the end of 2020, we expect that substantially more bryophyte species will be properly assessed or reassessed at the global scale, following the latest IUCN guidelines. We expect the European Red List of Threatened Bryophyte Species, to be published in autumn of 2019, will support priority setting for conservation actions and inform policy decisions on biodiversity conservation in Europe. It will serve as a critical instrument to measure some aspects of the progress towards achieving the EU 2020 Biodiversity Strategy. The European Committee for Conservation of Bryophytes (ECCB) currently works on defining 'Important Bryophyte Areas' for Europe, based on the European Red List data. Many members of the Bryophyte Specialist Group (BSG) and other bryologists are now, after having attended the IUCN Red Listing workshop (https://www.bryology2019.com/iucn-red-listing-workshop/), familiar with the IUCN methodology for Red List assessment and its application. Several work on assessing species for the global Red List, while others focus on national and regional levels.

**Targets for the 2017-2020 quadrennium**

**Assess**

Red List: (1) complete assessment of 1,800 European bryophytes and publication of a European bryophyte Red List; (2) advance the Top 10 Initiative; (3) conduct Red List assessment of all Swiss bryophytes; (4) conduct Red List assessment of South African Pottiaceae; (5) ensure critical terms necessary for the application of Red List categories and criteria are refined to be suitable for clonal organisms, and consistently used in the assessments of European bryophytes.

Research activities: analyse the endemic bryophyte elements of southern Africa (South Africa, Botswana, Namibia, Eswatini, Lesotho).

**Network**

Capacity building: carry out capacity building among BSG members through a training workshop on IUCN Red List methodology.

**Communicate**

Communication: publish a paper on the most strongly threatened African bryophytes.

**Activities and results 2020**

**Assess**

i. A Top 10 list for South America is in progress. The target was brought forward to the next quadrennium, and more regions were included; there are ongoing discussions with bryologists in Borneo, Australia and North America. (KSR #1, 2)

ii. All 1,100 Swiss bryophytes were re-assessed. The National Red List is to be published in 2021, with finalisation early next quadrennium. (KSR #1, 2)
iii. For Red List assessment of South African Pottiaceae: the student re-registered, completed the online IUCN Red Listing course and most of the species assessment forms for 101 species in 38 genera of Pottiaceae; assessments are underway. The target was brought forward to the next quadrennium. (KSR #1, 2)

Research activities

1. The PhD student re-registered and initiated a research project on analysis of the endemic bryophyte element of southern Africa (South Africa, Botswana, Namibia, Eswatini, Lesotho). Progress was hampered because of the pandemic. The target was brought forward to the next quadrennium. (KSR #26, 43)

Acknowledgements

Jacques van Rooy, Ariel Bergamini and Irene Bisang acknowledge the continuous encouragement and financial support of their employers (South African National Biodiversity Institute, Swiss Federal Research Institute WSL, and Swedish Museum of Natural History NRM).

Summary of activities 2020

Components of Species Conservation Cycle: 1/5

Assess 4

Main KSRs addressed: 1, 2, 26, 43

KSR: Key Species Result
Mission statement
The mission of the Cactus and Succulent Plant Specialist Group (CSSG) is to contribute to the conservation of cactus and succulent plants through better understanding of their taxonomy, ecology and threats.

Projected impact for the 2017-2020 quadrennium
By the end of the quadrennium, we envisage a priority conservation plan to conduct activities on the ground to improve the conservation status of highly threatened cactus species. We have generated the Red List assessments for other complete groups of succulent plants such as Agave and Yucca, which will enable us to start setting and planning conservation. We have achieved a more diverse Specialist Group that includes members from a wider geography, and we have increased the female ratio of our membership.

Targets for the 2017-2020 quadrennium

Assess
Red List: assess three hundred succulent plant species.
Research activities: (1) publish one scientific paper; (2) identify Alliance for Zero Extinction sites (AZEs) and Key Biodiversity Areas (KBAs) for all cacti.

Plan
Planning: produce one national or regional conservation action plan for cacti.
Policy: participate in one policy-related forum.
Research activities: publish one scientific paper.

Act
Conservation actions: collaborate on Operación Atacama, seizure of illegally traded cacti in Italy.

Network
Capacity building: train four CSSG members as Red List Assessors.
Membership: increase the number of CSSG members, with 40 as the goal.
Research activities: strategic planning of activities to conduct with host institution Desert Botanical Garden.
Synergy: (1) hire a Programme Officer; (2) ensure CSSG participation in outreach events.

Communicate
Communication: (1) publish a CSSG Newsletter; (2) build a presence on social media platforms; (3) ensure the Global Cactus Assessment paper reaches 100 citations; (4) design the new CSSG logo; (5) create the CSSG Newsletter Editorial Committee.

Activities and results 2020
Assess
Red List
1. The majority of the 296 Red List assessments (251 published assessments and 45 assessments in review process) committed for the quadrennium were done during two workshops that took place in 2018. Many assessments were finalised remotely, working with CSSG members from the US, some of whom are based in our host institution, the Desert Botanical Garden (DBG), and include the Red List Authority Coordinator. These assessments were published on The Red List in 2020. In addition, in collaboration with the Madagascar Plant Specialist Group, we finalised the assessment review process of all Aloe species from Madagascar. These assessments were published on The Red List in 2020. (KSR #1)
Plan
Planning
i. The CSSG is working on its first conservation action plan for a complete genus of cacti. In collaboration with Chester Zoo in the UK and Universidad de Concepción in Chile, the three-day stakeholder workshop ‘Conservation action-planning workshop for Copiapoa cacti’ was initially planned for 25–27 May 2020. Unfortunately, it was postponed as a result of travel restrictions and social distancing due to COVID-19. We are looking into running the workshop remotely in 2021. The workshop will focus on understanding the current conservation status of the genus Copiapoa, which comprises 22 cactus species endemic to the Atacama Desert in northern Chile, their threats and conservation needs, to develop a 10-year conservation action plan. (KSR #15)

Act
Conservation actions
i. For over a year, the CSSG, Associazione per la Biodiversità e la sua Conservazione (Italy) and Universidad de Concepción (Chile) have collaborated with Carabinieri Forestali of Ancona (Italy) and Chilean authorities in Operación Atacama, to repatriate the largest seizure of illegally traded cacti in Italy to date. In February 2020, a shipment of 1,019 cacti was seized, most of which were Chilean plants, mainly belonging to the genera Copiapoa (876 plants) and Eriosyce (79 plants). Additional seized plants belong to several other genera and species from the US, Mexico and Argentina. A second seizure took place on 17 November, when Italian authorities confiscated a total of 171 plants, of which 80 were from Chile, 89 from Mexico and two from the US. Operación Atacama has been
Seized Copiapoa spp. during "Operación Atacama"
Photo: Marco Caccianiga, University of Milan
investigating the criminal networks behind the illicit market of cacti, particularly of the genus *Copiapoa*, and has looked into how sellers and collectors communicate, how cacti are removed from their country of origin and shipped through several countries to their final destinations, and who buys them.

**Network**

**Membership**

i. The CSSG has been actively expanding the taxonomic and geographic representation for the group. In 2020, we recruited a total of two new experts; the three experts that had pending registration also registered, increasing the number of members from 38 to 43 and meeting our target. During 2020, we have been curating a list of experts to be invited that will allow us to achieve a broader and diverse membership, in addition to increasing the female participation ratio.

**Synergy**

i. The CSSG had the opportunity to participate in three events that allowed us to raise awareness among the general public about the importance of cacti and succulent plants and their conservation: (1) in one of these events, in a presentation delivered on 12 March 2020 during British Science Week, 8-year-old children learnt about these fascinating plants and their importance, as well as how botanists perform their fieldwork; (2) the Specialist Group participated in a conversation hosted by the Embassy of Mexico in South Africa about succulent plants from Mexico and South Africa. The discussion, held virtually on 27 August 2020, covered the similarities that Mexican and South African succulents share in terms of diversity and endemism, challenges presented by land conversion, illegal collection, unsustainable use and climate change, and methods established to share knowledge and expertise to help each other; (3) the Specialist Group endorsed the exhibition ‘*Copiapoa, Patriarchs of the Andes*’, organised by member Andrea Cattabriga during ‘La Festa del Cactus’, one of the most important Italian commercial exhibitions specialised in succulents. The photographic exhibition, dedicated to the genus *Copiapoa*, raised awareness among the 3,500+ succulent enthusiasts from all over Europe who visited the event on how their consumer behaviour can fuel illegal poaching and illegal markets, which are driving many species in this genus to extinction. The event was held in Bologna, Italy, on 11–13 September 2020. (KSR #28)

**Communicate**

i. We are happy to share that the scientific paper titled ‘High proportion of cactus species threatened with extinction’, published in October 2015 in the journal *Nature Plants* (bit.ly/2V6rhoi), reached 100 citations in April 2020. This paper was co-authored by many CSSG members, and it was thanks to this publication that media attention was caught worldwide. As of April 2020, more than 22 media outlets and tens of newspapers, magazines, and radio programmes have used this information to draw attention to the illegal trade of cacti. (KSR #28)

ii. With the support of our host institution, Desert Botanical Garden, we redesigned our logo. It now includes succulent plants from two different geographies. We have used two iconic species, the Saguaro (*Carnegiea gigantea*) from the New World and a true Aloe (*Aloe vera*) native to the Old World, so there is no doubt about what plants we focus our work on. Here, we present the stacked version of the new CSSG logo. (KSR #28)

iii. After the successful publication of three newsletter issues, we are now expanding this publication’s content to convert it to a reference source for our readers. To ensure success, we have formed the CSSG Newsletter Editorial Committee. Our first two committee members are Dr Shannon Fehlberg and Dr Jafet M. Nassar. (KSR #28)

**Acknowledgements**

We thank our host institution, Desert Botanical Garden, for their generous support to the CSSG, kindly financing our Programme Officer’s part-time position, providing design expertise to create our new logo, and providing IT support for multiple activities.

**Summary of activities 2020**

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KSR: Key Species Result
Mission statement

The mission of the China Plant Specialist Group (CPSG) is to bring together Chinese botanists to promote the conservation of China plant diversity by assessing their threatened status (especially for IUCN Red List), and by identifying conservation priorities, giving recommendations for their survival, and reinforcing government and public efforts towards the conservation of plant diversity in China.

Projected impact for the 2017-2020 quadrennium

The CPSG and individual members are committed to threatened species assessment, conservation recommendation and related activities. In the past year, members of our group have made great contribution on the Red List reassessment of China plants (RLoC), the revision of the National List of Key Protected Wild Plants (NLKPWP), and the field resource investigations of key and important threatened species in China.

Targets for the 2017-2020 quadrennium

Assess

Red List: produce second edition of China plant Red List and make some contributions to the IUCN global list.

Research activities: (1) publish books of Red List and threatened species for the whole flora or for key groups; (2) carry out some field investigations and conversation gap analysis for key groups.

Act

Conservation actions: revision of National List of Key Protected Wild Plants (NLKPWP), and recommendations in situ and ex situ conservation to biodiversity conservation decision makers at national and local level.

Network

Capacity building: strengthen connection among members via multi-channels on subject of threatened species, assessment and application; open a Red List Training.

Activities and results 2020

Assess

Red List

i. We succeeded completing the 2020 Red List of China Plants (RLoC-2020), assessed for second time, first in 2013. The new assessment comprises the conservation status of all 39,330 China's described indigenous plant taxa, of which 20,019 are endemic. The assessment produced accounts of the threatened species of China plants and the threats they are facing. RLoC-2020 has been submitted to the Ministry of Ecology and Environment and is being revised for official release.

ii. We submitted a book entitled Red data book of China medicinal plants (571 pp.) to the publisher, which will be published in early 2022. One hundred and fifty-five (155) main threatened species are included in the book. All species were formally assessed using the IUCN Red List Categories and Criteria. Morphology and biology, distribution and habitat, medicinal use, threats, conservation measures taken/needed, references, distribution map and photos are provided for each species. (KSR #4, 43)

Chair

Hai-Ning QIN (1) (2)

Red List Authority Coordinator

Li-Na ZHAO (1) (2)

Location/Affiliation

(1) Institute of Botany, Chinese Academy of Sciences, Beijing, China
(2) College of Life Sciences, University of Chinese Academy of Sciences, Beijing, China

Number of members

85

Social networks

Website: https://RLoC.cvh.ac.cn

Hai-Ning QIN
Act

Conservation actions

i. Recently, the List of National Key Protected Wild Plants (LNKPWP) was released after a long interval of its first version, issued in 1999. About 1,100 species are listed in the new version. Qin Haining was invited to lead a team of experts, many of which are the group members who selected the species consulting the Red List of China plants (RLoC) and other threatened species list. The LNKPWP is the only document of legal basis for protecting China plant species and plays a significant role in biodiversity conservation in the country. (KSR #4, 43)

ii. The book entitled Progress of implementation on the Global Strategy for Plant Conservation (2011–2020) in China was published. Qin Haining and Zhao Lina are the contributors of chapter 1 (Target 1: An online flora of all known plants) and chapter 2 (Target 2: An assessment of the conservation status of all known plants as far as possible, to guide conservation action), and 44 members of the China Plant Specialists Group were involved in this work. The aim of this book is to evaluate progress in the implementation of the Global Strategy for Plant Conservation (GSPC), identify challenges and gaps, and provide suggestions for GSPC post 2020 (KSR #4, 27)

Acknowledgements

As the chair to CPSG, I sincerely thank the Institute of Botany, Chinese Academy of Sciences; the National Forestry and Grassland Administration (NFGA); the Ministry of Ecology and Environment of the People’s Republic of China (MEE); and all the members of the group, particularly Zhao Lina, Dong Shiyong, He Qiang, Jiang Hong, Liu Bo, Liu Huiyuan, Liu Yan, Wang Hongfeng, Wu Jianyong, Xing Fuwu, Yang Yong, Yu Xunlin, Zhang Guangfu and Zhang Shouzhou.

Summary of activities 2020

Species Conservation Cycle ratio: 2/5

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Main KSRs addressed: 2, 4, 27, 43

KSR: Key Species Result
Mission statement
To generate baseline information to support decision making for plant conservation by different stakeholders in Colombia.

Projected impact for the 2017-2020 quadrennium
By the end of 2020, we will have advanced in Red List assessments for ca. 50% of our endemic plant species (3,000 species evaluated) and other strategic groups of conservation concern. This information on threat evaluation will be used to inform conservation planning, in terms of updating national legislation, providing inputs to update or formulate conservation action plans for species groups and implementing the KBA (Key Biodiversity Areas) programme in Colombia.

Targets for the 2017-2020 quadrennium

Assess
Red List: advance in the National Red List of plants (3,000 assessments), particularly for endemics, other species of conservation interest and potential Least Concern species within taxonomic groups or ecosystems.

Plan
Planning: implement and evaluate short-term targets of existing conservation action plans for plants (some timber trees, palms, cycads, orchids) and develop new plans for other strategic groups (such as cacti, medicinal plants, crop wild relatives, and other species of socio-economic importance).

Policy: incorporate plant Red List information into conservation planning, including national landscape management tools.

Act
Conservation actions: incorporate plant Red List information into conservation planning, including identification of Important Plant Areas (IPAs).

Activities and results 2020

Assess

Red List
i. We had one members’ virtual meeting in July 2020 (68% of members attended), where we shared experiences regarding ongoing and completed Red List projects, and the inclusion of recent assessments in national legislation and in the national biodiversity information system, among other items. We also discussed briefly potential targets for the 2021–2024 work plan. (KSR #2)

ii. We carried out a virtual consultation process and then wrote a technical communication in response to a consultation by environmental authorities, regarding legal procedures for the assessment and management of threatened and banned plant species in environmental impact studies. This is an activity not contemplated in our current quadrennium targets, but that arose from a need to play an advisory role for the Ministry of Environment and the National Authority of Environmental Licencing regarding plant conservation (we explored including targets related to these issues for the next quadrennium). (KSR #7, 8)

iii. We completed 801 assessments, corresponding to the following groups: 555 endemic trees for the Global Tree Assessment (supported by Botanic Gardens Conservation International), 200 endemic species of the Amazonia region (supported by SINCHI Institute of Colombia), and 46 species of Cactaceae at the national level (supported by the Humboldt
Institute of Colombia). All the endemic trees assessments (555 species) were uploaded to the IUCN SIS database. The assessments for endemic Amazonian species and Cactaceae are in the process of review and require an external peer reviewer. (KSR #2)

iv. We improved statistical codes (in R) to use available packages (ConR) and national GIS layers (forest cover, human ecological footprint, protected areas, among others) to estimate Red List parameters (extent of occurrence (EOO), area of occupancy (AOO), severe fragmentation, continuing decline in habitat, etc.). We also used the Rapid Least Concern tool developed by Royal Botanic Gardens, Kew to identify potential KBA sites. We hope to use this algorithm to periodically identify KBAs using the information from new assessments conducted by the Specialist Group. (KSR #22)

Plan

Policy

i. We submitted 520 national Red List assessments to update the national Threatened Species List, periodically published by the Ministry of Environment. This list is the main legal instrument used for species conservation in the country, and it now contains 1,420 plant species. (KSR #27)

Act

Conservation actions

i. One of our members led the development of a manuscript and an algorithm available in GitHub to use plant geographic occurrences and Red List categories (from assessments recently conducted by the Specialist Group) to identify potential KBA sites. We hope to use this algorithm to periodically identify KBAs using the information from new assessments conducted by the Specialist Group. (KSR #22)

Network

Synergy

i. We carried out a virtual consultation process in November–December to propose our work plan for the next quadrennium in a participatory way. We designed an online survey to explore the particular interest and resources that each member of the Specialist Group could contribute to targets in the 2021–2024 period. Most members (72%) contributed with ideas, and we designed targets for the next quadrennium based on our members’ input. We also consulted for candidates for membership for the next quadrennium.

Acknowledgements

The Colombian Plant Specialist Group thanks all the support that Instituto Alexander von Humboldt and University of Antioquia provided as host institutions for all our activities. We also thank Botanic Gardens Conservation International (Global Tree Assessment) and the Humboldt and SINCHI Institutes, which provided funds for Red List projects.

Summary of activities 2020

Components of Species Conservation Cycle: 4/5

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Main KSRs addressed: 2, 6, 7, 8, 22, 27

KSR: Key Species Result
Mission statement

The Conifer Specialist Group helps promote the long-term survival of the world’s conifers through rigorous conservation assessments, which help to guide conservation planning and conservation action.

Targets for the 2017-2020 quadrennium

Assess

Red List: complete Red List assessments of 50 conifer species.

Act

Conservation actions: (1) continue the ex situ conifer conservation programme in the UK; (2) restore the forests of the threatened conifer Chinese Swamp Cypress (Glyptostrobus pensilis) in Lao PDR.

Activities and results 2020

Assess

Red List

1. Due to global and national travel restrictions, the revision of existing assessments (50) has been the main priority. It is likely to be the main focus during 2021. (KSR #1)

Summary of activities 2020

Components of Species Conservation Cycle: 1/5

Assess 1

Main KSRs addressed: 1

KSR: Key Species Result
Fruit of Least Concern Buddhist Pine,
*Podocarpus macrophyllus*
Photo: Yong Yang

Plantae
Co-Chairs
Ehsan Dulloo (1)
Nigel Maxted (2)
Mariana Yazbek (since May 2020) (3)

Red List Authority Coordinator
Serene Hargreaves (4)

Location/Affiliation
(1) Bioversity International, 42, Swami Sivananda Street, Rose-Hill, 71368, Mauritius
(2) School of Biosciences, University of Birmingham, Edgbaston, Birmingham B15 2TT, UK
(3) International Center for Agricultural Research in the Dry Areas (ICARDA)
(4) Royal Botanic Gardens, Kew, UK

Number of members
91

Mission statement
The vision of the Crop Wild Relative Specialist Group (CWRSG) is the effective conservation and use of crop wild relatives (CWR) and their increased availability for crop improvement, for the benefit of the environment and human society worldwide.

Projected impact for the 2017-2020 quadrennium
By the end of 2020, we hope to have established a global network of in situ conservation sites to complement current ex situ conservation activities. Our vision is a developing world in which the full potential of crop wild relative diversity is used to maximise the development of healthy, resilient food systems, where rural communities/family farmers are recognised for their sustaining of vital conservation action, and where nutritional security is not limited by climate change or breeders’ access to crop wild relative diversity.

Targets for the 2017-2020 quadrennium
Assess
Red List: complete threat assessment of 1,400 global priority CWR taxa (500 new Red List assessments).

Plan
Planning: (1) establish global networks of CWR in situ conservation (25 genetic reserves for the in situ conservation of CWR populations); (2) establish European regional networks of CWR in situ conservation (25 genetic reserves for the in situ conservation of CWR populations); (3) establish regional networks of CWR in situ conservation (25 genetic reserves for the in situ conservation of CWR populations) outside Europe; (4) establish national networks of CWR in situ conservation (25 genetic reserves for the in situ conservation of CWR populations); (5) advance CWR conservation planning (2,000 plans published).

Policy: improve CWR conservation policy context (all 16,000 global CWR).

Communicate
Communications: (1) publish papers and other publications on CWR conservation and use; (2) maintain and update CWR related websites; (3) organise webinars on CWR conservation; (4) publish two issues of the newsletter Crop wild relative; (5) produce technical guidelines on CWR conservation and use.

Activities and results 2020
Assess
Planning
(1) In 2020, the Farmer’s Pride project (www.farmerspride.eu) made several advances towards the establishment of the European network for in situ conservation and sustainable use of plant genetic resources: (i) the importance of the Natura 2000 sites for the conservation of CWR in Europe was studied and highlighted (https://more.bham.ac.uk/farmerspride/wp-content/uploads/sites/19/2020/10/MS19_Crop_Wild_Relatives_in_the_Natura_2000_Network.pdf); (ii) the foundations of the network were laid (https://more.bham.ac.uk/farmerspride/wp-content/uploads/sites/19/2021/04/Farmers_Pride_Network_Concept_English.pdf), and a coalition of support for its establishment was initiated (see https://more.bham.ac.uk/farmerspride/network/). (KSR #42)
ii. The Darwin Initiative-funded project ‘Bridging Agriculture and Environment: Southern African Crop Wild Relative Regional Network’ (SADC CWR Network for short; www.cropwildrelatives.org/sadc-cwr-net) made several advances towards the establishment of the Southern African Development Community (SADC) network for in situ conservation of CWR: (i) a white paper on the governance structure, functions and funding mechanism of the regional SADC CWR network was prepared, discussed with the SADC Secretariat, endorsed by the SADC Technical Committee, and tabled at the SADC Director Committee who endorsed the documents for submission to the SADC Council of Ministers. (KSR #42)

iii. Malawi, Tanzania and Zambia have worked closely with national parks, wildlife and forestry departments to revise the management plans of the protected areas identified in their conservation planning towards the establishment of the national network of CWR in situ conservation (SADC CWR Network). (KSR #42)

iv. Advances on the establishment of a national network of genetic sites of CWR together with medicinal and aromatic plants were made in Lithuania (Labokas, J. and Karpavičienė, B. (2020). National network of genetic reserve sites for medicinal, aromatic plants and CWR conservation in Lithuania. Crop wild relative 12:17–22.). (KSR #42)

v. In Finland, a second phase of the Finnish CWR conservation project (funded by the Finnish Ministry of Agriculture and Forestry) was carried out between 2019 and 2020; in this phase, practical actions needed to establish a CWR genetic reserve in a pilot in situ conservation area (Nuukskio National Park) that contains a potential future CWR genetic reserve site, were defined and the plan for the National CWR network was prepared (Fitzgerald, H., Eisto, K. and Kiviharju, E. (2020) Finnish crop wild relative networking activities. Crop wild relative 12: 14-16.) (KSR #42)

vi. In the Czech Republic, the Hop Research Institute made a preliminary proposal for active conservation of populations of wild Humulus lupulus in the Jeseníky Mts. Protected Landscape Area. (KSR #42)

vii. In 2020, the German network of wild celery genetic reserves (https://netzwerk-wildsellerie.julius-kuehn.de/) increased from 13 to 17 genetic reserves. (KSR #42)

viii. The SADC CWR Network project has made several advances towards CWR conservation planning: (i) the draft of a paper that was initiated in a previous project (the ACP-EU funded project, ‘SADC Crop Wild Relatives—In Situ Conservation and Use of Crop Wild Relatives in Three ACP countries of SADC Region’, www.cropwildrelatives.org/sadc-cwr-project) about conservation planning of SADC priority CWR, with the recommendation of an in situ regional network for in situ conservation that comprises 120 existing protected areas, was completed in 2020 (Magos Brehm, J., et al. (in prep). Conservation planning of crop wild relative diversity in the SADC region); (ii) in situ conservation planning of CWR was carried out in Malawi and Tanzania; (iii) within the context of the Training Programme on CWR Conservation Planning, 10 SADC countries (Angola, Botswana, Comoros, Democratic Republic of the Congo, Eswatini, Lesotho, Madagascar, Mozambique, Seychelles, Zimbabwe) and two other countries (Nigeria, Peru) initiated the formulation of conservation plans for national CWR. (KSR #42)

ix. In the Czech Republic, selected localities of critically threatened and/or important CWR have continued to be monitored with the aim to propose to plan for their in situ conservation.


Policy

i. SADC CWR Network project: (i) a document on harmonisation of the Access and Benefit Sharing (ABS) of in situ genetic resources within CWR networks was drafted; (ii) both Malawi and Tanzania initiated the preparation of their National Strategic Action Plans (NSAP) for the conservation and use of CWR, while Zambia has revised their existing NSAP. (KSR #26)

ii. A call for policymakers to work with Farmer’s Pride and other stakeholders to ensure adequate policies are in place for in situ conservation and sustainable use of plant genetic resources in Europe was published and sent to relevant stakeholders in European countries (see https://more.bham.ac.uk/farmers_pride/wp-content/uploads/sites/19/2020/03/Farmers_Pride_policy_brief_English.pdf). (KSR #26)

iii. In Germany, the regional nature protection authorities were made aware of the importance of using locally grown and multiplied seeds and wild plant species in restoration. (KSR #26)

Act

Conservation actions

i. In Germany, the 3-year project ‘In-situ conservation of crop wild relatives with a priority for food and agriculture using umbrella species’, financed by the Federal Ministry of Food and Agriculture, was initiated; one of the objectives is the identification of CWR hotspots and the establishment of genetic reserves in identified sites. (KSR #42)

Allium angulosum L., a tertiary wild relative of onion, photographed in Lithuania
Photo: Laima Sveistyte
ii. The project ‘Vegetation, Culture, and Cultivation: Crop Wild Relatives in Israel’ kick-started in 2020 to ensure in situ conservation of the wild ancestors of important crops. The project aims to identify CWR hotspots that will be the basis for proposing a World Heritage Tentative Listing linking culture and nature, and creating management instructions for area-based conservation; it involves a consortium of Israeli organisations including the Israel Nature and Parks Authority, the Agricultural Research Organization, the Israeli National Gene Bank, KKL (the Jewish National Fund), the Hebrew University, Bar-Ilan University, Tel Aviv University and the Bezalel Academy of Arts and Design, together with other private entities. (KSR #42)


Collecting CWR in Morocco
Photo: Nigel Maxted


Acknowledgements

We would like to give special thanks to the CWRSG Programme Officer Joana Magos Brehm. We also thank the following organisations for providing resources or support in conservation planning, conservation implementation, policy enhancement and threat assessment: United Nations Food and Agriculture Organization, ITPGRFA, World Bank, Consultative Group on International Agricultural Research (particularly the Alliance of Bioversity International and CIAT and ICARDA), Global Environment Facility, IUCN SSC, European Commission (including Horizon 2020 Framework Programme), SADC Plant Genetic Resources Centre (SPGRC), SADC Secretariat, SADC Technical Committee, SADC Director, SADC Council of Ministers, European Parliament, European Cooperative Programme for Genetic Resources, Nordic Council of Ministers, REFORM—the INTRA-AFRICA Academic Mobility Scheme, Consejería de Medio Ambiente y Ordenación del Territorio de la Comunidad de Madrid, national governments of Denmark, Finland, Germany (German Federal Ministry of Food and Agriculture), Iceland, Lithuania, Malawi, Norway, Spain, Sweden, Tanzania, United Kingdom (Darwin Initiative), Zambia, and the Royal Botanic Gardens, Kew, MAVA and Toyota Foundations, and all partners participating in the projects referred in this report, including all Farmer’s Pride ambassadors.

Summary of activities 2020

Components of Species Conservation Cycle: 3/5

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Communicate 5

Main KSRs addressed: 26, 28, 42, 43

KSR: Key Species Result
Mission statement
The mission of the Cuban Plant Specialist Group (CPSG) is to contribute to increase current knowledge on the taxonomy, ecology and conservation of Cuban plant species across their geographic range of distribution and promote their long-term conservation.

Projected impact for the 2017-2020 quadrennium
By the end of 2020, we envision a significant advance in plant conservation in the country. The conservation status of at least 80% of the Cuban flora will be known and appropriately documented, and the assessments will be available to the public, researchers, decision makers and policy makers. A network of plant conservationists with the support of the local communities will be conducting actions to reduce the extinction risk of native plant species and recover their populations across the country, with an emphasis in areas of high plant diversity. Species recovery plans for at least 27 species will be produced and partially or fully implemented. An updated list of Cuban native plants will be available, and the Cuban relatives of globally important plants for food, agriculture and forestry will be identified.

Targets for the 2017-2020 quadrennium
Assess
Red List: (1) complete assessment of all species of palms; (2) complete assessment of all species of cacti; (3) complete assessment of all species of orchids; (4) complete assessment of endemic plant species; (5) complete assessment of bryophytes; (6) develop a conservation network aimed at conducting Red List assessments and promoting and supporting conservation initiatives in the Caribbean region, with emphasis in plant species that are shared among islands; (7) update the Checklist of vascular plants of Cuba; (8) complete assessment of all species of ferns.
Research activities: (1) identify and document natural areas with conservation needs; (2) identify Cuban wild relatives of cultivated plants important for food, agriculture and forestry.

Plan
Planning: (1) produce and partially or fully implement recovery plans for 27 species of Cuban plants; (2) revise Protected Areas Management Plans as needed by the National Centre for Protected Areas.

Act
Conservation actions: (1) implement Species Recovery plans; (2) monitor swamp forests and restoration initiatives in the south of Artemisa and Mayabeque.

Network
Capacity building: build Red Listing capacities.

Activities and results 2020
Assess
Red List
1. Lockdowns were propitious for advancing with species assessments, and the group tried to make the most out of them. Prof. Raúl Verdecia and M.Sc. Ignacio Díaz completed the evaluations of all Cuban palms. According to their work, 28 are Critically Endangered, 21 are Endangered and 20 are Vulnerable, out of 85 palms of Cuba. The most common threats for Cuban palms are changes to their habitats induced by the colonisation of invasive species, timber extraction, agricultural expansion and urban developments. (KSR #1, 2)
ii. M.Sc. Claudia Vega, a junior member of the group, debuted as an effective coordinator for our Orchid Task Force. This team completed the evaluation of 22 species of orchids. Including this last set, 125 species of Cuban orchids out of 338 have Red List assessments. Claudia and M.Sc. Ilsa Fuentes led a study to develop niche models to assess the possible impacts of climate change on native orchids. So far, Claudia and her colleagues have modelled the niche of 50 native orchids; according to their findings, the distribution range of only one of them might increase under the conditions predicted by climatic models. (KSR #1, 2)

iii. Dr Lisbet Gonzalez and M.Sc. Ernesto Teste coordinated the assessment (or re-assessment) of 942 endemic taxa. Including the newly assessed taxa, 1,111 out of 3,063 have Red List assessments. Lisbet, as Red List Authority Coordinator, and M.Sc. Diana Rodriguez Cala reviewed over 479 assessments in 2020. The majority of assessed taxa belong to the families Anacardiaceae, Apiaceae, Araliaceae, Bignoniaceae, Buxaceae, Combretaceae, Dilleniaceae, Dioscoreaceae, Malpighiaceae, Myrsinaceae, Poaceae, Polygonaceae, Portulacaceae, Rutaceae, Sapindaceae, Symlocaceae and Theaceae. (KSR #1, 2)

iv. Dr Daniél Barrios worked on reappraising three species of Melocactus and one of Pilosocereus that were considered synonyms. Additionally, he compiled distribution data for these four species, as well as for two newly described Leptocereus and Acanthocereus tetragonus, considered exotic to the island until recently. Dr Barrios will complete the Red List assessment of these seven species during 2021. (KSR #1, 2)
v. Due to COVID-19 travel restrictions, the meeting aiming to promote regional cooperation for plant conservation organised for March 2020 in the Dominican Republic was cancelled. Nonetheless, Dr Eldis Becquer, Dr Ramona Oviedo and M.Sc. José Luis Gómez worked with Dr Ethan Freid, from the Bahamas National Trust, on assessing the conservation of some Caribbean endemics and advance this end. (KSR #1)

vi. The coordinators of our Taxonomy Task Force, Dr Rankin and Prof. Greuter, worked on updating ‘The Vascular Plants of Cuba: A Preliminary Checklist’ (available at http://portal.cybertaxonomy.org/flora-cuba/node/211?language=es). Dr Rankin focused on the revision of the names of Papilionaceae referred to Cuba in previous publications. The next edition of the checklist will be published in 2023. Dr Rankin and Prof. Greuter also worked on editing the taxonomic reviews of Cistaceae, Onagraceae and Polygonaceae authored by Mr José A. García, Dr Rosalina Berazain and Dr Idelfonso Castañeda, respectively. (KSR #1)

vii. Dr Ledis Regalado and Dr Carlos Sánchez completed the assessments of 73 fern species. Ledis and colleagues worked on elucidating the definition of five cryptic species of *Notholaena* and one species of *Polytaenium*, which is endemic to Cuba. Ledis’ team’s work is a significant step towards resolving the threat status of Data Deficient species. Dr Sánchez worked on examining the contribution of the National System of Protected Areas to the protection of ferns and lycophytes. (KSR #1)
Plan

Planning

i. The group produced the recovery plans for Juniperus lucayana, Roystonea violacea and Thespesia cubensis. So far, the group have produced 14 plans in total. (KSR #15)

ii. In 2020, María A. Castañeda, Senior Specialist of the National Centre for Protected Areas, contributed to reviewing the management plans of seven protected areas: four ecological reserves (Wilderness Area), one nature reserve and one protected area with sustainable use of natural resources. Another six members of the group contributed to the assessment of the biological significance of areas that are being considered for legal protection under the National System of Protected Areas. M.Sc. Eddy Martínez conducted the inventory of vascular plants of Meseta de San Felipe, Camagüey. M.Sc. José Luis Gómez, Dr Wilder Carmenate, Dr Pedro A. González and M.Sc. Waldo Bonet worked on biodiversity assessments and delimitation of ‘in design’ protected areas: Bahía de Naranjo, Puente Natural del Bitíri, and Cejas de Melones. Furthermore, Dr Daysi Vilamajó contributed to the production of guidelines for agroforestry systems and forest watershed management, and territorial ordering of mountain ecosystems. (KSR #15)

Act

Conservation actions

i. The year 2020 was an unprecedented one. The IUCN SSC Cuban Plant Specialist Group was forced to adjust quickly to a new reality that kept us physically apart and forbade our most awaited annual meetings and workshops from taking place. But the group adapted, thrived and continued working towards the conservation of Cuban plants. The implementation of species recovery plans continued during the year. We focused on sustaining ongoing actions rather than initiating new ones and learnt to rely more upon local expertise to get the most needed work done. The group managed ten conservation initiatives linked to the recovery of 17 species and their habitats. These initiatives comprised the development of 10 native plant nurseries devoted to propagating threatened trees and accompanying species. In 2020, the nurseries produced 13,212 seedlings of the target species, and our partners planted 9,954 saplings of 13 of these species in the wild. (KSR #24)

ii. Dr Ramona Oviedo, M.Sc. Ilsa Fuentes and colleagues conducted field expeditions to swamp forests south of Artemisa and Mayabeque from January to April to monitor the recovery of those habitats. Her team worked with specialists and technicians of Costa Sur Forestry to assess the recovery of native plant populations and the dynamic of invasive species (Terminalia catappa, Leucaena leucocephala and Casuarina equisetifolia). The native species with fastest recovery in the area are Tabebuia angustata, Pisonia aculeata, Trichilia havanensis, Erythroxylum havanense, E. confusum, Cupania americana, Eugenia axillaris and Cordia gerascanthus. The team initiated the propagation in nurseries of trees that are major structural components of these habitats to support and speed up the recovery of the swamp forests. (KSR #25)

Acknowledgements

We thank the following donors that support our mission: Planta! - Plantlife Conservation Society, Whitley-Segré Conservation Fund, Fondation Franklinia, Mohamed Bin Zayed Species Conservation Fund, Project: P211LH005-046 of the Programme: Sustainable use of Biological Diversity in Cuba, the National Environmental Agency (Cuba), the Programa de las Naciones Unidas para el Desarrollo (PNUD) Project Conectando Paisajes. Moreover, we want to thank the National Botanical Garden, University of Havana for hosting our group and the Cuban Botanical Society for its organisational support. Our very special thanks and appreciation to the local conservationists and volunteers who work with us for the conservation of Cuban plants and their habitats.

Summary of activities 2020

Components of Species Conservation Cycle: 3/5

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Main KSRs addressed: 1, 2, 15, 24, 25

KSR: Key Species Result
Mission statement
The FPSG exists to promote and further the conservation of wetland-dependent plant species and the habitats upon which they depend.

Projected impact for the 2017-2020 quadrennium
Unless the funding situation changes, we do not envisage any significant change in the conservation condition of freshwater plants as a result of action by the Freshwater Plant Specialist Group (FPSG).

Targets for the 2017-2020 quadrennium

Assess
Red List: (1) complete a conservation assessment of wetland-dependent plants in the Indo-Burma region; (2) develop a baseline for a Red List Index of wetland-dependent plants in the Mediterranean; (3) complete Red List assessment of nationally endemic freshwater plants in Canada.

Research activities: (1) conduct research into reproductive strategies along water depth gradient of Vallisneria natans and V. spinulosa in shallow lakes of the Yangtze River, China; (2) conduct research into plant community patterns in Moroccan temporary ponds along latitudinal and anthropogenic disturbance gradients.

Act
Conservation actions: (1) assess conservation requirements of Crinum malabaricum; (2) global conservation action for the genus Isoetes; (3) accomplish conservation of ‘ferricretes’ in Satara District, Western Ghats, India, as Conservation Zones; (4) conduct global conservation assessment of the genus Callitriche; (5) conduct global conservation assessment of the genus Cryptocoryne.

Network
Capacity building: develop a decision support tool to improve restoration projects with emphasis on freshwater wetland vegetation.

Communicate
Communication: (1) raise awareness of global conservation of freshwater wetland plants; (2) examine use of charophytes for description and monitoring of inland waters in Sicily; (3) complete a wetland vegetation restoration literature review.

Activities and results 2020
Assess
Red List
i. Progress on the conservation assessment of wetland-dependent plants in the Indo-Burma region is frustrated by a lack of support in the region; this activity is targeted to carry over into the new quadrennium 2021–2024. (KSR #1, 2, 3, 4, 7, 8, 15, 18, 20, 21, 22)

Research activities
i. The Master’s degree thesis on use of charophytes for description and monitoring of inland waters in Sicily was defended in March 2020. (KSR #43)
Act

Conservation actions

i. Partial funding to complete the work on assessment of conservation requirements of *Crinum malabaricum* was secured in 2019; other funds will be provided by the researchers using their own funds. The project has been delayed by COVID-19 and limits on international travel; this activity is targeted to carry over into the new quadrennium 2021–2024. (KSR #27)

ii. The conservation of “ferricretes” in Satara District, Western Ghats, India, as Conservation Zones was accomplished. (KSR #27)

iii. Work on the global conservation action plan for water-starworts (genus *Callitriche*) has not yet been completed. The project is still ongoing; a third article has been published describing seven new species. A fourth article has been submitted, describing another two new species. Once this is published, a final article will be submitted completing the review and potentially describing another new species. Once these articles are published, the Red List assessments will be completed and published, and the action plan reviewed and updated to include the new taxonomy. It is likely that the final stages of the project will be hampered by lack of funding, as the original Mohamed Bin Zayed grant was used up some years ago. (KSR #1, 2, 3, 4, 7, 8, 15, 18, 20, 21, 22)

iv. Work on the global conservation action plan for *Cryptocoryne* is nearing completion, however, elements of the work have been delayed partly due to COVID-19 restrictions on international travel and partly due to the time taken to review and revise Red List assessments before publication. All elements of this project are in hand and are expected to be completed toward the end of 2021. (KSR #1, 2, 3, 4, 7, 8, 15, 18, 20, 21, 22)
Mission statement
The Galapagos Plant Specialist Group promotes the conservation of all Galapagos native plants and plant-like organisms (including algae, fungi, lichens and similar taxa), with the intention to be inclusive rather than exclusive.

Projected impact for the 2017-2020 quadrennium
By the end of 2020, we expect to have draft reassessments for at least 10 vascular plants and at least 50 lichens submitted to the IUCN Red List Unit, and to have increased the effort directed to threatened plant conservation by the Charles Darwin Research Station and the Galapagos National Park Directorate.

Targets for the 2017-2020 quadrennium
Assess
Red List: (1) begin re-evaluation of endemic vascular plants; (2) conduct Red Listing of all ca. 200 endemic species of lichenised fungi.
Research activities: (1) evaluate the conservation status of the Scalesia forests on the islands of Santa Cruz and Isabela; (2) assess the value of water-saving technology on the recovery of threatened plant populations.

Plan
Planning: contribute to research and conservation planning in the Galapagos.

Act
Conservation actions: restore threatened and endangered plant populations within protected and populated areas.

Activities and results 2020
Assess
Red List
i. An assessment was submitted for Ramalina fragilis. (KSR #1)
ii. We participated in two Red List workshops. (KSR #1, 5)
iii. We led Latin American lichen assessments. (KSR #1)
iv. A draft manuscript was prepared on Galapagos endemic lichens. (KSR #43)

Research activities
i. The 6th annual assessment of Scalesia pedunculata forest on Santa Cruz Island was completed, including population dynamics, invasive plant impacts, and two publications submitted. (KSR #27)
ii. On Isabela, plots were established to assess population dynamics of Scalesia cordata. (KSR #27)
iii. Results from assessment of the value of water-saving technology on the recovery of threatened plant populations: Two water-saving technologies with 72% survival, one with 26%. Opuntia tripled growth, O. megasperma showed good results but was consumed by tortoises, experimental design change and seed germination. Galvezia growing and with a new seedling, Scalesia affinis dying by natural herbivory, Scalesia pedunculata growing with Groasis technology. Darwiniothmnus without results. (KSR #16)
Plan

Planning

i. Vegetation in plots on Santa Cruz was monitored and data partially analysed to determine impacts of quinine and its control on native vegetation and invasions, and endemic species recovery after blackberry control. A workshop on biological control of blackberry was postponed to 2021 due to COVID-19. (KSR #18)

Act

Conservation actions

i. The results of restoration practices for threatened and endangered plant populations within protected and populated areas can be summarised as follows: 67% survival and seed production, pollinators and plants in good condition. *Opuntia* with fruits; 3,200 *Galvezia* seeds collected; *Scalesia affinis* little survival, publication on the way; *Scalesia pedunculata* regeneration in two restored farms; *Darwiniothamnus* awaiting results. (KSR #24)

Acknowledgements

Charles Darwin Foundation for the Galapagos Islands; Galapagos National Park Directorate; Galapagos Conservancy; Lindblad Expedition-National Geographic Fund; Keidanren Nature Conservation Fund; Bess Forest Club; Galapagos PRO; Instituto Nacional de Biodiversidad (Ecuador); Arizona State University; Eastern Washington University.

Summary of activities 2020

Components of Species Conservation Cycle: 3/5

- **Assess**: 7
- **Plan**: 1
- **Act**: 1

Main KSRs addressed: 1, 5, 16, 18, 24, 27, 43

KSR: Key Species Result
Mission statement

The aims of the Global Tree Specialist Group (GTSG) are: to promote and implement global Red Listing for trees and to act in an advisory capacity to the Global Trees Campaign.

Projected impact for the 2017-2020 quadrennium

By the end of 2020, we will have completed conservation assessments for the world’s tree species using the IUCN Red List categories and criteria. The goal is to complete IUCN Red List assessments for all species included in GlobalTreeSearch. However, it may be necessary to accept nationally equivalent assessments for endemic species of some countries. A Global Tree Assessment report will be produced with analyses of the major threats to tree species, conservation measures underway, and priority conservation needs. This will draw attention to tree species that are Data Deficient and in need of further taxonomic work or field survey. It will provide a road map of major actions needed to conserve trees on a global scale relating to the post-2020 Global Strategy for Plant Conservation (GSPC) agenda, implementation of the Reducing Emissions from Deforestation and Forest Degradation (REDD+) initiative at national level and the Sustainable Development Goals.

Targets for the 2017-2020 quadrennium

Assess

Red List: assessment of all tree species (ca. 60,000).

Network

Membership: strengthen group membership. Synergy: (1) collaborate with other plant SSC groups; (2) enable planning and collaboration through meetings.

Communicate

Communication: (1) publish a GTSG newsletter; (2) publicise the conservation status of trees.

Activities and results 2020

Assess

Red List

i. In 2020, 9,065 assessments for tree species were published on the IUCN Red List of Threatened Species, taking the total number of trees on the IUCN Red List to 28,676 species. A further 1,591 will be submitted for publication in early 2021. (KSR #1)

Network

Membership

i. We have fourteen new members.

Synergy

i. In 2020, we have collaborated with the China Plant Specialist Group, Brazil Plant Red List Authority, East African Plant Red List Authority, Central African Plant Red List Authority, Madagascar Plant Specialist Group, Indonesian Plant Red List Authority, Mascarene Islands Plant Specialist Group, New Caledonia Plant
Red List Authority, Colombian Plant Specialist Group, Cuban Plant Specialist Group, Southern African Plant Specialist Group, West Africa Plant Red List Authority, Crop Wild Relative Specialist Group, Palm Specialist Group, and Conifer Specialist Group as well as other key Red List partners: Royal Botanic Gardens, Kew and Missouri Botanical Garden. (KSR #29)

ii. Planned meetings were not held in 2020 because of the global pandemic. (KSR #29)

Communicate

i. Three GTSG newsletters were published in 2020. (KSR #28)

ii. Red List reports were produced on Acer, Quercus and dry forest trees of Madagascar; a paper was published in *Biological Conservation* on the Red List assessments of Australian eucalypts – 822 species in three genera (*Eucalyptus*, *Corymbia* and *Angophora*). (KSR #28)

Acknowledgements

We are most grateful to Botanic Gardens Conservation International for providing the Secretariat for the GTSG, and for the generous support from botanic gardens including The Morton Arboretum and Rio de Janeiro Botanic Garden. Support from Bournemouth University is also acknowledged. The rewarding partnership with Fauna & Flora International continues to be extremely important to the GTSG, helping to ensure that IUCN Red List assessments for trees inform priority conservation action through the Global Trees Campaign. We also wholeheartedly thank Fondation Franklinia, Critical Ecosystem Partnership Fund (CEPF) and The IUCN-Toyota Red List Partnership for their support.

Summary of activities 2020

Components of Species Conservation Cycle: 3/5

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Main KSRs addressed: 1, 28, 29

KSR: Key Species Result
Co-Chairs
Lauren Weisenberger (1)

Red List Authority Coordinator
Matthew Keir (2)

Location/Affiliation
(1) U.S. Fish and Wildlife Service, Honolulu, Hawaii, US
(2) State of Hawaii Department of Land and Natural Resources, Division of Forestry and Wildlife, Honolulu, Hawaii, US

Number of members
197

Mission statement
The mission of the Hawaiian Islands Plant Specialist Group (HIPSG) is to prevent the extinction of native Hawaiian plants and provide for their recovery through a cooperatively administered off-site plant conservation system, in collaboration with on-site management partners to sample, propagate and reintroduce rare plants; and to advance the preservation of native plants and their habitats through effective communication and public education.

Projected impact for the 2017-2020 quadrennium
In 2020, there was a net gain of 18 new members; 123 new species were added to the Red List. We finalised a document for best management practices for living collections at botanical gardens, as well as drafted and completed our best management practices for naming and tracking populations and individual plants. We switched to a virtual format due to the pandemic that actually allowed for increased participation and have adopted this platform moving forward. The Plant Extinction Prevention Program (PEPP) hired several new staff on two islands and received additional support from their State of Hawai‘i partner. No plant species have gone extinct in Hawai‘i since PEPP started in 2003. Over 20 species are maintained in cultivation despite being Extinct in the Wild.

Targets for the 2017-2020 quadrennium
Assess
Red List: complete Red List assessments of Plant Extinction Prevention species.
Research activities: develop a number of guidelines.

Act
Technical advice: develop online Rare Plant Restoration Guidelines based on a workbook developed for the 2012 World Conservation Congress workshop held at Lyon Arboretum.

Communicate
Communication: participate in the 2020 World Conservation Congress.

Activities and results 2020
Assess
Red List
i. Goals have shifted to tree species now that the PEPP species we have access to have been completed. We need to work on getting access to species in the SIS database that have outdated assessments so we can update them. Assessments for 636 species have been completed. (KSR #1)

Research activities
i. We finalised the Best Management Practices (BMP) for Living Collections and drafted and finalised another BMP for Naming Plant Locations and Tagging Rare Plants. We are currently drafting BMPs on Permits and Vouchers. (KSR #14, 18, 43)
**Act**

**Technical advice**

i. The project to develop online Rare Plant Restoration Guidelines has been abandoned due to the extensive size of the document, change in leadership of the group, and content becoming outdated. The decision was made to switch focus to the BMPs the group could draft, review and implement. (KSR #14, 18, 43)

**Communicate**

**Communication**

i. Several partners of HIPSG will attend the World Conservation Congress in person. (KSR #28)

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**Acknowledgements**

HISPG would like to thank all the botanists, conservationists and researchers who have invested their time in the conservation of the Hawaiian flora.

**Summary of activities 2020**

Species Conservation Cycle ratio: 3/5

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Mission statement
To support conservation of Korean plant diversity, for present and future generations, through interdisciplinary collaboration, applied conservation biology and professional development.

Projected impact for the 2017-2020 quadrennium
Complete Red List assessment of endemic vascular plant species in the Korean Peninsula.

Targets for the 2017-2020 quadrennium
Assess
Proposal development and funding: seek funding for the publication of the regional Red List in the Korean peninsula.
Red List: (1) complete assessment of Korean endemic plants; (2) conduct regional Red List assessments including North and South Korea; (3) collaborate with Botanic Gardens Conservation International (BGCI) for the global Red List assessment of tree species; (4) conduct assessment of sub-endemic vascular species from the Korean Peninsula.

Plan
Policy: (1) plan regional network organisation for regional Red List assessments in East Asia; (2) carry out strategic planning to engage other national institutes with the Korea Plant Specialist Group (KPSG).

Act
Conservation actions: implement conservation actions related to ex situ and in situ conservation, including plant reintroductions.
Technical advice: provide technical advice on biodiversity policy to the national institutions and universities in Korea.

Network
Capacity building: provide a conservation biology course to increase Red Listing capacities with the help of Korea National Arboretum.
Membership: (1) coordinate KPSG membership recruitment and reorganisation; (2) coordinate KPSG membership database management.
Synergy: organize meeting for the future collaboration with the National Institute of Biological Resources.

Communicate
Communication: organize the KPSG annual meeting.
Activities and results 2020

Network

Capacity building

i. Discussions took place with the Korea National Arboretum to provide a Conservation Biology course to increase Red Listing capacities. (KSR #5)

Membership

i. We have seven members and three junior members.

Summary of activities 2020

Species Conservation Cycle ratio: 1/5

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Main KSRs addressed: 5

Resolutions addressed: WCC-2016-Res-016

KSR: Key Species Result

Scrophularia Takesimensis Nakai, Scrophulariaceae, endangered species distributes in Ulleung islands

Photo: Hui Kim

Codonopsis Minima Nakai, Campanulaceae, endangered species distributes in Mt. Halla, Jeju-do

Photo: Hui Kim
Mission statement

The IUCN SSC Macaronesian Islands Plant Specialist Group (MIPSG) will act as a mechanism for driving and implementing urgent conservation actions across the region, supported by solid and updated scientific evidence, in a collaborative framework that encompasses regional Universities, Botanic Gardens and Administrations.

Projected impact for the 2017-2020 quadrennium

Considering that two of the main weaknesses previously identified for the Macaronesian Region are ‘Lack of laws or enforcement’ and ‘Poor education and awareness’, by the end of 2020 we envision to have accomplished several public outreach activities, and to have promoted meetings with political actors, aimed at an effective application of scientific results for improving and enforcing existing nature protection laws. We also aim to have completed assessments for all Azorean endemic species, in order to provide environmental government stakeholders with a tool to implement conservation actions in the archipelago.

Targets for the 2017-2020 quadrennium

Assess

Red List: (1) complete and publish new Red List assessments of Macaronesian plants on the IUCN Red List of Threatened Species website; (2) update existing assessments of Macaronesian plants on the IUCN Red List of Threatened Species website.

Research activities: (1) monitor populations of Critically Endangered, Endangered and Vulnerable taxa and diagnose their current threat status; (2) monitor the distribution ranges of invasive plants, animals, and other consequences of global changes; (3) develop completed cartography of habitat types; (4) develop activities such as enrichment of public biological databases, and seed and herbarium material held by different institutions; (5) apply genetic and taxonomic information to reveal populations, cryptic species or lineages worthy of increased protection.

Plan

Planning: (1) upscale the application of multi-disciplinary research results (reproductive biology, genetics, taxonomy, ecology) in the planning of reinforcements, reintroductions and/or assisted migrations of plant endemics; (2) develop Critically Endangered and Endangered species recovery plan documents in the Canaries.

Proposal development and funding: develop proposals for eradication/control of invasive plants and mammals in protected natural spaces.

Act

Capacity building: develop activities such as enrichment of public biological databases, and seed and herbarium material held by different institutions.

Conservation actions: (1) carry out in situ and ex situ conservation (seeds and living collections) of Critically Endangered and Endangered plants and preventative sampling of seeds of more widely distributed plant taxa; (2) carry out eradication/control of invasive plants and mammals in protected natural spaces.
Network
Capacity building: conduct capacity building activities with Master’s and PhD students from Cabo Verde Islands.
Synergy: (1) network with research institutions related to the conservation of insular floras; (2) develop an early warning network for the detection of invasive alien species.

Communicate
Communication: develop different outreach programmes aimed at stimulating actions and social awareness of the importance of and degree of threat to insular floras.
Scientific meetings: (1) organise periodic meetings of the MIPSG panel members by videoconference or in the Macaronesian archipelagos, during FloraMAC congresses; (2) include sessions/discussion panels on the activities and deliverables of the MIPSG in FloraMAC or other regional or international island plant biology meetings.

Activities and results 2020
Assess
Red List
i. Sixty (60) new assessments of Macaronesian plants were completed and published. (KSR #1)

Research activities
i. Project REGIS encompasses monitoring of both native and exotic species. Monitoring was achieved for five Vulnerable, six Endangered and nine Critically Endangered species in Madeira and Porto Santo islands. Vulnerable species: Convolutus massonii, Phalaris made-rensis, Saxifraga portosanctana, Sedum brissemoretii, Prunus hixa; Endangered species: Chamaemeles coriacea, Cheirolophus massonianus, Marcetella maderensis, Musschia wollastonii, Sideroxylon mirmulans, Dracaena draco; Critically Endangered species: Aichryson dumosum, Andryala criithmifolia, Berberis made-rensis, Beta patula, Geranium maderense, Jasminum azoricum, Monizia edulis, Sorbus maderensis, Teucrium abutiloides. (KSR #12)

ii. Project LIFE DUNAS-LIFE19 CCA/PT/001178 encompasses monitoring of both native and exotic species. Monitoring was achieved for two Porto Santo endemic Lotus taxa. (KSR #12)

iii. Monitoring of two populations of the Azorean Finger Fern (Grammitis azorica; Critically Endangered) took place in Terceira. (KSR #12)

iv. Monitoring of Sideritis amagroi (Critically Endangered, Lamiaceae), Crestagallo de Doramas (Isoplexis chalcantha; Critically Endangered, Plantaginaceae), and Pericallis appendiculata subsp. appendiculata (Critically Endangered, Asteraceae) took place. (KSR #12)

v. Azores University Herbarium was enriched with non-endangered plant specimens from São Jorge and Flores, including 60 specimens for herbarium collection and hundreds of new GPS location records of several native and invasive species. (KSR #43)

vi. Jardim Botanico da Madeira Herbarium was enriched with specimens of Madeiran and Macaronesian plant species, including 50 specimens for herbarium collection. (KSR #43)

vii. Expeditions took place to sample seeds, DNA and herbarium specimens for widespread and narrowly distributed species (Critically Endangered and Endangered). (KSR #43)


Lotus jacobaeus (Fabaceae). Photo: Juli Caujapé-Castells


Plan

Planning

i. Musschia isambertoi is a Critically Endangered species exclusive to Deserta Grande Island, where it is severely affected by feral goats and in urgent need of in situ conservation measures aimed at population reinforcements. A project is being developed to upgrade the current existing infrastructures at Deserta Grande, which includes fencing and the upgrading of the greenhouse, to allow the production of plants and wild population reinforcement. (KSR #15, 31)

ii. Follow up and reinforcement of the environmental restoration conducted on a degraded area in La Aldea de San Nicolás (funded by the City Hall of this village). Conversations have been initiated with local administrations and city halls for restoration and citizenship awareness actions in several areas of Gran Canaria affected by recent fires (should be partially funded by the project NEXTGENDEM). (KSR #15, 31)


Proposal development and funding

i. Development of proposals to remove invasive and exotic plants from the network of natural spaces in Gran Canaria, including species endemic to other islands that were introduced in Gran Canaria due to non-conservationist environmental actions.

Act

Capacity building

i. Updating and design of a new interface and capabilities for the database of the Jardín Botánico “Viera y Clavijo” - Unidad Asociada al CSIC (JBCVCSIC): creating space for records of the DNA Bank and Herbarium, design of a more friendly interface, increase in the number of records and interrelationship, web-based query services, etc.
Conservation actions

i. A yearly ex situ seed banking campaign was implemented. One hundred and eighty-seven (187) taxa were added to the Jardim Botânico da Madeira Seed Bank, including eight Critically Endangered, nine Endangered, three Vulnerable and 13 Least Concern taxa. (KSR #25, 30)

ii. Control of the House Mouse (Mus musculus) at Ilhéu Chão (Desertas islands) is aimed at conservation of Beta patula (Critically Endangered) populations. (KSR #24, 30)

iii. Efforts continue to establish a scientific methodology for the management of conservation nurseries and restoration actions undertaken by the ‘Cabildo de Gran Canaria’ through the ITC, and further collaboration in scientific publications and projects. (KSR #29)

Network

Synergy

i. We engaged in follow up and enforcement of the need to sign an official convention with the Canarian Government, to support and provide funding to continue and enhance the missions of the Seed Bank, DNA Bank, Herbarium and Ethnobotany bank of the JBCVCSCIC (submitted in 2013, pending since that year). (KSR #29)

ii. We liaised with the Biodiversity Data Bank of the Canary Islands (BIOTA) in connection with the project NEXTGENDEM, to improve knowledge of the distribution of endemic Canarian flora, link the databases of BIOTA, JBCVCSCIC and the ITC, and further collaboration in scientific publications and projects. (KSR #29)

Communicate

Proposal development and funding

i. A proposal was prepared to fund a communication programme regarding scientific outreach and awareness raising on environmental issues covering all the island of Gran Canaria. (KSR #28)

Acknowledgements

All members of the Macaronesian Islands Specialist Group thank their institutions for continued support of their research and conservation missions. The groups from Gran Canaria and Cabo Verde acknowledge the Cabildo de Gran Canaria, the INIDA, the CSIC, and the Canarian Government for providing financial and administrative support; the programme Interreg-MAC for funding the project NEXTGENDEM (MAC2/4.6d/236), which is providing relevant data for the objectives of this Specialist Group; GESPLAN, the ITC and the Fundación Canaria Amurga-Maspalomas for collaboration and dissemination of conservation actions. The group from Azores acknowledge the Regional Government of the Azores for providing financial and administrative support; and the LIFE Programme for funding the project LIFE VIDALIA (LIFE17 NAT/PT/000510), which is implementing conservation actions toward species of interest to this Specialist Group.

Summary of activities 2020

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<thead>
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Main KSRs addressed: 1, 12, 15, 24, 25, 28, 29, 30, 31, 43
Mission statement
The mission of the Madagascar Plant Specialist Group (MPSG) is to increase the knowledge on Madagascar plant diversity (flora and habitats) by assessing and/or reviewing their conservation status (especially for IUCN and CITES) and promote their conservation by identifying conservation priorities, giving recommendations for their survival, and reinforcing people’s efforts toward the conservation of plant diversity.

Projected impact for the 2017-2020 quadrennium
By the end of 2020, we envision that we will complete the assessment of 3,500 Madagascar plant species, which represents one of the targets of the Barometer of Life. By achieving that goal, we hope to increase our knowledge of the Key Biodiversity Areas (KBAs) of our country. Through the implementation of conservation programmes developed by ourselves and in collaboration with our partners, we hope to bring to local communities the capacity to restore threatened crop wild relative species and patrimonial species through setting up of nurseries, in situ and ex situ conservation activities and developing management plans for natural resources. We also plan to generate more knowledge for Data Deficient species by conducting research on lost species that have not been collected for more than 50 years. Since the MPSG is also part of the CITES scientific authority of Madagascar, the assessments that have already been done or will be done during the 2017–2020 quadrennium, especially those on orchids, succulents and timber wood (palissander, rosewood and ebony), will contribute to reinforce implementation of CITES’ rules.

Targets for the 2017-2020 quadrennium
Assess
Red List: (1) reassess and review assessment of a total of ca. 1,700 Madagascar plant species; (2) review assessment of a total of ca. 350 endemic species belonging to different taxonomic groups or belonging to specific habitats; (3) assess and review assessments of ca. 2,000 Madagascar trees; (4) start a national Red List for plants.

Research activities: conduct research on lost species from Madagascar.

Plan
Planning: (1) elaborate a conservation strategy for threatened wild yams and the most used yams from Madagascar; (2) elaborate a national strategy for plant conservation in Madagascar.

Act
Conservation actions: integrate traditional knowledge and conservation and restoration of patrimonial plant species in Vohibola forest (a KBA).

Network
Capacity building: (1) workshop on the integration of Knowledge Products mobilised by IUCN through the Integrated Biodiversity Assessment Tool (IBAT) to support decision making; (2) start a national Red List for plants.

Activities and results 2020
Assess
Red List
1. The reassessments and review of assessments of 1,328 endemic plant species of Madagascar were published in 2020; of these, 114 species are not trees (height lower than 2 m), belonging to miscellaneous plant families such as Aponogetonaceae.
Araliaceae, Asphodelaceae (88 Aloe spp.) and Euphorbiaceae. In addition to the efforts made to assess the extinction risk of the Malagasy plants, the IUCN SSC MPSG has collaborated with the Orchid Specialist Group to assess the extinction risk of the species threatened by the Ambatovy mining project in the central highlands of Madagascar. So far, assessments of 39 species were successfully reviewed in July 2020 during a virtual meeting, involving researchers from different countries such as Madagascar, France, Cameroon and the US. Data for these species will be published on the IUCN Red List website in March 2021. (KSR #2)

ii. Under the project ‘Assessing the Status of Madagascar’s Trees for the Effective Conservation of Key Biodiversity Areas and Protected Areas’, a collaboration between Botanic Garden Conservation International (BGCI) and the IUCN SSC Madagascar Plant Specialist Group, the extinction risk of 1,218 endemic tree species of Madagascar was assessed and published on the IUCN Red List website in 2020. Of these, 853 species were assessed as threatened (248 Vulnerable, 448 Endangered, 157 Critically Endangered) and 34 Data Deficient. These assessments were undertaken by Red List assessors from the Missouri Botanical Garden Madagascar Programme and Kew Madagascar Conservation Centre. Reviews of the assessments were made during one virtual workshop, organised in August 2020 with the participation of about 20 botanists, members of the IUCN SSC MPSG. (KSR #1, 2, 22, 35)

Plan

Planning

i. A document for a national conservation strategy is being prepared for promoting specific actions in order to preserve native plants of Madagascar from extinction. The project aims to document required actions for halting the continuing loss of plant diversity in Madagascar. In accordance with the National Strategic Plan for Biodiversity and the quadrennial strategy of MPSG, the aim of the project is to develop a strategic plan that will consolidate past and existing efforts towards the conservation of the flora of Madagascar and guide different conservation actions. Species data for assessed Madagascar plants is published on the IUCN Red List. (KSR #7, 12, 28, 35)

ii. A conservation strategy for the palms (Arecaceae) of Madagascar was developed and published in 2020 with the programme ‘Sud Expert Plantes Développement Durable (SEP2D)’, in collaboration with researchers from University of Antananarivo, Parc Botanique et Zoologique de Tsimbazaza (PBZT), Arboretum de Ranomafana, Missouri Botanical Gardens, Royal Botanic Gardens, Kew, the Institut de Recherche pour le Développement and some staff from the Ministry of the Environment. The document describes the current conservation status of the palms of Madagascar and suggests adequate conservation measures to be prioritised at different levels and with all involved stakeholders. Published in both French and English, the document was shared among conservation institutes and protected areas managers across Madagascar. The document is also available online for reading and downloading on the ResearchGate pages of the various authors. Within the framework of the Global Tree Assessment lead by BGCI, some tree species’ conservation plans were developed for several targeted KBA species: they are seven in number encompassed in eight KBAs. (KSR #7, 12, 28, 35)

iii. Elaboration of the conservation strategy for threatened wild yams and the most widely used yams from Madagascar was achieved. (KSR #15)

Acknowledgements

We thank Botanic Gardens Conservation International (BGCI) and the Critical Ecosystem Partnership Fund (CEPF) for their support in funding the project for assessment of trees from KBAs in western Madagascar, the training workshop and the review workshop for the trees from western KBAs, and National Geographic Sciences for the Orchid extinction risk assessments. We also want to thank Sarah Oldfield from the Global Tree Specialist Group, and Emily Beech from BGCI who provided Red List training and assistance during the Western KBAs trees project. Completing the different activities was possible with the funding from the Sud Expert Plantes Développement Durable and Planta Life.

Summary of activities 2020

Components of Species Conservation Cycle: 3/5

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Main KSRs addressed: 1, 2, 7, 8, 12, 15, 22, 28, 35, 43
Mission statement
No formal mission statement.

Projected impact for the 2017-2020 quadrennium
Globally, mangrove species and mangrove ecosystems are still under grave threats due to urbanisation and other forms of exploitation. The impact of these threats is potentially exacerbated by global climate change, such as sea level rise. We aim to complete an updated assessment of the approximately 80 species of mangroves within this quadrennium, with particular reference to how these anthropogenic impacts may influence their long-term survivorship. We also expect to contribute significantly to IUCN's new initiative on Red Listing ecosystems. We shall also continue to contribute to the current knowledge base for global mangrove conservation, through organising international workshops and symposia.

Targets for the 2017-2020 quadrennium
Assess
Red List: (1) complete assessment of 80 species of mangroves; (2) participate in the Red Listing of significantly threatened ecosystems.

Network
Scientific meetings: promote information and experience sharing among Mangrove Specialist Group members.

Communicate
Research activities: publish a special issue on mangrove conservation.

Activities and results 2020
Assess
Red List
1. Red Listing of ecosystems is actively in progress. Members have been involved in workshops and meetings with the Red List of Ecosystems team. (KSR #2)

Communicate
Communication
1. The Mangrove Specialist Group has an active WhatsApp group in which the latest information on publications, conservation alerts and other issues is shared. (KSR #28)

Summary of activities 2020
Species Conservation Cycle ratio: 2/5
Assess 1
Communicate 1
Main KSRs addressed: 2, 28

KSR: Key Species Result
Mangrove forests on fast developing coastlines like this one on the eastern Pearl River estuary, China, face tremendous pressures from urbanization.

Photo: Joe S. Y. Lee
Mission statement
To conserve native plants of the Mascarene Islands.

Projected impact for the 2017-2020 quadrennium
By the end of 2020, we hope to significantly advance towards finalisation of the national Red List of endemic plants of Mauritius and Rodrigues. We also hope to establish or reinforce collaboration with a number of international conservation organisations and take actions significantly improving the conservation of at least 10 endemic plant species. We expect to keep a fully up-to-date database of all plants present in La Réunion in order to deliver regular Red List reassessments of the entire Réunion Flora to guide our conservation actions. We envision producing factsheets on techniques for how to grow each rare plant species from La Réunion and publishing several conservation action plans for our most threatened endemic plant species. We also expect to prevent the complete loss of a patrimony and a unique biodiversity in the world: La Réunion dry forest. We hope to increase knowledge and information exchange between researchers and conservationists on the ground to ultimately improve the conservation of rare plant species from the Mascarene Islands. Even if numerous official organisms but majoritarily independent NGOs (APN, Plant ali,...) or private persons work to that, the local national botanical garden (CBNM) coordinates and pilots conservation actions at the island scale.

Targets for the 2017-2020 quadrennium
Assess
Red List: complete the assessment of 200 endemic plants from Mauritius and Rodrigues. Research activities: (1) update on a regular basis the database of all plants present in La Réunion, including rare plant species; (2) develop new knowledge to improve the conservation of rare plant species from La Réunion (both research and grey literature).

Plan
Planning: publish emergency action plans for Extinct in the Wild plant species (22 species) and national or local action plans for rare plant species (39 species).

Act
Conservation actions: (1) conserve in situ and/or ex situ 50 Critically Endangered plant species from Mauritius and Rodrigues; (2) contribute to the successful implementation of the project ESPECE (Études et Sauvegarde des Plantes En danger Critique d’Extinction; www.reunion-parcnational.fr); (3) contribute to the successful implementation of the project LIFE+ forêt sèche, which aims to prevent the complete loss of a patrimony and a unique biodiversity in the world: La Réunion dry forest (general information at https://www.foresetseche.re/en/). Restauration actions conducted by NGOs (Plant ali,...) contribute largely to save rare plant species (Sideroxylon majus, Ochrosia borbonica,...).

Network
Capacity building: conduct training courses in plant conservation.
Synergy: develop or reinforce collaboration with at least three international conservation organisations.
Communicate
Technical advice: publish factsheets on techniques for how to grow each rare plant species from La Réunion.

Activities and results 2020

Assess

Red List

1. Two-hundred and eighty-one (281) flowering plants in Mauritius and 58 taxa on Rodrigues were preliminarily assessed in 2016 and 2019, respectively. Fifteen (15) Rodrigues species have been submitted to the IUCN Red List for assessment (Polyscias rodriquesiaca, Hyophorbe verschaffeltii, Latania verschaffeltii, Diospyros diversifolia, Clerodendrum lacinatum, Foetidia rodriquesiaca, Dombeya rodriquesiaca, Hibiscus liliiflorus, Eugenia rodriquesiaisens, Pandanus heterocarpus, Pandanus tenuifolius, Badula balfouriana, ixora trilocularis, Pyrostria revoluta, Zanthoxylum paniculatum) and 28 partially drafted for Mauritius (Badula insularis, Calophyllum eputamen, Chassalia coriacea, Dombeya sevathiania, Erythrospermum monticolum, Eugenia alliataica, Eugenia kanakana, Eugenia longuenensis, Eugenia lucida, Eugenia neofasciculata, Eugenia orbiculata, Eugenia pyxidata, Gaertnera psychotrioides, Gaertnera rotundifolia, Ixora parviflora, Memecylon laxiflorum, Norhonia macrophylla, Norhonia obovata, Pandanus barklyi, Pandanus wiehi, Polyscias maraisiana, Protium obtusifolium, Pyrostria cordifolia, Pyrostria macrophylla, Sideroxylon cinereum, Sideroxylon puberulum, Syzygium glomeratum, and Syzygium pyneei). The drafting of Red List assessments is ongoing. (KSR #1, 2, 32)
Research activities

i. A new update of the database of all plants present in La Réunion, including rare plants species, took place in December 2020. The importance of developing a database for automatic evaluation of IUCN criteria is noted. (KSR #32)

ii. A PhD on the mutualistic interactions between fleshy fruits and frugivorous vertebrates (or lack of) and consequences on the tropical forest regeneration in the Mascarene has been successfully completed by Dr Sebastien Albert. A booklet on the restoration of Réunion natural habitats has been written by Jo Minatchy and Stephane Baret. (KSR #32)

Plan

Planning

i. Three new national emergency action plans (Plan National d’Actions, PNA) were produced, covering 19 protected plants: (1) Euphorbia species, (2) semi-dry bushes group, and (3) the rarest plants species group. (KSR #15)

ii. Through a Franklinia Foundation/Botanic Gardens Conservation International project, six action plans were drafted: Rodrigues (Antirhea bifurcata, Badula balfouriana, Dombeya rodriqueziana, Foetidia rodriqueziana, Zanthoxylum paniculatum) and Mauritius (Zanthoxylum heterophyllum). (KSR #15)

Act

Conservation actions

i. Various governmental, non-governmental and private sector institutions in Mauritius and Rodrigues have conserved 50 (or more) Critically Endangered plant species in situ and ex situ (in nurseries, field gene banks, seed banks and in botanical gardens). (KSR #29)

ii. Implementation of the project ESPECE: Mainly set up in 2020 in a forest of the ‘Département de La Réunion’ managed by the Société Publique Locale Écologie et Développement Durable des Espaces Naturels (SPL EDDEN): five Aloe macra, 10 Dombeya populnea, 10 Drypetes caustica, two Polyscias aemeliguineae, 46 Sideroxylon majus, and five Tournefortia arborescens in two different places. (KSR #25, 27)

iii. In order to recreate or restore a corridor of semi dry forest, around 29,000 native plants were planted in 2020, of which 8,172 plants from 24 species are protected. Monitoring is ongoing. The ‘Conservatoire du Littoral’ is leading the project, in collaboration with Reunion National Park. (KSR #31)

Network

Capacity building

i. In 2020, a training in the use of drones for surveying inaccessible areas (e.g. mountain tops and cliffs) was planned thanks to support from Botanic Gardens Conservation International (BGCI) and National Tropical Botanical Garden, Hawaii, intended for all conservation organisations in Mauritius. However, it could not take place due to the global COVID-19 pandemic. The course will be delivered once the COVID-19 situation allows. (KSR #17)

Synergy

i. We reinforced collaboration with Jardins Botanique de Brest (France), Botanic Gardens Conservation International and Missouri Botanical Garden, and developed links with the National Tropical Botanical Garden, Hawaii (drone training and conservation of Zanthoxylum paniculatum in Rodrigues, through BCIG). (KSR #29)
Acknowledgements


Summary of activities 2020

Components of Species Conservation Cycle: 4/5

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Main KSRs addressed: 1, 2, 15, 17, 25, 27, 29, 31, 32

KSR: Key Species Result
Mission statement
The Medicinal Plant Specialist Group (MPSG) is a global network of specialists contributing within our own institutions and in our own regions, as well as worldwide, to the conservation and sustainable use of medicinal plants. The MPSG was founded in 1994 to increase global awareness of conservation threats to medicinal plants, and to promote sustainable use and conservation action.

Projected impact for the 2017-2020 quadrennium
By the end of 2020, we envision a significant increase in knowledge of the conservation status of priority species of medicinal and aromatic plants, planning and actions to conserve and sustainably use these species, and broader industry and consumer awareness and participation in the conservation of threatened species.

Targets for the 2017-2020 quadrennium

Assess
Red List: complete IUCN Red List assessment of 1,500 priority species of medicinal and aromatic plants.

Plan
Policy: promote the recognition of the sustainable use, trade and conservation of medicinal and aromatic plants in policy and action at the global, regional and national levels (action via Convention on Biological Diversity (CBD), CITES, World Health Organization (WHO), International Treaty on Plant Genetic Resources (ITPGR), and other policy fora).

Act
Conservation actions: (1) develop and implement Plants for People initiatives for medicinal plants in at least three regions; (2) contribute to the implementation of the FairWild Standard and certification scheme for sustainable use of wild plants for at least 50 species, 50 companies and 20 countries.

Communicate
Communication: increase the visibility and recognition of the contribution of medicinal and aromatic plant conservation and sustainable use to livelihoods, health, food security and biodiversity.

Activities and results 2020
Assess
Red List
i. Most assessments drafted and those published in 2020 are medicinal plants and close relatives native to North America, including all ‘At Risk’ and ‘To Watch’ species identified by United Plant Savers. Indian Nard or Jatamansi (Nardostachys jatamansi) – a CITES Appendix II-listed, highly valued medicinal plant native to the Himalayan region – was reassessed with expert contributions from MPSG members. Eight medicinal plant species endemic to Pakistan were assessed for the national Red List (to be reviewed in 2021 for the global Red List). The MPSG Red List Authority provided reviews of numerous medicinal plant assessments submitted by other Specialist Groups and projects (including 20 additional species from Pakistan). Globally, 11 assessments were published and 99+ assessments were drafted. (KSR #1)
Plan

Policy
i. CITES: MPSG contributed to further development of procedures and training for Non-Detriment Findings (NDF) for perennial plants; MPSG members contributed expert knowledge to case studies involving local and traditional knowledge on participatory assessments, monitoring and management of CITES-listed medicinal and aromatic plant species (related to 18th meeting of the Conference of the Parties (CoP18) Decisions 18.300–18.303 on trade in medicinal and aromatic plant species). (KSR #26)

Act
Conservation actions
i. The North American initiative (in partnership with IUCN Member Albuquerque BioPark) was expanded from assessment stage to planning, communication, and action stages: e.g. near-completion of assessment report/action plan for all species in the genus *Trillium*; development of an Assess to Plan (A2P) agenda for a workshop on Appalachian medicinal plant species (postponed to 2021 or 2022 due to COVID-19 restrictions); engagement with North American native communities in New Mexico on conservation of locally significant medicinal plants and other flora; engagement with the Canadian Wildlife Federation (IUCN Member organisation) to develop a citizen science iNaturalist project for Canada and the US. (KSR #1, 15, 31)

ii. A European medicinal plant reassessment proposal was developed and funded by the European Union (led by the IUCN Global Species Programme); preliminary discussions have taken place with potential partners in the A2P agenda, especially area planning/protected areas networks. (KSR #1, 15, 31)

iii. Himalayas: A priority list for assessments has been developed; MPSG membership relevant to the A2P strategy was developed. A MPSG member in India is engaged as a subject matter specialist for the Global Environment Facility (GEF)-United Nations Development Programme (UNDP)-Government of India project SECURE Himalaya (2017–2023), including evaluation of diversity and status of medicinal plants important to health care traditions. (KSR #1, 15, 31)

iv. Additional regional initiatives were undertaken by MPSG members in Israel (identification of native medicinal flora, including sampling and ex situ protection of genetic diversity). (KSR #15, 31)

v. MPSG contributed technical support to development and implementation of remote auditor training and certification audits in response to COVID-19 travel restrictions. As members of the FairWild Foundation Board of Trustees and Advisory Panel, Secretariat staff, and FairWild partners, MPSG members contributed to further development of FairWild Standard (FWS) implementation, and further development of the scope of FWS (including consultation to adapt the FairWild Standard for fungi, together with the IUCN Fungal Conservation Committee).

COVID-19 impacts and uncertainty, combined...
Jatamansi, Nardostachys jatamansi, harvesters,
Furkisalla Community Forest User Group (CFUG), Nepal
Photo: ANSAB

Field inventory of Nardostachys jatamansi in Nepal
Photo: ANSAB

Harvested Nardostachys jatamansi, Furkisalla, Nepal
Photo: ANSAB
with the practical difficulties in scheduling audits for new operations, meant that few new companies were in a position to formally join FairWild in 2020 and some companies were forced to exit due to business disruption but, despite this, three new brand manufacturers and one trader joined, resulting in a total of 34 formal participants at the end of 2020. Under a memorandum of understanding with FairWild Foundation, MPSG evaluates the risk of unsustainable wild collection for collection operations in the process of joining the FairWild certification scheme. MPSG provided wild harvest risk analyses for eight species accepted for FairWild certification, supported by the MAPROW database. The pipeline of companies joining looks strong, and this target may feasibly be reached in 2021. MPSG members also contributed to a Darwin Initiative-funded TRAFFIC/Asia Network for Sustainable Agriculture and Bioresources (ANSAB) initiative to develop FairWild-certified sustainable wild harvest of Indian Nard or Jatamansi (*Nardostachys jatamansi*) – a Critically Endangered, CITES Appendix II-listed medicinal plant – in Nepal. (KSR #36)

**Communicate**

**Communication**

i. Newsletter: *The Journal of Medicinal Plant Conservation* (in partnership with IUCN Member United Plant Savers) included nine contributions from MPSG members; the 2020 issue was planned for release at the 2020 IUCN World Conservation Congress but was released separately when the congress was postponed. (KSR #28, 43)

ii. MPSG participated in FairWild Week 2020, an annual social media event in collaboration with TRAFFIC, highlighting challenges for industry and consumers sourcing wild plants in trade. Outcomes include: 17 partners engaged in the event; 20+ media articles on the week; reach of 2.7 million on social media; launch of the report *The Invisible Trade: Wild Plants and You in the Time of COVID-19 and the essential journey towards sustainability*. (KSR #28)

iii. MPSG members contributed to establishment of a botanic garden at Quaid-i-Azam University, Pakistan, and educational landscape of Umm Al Quwain University (and associated public education events for Dubai EXPO 2020) with a focus on native medicinal flora and its conservation; transformation of the University of California at Los Angeles (UCLA) landscape to include educational sections of medicinal plants, as well as the transfer of an important private collection of Chinese medicinal plants to Huntington Botanic Gardens (California, US). (KSR #28, 43)

iv. MPSG members contributed to establishment of a botanic garden at Quaid-i-Azam University, Pakistan, and educational landscape of Umm Al Quwain University (and associated public education events for Dubai EXPO 2020) with a focus on native medicinal flora and its conservation; transformation of the University of California at Los Angeles (UCLA) landscape to include educational sections of medicinal plants, as well as the transfer of an important private collection of Chinese medicinal plants to Huntington Botanic Gardens (California, US). (KSR #28, 43)

v. MPSG members contributed to a Sustainability and Regenerative Practices Toolkit for the herbal products industry, developed by the American Botanical Council Sustainable Herbs Program. (KSR #28)

vi. Through the Institute for the Preservation of Medical Traditions, MPSG members contributed to the founding of a UNESCO Chair ‘Plants for Health in the Mediterranean Traditions’ at the University of Salerno, Italy. (KSR #28, 43)

**Acknowledgements**

We thank the following donors and organisations for support in 2020: New Mexico BioPark Society/Albuquerque BioPark for indispensable staff and logistical support for medicinal plant Red List assessments and assessor training in North America and globally; in particular, we recognise the contributions of Clayton Meredith for his innovative work in this capacity. We also thank the Darwin Initiative for its support of the TRAFFIC/ANSAB implemented project ‘Succeeding with CITES: Sustainable and equitable Jatamansi trade from Nepal’. We value our collaborations with the Indianapolis Zoological Society, NatureServe US, United Plant Savers, the Sustainable Herbs Program of the American Botanical Council, the FairWild Foundation, TRAFFIC International, and our many colleagues within the IUCN Species Survival Commission, Botanic Gardens Conservation International, to name a few. We sincerely appreciate the support our network of MPSG members provide both as individuals and through their own organisations and institutions.

**Summary of activities 2020**

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Main KSRs addressed: 1, 15, 26, 28, 31, 36, 43

KSR: Key Species Result
Mission statement
Implementation of field conservation projects for Critically Endangered Mediterranean plants with authorities and local populations / Identification of Important Plant Areas in Mediterranean countries / Raising the plant conservation profile in the Mediterranean / Networking with botanists and conservationists / Sharing best practices in plant conservation / Education and raising awareness of the public and stakeholders at regional, national and local levels.

Projected impact for the 2017-2020 quadrennium
For the end of the quadrennium, the Mediterranean Plant Specialist Group (MPSG) intends to continue to complete IUCN Red List assessments of the most threatened restricted endemic taxa, as well as to implement ex situ and in situ conservation actions with a special focus on non-European Union Mediterranean countries. The networking of specialists in the conservation of Mediterranean flora will be strengthened. MPSG will continue to offer multilateral programmes for the conservation of flora and raise awareness among donors and policy makers. MPSG will continue to be a partner and adviser of the Critical Ecosystem Partnership Fund (CEPF) and of the IUCN Centre for Mediterranean Cooperation.

Targets for the 2017-2020 quadrennium
Assess
Red List: complete thirty Red List assessments.

Act
Conservation actions: (1) implement in situ conservation measures for 30 threatened plants; (2) implement ex situ conservation measures for 50 threatened plants; (3) identify 50 Key Biodiversity Areas (KBAs) for plants.

Activities and results 2020
Assess
Red List
1. Sixty-five (65) Red List assessments were accomplished. (KSR #1)
Acknowledgements

CEPF (Critical Ecosystem Partnership Fund) for the Mediterranean Hotspot, MAVA Foundation, GENMEDA (Network of Mediterranean Plant Conservation Centres), CIHEAM Mediterranean Agronomic Institute of Chania (Crete/Greece), Hortus Botanicus Karalitanus – University of Cagliari (Sardinia/Italy), Sóller Botanical Garden Foundation (Balearic Islands/Spain), Office de l’Environnement de la Corse – Conservatoire Botanique National de Corse (France), Department of Biological, Geological and Environmental Sciences, University of Catania (Sicily/Italy), Agricultural Research Institute (Cyprus) and Department of Forests (Cyprus).

Summary of activities 2020

Species Conservation Cycle ratio: 1/5

- Assess 1

Main KSRs addressed: 1

KSR: Key Species Result

Vulnerable Cedar of Lebanon, Cedrus brevifolia (Hook.f.) Elwes & A. Henry
Photo: Bertrand de Montmollin IUCN/SSC/MPSG

Theophrastus’s Date Palm, Phoenix theophrasti Greuter
Photo: Bertrand de Montmollin IUCN/SSC/MPSG
Mission statement
Orchidaceae are the largest family of flowering plants, and they occur in a wide range of ecosystems and habitats. A charismatic group, many species are important in horticulture. Habitats of orchids are, however, threatened throughout the world, and the Orchid Specialist Group (OSG) is dedicated to their conservation and sustainable use.

Projected impact for the 2017-2020 quadrennium
By the end of 2020, we envision a substantial advance in our understanding of threats to orchids. This will be achieved in the following ways: (1) global assessments will be published for a range of taxonomic and geographical subsets of orchids; (2) meetings will be organised to facilitate the exchange of information between orchid conservation practitioners (members of the OSG and others) to ensure that best practice is followed in orchid conservation; (3) we will strive to involve young orchid conservationists from a diversity of countries, especially those with high orchid diversity and perceived threat; (4) we will work with CITES authorities and others to improve awareness and monitoring of the orchid trade, much of which is currently undocumented, illegal and unsustainable.

Targets for the 2017-2020 quadrennium

Assess
- Red List: process ca. 300 Red List assessments for inclusion in the Global Red List.
- Research activities: complete publication of papers from the 6th International Orchid Conservation Congress.

Plan
- Policy: write a review of orchid conservation for Botanical Studies.

Network
- Proposal development and funding: raise funds for up to 20 bursaries for students from developing countries to attend the 7th International Orchid Conservation Congress (IOCC VII).
- Synergy: consolidate the two new groups within OSG, one looking at trade issues and one looking at molecular identification tools.

Communicate
- Scientific meetings: complete planning for the 7th International Orchid Conservation Congress (IOCC VII).

Activities and results 2020

Assess

Red List
1. By the end of 2020, nearly 1,700 species of orchids had been assessed for the Global Red List, an increase of nearly 1,500 in the last decade. (KSR #1)
Synergy

The two new groups within OSG, one looking at trade issues and one looking at molecular identification tools, are now functioning and making good progress with aims and targets. Importantly, there is a good synergy between these two groups in addressing illegal/unsustainable harvest and trade in orchids, one of the major threats that they face.

Acknowledgements

The bursaries for the 7th International Orchid Conservation Congress were funded by generous donations from the Lennox-Boyd Memorial Trust, Orchid Conservation International, the Linnean Society of London and the friends and family of the late Amy Morris. We express sincere thanks to all those concerned.

Summary of activities 2020

Components of Species Conservation Cycle: 2/5

Assess 1

Network 1

Main KSRs addressed: 1

KSR: Key Species Result

Vanilla denshikoira (Colombia). This species, described in 2018, is known from only two individuals. It is a wild relative of V. planifolia, one of the species used for the production of vanilla. It was discovered in the territory of the indigenous Puinave nation. Members of this nation are among the authors of the paper describing the species, and they chose the name (Denshikoira is a central figure in Puinave mythology)

Photo: Nicola Flanagan

Cypripedium subtropicum (China). This endangered species was thought to be extinct, until it was rediscovered in 2009 in Yunnan, China. Since then, illegal collection has been a major problem, and it is the subject of a big conservation project

Photo: Yung-I Lee

Thelymitra variegata (Queen of Sheba orchid; Western Australia). This is a narrow endemic to SW Western Australia. It has now been successfully propagated as part of a conservation programme

Photo: Belinda Davis
Mission statement
To conserve palms by assessing the threats that they face and developing programmes to protect palm species for the future.

Projected impact for the 2017-2020 quadrennium
We envision to have increased Red Listing of palm species worldwide, in particular those with Least Concern status.

Targets for the 2017-2020 quadrennium

Assess
Red List: (1) expedite assessment of Least Concern palms (work led by Royal Botanic Gardens, Kew); (2) conduct Red Listing of Indian palms for Indian palm website; (3) conduct Red Listing of western Ecuadorian palm species.

Research activities: study the ethnoecology of *Raphia vinifera* in North-Western Cameroon.

Network
Membership: refresh the Palm Specialist Group in this quadrennium.

Activities and results 2020

Assess

Red List

i. Using automated methods of IUCN assessments, we plan to publish the species evaluated as potentially Least Concern and potentially threatened. (KSR #1)

Summary of activities 2020

Components of Species Conservation Cycle: 1/5

Assess 1

Main KSRs addressed: 1

KSR: Key Species Result
Geonoma triglochin, Yasuni, Ecuador
Photo: Couvreur TLP

Ammandra dasyneura, Yasuni, Ecuador
Photo: Couvreur TLP
Mission statement

The Seagrass Species Specialist Group (SSSG) contributes to and encourages seagrass science and conservation, with the goal of protecting seagrass species biodiversity worldwide and preserving the functions and values of seagrass habitat, including its role in protecting threatened and endangered species that depend on seagrasses for their survival.

Projected impact for the 2017-2020 quadrennium

At the time of the 14th International Seagrass Biology Workshop (ISBW14) in the United States (November 2020), 10 years will have passed since the last species status review was completed (Short, F.T., et al. (2011) ’Extinction risk assessment of the world’s seagrass species’. Biological Conservation 144(7):1961–1971. https://doi.org/10.1016/j.biocon.2011.04.010). The SSSG will affirm the proposed updates at ISBW14. During the workshop, the Red List Authority will organise a conversation about a seagrass ‘Green Status’, including contributions for a global database of seagrass population and species recovery efforts that have proved successful around the world.

The SSSG is comprised of approximately 70 seagrass biologists worldwide, who have volunteered to participate and contribute their time by reviewing the status of seagrasses in their bioregions and contributing their knowledge. This has been effective over three successive International Seagrass Biology Workshop sessions, beginning with ISBW10 in Canada (2012).

Looking forward to ISBW14 in the United States, the SSSG plans to seek final approval of the proposed updates confirmed at the last meeting. The Red List Authority will present the results of our updated Red List contributions and solicit a final round of feedback from the SSSG prior to publishing the seagrass Red List of Threatened and Endangered Species in 2021. We plan to continue strengthening the contributions to the Red List and to advance coordination of data on natural and human-assisted recovery of species in our database.

As our climate and oceans are rapidly changing, it becomes critical for the SSSG to continue encouraging research that contributes to an effective Red List assessment process, such that we are better prepared to review and investigate changes to global seagrass species conservation status in the future. We expect continued inclusion of the IUCN forum at seagrass workshops will expand the number of researchers who are aware of the Red List Authority, as well as the number of specialists actively contributing their research to the results of the IUCN Red List of Threatened Species SSSG and progress towards recovery.

Targets for the 2017-2020 quadrennium

Assess

Red List: complete reassessment of seagrass species with changed status or taxonomy.

Research activities: review taxonomy of seagrass to improve the reassessment process.

Network

Capacity building: train members and collaborators on the Red List Categories and Criteria.

Synergy: expand the network of researchers and collaborators engaged in taxonomy and reassessments.

Communicate

Communication: increase awareness of the IUCN Red List and seagrass extinction risks.
Activities and results 2020

Assess

Red List

i. Our biennial seagrass membership meeting (ISBW14) was cancelled due to the COVID-19 pandemic and is rescheduled for 2022. More than 20 assessments are currently drafted. (KSR #1)

Research activities

i. We held four taxonomy preparation meetings and four full member meetings virtually to discuss seagrass taxonomy issues. (KSR #43)

Network

Capacity building

i. Members and team leaders were established and instructed in species assessment methodologies and draft assessments were initiated in each bioregional team, in addition to two interns who worked between the teams to assist with assessment and mapping gaps. (KSR #5)

Synergy

i. Six bioregional leaders were selected and six bioregional teams formed, in addition to a GIS coordination team that interacted with each of the groups.

Communicate

Communication

i. Two public talks were given, including one invited talk for IUCN BlueNATURA and a recorded open-source video prepared on IUCN SSC SSSG goals and processes for seagrass communities (see https://www.youtube.com/watch?v=8kNTj9TJo4). (KSR #28)

Acknowledgements

Jimena Samper-Villarreal from Costa Rica has led the most productive SSSG Bioregional Team in terms of total number of drafted bioregional reassessments, inclusion of new authors and members in a meaningful assessment process, and collaboration on mapping efforts. Jimena has done so while demonstrating patience and leadership in terms of (1) updating significant numbers of threatened species status and (2) mapping global distributions, but also through (3) networking with bioregional experts in seagrass speciation, population biology and distribution patterns. In these ways, we have found Jimena’s efforts to be outstanding and effective in supporting global action for seagrass conservation. The aim of the SSSG in 2021 is to reassess the risk of extinction for all 70+ seagrass species by the end of 2021. Bioregion 2, led by Jimena, has been the most active team by far and is the only team to successfully present revised assessments for all their assigned regional species. Jimena’s continued participation in our global seagrass documentation and conservation action process is welcome and anticipated. We long for the time when she may be able to take a stronger leadership role in our SSC group, when her time will permit it. She exemplifies great patience, expertise, leadership and collaboration skills.

Summary of activities 2020

Components of Species Conservation Cycle: 3/5

Assess 2

Network 2

Communicate 1

Main KSRs addressed: 1, 5, 28, 43

KSR: Key Species Result

Seagrass in the coastal waters in Tanzania, East Africa. Including Thalassia hemprichii (foreground) and Thalassodendron ciliatum (extending off shore)

Photo: Frederick Short

Seagrass growing with surf kelp on the open Pacific Ocean side of Baja Peninsula, Mexico. Phyllospadix torreyi

Photo: Frederick Short

Seagrass, a feeding area for nurse sharks in Caye Caulker, Belize, Caribbean. Thalassia testudinum, Syringodium filiforme and Halodule wrightii

Photo: Frederick Short

Seagrass growing with surf kelp on the open Pacific Ocean side of Baja Peninsula, Mexico. Phyllospadix torreyi

Photo: Frederick Short

Seagrass, a feeding area for nurse sharks in Caye Caulker, Belize, Caribbean. Thalassia testudinum, Syringodium filiforme and Halodule wrightii

Photo: Frederick Short

Plantae
Co-Chairs
Marian M. Chau (1)
Uromi Manage Goodale (2)

Deputy Chair
Dustin Wolkis (3)

Location/Affiliation
(1) Kalehua Seed Conservation Consulting, Honolulu, Hawaii, US; Terraformation, Honolulu, Hawaii, US
(2) Guangxi University, Nanning, China
(3) National Tropical Botanical Garden, Kalaheo, Hawaii, US

Number of members
116

Social networks
Facebook: IUCN Seed Conservation Specialist Group
Twitter: @IUCN_Seeds
Website: https://seedconservationsg.org/

Mission statement
The mission of the Seed Conservation Specialist Group (SCSG) is to promote seed conservation by providing a network for knowledge sharing in different ecosystems around the world, and aiding in prioritisation, capacity building, and development of best practices.

Projected impact for the 2017-2020 quadrennium
At the end of 2020, we expect that the sharing of experience and knowledge among our group members and the global conservation community will help to identify gaps in the seed conservation of vulnerable species and inform world policies for ecosystem restoration and species recovery. In particular, we hope that our collective efforts in identifying these gaps in knowledge will encourage improvements to seed banking processes in countries of Latin America, East Asia and other areas that are identified as regions with high conservation needs. Through the policy documents developed for seed conservation, we hope that our efforts will contribute towards at least a 15 percent increase in species from each ecological region being conserved for the future through effective seed banking.

Targets for the 2017-2020 quadrennium

Assess
Research activities: conduct and publish a regional and topical gap analysis of seed conservation expertise.

Act
Technical advice: create IUCN Guidelines on Seed Conservation.

Network
Membership: (1) recruit at least 100 members for the new Specialist Group; (2) expand SCSG leadership team representation to include focal points from three new speciality areas and three new countries in the Global South and meet quarterly.

Communicate
Communication: (1) create an online global Seed Conservation Directory of Expertise; (2) establish key communication platforms by creating an SCSG website and social media accounts.

Activities and results 2020

Assess
Research activities
i. Due to the COVID-19 pandemic, development and publication of a regional and topical gap analysis of seed conservation expertise has been extended into the 2021-2025 quadrennium. However, we have made progress by creating a working group and preparing a working plan for this target. (KSR #32)

Act
Technical advice
i. Due to the COVID-19 pandemic, the creation of IUCN Guidelines on Seed Conservation has been extended into the 2021–2024 quadrennium. However, we have made progress by compiling existing regional and national standards and guidelines and recruiting volunteer SCSG members to join a committee focused on this target in the next quadrennium. (KSR #26)
Network

Membership

i. By the end of the quadrennium, the SCSG increased its global membership to 116 members.

ii. We recruited Anurag Dhyani as Focal Point for Ex Situ Conservation (India), Pedro León Lobos as Focal Point for Conservation Planning (Chile), and Diana Castillo-Diaz as Focal Point for Early Career Engagement (Colombia).

Communicate

Communication

i. We launched our website at https://seed-conservationsg.org in May 2020 and had more than 1,500 unique visitors and over 4,000 page views through 2020. We also created a SCSG Facebook Group with more than 500 members, and a SCSG Twitter account with more than 160 followers. (KSR #28)

Acknowledgements

We thank Guangxi University, Kalehua Seed Conservation Consulting, Botanic Gardens Conservation International, National Tropical Botanical Garden, Instituto de Investigaciones Agropecuarias, and Jawaharlal Nehru Tropical Botanic Garden and Research Institute for institutional support of the SCSG Leadership Team’s participation in Specialist Group meetings, SSC meetings, 2017–2020 Quadrennium Targets, and related activities.

Summary of activities 2020

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<td>Communicate</td>
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Main KSRs addressed: 26, 28

KSR: Key Species Result
Mission statement
The mission of the IUCN SSC Sonoran Desert Plant Specialist Group is to assess the extinction risk of all Sonoran Desert plant species, educate the public about Sonoran Desert species and threats, and implement conservation plans supported by the Red Listing process.

Projected impact for the 2017-2020 quadrennium
By the end of 2020, the IUCN SSC Sonoran Desert Plant Specialist Group (SDPSG) strives to have made substantial progress in beginning the ambitious agenda of assessing all Sonoran Desert species. At the same time, we expect to make substantive progress in surveying and removing high priority invasive species through greater coordination. Conservation planning will begin concurrently with the Red List assessments on high priority species chosen through the process of prioritising Sonoran Desert plants for assessment and by working with other Specialist Groups to create a comprehensive list of threatened species across taxa.

Targets for the 2017-2020 quadrennium
Assess
Red List: (1) identify target assessment groups for 2019–2020; (2) assess 250 species of Sonoran Desert plants.
Research activities: (1) complete vetting process of taxonomic list; (2) compare vetted plant list with remits of other Specialist Groups and agree on how to coordinate overlapping species; (3) complete a draft list of endemic species found in the Sonoran Desert; (4) monitor the distribution ranges of invasive plants, animals, and other consequences of global changes.

Plan
Planning: coordinate with other Specialist Groups to create an up-to-date list of threatened species in the Sonoran Desert and initiate conservation planning across taxonomic groups.
Proposal development and funding: submit three funding proposals to support assessments and expert workshops.

Act
Conservation actions: (1) control invasive plants and mammals in protected natural spaces; (2) advance in situ and ex situ conservation (seeds and living collections) of Critically Endangered and Endangered plants and preventive sampling of seeds of more widely distributed plant taxa.

Communicate
Communication: (1) create logo; (2) ensure regular communications and updates to members through an e-newsletter; (3) create a web presence and social media, e.g. Twitter and Facebook accounts.
Scientific meetings: (1) organise SDPSG meetings during regional meetings such as the Arid Lands Symposium; (2) include sessions/discussion panels on the activities and deliverables of the SDPSG in the Arid Lands Symposium or other relevant regional or international meetings.

Activities and results 2020
Assess
Red List  
1. We have completed 75 draft assessments. (KSR #1)

Research activities  
1. We accomplished the vetting process in terms of correcting taxonomy and synonymy. (KSR #1)
2. We compared vetted plant lists with several other plant lists and coordinated efforts. (KSR #2)
iii. We have an incomplete list of endemic species found in the Sonoran Desert but will continue this work in the new quadrennium. (KSR #12)

iv. We completed surveys of distribution ranges of invasive plants, animals, and other consequences of global changes on a total of 11,501 acres including trails, washes and other blocks on the McDowell Sonoran Preserve (~10,265 acres), plus an estimated 1,236 acres have been surveyed on the McDowell Mountain Regional Park. (KSR #12)

Plan
Proposal development and funding
i. We submitted a National Science Foundation and a Johnson proposal for funding but were not approved. (KSR #9)

Act
Conservation actions
i. Since inception, we have removed a cumulative 50 acres of buffelgrass and fountain grass. (KSR #4, 7, 13)

Communicate
Communication
i. We created a logo for our group.

ii. We did not host the Arid Lands Symposium in 2020 due to the pandemic, therefore did not have an SDPSG meeting.

Acknowledgements
We thank the McDowell Sonoran Conservancy for providing support as a host organisation and stewards for support on the mapping process. We thank students from Northern Arizona University for drafting species assessments.

Summary of activities 2020

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| Act   | 1
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Main KSRs addressed: 1, 2, 4, 7, 9, 12, 13

KSR: Key Species Result
Mission statement
To assess the conservation status of plants endemic to Southern Africa and to ensure their sustainable use and adequate protection through mainstreaming of information pertaining to threatened plants into government policies and development planning.

Projected impact for the 2017-2020 quadrennium
During this quadrennium, the Southern African Plant Specialist Group (SAPSG) aims to focus on the eastern part of its domain, ensuring that assessments for all species endemic to Mozambique, Swaziland and South Africa are conducted and that Mozambican botanists are trained to conduct Red List assessments, identify Important Plant Areas (IPAs) as a contribution to Key Biodiversity Areas (KBAs), and mainstream this information into government policies and development planning work.

Targets for the 2017-2020 quadrennium
Assess
Red List: (1) assess the conservation status of 400 plants endemic and near endemic to Mozambique and submit to the IUCN Red List; (2) produce the first National Red List for Mozambique; (3) conduct assessments for plants in the Proteaceae and Asphodelaceae families.

Plan
Planning: (1) identify Important Plant Areas (IPAs) for Mozambique that will feed into KBA assessments for the country; (2) develop a new area of work on sustainable use focusing on selected medicinal plants that are traded across borders; (3) identify Key Biodiversity Areas (KBAs) for South Africa ensuring comprehensive use of data of plants species of conservation concern.

Act
Conservation actions: develop a land-use decision support tool to ensure plant taxa of conservation concern are not negatively impacted by development.

Network
Capacity building: build capacity for Red Listing in Mozambique.
Membership: develop a regional network of Red Listing expertise in southern Africa.

Activities and results 2020
Assess
Red List
i. Fifty-two (52) assessments of Mozambican plants were led by the SAPSG group in 2020, and a further 13 were completed in 2020. Combined with the results from 2017–2019, a total of 376 Mozambique plant assessments will have been published from work conducted in this quadrennium. The SAPSG also contributed to numerous other Mozambican assessments through review of assessments, provision of information to assessors and contribution to the Global Tree Assessment led by Botanic Gardens Conservation International. (KSR #2)

ii. The Mozambique National Red Listing Working Group (NRLWG) continues to operate following its establishment in 2019. The large majority of endemic plant species for Mozambique have now been Red Listed and sites of importance for these have been identified through the work on identifying Tropical Important Plant Areas in Mozambique (TIPAs programme) and the KBA assessment. (KSR #1)
iii. A total of 365 species from the Proteaceae family were assessed and published on the IUCN Red List as part of the global assessment of Proteaceae. A further 230 species of Asphodelaceae were assessed and have been submitted to the IUCN Red List Unit for publication. (KSR #1)

iv. Red List work has actively taken place in Mozambique and South Africa over the past four years. We are now raising funds to expand into other Southern African countries with resources secured and training of Malawian botanists initiated. Furthermore, we have a grant under development to support Namibian Red Listing between 2022–2024. (KSR #2)

Plan

i. The IPAs of Mozambique programme is due to be completed in 2021; although progress was slower than anticipated in 2020 due to the COVID-19 pandemic, this work is still on track with the majority of sites now fully drafted. The first national KBA assessment was completed in 2020 and will be formally launched in 2021. A revised and detailed assessment of the ecosystems of Mozambique was conducted in 2020 and will be published in 2021 together with a preliminary assessment of their Red List status. (KSR #22)

ii. Hermenegildo Matimele (Co-Chair of the SAPSG) is now into year three of his PhD programme focusing on plant conservation prioritisation methods in Mozambique based at DICE, University of Kent. This work combines IPA and KBA methodologies with Systematic Conservation Planning techniques, to analyse spatial data on plant distributions and identify priority sites suitable for conservation efforts. The first section of the PhD, focusing
Fieldwork by the Agricultural Research Institute of Mozambique (IIAM) under the Important Plant Areas of Mozambique project led to the first confirmed record of the local endemic *Barleria setosa* in nearly 60 years; healthy populations were recorded on Goa and Sena Islands close to the Island of Mozambique World Heritage Site.

Photo: P. Mucaleque
on the Maputaland region, is nearing completion. Fieldwork to support IPA/KBA designation was restricted in 2020 due to the COVID-19 pandemic, but a survey of Goa and Sena Islands in Nampula Province, Mozambique, was conducted by Papin Mucaleque of IIAM, which resulted in the rediscovery of the endemic herb Barleria setosa, last sighted in the 1960s. This site has been documented as an IPA. Funding has been secured for a botanical survey of the São Sebastião Peninsula proposed IPA, but this has been postponed until 2021. (KSR #22)

iii. Two medicinal plant species, the African Wild Ginger (Siphonochilus ethiopicus) and the Pepper Bark tree (Warburchia salutaris), have been part of an integrated management plan involving traditional healers and a team of conservation experts in the eastern parts of South Africa. This work has outlined the need for additional information from Mozambique and Eswatini. A priority for the upcoming quadrennium will be to conduct population status assessments for these species in these two countries and identify how to manage the cross-border trade to minimise population declines. (KSR #18)

iv. Data for 4,663 threatened and restricted range species have been included in the KBA identification analysis. The network of KBAs is now being finalised through detailed delineation and stakeholder engagement. (KSR #22)

Act
Conservation actions
i. Data for all species of conservation concern have been included in the Environmental Impact Assessment Screening Tool developed by South Africa’s Department of Forest, Fisheries and the Environment. Accurate spatial information on plant species now influences where development may or may not take place. We have also written and legislated protocols that specify how plant data needs to be included in decision making and provided detailed guidance to specialists working on Environmental Impact Assessments on how they need to take into account the presence of species of conservation concern during the decision-making process. (KSR #32, 43)

Network
Capacity building
i. Staff at IIAM Mozambique are now fully trained in Red List assessments and are leading on writing assessments of endemic species with input where required from Royal Botanic Gardens, Kew. This builds on the Red List workshops run during the quadrennium, together with the project funded by Global Biodiversity Information Facility’s Biodiversity Information for Development programme (GBIF-BID), that resulted in the establishment of the multi-taxonomic group National Red Listing Working Group (NRLWG). Due to the COVID-19 pandemic, no further workshops were held in 2020. A planned workshop on national Red Listing of timber species was postponed until 2021; however, the assessments have been drafted by IIAM staff. (KSR #5)

Acknowledgements
We are most grateful to Oppenheimer Philanthropies and Stephen and Margaret Lansdown for their generous support of the Tropical Important Plant Areas: Mozambique project which has enabled much of the group’s work in Mozambique. We extend our gratitude to the Wildlife Conservation Society for supporting Red Listing of species and ecosystems, and identification of KBAs, together with helping the National Red Listing Working Group to be formally recognised by the Mozambican Government. We are also grateful to the Darwin Initiative under DICE for supporting opportunities to work closely with communities across the Maputaland Centre of Endemism (MCE) to identify important sites for community-led ecotourism. An enormous thank you to D.L. Roberts, I. Darbyshire and R.J. Smith for guidance as part of capacity building through a PhD programme for Hermenegildo Matimele, head of this group.

Summary of activities 2020
Components of Species Conservation Cycle: 4/5

<table>
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Main KSRs addressed: 1, 2, 5, 18, 22, 32, 43

KSR: Key Species Result
Mission statement
With more than 19,800 species of plants under the scope of the Temperate South American Plant Specialist Group (TSAPSG), and considering that the SSC strategic plan indicates that the assessment of plants needs to be substantially enlarged to represent adequately the diversity of life, we are focusing our efforts to assess: endemic species, whose vulnerability is more likely because of their restricted distribution; wild harvested species, which are currently under a variety of pressures of use; and trees.

Projected impact for the 2017-2020 quadrennium
We expect by the end of 2020 to assess 216 new species, and to improve our Red List assessment procedures.

Targets for the 2017-2020 quadrennium
Assess
Red List: (1) complete assessment of 50 species of terrestrial plants by the end of 2018; (2) complete assessment of 66 species of terrestrial plants by the end of 2019; (3) complete assessment of 100 species of terrestrial plants by the end of 2020.

Activities and results 2020
Assess

Red List
i. Due to the COVID-19 crisis, and the strict restrictions that were imposed in Argentina, we had to suspend the workshops scheduled for 2020. We focused on finalising assessments that began in 2019, and on reaching an agreement with the Argentine Botanical Society to incorporate experts in a process of long-term assessment of the local flora, family by family, which will take place during the 2021–2024 quadrennium. We also collaborated in reviewing assessments at the request of the IUCN Global Tree Specialist Group. (KSR #1)

Acknowledgements
We want to acknowledge Global Wildlife Conservation for their financial contribution. We also want to thank the Argentinian Society of Botany, for their interest in cooperating with the assessment process. Finally, we want to acknowledge the authorities and officials of the SSC for their permanent support and advice.

Summary of activities 2020
Components of Species Conservation Cycle: 1/5
Assess 1
Main KSRs addressed: 1
KSR: Key Species Result
Near threatened Alsophila odonelliana
Photo: Pablo Demaio

Endangered Amburana cearensis
Photo: Pablo Demaio
Mission statement
The mission of the Western Ghats Plant Specialist Group (WGPSG) is to improve current knowledge on taxonomy and ecology of plants of the entire region of the Western Ghats and thereby enhance their conservation status in the long term.

Projected impact for the 2017-2020 quadrennium
By the end of 2020, we plan that a substantially higher number of experts are brought together in this forum and an assessment workshop leads to the training of assessors who will ensure that a substantial number of plants are assessed. We will identify Key Biodiversity Areas in this landscape and collaborate with stakeholders to take this beyond a declaration on paper. We will conduct a field taxonomy course to get students and amateur plant enthusiasts interested in the identification, assessment and conservation of Western Ghats plants.

Targets for the 2017-2020 quadrennium

Assess
Red List: (1) complete 100 new IUCN Red List assessments by 2020; (2) complete two genera assessments by 2020.

Act
Conservation actions: (1) establish at least one of the six planned nurseries by 2020; (2) identify six Key Biodiversity Areas.

Network
Capacity building: (1) establish one network and conduct two workshops annually to train on Red Listing; (2) conduct two field courses on plant conservation.
Scientific meetings: hold an annual meeting of all members.

Communicate
Communication: initiate a sustainable forum.

Activities and results 2020
Assess

Capacity building
i. Assessments are following protocols as per Red List assessment guidelines. A stepwise process and workflow have been created to encourage new assessments. (KSR #5)

Red List
i. Two assessments were submitted, 30 are partially completed offline, and about 10 are under review. We have also helped review for the Global Tree Assessment, Cryptocoryne assessments and suggested a few species that needed assessments, which have been completed. We also helped with regional assessments for Arunachal state. (KSR #2)

ii. Erinocarpus, a monotypic genus, is assessed. Adelocaryum in Western Ghats is partially complete. (KSR #2)
**Act**

**Conservation actions**

i. In the Nilgiris, there are two established nurseries at Keystone Foundation and Upstream Ecology, which have more than 50,000 plants, all Western Ghats natives. (KSR #25)

ii. Our plan is to get a list of all the KBAs for the Western Ghats (freshwater and amphibians) and see how plant information can be incorporated before we identify new KBAs. Assessments must be completed before identification. (KSR #22)

**Network**

**Capacity building**

i. The current membership is about 50+ members. These experts also helped us organise the two workshops that were held in September 2020 and October 2020, attended by 20 and 50 people, respectively. (KSR #5)

ii. The pandemic has limited our ability to meet and be physically present to learn and interact. We were not keen to hold virtual plant conservation meetings and hope to conduct field courses in plant conservation in the coming year. (KSR #17)

**Scientific meetings**

i. An online meeting was held for members.

**Communicate**

**Communication**

i. We have a small group that works on sustainable use, and this is not limited to plants. We will initiate a subgroup on Sustainable Use within WGPSG. (KSR #33)

**Acknowledgements**

We are grateful to the SSC for our first grant as a Specialist Group, an SSC Internal Grant.

**Summary of activities 2020**

| Species Conservation Cycle ratio: 4/5 |
|---|---|---|
| Assess | Act | Network |
| 3 | 2 | 3 |
| Communicate | 1 |

Main KSRs addressed: 2, 5, 17, 22, 25, 33

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KSR: Key Species Result
### Mission statement
To support and strengthen nature conservation in a changing climate.

### Projected impact for the 2017-2020 quadrennium

By 2020, the Climate Change Specialist Group (CCSG) aims to have made a significant contribution to strengthening nature conservation in a changing climate. By fostering collaboration between climate change and biodiversity experts working at the interface between science, policy and practice, we hope to:

1. Provide the IUCN Species Survival Commission with strategic guidance, support and information on climate change related risks to biodiversity and conservation responses;
2. Promote coordinated responses to climate change within and among the IUCN Species Survival Commission, IUCN Programmes and IUCN partner organisations; and
3. Catalyse and support sound science, effective policy and evidence-based conservation practice informed by a deeper understanding of climate change, its impacts on biodiversity and the responses required. Through the activities our group carries out, we will advance:
   a. Understanding of climate change impacts,
   b. Assessment of vulnerability,
   c. Development of adaptation responses, and
   d. Climate change policy.

### Targets for the 2017-2020 quadrennium

**Assess**

Research activities:
1. Document, attribute and monitor climatic change impacts;
2. Assess vulnerability of species arising from climatic change and publish a paper on understanding and use of climate change vulnerability assessment;
3. Develop and recommend climate change adaptation measures and monitor their effectiveness.

**Plan**

Planning:
- Develop and recommend climate change adaptation measures and monitor their effectiveness by publishing guidelines update (species conservation planning).

Policy:
- Inform IUCN policy and outreach on climatic change issues.

**Network**

Synergy:
- Support the SSC.

**Communicate**

Communication:
- Assess vulnerability of species arising from climatic change and generate updated guidelines.

### Activities and results 2020

**Assess**

- In 2020, the CCSG spearheaded several important studies on the impacts of climate change on species. A paper published by CCSG members found that increasing temperatures increase the risk of reproductive failure in Cape Rockjumpers (*Chaetops frenatus*) due to an increase of snake activity (and thus predation). While previous studies indicated that
Cape Rockjumpers are particularly vulnerable to increasing temperatures, the birds are able to moderate heat stress by adjusting their behaviour. By identifying the mechanistic link responsible for the impact, the paper underscores the need to fully understand the complete chain of events between a climate pressure and the impact on a species (Oswald, K.N., et al. (2020). ‘Increasing temperatures increase the risk of reproductive failure in a near threatened alpine ground-nesting bird, the Cape Rockjumper Chaetops frenatus’. *Ibis* 162:1363–1369. https://doi.org/10.1111/ibi.12846). Another paper published by CCSG members found that avian mortality risk during heat waves will increase greatly in arid Australia during the 21st century (Conradie, S.R., et al. (2020). ‘Avian mortality risk during heat waves will increase greatly in arid Australia during the 21st century’. *Conservation Physiology* 8:coaa048. https://doi.org/10.1093/conphys/coaa048). Preliminary research on the impacts of extreme climatic events on birds globally was also presented during the British Ornithologists’ Union conference on ‘Climate Change and Birds: Solutions to the Crisis’ in November 2020. (KSR #28, 38, 39)

The CCSG made significant progress this year advancing the field of climate adaptation. A research team spearheaded by CCSG members identified and analysed past warming events similar to those anticipated in the coming decades. The resulting paper, published in *Science*, will improve understanding as to how species and ecosystems will cope with potentially dangerous rates of climatic change. The findings will help improve early warning systems for population collapse, extinction, or ecosystem shifts. Another paper published by CCSG members reviews strategies that aim to initiate, reinstate, or enhance patterns of gene flow. The study provides clarification on terminology, highlights where strategies are likely to succeed at various scales, and where they should probably not be attempted (based on the goals of the intervention). (KSR #32, 38)

**Plan**

**Planning**

The CCSG had ongoing discussions with the Conservation Planning Specialist Group about developing a training module on climate change adaptation measures and how to monitor their effectiveness; however, this activity was put on hold for the remainder of the year due to personal circumstances of a key member. (KSR #38, 39)
i. For the first time since its inception in 1998, WWF’s Living Planet Report included a deep dive into climate change. Multiple CCSG members contributed to the report, which explains climate change risks to biodiversity, how nature-based solutions can reduce climate risk, and why climate adaptation for nature’s sake (or biodiversity-focused adaptation) is essential to prevent species declines and a loss of ecosystem services. This concept mirrored the feedback our group provided on enhancing the climate change and biodiversity target for the Post-2020 Global Biodiversity Framework under the Convention on Biological Diversity (CBD). Our feedback was included in IUCN’s official comments on the draft framework. In conjunction with South African National Parks, we also hosted a climate change policy webinar to generate more interest and engagement in global policy. The CCSG’s policy theme lead, Victoria Romero, introduced the realm of international climate policy and reviewed the 25 climate-related motions open for voting as part of the World Conservation Congress. The webinar sparked key discussions that allowed us to share our policy concerns regarding the treatment of biodiversity and climate change more widely. The CCSG is also planning to publish a paper, currently under development, about the need for biodiversity-focused adaptation. (KSR #40)
Throughout the year, the CCSG continued to serve in its advisory role to provide feedback, input and advice to other Specialist Groups, Task Forces, and the broader IUCN network. CCSG Chair Wendy Foden continued her service as SSC liaison on the IUCN Council Climate Change Task Force until it was disbanded, providing key guidance and feedback to its members. Deputy Chair Bruce Young is currently serving on the IUCN SSC Post-2020 Biodiversity Targets Task Force, serving as a liaison between the Task Force and the CCSG to provide a climate perspective on IUCN input into the Convention on Biological Diversity’s Post-2020 Global Biodiversity Framework. The CCSG was approached by several Specialist Groups this year, including the Snapper, Seabream, and Grunt Specialist Group and the Hornbill Specialist Group, about incorporating vulnerability to climate change into their species assessments. We plan to partner with these and other groups to pilot our Red List training materials to ensure that they are as useful and widely applicable as possible. (KSR #29)

### Communicate

This year, the CCSG released a Spanish translation of the *IUCN SSC Guidelines for Assessing Species’ Vulnerability to Climate Change*. Developed by CCSG members, these guidelines recommend best practices for carrying out this vital part of conservation planning under changing climates. The guidelines aim to assist readers in choosing assessment methods, finding available tools, and locating and evaluating data on climate, species and their habitats. This new translation will help promote climate change vulnerability assessments (CCVAs) across Spanish-speaking countries, which maintain immense amounts of biodiversity. The CCSG also published three additional papers that made a significant contribution to the field of assessing species’ vulnerability. The first, co-authored by six CCSG members, presents an attribute-based framework for evaluating the adaptive capacity of species or populations (Thurman, L.L., et al. (2020). ‘Persist in place or shift in space? Evaluating the adaptive capacity of species to climate change’. *Frontiers in Ecology and the Environment* 18:520–528. https://doi.org/10.1002/fee.2253). The framework helps operationalise the concept of adaptive capacity, providing a tangible way for conservation practitioners to consistently apply the concept and use it to inform adaptation planning and identify climate-smart conservation strategies. Another study found that geography may play a more important role than genetics in predicting climate responses of American Pikas (*Ochotona princeps*). This study challenges the common assumption that intraspecific variation in climate response aligns most strongly with genetic affinity. The study also has important management implications, suggesting locally tailored climate adaptation actions may help pikas persist in unlikely places. Another study emphasised the importance of considering dispersal ability when assessing climate change vulnerability, particularly for edaphic specialists and species restricted to specialised substrates. (KSR #28)

### Acknowledgements

The CCSG expresses its sincere gratitude to our many members and supporters for their ongoing support and commitment to strengthening nature conservation in a changing climate. We especially want to thank Environment Agency – Abu Dhabi, Global Wildlife Conservation, Yorkshire Wildlife Park Foundation, and Indianapolis Zoo for their generous support.

### Summary of activities 2020

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<th>Planned 2</th>
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<tr>
<td>Main KSRs addressed: 28, 29, 32, 38, 39, 40</td>
<td>KSR: Key Species Result</td>
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The metabolic rate of Komodo dragons (*Varanus komodoensis*) is directly dependent on temperature, and as the climate warms, they will need more food to grow, stay healthy, and to reproduce. Over time, this will most likely result in a population of smaller individuals or a population decline as competition for food increases and more calories are needed.

Photo: David Bickford
Mission statement

The Conservation Genetics Specialist Group (CGSG) will establish guidance for pressing genetic policy and management issues. CGSG also provides genetic advice on policy and management within IUCN’s Species Survival Commission (SSC) and expert knowledge and assistance to SSC Specialist Groups. CGSG will facilitate a fuller appreciation, evaluation and conservation of genetic diversity and resources at all levels, providing a forum for all stakeholders to value and conserve this crucial element of Planet Earth’s life systems.

Projected impact for the 2017-2020 quadrennium

Genetic diversity is one of the three major components of biodiversity, but still overlooked in most plans for conserving biodiversity. We foresee that raising the awareness of genetic diversity as one of the key requisites for species to adapt and survive will directly benefit species action plans. In addition, the implementation of genetic criteria into the Red List assessment process will help us to define the conservation status more precisely.

Targets for the 2017-2020 quadrennium

Plan

Policy: (1) engage with the Convention on Biological Diversity (CBD) 2020 process; (2) propose an IUCN resolution on genetics in CBD targets; (3) develop IUCN guidance for monitoring changes in genetic diversity; (4) develop a guidance document on biobanks and planning for conservation of intra-specific genetic diversity.

Network

Capacity building: (1) develop Guidelines on Distinct Genetic Diversity during the development of A Global Standard for the Identification of Key Biodiversity Areas; (2) for all regions, regional self-supporting groups have been established for conservation genetics advice.

Synergy: ensure every Specialist Group Chair has a direct contact point(s) in CGSG, who is responsible for rapid response to genetic questions, advice, support and escalation of major issues to the wider IUCN CGSG.

Communicate

Communication: (1) publish position statement for the use of genetics in defining conservation units; (2) provide online resources for definitions of genetic terminology, guidelines on sampling and study design, and distinguish among technical approaches; (3) be proactive in communicating the activities of the CGSG; (4) raise awareness of conservation genetics within the broader community.

Technical advice: produce a guidance document for the use of genetics in Red Listing.

Activities and results 2020

Plan

Policy

1. CGSG provided input to the SSC Post-2020 Biodiversity Targets Task Force, held several meetings with the CBD Secretariat, and gave webinars across the world for CBD focal points. Several papers have been published by key members: e.g. (1) Laikre, L., et al. (2020). ‘Post-2020 goals overlook genetic diversity’. Science 367:1083–1085. https://doi.org/10.1126/science.abb2748; (2) Hoban, S., et al. (2020). ‘Genetic diversity targets and indicators in the CBD post-2020 Global Biodiversity Framework must be
**Summary of activities 2020**

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<td>Communicate</td>
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Main KSRs addressed: 18, 26, 28

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**Acknowledgements**

We thank Stockholm University for providing facilities for our joint workshop.

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**Network**

### Capacity building

1. Mike Bruford contributed to the current set of guidelines on Distinct Genetic Diversity during the development of *Guidelines for using A Global Standard for the Identification of Key Biodiversity Areas* v1.1, published in November 2020 (he is a member of the KBA Standards Group). (KSR #18)

2. Regional capacity for conservation genetics advice built with an aim of having self-supporting regional groups in five years. Starting groups will contain domiciled individual and non-domicile advisors active in regional research and capacity building, under the understanding that non-domicile individuals will step back from group after 5 years. (KSR #18)

#### Communicate

1. A number of different conferences or sessions have been organised by members: (1) G-BiKE workshop in Malta, (2) G-BiKE conference in Slovenia on biotechnological advances, (3) workshop on temporal genetic diversity analysis. Regular updates are provided on Facebook and Twitter. (KSR #28)

2. An EU Cost Action Programme (G-BiKE) has been running by several members to raise awareness of genetic tools in a conservation background. Several policy briefs have been issued. For more information see: [https://g-bikegenetics.eu/en](https://g-bikegenetics.eu/en) (KSR #28)
The mission of IUCN SSC Conservation Planning Specialist Group is to save threatened species by increasing the effectiveness of conservation efforts worldwide. For over 30 years, we’ve accomplished this by using scientifically sound, collaborative processes that bring together people with diverse perspectives and knowledge to catalyse positive conservation change. We provide species conservation planning expertise to governments, Specialist Groups, zoos and aquariums, and other wildlife organisations.

Projected impact for the 2017-2020 quadrennium

Through the implementation of the IUCN SSC Conservation Planning Specialist Group (CPSG) 2017–2020 Strategic Plan, we will more efficiently prioritise and plan for target species; develop and apply best practice planning methods that are based on a One Plan approach; increase species conservation planning capacity across the SSC, governments and other key partner organisations; improve the ability of governments to reach biodiversity targets through species conservation planning; and continuously improve species conservation planning methods by evaluating their impact and effectiveness. Together, these goals will allow us to enhance our and the SSC’s ability to plan more effectively for threatened species and ultimately improve the status of biodiversity worldwide.

Assess

Red List: explore deployment of a more rapid risk assessment tool for Specialist Group-driven risk assessments, particularly for species-rich taxonomic groups, to accelerate the diagnosis of taxa for which planning might be needed.

Plan

Planning: (1) deploy a universally applicable conservation needs assessment tool; (2) improve complementarity between Red Listing, conservation needs assessments, and conservation planning; (3) develop and test new mechanism(s) for evaluating the impact of conservation plans and enhancing the SSC’s species conservation planning process to increase probability of implementation and facilitate future evaluation; (4) implement and manage the SSC monitoring and evaluation mechanism; (5) lead, guide and support SSC Specialist Groups in species conservation planning.

Act

Conservation actions: (1) increase awareness and consideration of potential ex situ conservation roles and activities where appropriate among all species conservation planners and population managers; (2) provide tools and processes for evaluating and incorporating ex situ options into species conservation and collection planning; (3) promote integrated species conservation planning by involving both in situ and ex situ communities in the One Plan Approach to species conservation and collection planning processes.
Network

Capacity building: (1) establish and implement CPSG’s Species Conservation Planning Training Programme; (2) launch the Species Conservation Planners Development Path programme. By 2020, a minimum of 50 participants will have passed through the development path.

Synergy: establish CPSG Species Conservation Planning Learning Network (sPLAN).

Technical advice: (1) provide a generic process for species prioritisation for planning, adaptable to a range of relevant situations; (2) increase the rate of conservation planning (number of species with identified conservation needs and actions); (3) explore opportunities to strengthen the tools and processes used for single-species conservation planning activities; (4) develop a suite of planning tools and templates that can be applied to planning activities for multiple species on a landscape; (5) contribute to enhancing the SSC Species Conservation Planning Guidelines; (6) increase the value to SSC planning of the IUCN SSC Species Conservation Planning Tools Library; (7) create a facilitation skill subsection of the species conservation planning processes tools library; (8) within our area of influence, develop a clear and practical response to the challenges countries face in achieving Biodiversity Targets; (9) assist governments to use the SSC species conservation planning process to help them meet their obligations under Target 12 of the Convention on Biological Diversity 2020 Strategic Plan; (10) play a meaningful role in influencing the next iteration of biodiversity targets, post-2020, ensuring that species conservation planning is included in the next set of internationally agreed biodiversity conservation targets; (11) expand CPSG capacity in Southeast Asia.
Activities and results 2020

Plan

Planning

i. CPSG’s Assess to Plan (A2P) tool continues to be developed and trialled; CPSG led two A2P workshops in 2020, for Kenyan trees and for European hoverflies, reviewing over 376 species. (KSR #15)

ii. CPSG’s Assess to Plan (A2P) tool continues to be refined and trialled to integrate it into the Red Listing process. (KSR #15)

iii. The Red List Index was tested for evaluating the impact of initial planning intervention on long-term aggregate conservation status of multiple taxa. (KSR #16)

iv. The database of SSC plans was further developed to capture additional information. The project is ongoing. (KSR #16)

v. CPSG’s planning activities in 2020 involved numerous other SSC Specialist Groups, including the Primate Specialist Group (Black Lion Tamarin, *Leontopithecus chrysopygus*, population viability analysis), the Bumblebee Specialist Group (Rusty-patched Bumble Bee, *Bombus affinis*, *ex situ* assessment), and the Hoverfly Specialist Group (hoverfly A2P).

Additionally, CPSG published its ‘Species Conservation Planning Principals & Steps’ document as a tool for other SSC Specialist Groups to use to guide their planning work. (KSR #20)

Act

Conservation actions

i. CPSG provided or participated in *ex situ* conservation for One Plan Approach webinars and discussions for zoo and aquarium associations, universities and other conservation partners. Five webinars or roundtable discussions were held. (KSR #25)
ii. CPSG led or participated in workshops to assess the potential role(s) of *ex situ* management in the conservation of the Rusty Patched Bumble Bee (*Bombus affinis*), Purple-winged Ground Dove (*Paracalavis geoffroyi*), Galliformes and Tinamiformes (10 taxa), Amazon parrot species, Japanese Greenfinch (*Chloris sinica minor*), Cobble Skink (*Oligosoma robinsoni*) and Sumatran Tiger (*Panthera tigris sumatrae*). Seven *ex situ* conservation assessment/planning or Intensively Managed Populations (IMP) for Conservation meetings/projects were completed. (KSR #25)

iii. CPSG led or participated in 28 species conservation planning meetings for over 787 species found in more than 58 countries. (KSR #25)

**Network**

**Capacity building**

i. CPSG led four training activities in CPSG’s species conservation planning tools and processes, including a virtual retreat for participants in CPSG’s Planner Development Path Mentorship Programme. One-hundred and nine (109) individuals completed training, 50% of all course graduates reporting design and/or facilitation of species conservation planning in 2020, with 324 species impacted by this planning in 19 countries. (KSR #17)

ii. Since 2018, 13 mentees have completed or are still participating in CPSG’s Planner Development Path Mentorship Programme. A new cohort of mentees is in the process of being developed. (KSR #17)

**Synergy**

i. sPLAN was launched as CPSG-Connect including a group Facebook page and WhatsApp group. It consists of individuals who have completed CPSG training courses and is used to share information, seek planning support, and to network. (KSR #29)

### Technical advice

i. CPSG’s Assess to Plan (A2P) tool continues to be developed and trialled. (KSR #21)

ii. CPSG led one ex situ assessment and planning workshop for 10 taxa of Galliformes and Tinamiformes, integrated into the relevant National Action Plan. (KSR #21)

iii. We are actively involved in the Reverse the Red initiative to offer countries the tools, processes and capacity development needed to apply Assess-Plan-Act at a national level. We contributed to development of the IUCN Global Species Action Plan in 2020 and will continue to contribute to its development in 2021. (KSR #21)

iv. CPSG produced and distributed a document (‘Get to Know CPSG’) designed to introduce national wildlife agencies (via IUCN Regional and Country Offices) to the tools, processes and capacity development CPSG has to offer to assist them with the plan component of Assess-Plan-Act. CPSG is currently assisting wildlife agencies (or the equivalent) in Australia, New Zealand, Brazil, US, Republic of Korea, Europe and others with species planning. (KSR #21)

v. CPSG contributed to development of the IUCN Global Species Action Plan in 2020 and will continue to contribute to its development in 2021. We participated in only one policy forum but are working with the IUCN Global Species Programme to ensure that planning is recognised as a tool for conservation of species. We added Dao Nguyen from the Global Species Programme to our strategic committee to link more directly to their policy work. (KSR #21)

### Acknowledgements

CPSG acknowledges its donors, members, and partners.

### Summary of activities 2020

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Main KSRs addressed: 15, 16, 17, 20, 21, 25, 29
Mission statement
The mission of the IUCN SSC Conservation Translocation Specialist Group (CTSG) is to empower responsible conservation translocations that save species, strengthen ecosystems, and benefit humanity.

Projected impact for the 2017-2020 quadrennium
Advancements of the Conservation Translocation Specialist Group in terms of conservation science, policy development, and action are integral to the mission of IUCN generally and the Species Survival Commission specifically. Strategic alignment of increased guideline translations, increased science, hosting the second global conference, and upscaling training programmes will result in more effective conservation translocations around the world. By 2020, responsible conservation translocations will continue to increase for more species, in more places, more of the time for benefits to nature and humanity. Such positive conservation actions, which help to restore species and ecosystems, will continue to increase global optimism that conservation is worthwhile, effective, and worthy of increased investments around the world.

Targets for the 2017-2020 quadrennium

Assess

Act
Conservation actions: (1) submit IUCN Reintroduction Perspectives book document to the IUCN Editorial Board for sign off by end of 2017 or early 2018; (2) encourage translation of the IUCN Guidelines for Reintroductions and Other Conservation Translocations into two more languages; (3) respond to global issues regarding conservation translocation policy or practice as they arise; (4) achieve IUCN World Conservation Congress (WCC) motion approval for Extinct in the Wild Species.

Network
Capacity building: run training courses on the IUCN Guidelines for Reintroductions and Other Conservation Translocations on four continents by 2020.

Communicate
Scientific meetings: (1) host a Reintroduction Conference in Chicago, US, 10 years after the first conference in 2008; (2) begin to work with individuals from the next host country to begin preparations for a 2022 conference outside North America.
Activities and results 2020

**Act**
Conservation actions
i. WCC motion approval for Extinct in the Wild Species was accomplished. (KSR #24, 26)

**Network**
Capacity building
i. A programme of training courses on the IUCN Guidelines for Reintroductions and Other Conservation Translocations on four continents has been partially achieved. Training in Brazil was postponed due to the pandemic. (KSR #18)

**Communicate**
Scientific meetings
i. A global conference is set for Perth, Australia, in November 2022. (KSR #28)

Summary of activities 2020

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KSR: Key Species Result

Project volunteers catching queen short-haired bumblebees in Sweden
Photo: Nikki Gammans
Mission statement
The Invasive Species Specialist Group (ISSG) aims to reduce threats to natural ecosystems and the native species they contain by increasing awareness of invasive alien species, and of ways to prevent, control or eradicate them.

Projected impact for the 2017-2020 quadrennium
By the end of 2020, the ISSG envisions indications of reductions in the global overall rates of biological invasions and targeted successful management options by national governments. Robust and current data and information are invaluable for planning management and action ranging from prevention of introductions to ongoing management of invasions. By providing this support to our stakeholders, we hope to contribute to significant reductions in biological invasions, both in preventing introductions of alien species and optimal management of ongoing invasions. Biodiversity indicators allow decision makers to see the result of their decisions, and the development of sound indicators is supported by sound and current data. The ISSG hopes to use the data it collates to develop practical and informative indicators leading to better decision making. The planned global assessment of the impacts of invasive alien species on the natural environment, to be completed by the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES), will use all the data and information generated during the development of Invasive Alien Species (IAS) indicators and an expert group will compute the qualified impacts of IAS on the natural environment. The ISSG envisions that this informed assessment will be a key resource when the next Strategic Plan on Biodiversity is developed in 2020.

Targets for the 2017-2020 quadrennium
Assess
Research activities: (1) complete 20% of proposed linkages between the ISSG knowledge products and other significant knowledge products of IUCN and partners, such as the Red List, Protected Planet, ECOLEX, etc.; (2) aim to complete at least 200 Environmental Impact Classification of Alien Taxa (EICAT) assessments for the most harmful alien invasive species, and post them on the Global Invasive Species Database (GISD) as preliminary profiles; (3) develop an interlink between GISD and Global Register of Introduced and Invasive Species (GRIIS), to display 30% of information available in GRIIS also through the GISD webpage; (4) prepare at least 100 species profiles for GISD; (5) update all four Biodiversity Indicators related to invasive species; (6) complete a global assessment of the impact of invasive alien species.

Activities and results 2020
Assess
Research activities
i. IUCN Red List: Links between invasive species mentioned in the threat section of the Red List assessments were linked to the profile pages on the Global Invasive Species Database in the past few years. These links need to be reviewed and updated. (KSR #32)
ii. Protected Planet: The ISSG has compiled as many as 75 checklists of introduced and invasive species in protected areas and their buffer zones as part of the GRIIS (Global Register of Introduced and Invasive Species) project. These have been published on the Global Biodiversity Information Facility (GBIF) portal. Discussions are taking place on providing a link between this data and the Protected Planet pages. (KSR #32)

iii. ECOLEX: There had been discussions on linking data on invasive species legislation and enactments to ECOLEX but a lack of funding has hampered progress on this activity. (KSR #32)

iv. Over 120 species are being worked on for EICAT classification. (KSR #32)

v. Global coverage of GRIIS has been completed; these data have been presented in the GBIF portal but are yet to be posted on the GRIIS webpage or GISD. IT issues have been an obstacle.

vi. Updated biodiversity indicators related to invasive species: (1) Policy Response Indicator (BIP and SDG 15.8.1): this indicator has been measured and updated in 2020. The Biodiversity Indicators Partnership (BIP) webpage has been revised and submissions have been made to the Sustainable Development Goals (SDG); (2) Indicator on Introduction Events: global coverage of data has been achieved and analysis completed. The BIP page will be updated once the publications related to these analyses are published in the next two months; (3) Eradications of Vertebrate Invasive Animals: this indicator has been updated in 2020, including the webpage on the BIP page with our partners Island Conservation. Note: the impact indicator is being led by BirdLife International. (KSR #32)

vii. Global assessment of the impacts of invasive alien species has been completed for key taxon groups, including amphibians, reptiles, fish, aquatic plants and terrestrial plants. These data will contribute to the IPBES ongoing assessment. (KSR #32)

Acknowledgements
ISSG would like to acknowledge the Global Biodiversity Information Facility (GBIF) for their continued support for the GRIIS project to achieve global coverage. We would also like to acknowledge the support of the Secretariat of the Convention on Biological Diversity for providing small grants to complete the work on the impacts of IAS project. ISSG would like to acknowledge the funding support from the French Ministry for Ecological Transition (MTE) to complete the update of the Policy indicator and work on impacts of invasive species. ISSG would like to acknowledge the Environment Agency – Abu Dhabi (EAD) for their continued support to implement the core business of the ISSG.

Summary of activities 2020
Components of Species Conservation Cycle: 1/5
Assess 7

Main KSRs addressed: 32

Resolutions addressed: WCC-2016-Res-018-EN

KSR: Key Species Result
Mission statement
The IUCN SSC Species Monitoring Specialist Group (SMSG) aims to enhance biodiversity conservation by improving the availability and use of data on species populations, their habitats and threats.

Projected impact for the 2017-2020 quadrennium
By 2020, the capacity of the SSC network and its partners for data collection, analysis, sharing and use is enhanced, resulting in at least ten significant initiatives starting to fill identified taxonomic and geographic gaps in species data needed for IUCN Red List assessments. We therefore expect Red List assessments for at least 30 species to use richer data sets.

Targets for the 2017-2020 quadrennium
Assess
Research activities: (1) review of IUCN Save Our Species (SOS) portfolio data completed and taxonomic and geographic trends identified; (2) survey of SSC taxonomic Specialist Groups completed and trends in taxonomic and geographic data gaps, as well as Specialist Group monitoring capacity needs, identified; (3) at least one scientific paper published annually promoting the goals of the group and IUCN data products; (4) at least one project implemented per year to demonstrate monitoring tools and best practices and deliver the group’s strategic plan; (5) at least three monitoring frameworks produced for specific uses (e.g. protected areas, Key Biodiversity Areas, business, restoration, etc.); (6) a database of monitoring systems, tools and data sources is available online; (7) at least one IUCN data product per year is improved through input from the SMSG.

Act
Technical advice: at least eight monitoring plans are developed for taxonomic Specialist Groups, including at least two for taxa previously unmonitored systematically.

Network
Capacity building: at least one training webinar per year offered to SSC groups and their partners to improve capacity for monitoring.
Proposal development and funding: funding secured annually (CHF) for core and project costs.

Activities and results 2020
Assess
Research activities

ii. SMSG projects implemented in 2020 were: (1) A Global Audit of Biodiversity Monitoring; (2) Identifying Data Gaps and Monitoring Challenges in Project Portfolio Reporting; (3) Biodiversity Monitoring and Reporting Frameworks for Business; (4) Improving capacity for protected area management in Ghana; (5) Developing and Testing IUCN Green Status Standards; (6) An Inventory of Global Data Sources for Conservation Monitoring. Updates are on the SMSG website at: https://www.speciesmonitoring.org/projects.html. (KSR #32)

iii. IUCN biodiversity guidelines for business were drafted and peer reviewed; monitoring guidelines were produced for Alcoa and Boskalis; input was provided into the standards for the IUCN Green Status of Species and the IUCN Green Status of Protected and Conserved Areas. (KSR #14)

iv. A database for data sources was published in a science journal (PLoS ONE) and posted online; a database of monitoring systems was published in a science journal (Conservation Biology) and will be posted online in early 2021; a database of monitoring tools was produced as part of business guidelines and will be published and posted online in early 2021.

v. The Chair is an active member of the IUCN Green Status of Species Task Force and in 2020 he helped finalise the standard and the guidelines; he is also a member of the Green Status Working Group of the IUCN World Commission on Protected Areas and in 2020 provided input into the standard for the IUCN Green Status of Protected and Conserved Areas. (KSR #14)

Network
Proposal development and funding
i. CHF 120,000 was secured in 2020 for work on the business project and the Ghana project. (KSR #19)

Acknowledgements
The group is grateful to Dr Luca Fumagalli at the University of Lausanne for hosting the Chair, and to the Audemars-Watkins Foundation, Nespresso, Alcoa Foundation and Boskalis for project funding.

Summary of activities 2020

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Main KSRs addressed: 14, 19, 32

Resolutions addressed: WCC-2012-Res-41

KSR: Key Species Result

The group’s project in Ghana, led by the Centre for African Wetlands, has enhanced biodiversity monitoring in Shai Hills Reserve by training Wildlife Department staff to use camera traps which are now delivering results.

Photo: Kofi A Amponsah-Mensah

Photo: P.J. Stephenson

The group’s project in Ghana, led by the Centre for African Wetlands, has enhanced biodiversity monitoring in Shai Hills Reserve by training Wildlife Department staff to use camera traps which are now delivering results.
Mission statement
For nature and for people: building global understanding on sustainable use of wildlife.

Projected impact for the 2017-2020 quadrennium
By the end of 2020, we foresee that key influential conservation debates and policies will reflect a better understanding and knowledge, intervening and changing particularly influential decision-making dynamics that have potentially large impacts. We seek to build a stronger base of knowledge and understanding on key high profile and important issues, create much greater awareness among a broad range of constituencies of the importance and role of sustainable use of wildlife for conservation and livelihoods, and boost the ability of the Indigenous Peoples and local communities who live with wildlife to effectively participate in conservation decision making.

Targets for the 2017-2020 quadrennium

Assess
Technical advice: fund and initiate an SSC situation analysis on conservation and livelihood impacts of hunting.

Plan
Policy advice: (1) disseminate the Wild Life, Wild Livelihoods report; (2) engage with planning and activities aimed at influencing the London Illegal Wildlife Trade (IWT) Conference; (3) hold ‘OPEN COMMUNITY VOICES’ day in association with the London IWT Conference; (4) highlight research findings on Communities and IWT at Oxford-led conference pre-London IWT conference.

Act
Capacity building: roll out the First Line of Defence (FLoD) initiative in further East/Southern African countries.

Communicate
Capacity building: populate the Communities and IWT Learning Platform, conduct periodic analyses of lessons learnt and run learning activities including webinars.

Communication: (1) build a new major website on sustainable use, to act as a repository for knowledge, enhance understanding of the diversity and impact of sustainable use approaches, serve as a resource for communications efforts and media engagement and provide useful general guidance for implementing sustainable use; (2) develop and implement a strategic communications plan; (3) launch an Interactive Learning Platform to raise awareness of the importance of incentives, rights and sustainable use among a broad conservation and development audience to increase understanding and acceptance of the role of sustainable use in supporting conservation and livelihoods outcomes; (4) contribute to the Collaborative Partnership on Wildlife (CPW) high level policy document on sustainable wildlife management, CPW strategic plan, publications on hunting in North America and Europe and other selected high profile wildlife management issues to be identified; (5) develop internal SULi communications materials.
Technical advice: (1) publish a new Annex on harvesting of threatened species; (2) disseminate briefing paper on trophy hunting to suitable policy makers at appropriate conservation fora; (3) raise awareness about the role of sustainable use for both conservation and livelihoods and key international policy fora; (4) engage at CITES to raise awareness about sustainable use and support the rural communities process.

Activities and results 2020

Assess

Technical advice

i. A proposal was drafted to conduct an SSC Situation Analysis on conservation and livelihood impacts of hunting, and a funding source confirmed. Work on the analysis will commence in 2021 (target carried forward to new quadrennium). (KSR #19, 21)

Plan

Technical advice


Act

Capacity building

i. SULi collaborated with the IUCN Eastern and Southern Africa Regional Office (ESARO) and International Institute for Environment and Development (IIED), to design and deliver a series of online training events for government and NGO representatives from the East African region on engaging communities to tackle illegal wildlife trade. Details of the trainings delivered are available at https://www.peoplenotpoaching.org/training/communities-combating-illegal-wildlife-trade-online-learning-series-east-african-community. A training programme is planned for the Southern African Development Community (SADC) in 2021 (target continues into new quadrennium). (KSR #17)

Communicate

Capacity building

i. A case studies database on communities and illegal wildlife trade is hosted at www.peoplenotpoaching.org. Case studies continued to be added over the year. An analysis of case studies was conducted for the East African training programme and to inform Tanzania’s National Elephant Day. The project continues into 2021 (target carried into new quadrennium). (KSR #28)

ii. Five issues of the SULi Digest were produced, summarising news, publications and other communications outputs on sustainable use (available at https://us20.campaign-archive.com/home/?u=be6f4a0fc60e4663867f749d&d&id=740bc34e68). This will continue into the new quadrennium. (KSR #33)

Technical advice

i. A presentation on hunting was given to the UK All Party Parliamentary Group on Shooting and Conservation. The presentation is available on the SULi website. A briefing paper was also shared with journalists on request. (KSR #26, 28)

ii. SULi was involved in the CBD Sustainable Use consultation, presenting in the opening webinar and facilitating sessions in the closing webinar. SULi also presented at the International Textile Exchange conference on the role of wild sourcing in sustainable fashion. (KSR #26)

Acknowledgements

SULi would like to acknowledge support from the Environment Agency – Abu Dhabi via its grant to SSC.

Summary of activities 2020

Components of Species Conservation Cycle: 4/5

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Main KSRs addressed: 17, 19, 21, 26, 28, 33

KSR: Key Species Result
Mission statement
The group is commissioned to serve as a first response for wildlife health concerns relevant to conservation around the world. The focus of the group is on health impacts that relate to the conservation of species, some of which are negative to wildlife population persistence and a risk to threatened species.

Projected impact for the 2017-2020 quadrennium
By the end of 2020, we envision wildlife health will be recognised as a critically important dimension of species survival, enabling the SSC to more proactively and effectively manage wildlife disease threats and threats to wildlife health from human activities, spill over of domestic animals and human diseases or inappropriate reactions to wildlife disease events. We will focus our efforts on policies that support prevention and management of disease, including disease-specific recommendations (e.g. to governments), as well as simplified processes to facilitate timely international movement of emergency diagnostic specimens for conservation purposes under CITES and in terms of growing restrictions to timely diagnosis under Nagoya Protocols and similar initiatives. We apply the IUCN-OIE Guidelines for Wildlife Disease Risk Analysis as well as embed wildlife health considerations in future IUCN and United Nations (Convention on Migratory Species (CMS), Global Environmental Outlook (GEO), Convention on Biological Diversity (CBD), etc.) knowledge products to help proactively reduce disease risks and impacts of human activities on wildlife health. Through our regionally diverse expert membership, we will aggregate information on wildlife disease events and adverse impacts on wildlife health as well as provide technical support on investigations of key wildlife morbidity and mortality events for enhanced understanding of disease pathways and drivers to inform conservation action. Through our ongoing work with international and regional partners – e.g. UN CBD, World Health Organization (WHO), Wildlife Disease Association, World Organisation for Animal Health (OIE), UN Environment Programme Global Environment Outlook (UNEP GEO), UNEP CMS – we will continue to highlight and raise awareness of the links between the health of humans, animals and the environment and showcase how ‘One Health’ approaches can help mainstream biodiversity and ecosystem services.

Targets for the 2017-2020 quadrennium
Assess
Red List: deliver ten technical assessments to SSC taxonomic groups.
Research activities: investigate five wildlife mass morbidity/mortality events.

Plan
Policy: adopt policy for simplified process for international movement of emergency diagnostic specimens of conservation species.

Act
Technical advice: deliver ten technical recommendations.

Network
Documents review: review ten SSC documents.
Membership: expand Wildlife Health Specialist Group (WHSG) membership representation to 100 countries.
Synergy: deliver ten external outreach events/materials/forums (e.g. policy conventions, social media) showcasing relevance of wildlife health to One Health.
Activities and results 2020

Assess

Research activities


iv. We provided technical support on an elephant mortality event in Botswana. (KSR #23)

v. We provided technical support on the SARS-CoV-2 threat to wildlife: identified risks (prospective) to wild animals from OIE (including mink, primates, and bat species). (KSR #23)

Act

Technical advice


ii. WHSG Co-Chair and South America Regional Coordinator published results from a 15-year serological study of >1,000 Magellanic Penguins (Spheniscus magellanicus), establishing an important baseline understanding for a key species in the Patagonian Sea. (KSR #26, 27)

Curious Grey Fox, Urocyon cinereoargenteus,
kits playing in Vermont, US
Photo: Catherine Machalaba

### Network

**Documents review**

i. WHSG provided input to IUCN SSC documents, including: (1) IUCN website ‘Frequently Asked Questions on COVID-19’; (2) IUCN situation analysis on wildlife trade; (3) paper drafts and information documents through the IUCN Post-2020 Biodiversity Framework working group; (4) IUCN World Conservation Congress planning committee proposals on health; (5) statement for the CBD Subsidiary Body on Scientific, Technical and Psychological Advice (SBSTTA) special session on Biodiversity, COVID-19 and One Health; (6) continued collaboration on the IUCN World Conservation Congress motion 102 – Strengthening mutual benefits of mobile pastoralism and wildlife in shared landscapes (now approved); (7) IUCN Global Species Action Plan. (KSR #28)

**Membership**

i. Members were identified from countries without current coverage (especially in West and Central Africa) to be added for the new quadrennium.

### Synergy

**i.** Authored the IUCN Crossroads Blog post ‘It Is Time for a Global Wildlife Health Authority’ (available at: https://www.iucn.org crossroads-blog/202009/it-time-a-global-wildlife-health-authority). (KSR #29)


**iii.** We collaborated with the IUCN Friends of Ecosystem-Based Adaptation group to promote One Health approaches and attention to wildlife health in ‘building back better and greener’ recovery efforts. (KSR #29)

### Communicate

**Communication**

i. WHSG provided comments to CITES in the development and refinement of the Guidance on the use of the scientific exchange exemption and the simplified procedures, calling attention to the need for automatic registration (and improved linking to) OIE reference laboratories, and the barriers impeding timely movement of Appendix I species. (KSR #28)

**ii.** We submitted a statement to the European Parliament for their two votes concerning Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) as regards lead in ammunition in/around wetlands. (KSR #28)

**iii.** We organised and presented at a variety of fora on COVID-19 recovery, including the Global Health Security Agenda Ministerial Meeting event on ‘Moving Toward Best Practices in Multisectoral Coordination: Integrating Environment and Health to Strengthen Capacities to Prevent, Detect and Respond’. (KSR #28)

### Acknowledgements

We thank the following donors that provided core funding for the group’s activities (e.g., website administration, membership outreach, article publication, expert participation in UN policy fora): EcoHealth Alliance and the Royal Veterinary College. We are grateful for the assistance of Ms Kelly Rose Nunziata, Tiggy Grillo, and the WHSG Regional Coordinators.

### Summary of activities 2020

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Main KSRs addressed: 7, 23, 26, 27, 28, 29, 32

Resolutions addressed: WCC-2016-Res-014 and WCC-2016-Res-064

KSR: Key Species Result
Mission statement
Partnership platform to avert extinctions of and catalyse conservation action for Critically Endangered land and freshwater vertebrate species found in Southeast Asia.

Projected impact for the 2017-2020 quadrennium
By the end of 2020, we envision a number of Asian Species Action Partnership (ASAP) species (Critically Endangered land and freshwater vertebrates found in Southeast Asia) will have benefited from effective conservation action. ASAP will have: created an enabling environment to catalyse effective conservation action for ASAP species, with a focus on those most neglected; increased funding available for the conservation of ASAP species; developed a comprehensive capacity building and training strategy to improve Southeast Asian leadership and conservation capacity; and developed appropriate tools and mechanisms to raise the profile of ASAP species, increasing understanding and awareness of the urgent need to avert ASAP species extinctions.

Targets for the 2017-2020 quadrennium
Plan
Planning: (1) ASAP strategy developed and priorities agreed; (2) conservation action of ASAP species promoted, with increased implementation (ongoing) and specific conservation strategy and action plans developed for at least three ASAP species; (3) ex situ Working Group with clearly defined goals created.

Network
Capacity building: capacity building and training strategy developed, and priorities agreed.
Proposal development and funding: an increase in funding available to support ASAP species conservation and prevent extinctions.
Synergy: at least 80 institutions become partners of ASAP.

Communicate
Communication: ASAP species communication strategy developed and being implemented.

Activities and results 2020
Network
Proposal development and funding
i. ASAP Species grants supported 10 projects conserving a total of 19 ASAP species. (KSR #30)

Synergy
i. An additional 61 organisations joined the ASAP Partnership. (KSR #28)

Communicate
Communication
i. We produced quarterly newsletters with readership increasing to approx. 400 individuals.
Acknowledgements

We thank Mandai Nature as the host organisation to the ASAP Secretariat for their ongoing support. We are extremely grateful to Fondation Segré and an anonymous donor for their support for the ASAP species conservation grant programmes launched in 2020. We extend our warmest thanks to all the organisations that have contributed to ASAP: IUCN SSC through their partnership with the Environment Agency – Abu Dhabi, European Association of Zoos and Aquaria (EAZA), Global Wildlife Conservation, Synchronicity Earth in part through their partnership with the Taiwan Forestry Bureau, and an anonymous donor. The conservation of ASAP species would not be possible without the continued dedication and innovative approaches of ASAP Partners, along with the donors who support their work.

Summary of activities 2020

Species Conservation Cycle ratio: 1/5

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Main KSRs addressed: 28, 30

Resolutions addressed: WCC-2016-Res-009

KSR: Key Species Result
Mission statement
The BirdLife Partnership strives to conserve birds, their habitats and global biodiversity, working with people towards sustainability in the use of natural resources.

Projected impact for the 2017-2020 quadrennium
BirdLife's Preventing Extinctions Programme expects to have had the following impacts by 2020: (1) status of the world’s most threatened bird species improved through the work of BirdLife Species Guardians and other effective action; (2) overall extinction risk across all bird species reduced; (3) the global Red List for birds regularly updated, improved and promoted, with knowledge gaps filled through targeted research and monitoring; and (4) declines in common bird species prevented, halted or reversed.

Targets for the 2017-2020 quadrennium
Assess
Red List: (1) reassess the global Red List status of as many bird species as possible, focusing on updating the factsheets of currently and poten-tially threatened species; (2) support the develop-ment of national and regional Red Lists and Red List indices for birds where resources allow, to build capacity and feed into global Red List assessments.

Network
Documents review: contribute to the Species Recovery Request for Proposals.
Red List: contribute to strategic processes underpinning the maintenance and further development of the Red List.

Communicate
Red List: (1) promote the Red List index for birds as an effective biodiversity indicator; (2) promote the use of the Red List to inform policy and action; (3) communicate the Red List widely to further increase its recognition and use.

Activities and results 2020
Assess
Red List
1. We prepared discussion topics and ran online consultations about proposed changes to the status of 151 bird species on BirdLife’s Globally Threatened Bird Forums. These resulted in 78 species being downlisted to lower threat cate-gories and 40 species uplisted to higher threat categories (although only a minority of these were genuine changes, with most reflecting better knowledge). We produced the first assessments for 13 newly discovered or taxo-nomically ‘split’ or ‘lumped’ species, and for three species previously listed as Data Deficient (reducing the number to 52). We continued factoring in the implications of newly available, remotely sensed, high resolution data on forest cover and rates of forest loss worldwide (Global Forest Watch). By intersecting these data with our distribution maps of (>6,000) forest-depen-dent bird species, we determine the area of suitable habitat and the rate at which this has been lost within individual species’ ranges. We then use these data to infer the rate at which individual species are declining, and the impli-cations for their extinction risk. In 2020, we collaborated with the IUCN Red List Unit and the World Resources Institute to advance auto-mating these calculations, aiming to provide annually updated outputs for use from 2021 onward. Having published our work to calculate
species-specific generation lengths for all the world’s birds using a robust repeatable method that conforms to IUCN Red List requirements (Bird, J.P., et al. (2020). ‘Generation lengths of the world’s birds and their implications for extinction risk’. Conservation Biology 34:1252–1261. https://doi.org/10.1111/cobi.13486), we began applying the values produced by this method to all reassessments from 2020 onward. For all reassessed species, we released revised factsheets, including text accounts, tables and maps, on BirdLife’s Data Zone. Summary statistics for 2020: we released updated Red List factsheets for 832 bird species, including 778 reassessments, 203 map updates and 76 reflecting changes to taxonomy and/or nomenclature. (KSR #1)

We supported IUCN’s Mediterranean Species Programme with the regional Red List of North African Raptors (N=36), including co-facilitating the expert assessment workshop in Tunisia in February 2020. We supported BirdLife’s European Division with the assessment of the regional Red List status of ca. 450 species at EU scale, as a key contribution to assessing whether the EU met its 2020 biodiversity targets and the ‘State of Nature in the EU’ report. For endemic species with global implications, we updated their global Red List assessments to ensure consistency. (KSR #2, 3)

Network
Documents review
i. More than 90% of all bird species, and more than 80% of all threatened bird species, are not covered by IUCN Bird Specialist Groups. As the Red List Authority, BirdLife considers requests for letters of endorsement for projects on all other bird species, providing 13 in 2020. (KSR #30)

Red List
i. Stuart Butchart represented BirdLife on the Red List Committee and the Reassessment Task Force. Hannah Wheatley represented BirdLife on the Red List Technical Working Group, and its Spatial Tools Sub-group, collating and inputting views and information from colleagues as needed. Ian Burfield represented BirdLife in online Q&A sessions with the SSC Chair’s Team and Network. Rob Martin and Ian Burfield liaised with Chairs of Bird Specialist Groups regarding Red List update. Claudia Hermes and Ian Burfield applied the IUCN Green Status method to a suite of bird species as part of a Cambridge Conservation Initiative (CCI) Collaborative Fund project and contributed to the resulting IUCN-led manuscript. (KSR #10)

Communicate
Red List
i. We calculated updated Red List Indices for each country and SDG region and provided these for the UN’s annual report on progress towards the 2030 Sustainable Development Goals. The Red List Index (RLI) and other Red List information featured prominently in Global Biodiversity Outlook 5 and in the 2020 Living Planet Report. We input to consultation by the United Nations Convention to Combat Desertification (UNCCD) on use of the RLI to measure progress under its Strategic Framework toward 2030. We produced a series of RLIs for bird species listed on the annexes of the Convention on Migratory Species (CMS) for a global review of the conservation status of migratory species, launched at the Conference of the Parties in February 2020. We updated RLIs for each country for inclusion...
Critically Endangered Helmeted Hornbill, *Rhinoplax vigil*
Photo: Bjorn Olesen

Critically Endangered Straw-headed Bubul, *Pycnonotus sinensis*
Photo: Pixabay
on the ‘country profiles’ in the Integrated Biodiversity Assessment Tool (IBAT). We developed improved codes and methods for annually updating the RLI and its various disaggregations and provided the data and graphs for inclusion in a newly launched RLI portal on the IUCN Red List website. We made updated national RLIs for birds available via the Species Dashboard on the BirdLife Data Zone, where it is possible to compare two national RLIs (or one national RLI and the global RLI). (KSR #3)

ii. We contributed to the development of a ‘Species Threat Abatement and Recovery’ (STAR) metric, based on data on threats to birds from our Red List assessments, for use in facilitating impact investing and a species-focused ‘science-based target’. The paper on this was accepted for publication in Nature Ecology and Evolution. We contributed to ongoing work (including through two PhD students co-supervised by BirdLife) to develop ‘Area of Habitat’ (formerly ‘Extent of Suitable Habitat’) maps, derived from Red List spatial and tabular data, to serve a number of purposes including in relation to action and policy. We contributed through the IBAT Governance Committee, Technical Committee and Scientific Advisory Committee to promoting the use of Red List data by the private sector and others through IBAT. We supported ongoing efforts to identify Key Biodiversity Areas (KBAs), including for threatened species, using data from the IUCN Red List. This includes our role as manager of the World Database of KBAs, co-chair of the KBA Technical Working Group, host of the KBA Secretariat and as members of the KBA Partnership. (KSR #7)

iii. BirdLife’s December 2020 IUCN Red List update was publicised on our website and through social media (see https://www.birdlife.org/worldwide/news/red-list-2020-andean-condor-heads-list-raptors-steep-decline). Numerous other articles relating to the Red List were published and promoted in 2020 (see https://www.birdlife.org/news/tag/iucn-red-list). We contributed to work to update the Red List website and facilitate download of RLI datasets and graphs (see above). We co-authored and promoted a paper (Bolam, F.C., et al. (2020). ‘How many bird and mammal extinctions has recent conservation action prevented?’ Conservation Letters 14:e12762. https://doi.org/10.1111/conl.12762) on which bird and mammal species avoided extinction due to conservation action since 1993 (the lifetime of the CBD) and since 2010 (the period of the Aichi targets). We compiled and advocated a report in the style of ‘State of the World’s Birds’ using Red List and RLI data (among others) to summarise what birds tell us about progress to the Aichi Targets and requirements for the post-2020 biodiversity framework. We led or co-authored a number of papers that were based on or utilised IUCN Red List data, or informed Red List assessments, as well as advancing others on a variety of approaches. (KSR #8)

Acknowledgements
BirdLife acknowledges and thanks its Founder Patrons, Benjamin Olewine, the Aage V. Jensen Charity Foundation, the A. G. Leventis Foundation, the Tasso Leventis Foundation, the Japan Fund for Science and all BirdLife Species Champions for supporting its Red List assessments and the taxonomic work that underpins them. Thanks also to everyone who contributes information to the Red List assessments, especially via the Globally Threatened Bird Forums (https://globally-threatened-bird-forums.birdlife.org), including members of IUCN Bird Specialist Groups and the Red List Authority for Birds.

Summary of activities 2020
Components of Species Conservation Cycle: 3/5

| Assess | 2 |
| Network | 2 |
| Communicate | 3 |

Main KSRs addressed: 1, 2, 3, 7, 8, 10, 30

KSR: Key Species Result
Mission statement

To coordinate, promote and contribute to all necessary conditions to avoid extinctions of Brazilian flora species, in line with the targets of the Global Strategy for Plant Conservation (GSPC) and with the national mandate to assess extinction risk for the National Red List of Brazilian flora, for the elaboration of action plans and maps of priority areas for the conservation of species threatened with extinction.

Projected impact for the 2017-2020 quadrennium

By the end of 2020, we aim to increase knowledge about the state of conservation of Brazilian endemic flora. The focus of extinction risk assessments will be on endemic tree species that occur throughout the country, especially those occurring in territories that have a small number of conservation mechanisms. Re-assessments of threatened or Near Threatened species will be carried out, focusing on tree species and especially those with economic value. Supporting the extinction risk assessments is a network of approximately 208 experts in the taxonomy and ecology of Brazilian flora. In addition, a new version of the CNCFlora system will be developed, containing a database of threats, Red List Authority assessment reviews, and a module for the National Action Plans that lead to improvements in status and, ultimately, removal of species from the Red List. In a megadiverse country, where native vegetation is being converted or fragmented, conservation actions involving government agencies and local actors must be developed. Thus, by 2020, the Brazil Plant Red List Authority (BP-RLA) will participate in the elaboration of National Action Plans for threatened species with a focus on Critically Endangered species that do not currently benefit from conservation mechanisms.

Targets for the 2017-2020 quadrennium

Assess

Capacity building: (1) provide Red List capacity building for botanic experts; (2) provide two trainings on Communication and the Red List; (3) teach two training courses on georeferencing for assessment; (4) provide training in assessment tools (Environmental Impact Classification for Alien Taxa – EICAT).

Green Status: test the Green Status for one species.

Red List: (1) complete assessment of 2,600 Brazilian endemic trees; (2) complete assessment of 884 endemic species from Rio de Janeiro State; (3) review assessment of Brazilian endemic trees from Botanic Gardens Conservation International (BGCI) and Royal Botanic Gardens, Kew; (4) update CNCFlora Information System to version 3; (5) complete extinction risk assessments for Brazilian native species occurring in Pantanal, Caatinga and Pampas; (6) carry out extinction risk assessments of Brazilian endemic trees; (7) quality control of Red List assessments; (8) participate in the workshop on regional reassessment of endangered flora and fauna; (9) prepare for a National Red List Index.

Research activities: (1) carry out expedition field survey collections; (2) generate databases to be used for Red List assessments.

Plan

Planning: (1) conduct field expeditions for the elaboration of Territorial Action Plans; (2) publish Territorial Action Plans for conservation
of flora; (3) organise meetings of the National Action Plan for the conservation of Rio’s endemic flora; (4) elaborate eight Territorial Action Plans; (5) support the implementation and monitoring of conservation strategies and plans for threatened flora.

Policy: (1) include species assessed as threatened in the National Official Red List; (2) organise meetings on the Impact Reduction Plan to support decision and environmental management; (3) provide advice for policy and decision making at the national level.

Act
Conservation actions: (1) conduct three field expeditions to collect propagules of the target species of the *Discocactus horstii* Conservation Research Project: a Critically Endangered species of Cactaceae from northern Minas Gerais State. The propagules will be used in experiments of cultivation and propagation of species aimed at reintroduction; (2) promote conservation actions for threatened Cactaceae taxa through implementation of effective, collaborative and practical approaches.

Network
Capacity building: complete training courses on Conservation Action Plans.

Membership: recruit new members.

Scientific meetings: participate in symposia, meetings, and workshops.

Synergy: (1) engage in internal organisational issues of SSC groups, four meetings, collaborations and training; (2) strengthen cooperation agreements and partnerships; (3) provide letters of endorsement; (4) organise working groups of expert teams and networks; (5) participate in one meeting on invasive exotic species.

Communicate
Communication: (1) support and contribute to virtual libraries; (2) conduct media and outreach events; (3) produce Specialist Group publications; (4) participate in the Fourth IUCN SSC Leaders’ Meeting.

Activities and results 2020

Assess

Capacity building
i. Four professionals from CNCFlora/Jardim Botânico do Rio de Janeiro (IBRI) were trained in the online capacity building course on the new tool for Environmental Impact Classification for Alien Taxa–EICAT, provided by several Global Environment Facility (GEF) Pro-Species partner institutions. Three assessors also participated in a technical meeting about the use of criterion A for assessments of Atlantic Forest species in Brazil with Catia Canteiro’s staff at Royal Botanic Gardens, Kew. (KSR #2, 5)

Red List
i. In 2020, we performed 1,008 extinction risk assessments/reassessments, in addition to 1,003 assessments/reassessments undertaken in 2019. From 2018 through the end of 2020, we evaluated the extinction risk of 2,815 predominantly tree species, in partnership with BGCI working towards the Global Tree Assessment (GTA) Campaign and also with support of the GEF Pro-Species project. Assessments are constantly being submitted to the IUCN Red List of Threatened Species via SIS Connect by the team of experts of GTA/BGCI. (KSR #1, 2, 7, 8)

ii. As our assessments are regularly submitted to the IUCN Red List of Threatened Species, we frequently receive feedback from the IUCN Red List Unit technical team, which represents a great improvement in many assessments. (KSR #2)

iii. In 2020, we reviewed the extinction risk assessment of over 194 plants that have occurrence records (not exclusively) in Brazil. Together with the reviews we completed through 2019 (672 assessments) upon request from BGCI, the Plant Assessment Unit at Royal Botanic Gardens, Kew and other SSC Members and Commissions, we have reviewed the risk of over 865 taxa to date. In 2018, we also completed the review of the conservation assessment of 685 species of Brazilian plants with the Plant Assessment Unit led by Eimear Nic Lughadha at Royal Botanic Gardens, Kew. (KSR #1, 2, 7, 8)

Research activities
i. An expedition to PAT Cerrado Tocantins took place in January 2020 to collect information on species considered Critically Endangered that are known to occur in this area, to support the elaboration of the Territorial Action Plan Cerrado Tocantins. (KSR #1, 12)

Plan
Planning
i. We supported conservation planning workshops for the preparation of the Territorial Action Plan for the conservation of threatened species of the Planalto Sul (in press), Territorial Action Plan for the conservation of threatened species of the Cerrado Tocantins (https://central3.to.gov.br/arquivo/536142/), Territorial Action Plan for the conservation of threatened species of the Espinhaço Mineiro (in press), and Territorial Action Plan for the conservation of threatened species of the Chapada...
Diamantina-Serra da Jiboia (http://www.inema.ba.gov.br/wp-content/uploads/2021/03/05.03_sumario-exec-pat-bahia-com-links-e-novas-fotos.pdf). In addition, we are supporting six other conservation planning workshops under the GEF Pro-Species Project. (KSR #15, 20, 21)

ii. As the COVID-19 health crisis remains high in the country, expeditions and travel between states to elaborate territorial action plans are on hold until further notice. (KSR #15)

iii. Meetings and activities were held on the implementation of the National Action Plan for the conservation of endemic threatened flora of Rio de Janeiro State; a virtual workshop discussed the challenges in the conservation of rare plants (such as Dimorphandra species) and the next steps of the National Action Plan for the conservation of Wilson’s Faveiro (Dimorphandra wilsonii Rizzini); conservation actions from the National Action Plan for the conservation of threatened flora in the region of Grão Mogol-Francisco Sá have been implemented; and virtual meetings of the Technical Advisory Group on the implementation of the Territorial Action Plan for the conservation of threatened species of the territory Espinhaço Mineiro took place. (KSR #15)

Policy

i. We participated in meetings and supported the elaboration of the Plan to Reduce Impacts from Amazon Hydroelectric Dams on Biodiversity, the Plan to Reduce impacts from Oil and Gas Exploration on Marine and Coastal Biodiversity, and the Plan to Reduce Impacts from Mining on Biodiversity. (KSR #26)

ii. It is expected that the extinction risk assessments produced by CNCFlora/JBRJ through June 2021 will be forwarded to the Ministry of Environment’s Technical Committee to update the National Red List. We hope to add nearly 2,000 assessments, conducted between 2017–2021, to the National Red List. (KSR #2)

Act

Conservation actions

i. As part of the Discocactus horstii Conservation Research Project: a Critically Endangered species of Cactaceae from northern Minas Gerais State, we and our collaborators studied eight threatened Cactaceae species and conducted the following activities: (1) mapped the populations of the target species and collected relevant new data for conservation; (2) developed a protocol for the propagation and cultivation of the target species to support in situ and ex situ conservation actions; (3) collected information with the communities and local institutions on the threats that affect the populations of the target species; (4) produced educational materials for schools and local communities, increasing visibility for the conservation of target species (http://dspace.jbrj.gov.br/spui/handle/doc/108); (5) wrote a document addressing technical information to support local environmental policies and in situ and ex situ conservation actions, and to reduce and mitigate threats such as illegal extraction and international trade of target species. This Project aimed to implement three conservation actions of the National Action Plan for the conservation of threatened flora in the region of Grão Mogol-Francisco Sá. (KSR #29)

Network

Capacity building

i. We conducted training on species conservation planning (Territorial Action Plan in Brazil) for staff from 13 State Environmental Agencies within the scope of the GEF Pro-Species Project. We are also organising a National Seminar on Management of Action Plans for the Conservation of Endangered Species in...
partnership with Ministry of the Environment-MMA and Chico Mendes Institute for Biodiversity Conservation-ICMBio. This National Seminar is being rescheduled due to the COVID-19 health crisis continuing at high levels in Brazil. (KSR #17)

Scientific meetings

i. We participated in: the IV Interinstitutional Meeting on Conservation, Restoration and Forest Economy (Programa Arboretum, Teixeira de Freitas, BA), the workshop ‘Databases on Endangered Flora and their use in Environmental Licensing’ (in Portuguese; Day 1 available at https://youtu.be/vxuRU7BPYyE, Day 2 available at https://youtu.be/Huxk81iyTTU) in the scope of the implementation of the National Action Plan for the conservation of endemic threatened flora of Rio de Janeiro State; and a virtual workshop discussed the challenges in the conservation of rare plants (such as Dimorphandra species) and the next steps of the National Action Plan for the conservation of Wilson’s Faveiro (Dimorphandra wilsonii Rizzini) (in Portuguese; https://www.youtube.com/channel/UCZDSVhONwv4F5d47pbiUjg/videos). Two professionals from CNCFlora were invited to talk about the efforts to conserve Dimorphandra spp. (Fabaceae) in the country, in particular about the National Action Plan for Dimorphandra wilsonii, and about conservation assessments and the green status of this rare species. The symposium ‘Challenges in the conservation of rare plants: the case of Dimorphandra species’ was held online in December 2020 (https://floraemdebate.wixsite.com/floraemdebate). (KSR #1, 18)

Communicate

Communication


Acknowledgements

We would like to convey our gratitude to the Secretariat of Biodiversity of the Ministry of the Environment – Brazil, the Secretary of State for the Environment of Rio de Janeiro, Botanic Gardens Conservation International (BGCI), the Global Environment Facility Fund (GEF) and all partners involved with the Pro-Espécies project, World Wildlife Fund (WWF), Brazilian Biodiversity Fund (FUNBIO), Global Partnership for Plant Conservation (GPPC), Fundação O Boticário, Programa Arboretum/Public Prosecutor’s Office of the State of Bahia, the Fundação Flora, Botanical Experts Network of the Flora of Brazil 2020 project/REFLORA that collaborate with CNCFlora/JBRJ and the Botanical Garden of Rio de Janeiro and its broad network of researchers, for all assistance and structure provided. Finally, we thank to Eduardo Fernandez and Marcio Verdi, who consolidated the final version of the 2020’s BP-RLA report.

Summary of activities 2020

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Main KSRs addressed: 1, 2, 3, 5, 6, 7, 8, 12, 15, 17, 18, 20, 21, 26, 28, 29

KSR: Key Species Result
IUCN SSC
Caucasus Plant
Red List Authority

2020 Report

Red List Authority Coordinators
George Nakhutsrishvili
Ketevan Batsatsashvili

Location/Affiliation
Institute of Botany, Ilia State University, Tbilisi, Georgia

Number of members
40

Mission statement
The mission of the Caucasus Plant RLA is to contribute to increasing current knowledge on the taxonomy and ecology of the species in the Caucasus and promote their long-term conservation.

Projected impact for the 2017-2020 quadrennium
By collection of ethnobotanical data, the Caucasus Plant Red List Authority (RLA) members contribute substantially to the accomplishment of a requirement of the Caucasus Plant Initiative: A Regional Plant Conservation Strategy for 2012-2020 (https://www.mobot.org/MOBOT/Research/pdf/RedBook69mobot.pdf). The team is continuing activities in this direction to collect and publish data on diverse uses of plants in a broader geographicscale within the Caucasus region, which – by preserving traditional knowledge of human-nature interaction – helps in the creation of a basis for sustainable use schemes of wild plant resources. In addition, publication of assessments on The IUCN Red List of Threatened Species will help in conservation/sustainable use of these species as well as associated habitats.

Targets for the 2017-2020 quadrennium

Assess
Red List: (1) finalise editing of 200 assessments in the IUCN SIS database for publication on The IUCN Red List of Threatened Species; (2) assess and re-assess plant species based on field studies of rare plant populations; (3) identify threatened ecosystems and assess risk severity in the Caucasus/one or more countries of the Caucasus.

Research activities: (1) create a comprehensive scheme of the ecosystems of the Caucasus/one or more countries of the Caucasus as a basis for informed in situ conservation of species and their habitats; (2) study climate change effects on species and ecosystems; (3) conduct plant taxonomic research; (4) conduct alien plant research; (5) undertake assessments of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES); (6) publish data on distribution and ecology of plant species in the Caucasus.

Act
Conservation actions: create and maintain ex situ collections of wild plants with special focus on threatened species.

Network
Capacity building: conduct IUCN Red List Assessor Training.

Communicate
Communication: publish e-floras of the Caucasus/one or more countries of the Caucasus.
Activities and results 2020

Assess

Red List

i. About 500 species of vascular plants are being assessed or reassessed based on published data and expert knowledge for the update of the Red List of Georgia, supported by GIZ-Georgia. The work started in 2020 and will conclude in 2021. (KSR #1, 2)

ii. Assessments and reassessments were made mainly for species new for Armenia (or to science) and some species for which new populations were found. (KSR #1, 2, 4, 12)

iii. Assessments and reassessments were made for 10 rare species based on field study of subpopulations in Georgia, supported by the Charles Darwin Foundation; assessments were submitted for publication via the IUCN SIS database system. (KSR #1, 2, 4, 12)

iv. Seventy (70) threatened ecosystems were identified and assessed for risk severity in Armenia. (KSR #1, 2)

Research activities

i. A comprehensive scheme of the ecosystems of the Caucasus was created as a basis for informed in situ conservation of species and their habitats. (KSR #26)

ii. Analyses for two rare ecosystems (including about 20 rare plant species) were completed for Armenia. (KSR #34, 38)

iii. The new Manual of the Flora of Armenia (including 3,800 taxonomic evaluations) is in the preparation stage for publication. (KSR #1, 2, 4)

iv. One monograph and about 15 scientific articles were published: the distribution of about 30 alien species in Armenia was checked and data were published. A manuscript, ‘Poaceae fraction of the alien flora of the Caucasus’, with species distribution was prepared for the North Caucasus, the Russian Federation and Azerbaijan. (KSR #13)

v. Several manuscripts were prepared and papers published on the areas and centres of endemism in the Irano-Anatolian and Caucasian part of Iran. (KSR #43)

vi. The taxonomic and biogeographic flora of the Western Caucasus and Western Ciscaucasia contains information on higher flowering plants (Class Liliopsida, Family Poaceae) recorded in the Western Ciscaucasia, the Western Caucasus, North-Western Transcaucasia and the north-western part of Western Transcaucasia. The volume contains descriptions of 408 taxa of vascular plants belonging to the family Poaceae from 115 genera of the regional natural flora and adventitious species. For each species, diagnostic data are given, information on phenology is given according to regional herbarium sources, ecology and geographical distribution of taxa are given from field studies and literature data. The book is illustrated with images of plants, both original and reproduced from various publications, along with 246 maps of regional areas and colour photographs. (KSR #43)

vii. The distributions of 96 montane steppe rare species of the western North Caucasus and north-western South Caucasus were mapped. (KSR #43)

viii. A scientific article on the ecology of Trigonocaryum involucratum, an endemic species of the Greater Caucasus, was published in Botanica Serbica. (KSR #43)

Act

Conservation actions

i. Ex situ conservation actions for five target species were undertaken. (KSR #25)

Communicate

Communication

i. The website of the Caucasian Flora Conspectus is in place: https://www.binran.ru/resursy/informatsionnye-resursy/tekushchie-proekty/caucasian-flora/. (KSR #28)

Acknowledgements

The Regional Centre (Tbilisi, Georgia) of the Caucasus Plant RLA thanks all our members for their work in the field of plant conservation and for their contribution to the present report.

Summary of activities 2020

Components of Species Conservation Cycle: 3/5

Assess 12

Act 1

Network 1

Communicate 1

Main KSRs addressed: 1, 2, 4, 12, 13, 25, 26, 28, 34, 38, 43

KSR: Key Species Result
Mission statement
The mission of the Central African Plant Red List Authority (CARLA) is to promote high quality Conservation Assessments within Central Africa and to use this information to support conservation actions.

Projected impact for the 2017-2020 quadrennium
By the end of 2020, we envision a substantial advance in assessing the preliminary conservation status of the most threatened species in Central Africa. Specifically, using a computer routine, we will establish a working list of the species that could be considered as threatened and then use this information to focus on potentially Critically Endangered and Endangered species, for which we will conduct and submit full assessments to the Red List. We will continue publishing assessments of endemic plants (orchids, Cameroonian plants, trees from the Flore d’Afrique Central region, trees of Principe) and of highly threatened species such as members of Podostemaceae, while also developing the Red Listing skills of young African botanists.

Targets for the 2017-2020 quadrennium
Assess
Red List: (1) complete preliminary assessments of species endemic to Central Africa; (2) complete assessments of 150 orchid species endemic to Atlantic Central Africa; (3) complete assessments of the plant species endemic to Cameroon; (4) complete assessments of the tree species endemic to Flore du Congo; (5) produce assessments of endemic tree species from Principe; (6) produce assessments of the threatened plant species of Sao Tomé and Principe; (7) produce assessments of the threatened plant species of Nimba and Lofa-Gola-Mano complex; (8) complete assessments of species endemic to Gabon.

Activities and results 2020
Assess
Red List
i. One-hundred and ninety-seven (197) assessments of endemic species were completed from the Tropical Important Plant Areas (TIPAs) in Cameroon Project, 12 from Gabon, and six from the Global Tree Assessment project. (KSR #2)

ii. One workshop for assessment of orchid species endemic to Atlantic Central Africa was organised in September 2020 in Brussels. (KSR #2)

iii. Three-hundred and fifty-seven (357) assessments have been completed out of the original 815 in the 2011 Red Data Book of Cameroon. (KSR #2)
iv. All assessments of the tree species endemic to Flore du Congo have now been submitted to the Red List Unit. Publication is expected in 2021. (KSR #2, 5)

v. The database of the threatened plant species of Sao Tomé and Principe was compiled, a working set was created, and all preliminary assessments were prepared. (KSR #2)

vi. Threatened plant species of Nimba were assessed for the Environmental Impact Assessment. (KSR #2)

vii. Assessments of species endemic to Gabon are in progress with two projects: Gabotree project and the High Conservation Value (HVC) project. (KSR #2)

Acknowledgements

Martin Cheek, Poppy Lawrence, Isabel Baldwin and Ben Fish are acknowledged for the preparation of the datasets. Toyota Motors Corporation is acknowledged for its contribution of the completion of many of assessments done by Royal Botanic Gardens, Kew. The Fondation Franklinia supports the ECAT project ("Conservation of endemic Central African trees through IUCN Red Listing and Species Distribution Modelling") lead by Meise Botanic Garden and the Gabotree project lead by the Missouri Botanical Garden in Gabon. The Global Trees Campaign, which supports Red Listing work in Principe carried out by Fundação Principe, the Missouri Botanical Garden and the University of Coimbra, is a partnership between Fauna & Flora International and Botanic Gardens Conservation International, is acknowledged for contributing assessments of Central African tree species and is funded by Fondation Franklinia. The American Orchid Society supports Missouri Botanical Garden and Institut de Recherche pour le Développement work on assessments of the orchids endemic to Atlantic Central Africa. The Red Listing work on the flora of Sao Tomé and Principe was supported by the Critical Ecosystem Partnership Fund (CEPF), joint initiative of l'Agence Française de Développement, Conservation International, the European Union, the Global Environment Facility, the Government of Japan and the World Bank, through the project CEPF-104130.

Summary of activities 2020

Components of Species Conservation Cycle: 1/5

| Assess | 7 |

Main KSRs addressed: 2, 5

KSR: Key Species Result
Co-Chairs
Orangel Aguilera (1)
Ying Giat Seah (2)

Red List Authority Coordinators
Orangel Aguilera (1) (Brazil, South America)
Ying Giat Seah (2) (Malaysia, Asia)

Location/Affiliation
(1) Universidade Federal Fluminense, Niterói, Rio de Janeiro, Brazil
(2) Faculty of Fisheries and Food Science, Universiti Malaysia Terengganu, Terengganu, Malaysia

Number of members
55

Mission statement
The mission of the IUCN SSC Croaker and Drum Fishes Red List Authority is to revise and submit the assessment of all 300 species of Sciaenidae and, in addition, to redefine the goal of the second phase of Global Sciaenidae conservation.

Projected impact for the 2017-2020 quadrennium
By the end of 2020, we will complete the first global assessment of sciaenid fishes and will submit it to IUCN for final publication. A significant threat to Sciaenidae conservation has become more prominent since 2016 due to the popularity of Sciaenid Maws (dried gas bladder) for food and medicinal use in Asian countries. Larger species of Sciaenidae are sought to extract their gas bladders for the luxury market demand. The case of the Gulf of California Totoaba (Totoaba macdonaldi), a Critically Endangered species, has caused the near extinction of the endemic Vaquita (Phocoena sinus). Several large Sciaenidae species of the genus Argyrosomus and Boesemania are greatly sought after in Southeast Asia and conservation actions are urgently needed. Sciaenid species are popular food fish and are mostly captured for local food supplies. It is a very difficult resource for which to enforce policies regulating the capture of threatened species.

Targets for the 2017-2020 quadrennium
Assess
Documents review: review articles on the global Sciaenidae Red List assessment and taxonomic review.
Red List: (1) organise a Red List assessment and training workshop, planned for 25–29 September 2018, at the University of Malaysia, Terengganu, Malaysia (expecting 50 members to participate); (2) complete revision and new data for global Sciaenidae Red List assessments; (3) submit final draft reviews (proposed) of Sciaenidae Red List reassessments.

Network
Synergy: strengthen relationships among SSC Leaders, as well as develop new collaborations with other IUCN Commissions and open discussion for strategies, priorities and opportunities. Participate in the Fourth International Union for Conservation of Nature (IUCN) Species Survival Commission (SSC) Leaders’ Meeting, 6–10 October 2019, Abu Dhabi, United Arab Emirates.

Activities and results 2020
Assess
Documents review
i. Two articles on global Red List assessments of Sciaenidae were reviewed.

Red List
i. Forty-seven (47) new assessments and three (3) reassessments were completed at the Malaysia workshop. (KSR #1)
ii. One hundred and fifty-four (154) reassessments were completed from all workshops. (KSR #1)
Network

Synergy

i. Two poster presentations were prepared with discussion on potential cooperation with other groups. (KSR #1)

Acknowledgements

International Union for Conservation of Nature; Species Survival Commission; Environment Agency – Abu Dhabi; Global Sciaenidae Conservation Network, National Museum of Marine Biology and Aquarium, Taiwan; Boston Bio-Amazonia Conservation International; Universidade Federal Fluminense, Brazil; Universiti Malaysia Terengganu, Malaysia; National Museum of Marine Biology and Aquarium, Taiwan; National Sun Yat-sen University, Taiwan; Xiamen University, China.

Summary of activities 2020

Components of Species Conservation Cycle: 2/5

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Main KSRs addressed: 1

KSR: Key Species Result
Mission statement
The mission of the Indonesian Plant Red List Authority (IPRLA) is to conduct comprehensive risk assessment for Indonesian plant species occurring in the country and as the basic information to be used for further conservation actions and sustainable forest management in Indonesia.

Projected impact for the 2017-2020 quadrennium
This quadrennium will become a very important period for Indonesia, as we start to work on assessing the conservation status of at least 350 plant species native or naturally occurring in Indonesia. We targeted endemic and most commercial plant species for our Red List assessments, because such species are likely under serious threat, mainly due to land conversion to oil palm plantations, mining and other agricultural practices. We predict that by year 2020, the national Red List data will be used as a standard guideline for government and related stakeholders to undertake best forest management practices.

Targets for the 2017-2020 quadrennium
Assess
Red List: (1) complete assessment of 350 species, including commercial timber species, trees, non-tree species, and ornamental species, with a mainly Malesian distribution, most of which are narrow endemic to Indonesia; (2) review assessments of 74 Indonesian plant species (Lauraceae, Zingiberaceae, Dipterocarpaceae).

Research activities: carry out book writing; publish the first Indonesian Red Data Book, containing 50 commercial timber species (in Indonesian language).

Network
Capacity building: (1) conduct Red List training and workshop for assessors; (2) conduct Red List training and workshop for trainers; (3) conduct Red List training and workshop for assessors in Indonesian language; (3) conduct Red List training and workshops related to: Dipterocarps assessment (West Kalimantan), plants of Maluku assessment (West Java).

Activities and results 2020
Network
Capacity building
i. We have not achieved assessment of RLA plants of Maluku. However, we have successfully conducted virtual training in collaboration with BGCI to conduct Global tree assessment for Indonesian endemic trees on 28 and 29 of September 2020. (KSR #2)

Acknowledgements
We thank Domitilla Raimondo and Megan Barstow for all the good cooperation during the Red List assessment activity for Indonesia.
Virtual training in collaboration with BGCI to conduct Global tree assessment for Indonesian endemic trees on 28 and 29 of September 2020
Photo: IPRLA archives
Mission statement
The mission of the IUCN Marine Fishes Red List Authority is to transform global, regional and local marine conservation capabilities by completing Red List assessments for all marine fishes.

Projected impact for the 2017-2020 quadrennium
By the end of 2020, we expect to substantially increase the number of published Red List assessments of marine fishes. Specifically, our focus will be on species in the orders Clupeiformes (sardines, herrings, menhaden and their allies) and Pleuronectiformes (flatfishes), species occupying the deep sea (more than 200 m depth), and species of the Western Indian Ocean. The completion of these assessments will bring us closer to the goal of completing assessments for the more than 17,000 marine fishes and will improve our knowledge of the status of marine vertebrate biodiversity globally.

Targets for the 2017-2020 quadrennium
Assess
Red List: (1) complete assessments of 800 Western Indian Ocean marine fishes, with the main focus on exploited and coral reef associated families; (2) complete assessments of 403 Clupeiform species; (3) complete assessments of 1,001 deep sea marine fishes; (4) complete assessments for all flatfishes; (5) complete assessments for 275 marine fishes in the ornamental fish trade; (6) support the Croaker and Drum Fishes Red List Authority to assess 285 species; (7) support the Snapper, Seabream and Grunt Specialist Group to assess 90 species.

Activities and results 2020
Assess
Red List
i. As part of the IUCN–Toyota Red List Partnership, we are working to assess and publish all valid species of flatfishes on the Red List. In 2020, 163 species flatfishes were published on the Red List. Due to COVID-related travel restrictions, we have been completing the remaining assessments virtually, rather than at workshops as originally planned. Despite these challenges, substantial progress has been made and the remaining species are scheduled for submission and publication in 2021. (KSR #1)

ii. We began an initiative to published 275 marine ornamental fishes on the Red List in late 2019. Due to COVID-related travel restrictions, we have been completing the assessments virtually, rather than at a workshop as originally planned. Assessments for 53 gobies in the marine ornamental fish trade were submitted in 2020 for publication in 2021. Assessments for the remaining species are in progress, with plans for the assessments to be submitted and published in 2021. (KSR #1)

iii. In 2020, 271 sciaenid species assessments were published on the Red List. The remaining ~14 species are to be published in 2021. (KSR #1)

iv. In 2020, the remaining 90 species under the purview of the Snapper, Seabream, and Grunt Specialist Group were assessed at a virtual workshop. We are currently working to finalise the assessments for submission and publication in 2021. (KSR #1)
Acknowledgements

We thank the Toyota Motor Foundation and the Government of Switzerland for their support of marine Red Listing. The continued partnership with the Oceanario Lisboa, resulting in the hosting of a marine Red List Officer, has been most successful. We also thank the many scientists who, despite facing an extremely difficult year dealing with direct and indirect effects of COVID-19, have made these marine Red List assessments possible.

Summary of activities 2020

Components of Species Conservation Cycle: 1/5

Assess 4

Main KSRs addressed: 1

KSR: Key Species Result

Critically Endangered Red Handfish, Thymichthys politus
Photos: Rick Stuart-Smith
Handfish Conservation Project
https://handfish.org.au

Least Concern Falkland Sprat, Sprattus fuegensis
Photo: Mathias Hüne

Vulnerable Pike Icefish, Champsocephalus esox
Photo: Mariano Rodriguez
Mission statement

Our goal is to assess the conservation status of the whole flora of New Caledonia by 2020. New Caledonia contains some 3,371 native species of vascular plants, of which 74% are considered endemic. This exceptional floristic diversity is threatened by accelerating development. The Red Listing activities will: (1) bring a valuable tool for local institutions in charge of setting conservation priorities, and (2) allow knowledge improvement by identifying Data Deficient species.

Projected impact for the 2017-2020 quadrennium

By the end of 2020, we intend to assess the entire New Caledonian flora using the IUCN Red List of Threatened Species, to generate the critical information needed to catalyse and prioritise conservation actions on the most threatened plants of New Caledonia. Through this process, we are generating information on their distribution, habitats, ecology, population trends, threats and ultimately their probability of extinction (extinction risk), which is the starting point for conservation. This information will then be used for conservation planning and priority setting at the national level, to inform private sector decision making and for education and public awareness, which will impact positively the conservation status of New Caledonian flora and sustainable development at the national level.

Targets for the 2017-2020 quadrennium

Assess

Red List: complete the IUCN Red List assessment of the entire New Caledonian Flora (3,400 species).

Research activities: publish scientific papers about our Red List Authority’s (RLA) work and its results.

Communicate

Communication: (1) raise awareness among citizens and decision makers about the vulnerability of New Caledonian flora; (2) expand the scope of communication beyond local citizens and decision makers.

Activities and results 2020

Assess

I. Our broad goal of assessing the entire New Caledonian flora by 2020 could not be achieved (246 taxa assessed), but the expert group is now well established, and its work and crucial role is widely recognised among local stakeholders. Thus, there is no reason to stop there, and we should still be supported by our funders in the near future. Taxonomic issues in many plant families will continue to be a challenge for the RLA, but hopefully we can keep making contributions in this area by initiating taxonomic studies thanks to complementary grants.

(KSR #2)
Research activities

i. At the end of the year, the New Caledonia Plant RLA volunteered to contribute to IMPERILED, the IUCN online encyclopaedia. An article is in preparation and will be submitted in 2021, looking back at six years of assessments in New Caledonia. (KSR #32)

Communicate

i. Endemic flora and lizards were presented in multiple venues across the territory. Six public presentations were held for the general public in five different locations. (KSR #36)

ii. Communication at the national level has been discussed locally and should take place in 2021. It will involve the French bureau of IUCN, as well as PatriNat, a unit which is in charge of the National Inventory of Natural Heritage and is affiliated with the French Biodiversity Office, the National Museum for Natural History and the National Centre for Scientific Research. (KSR #36)

Acknowledgements

We thank the following donors, who helped Endemia set up the New Caledonia Plant Red List Authority in 2014 and allowed it to coordinate the assessment effort: the North and South Provinces of New Caledonia, the French government (by way of the Direction for Agriculture, Forest and Environment), as well as Société Le Nickel, Koniambo Nickel SAS and Vale NC. We would also like to thank the French Biodiversity Office and the National Centre for Technological Research on Nickel and its Environment, who provided grants for specific Red Listing projects. Moreover, we want to thank our scientific and technical partners in and outside of New Caledonia: IRD (French Research Institute for Development), IAC (Agronomical Institute of New Caledonia), NOU and P herbaria, etc. And of course, we give huge thanks to all members of our RLA and outside contributors, whose outstanding efforts have helped us accomplish all this work.

Summary of activities 2020

Components of Species Conservation Cycle: 2/5

<table>
<thead>
<tr>
<th>Component</th>
<th>Value</th>
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<tbody>
<tr>
<td>Assess</td>
<td>2</td>
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<tr>
<td>Communicate</td>
<td>2</td>
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</tbody>
</table>

Main KSRs addressed: 2, 32, 36

KSR: Key Species Result
### Mission statement

The mission of the IUCN SSC Snake and Lizard Red List Authority is to undertake and support IUCN Red List assessments for reptile groups not covered by other Specialist Groups, including most snakes and lizards and the New Zealand Tuatara (*Sphenodon punctatus*), and to curate IUCN’s global taxonomy for these groups.

### Projected impact for the 2017-2020 quadrennium

**Assess**

Red List: (1) support the completion of the Global Reptile Assessment (ca. 10,265 squamate species) through clean up, review and submission; (2) identify new assessments needed and prepare reassessments for outdated assessments.

**Network**

Membership: expand the network of Snake and Lizard Red List Authority (RLA) members and regional coordinators to support management of reptile assessments following the end of the Global Reptile Assessment.

### Targets for the 2017-2020 quadrennium

#### Assess

- i. No funding became available in 2020 to hold workshops or remote assessments. Identification of priority reassessments was completed. Reassessments were completed for Comoros and Seychelles and for the gecko genus *Lepidodactylus*. Reassessments were drafted, and assessments prepared for new descriptions, for the Philippines. (KSR #1)

#### Network

- i. The RLA’s membership has continued to expand, but with no new regional coordinators appointed or further decentralisation of the RLA’s structure.
Acknowledgements
As in previous years, I’d particularly like to thank Environment Agency – Abu Dhabi for their support for the RLA position. Among colleagues and collaborators, I’d like to thank Neil Cox, Manager of the IUCN Biodiversity Assessment Unit within which the RLA is based, and Pete McDonald of the Australian National University for both proposing and organising the reassessments of Lepidodactylus geckos.

Summary of activities 2020
Components of Species Conservation Cycle: 2/5

Assess 1

Network 1

Main KSRs addressed: 1

KSR: Key Species Result
Mission statement
To support the expansion of invertebrates assessed for the IUCN Red List.

Projected impact for the 2017-2020 quadrennium
Our activities contribute to the continued, yet slow progress towards a meaningful Barometer of Life.

Targets for the 2017-2020 quadrennium
Assess
Red List: support any invertebrate Red List assessment not currently covered by any Specialist Group.
Research activities: input into and collaborate on relevant publications relating to Red Listing of invertebrates, e.g. with the Invertebrate Conservation Committee.

Activities and results 2020
Assess
Red List
i. One-hundred and eleven species published on the IUCN Red List of Threatened Species in 2020 went through the Terrestrial and Freshwater Invertebrate Red List Authority (TIRLA). Of these, 75 were species of beetle, primarily from a project led by the IUCN Red List Unit (Madagascar beetles); 24 were freshwater crabs (in conjunction with the Freshwater Crustacean Specialist Group); and 6 were millipedes. For the remainder of assessments, TIRLA provided reviews to existing Specialist Groups. TIRLA also provided reviewer comments on the report on the conservation status and distribution of Mediterranean Dung Beetles, published by the IUCN Mediterranean Office in late 2020. (KSR #1)
Research activities

Summary of activities 2020
Components of Species Conservation Cycle: 1/5
Assess 2
Main KSRs addressed: 1

KSR: Key Species Result
Mission statement

The mission of the group is to assess the status of endemic plant species in Turkey and to fill in the important knowledge gaps on the status of plants of Turkey.

Projected impact for the 2017-2020 quadrennium

By the end of 2020, the group will mainly target bringing together information towards assessing the Red List status of endemic plant species in Turkey. This will permit in the longer run to have a pool of information which will establish the basis for species-level conservation actions to be carried out in a prioritised and effective manner.

Targets for the 2017-2020 quadrennium

Assess

Red List: (1) commence the assessments of endemic plants of Turkey and publish, when finalised, on the IUCN Red List of Threatened Species (300 new Red List assessments by 2019); (2) carry out IUCN Red List assessments for near endemic and non-endemic plant species in Turkey at national scale (the priority of the Specialist Group is to finalise first the endemic species assessments and, in accordance with progress on this topic, the work on non-endemics and near endemics will be planned from 2021 onwards); (3) finalise the draft design of the Red Book. The Ministry of Agriculture and Forestry General Directorate of Nature Conservation and National Parks is part of the expert group. Progress of the group will be presented in the IUCN National Committee meetings in Turkey.

Communicate

Communication: maintain internal communications among approximately 100 experts using an email list to assess progress and update on activities. Skype meetings will be carried out 3–4 times every year.

Activities and results 2020

Assess

Red List

i. Similar to 2019, during 2020 we continued to dedicate significant efforts to establishing a national database compatible with the IUCN SIS database system. This took much longer than foreseen both due to SIS Connect documentation problems and the COVID-19 pandemic. As a result, we were not able to finalise the 300 species assessment goal in 2020. However, by the end of 2020 we were able to finalise the database and carry out a trial upload of a species assessment successfully. With the support of the IUCN Red List Unit, following this phase we were able to identify the final adjustment needs of the system, and in 2021 we will work on these as well as uploading the 300 species assessments. As in 2019, our Specialist Group is willing to share its knowledge on the national database development both with the Red List Unit for documentation and with countries willing to establish a database similar to the one developed in Turkey. (KSR #2)

Communicate

Communication

i. In 2020, regular (even weekly) meetings were carried out to follow the process of database development and trainings on the topic with the Specialist Group members. The first training on the use of the database and IUCN Red List assessments was given on 29 June 2020. (KSR #28)
Acknowledgements

We would like to thank Prof. Dr Reşit Akçakaya and the IUCN Global Species Programme for their continuous support on the development of the database and the implementation of IUCN standards in the national assessments. We also thank Dr Yasin Bakış for his efforts in developing the national database.

Summary of activities 2020

Components of Species Conservation Cycle: 2/5

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<thead>
<tr>
<th>Component</th>
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<td>Communicate</td>
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Main KSRs addressed: 2, 28

KSR: Key Species Result
Mission statement
The IUCN SSC West Africa Plant Red List Authority aims to increase the number of assessments of West Africa plant species at a faster rate than the present. We also aim to network with West African and international specialist researchers, conservationists, policymakers and other stakeholders, communicate our group’s work to diverse audiences and contribute to conservation planning and actions, in a region that suffers one of the most dramatic losses of tropical forest in the world.

Projected impact for the 2017-2020 quadrennium
Encourage greater awareness of threatened plant species in West Africa, particularly Guinea, and to influence the protection of these species and their habitats both at policy level and on the ground.

Targets for the 2017-2020 quadrennium
Assess
Red List: (1) review over 150 IUCN Red List assessments for West Africa for the Guinea Tropical Important Plant Areas; (2) update the IUCN Species Red List documentation required for the 136 species of freshwater plants in the ‘Species List’ native to West Africa.

Activities and results 2020
Assess

i. At least 150 IUCN Red List assessments were reviewed for West Africa for the Guinea Tropical Important Plant Areas. These were global assessments for the 273 threatened species of Guinea. (KSR #1, 7)

ii. IUCN Species Red List documentation was updated by Fatima Niang Diop for the 136 species of freshwater plants native to West Africa. (KSR #1)

Acknowledgements
We would like to acknowledge the Plant Assessment Unit, Royal Botanic Gardens, Kew; and the Darwin Initiative, UK Government.

Summary of activities 2020
Components of Species Conservation Cycle: 1/5
Assess 2
Main KSRs addressed: 1, 7

KSR: Key Species Result
Endangered *Talbotiella cheekii*, endemic tree to Guinea described in 2018
Photo: Xander van der Burgt

Koukoutamba waterfalls, Tougue Prefecture, Guinea
Photo: Martin Cheek

Endangered *Cailliella praerupticola*, endemic to Guinea
Photo: Xander van der Burgt
Mission statement
The IUCN SSC Red List Technical Working Group reports to the Red List Committee and is responsible for ensuring consistency and developing improvements in: (a) the application of the IUCN Red List Categories and Criteria; (b) the documentation of Red List assessments, including through the design and coding of the IUCN Classification Schemes and creation of GIS data; (c) the design and implementation of Red List Indices; and (d) the use of the Species Information Service (SIS) to facilitate (a) to (c). In particular, the Red List Technical Working Group seeks to ensure that the SSC’s major global and regional biodiversity assessment projects are implemented in a consistent manner.

Projected impact for the 2017-2020 quadrennium
By working towards ensuring consistency and developing improvements in (a) the application of the IUCN Red List Categories and Criteria; (b) the documentation of Red List assessments, including through the design and coding of the IUCN Classification Schemes and creation of GIS data; (c) the design and implementation of Red List Indices; and (d) the use of the Species Information Service (SIS) to facilitate (a) to (c), the impact of the Red List Technical Working Group (RLTWG) on species’ conservation status will be the delivery of high-quality assessments with appropriate documentation.

 Targets for the 2017-2020 quadrennium
Assess
Red List: (1) identify major areas of possible inconsistency in the data generated by the different assessment projects, evaluate the nature and extent of the problems, and propose solutions; (2) provide comments and, wherever possible, examples to the Standards and Petitions Committee on the practical consequences of proposed revisions to the Guidelines for Using the IUCN Red List Categories and Criteria; (3) propose developments and improvements to the documentation of Red List assessments, and develop/improve associated guidance, definitions, etc.; (4) monitor, and develop when appropriate, the structure, content, guidance and implementation of the Classification Schemes; (5) oversee the continuing development of The IUCN Red List Index, and advise on its use; (6) monitor the development of SIS and its use, make proposals for changes and improvements as needed, and review all requests for changes and modifications to SIS; (7) provide feedback and guidance on the presentation of The IUCN Red List of Threatened Species data on the IUCN Red List website.
Act
Technical advice: (1) monitor the implementation of all the major biodiversity assessment projects, and other assessment work carried out by Red List Authorities, Red List Partners and the IUCN Global Species Programme; (2) identify issues that need to be covered and clarified in the Guidelines for Using the IUCN Red List Categories and Criteria (https://www.iucnredlist.org/resources/redlistguidelines), and refer these issues along with, wherever possible, real examples to the Standards and Petitions Committee.

Activities and results 2020
Assess
Red List
1. The mapping subgroup has made some progress with testing the mapping tools that are available to the conservation community. We met in January 2020 to lay out a plan on how to go about this. We produced profiles for the various mapping tools, testing the mapping tools for different taxonomic groups, and looked at the polygon results. The next steps are to explore the results for these mapping profiles and share the results broadly. We want to provide guidance to the wider Red List community on what these tools can do and their advantages and limitations. (KSR #4)

Acknowledgements
We acknowledge financial support from the IUCN SSC Chair’s Office and the Global Species and Key Biodiversity Areas Programme.

Summary of activities 2020
Components of Species Conservation Cycle: 1/5
Assess 1
Main KSRs addressed: 4
Resolutions addressed: WCC-2016-Res-016
KSR: Key Species Result
Mission statement

The Joint IUCN SSC/WCPA Biodiversity and Protected Areas Task Force has two formal objectives. Objective 1 is to understand the drivers of successful biodiversity outcomes in protected areas, on land and in sea. Objective 2 is to consolidate a global standard for the identification of Key Biodiversity Areas.

Projected impact for the 2017-2020 quadrennium

By the end of 2020, we anticipate a substantial increase in the safeguard of sites important for globally threatened, geographically restricted, and congregatory species through: (1) demonstration that protected areas are effective at conserving species and the management inputs necessary to achieve conservation outcomes in protected areas, and (2) application of the global Key Biodiversity Areas (KBAs) standard to identify important sites in need of protection, dissemination of these data through the World Database of KBAs, and enhanced efforts by the KBA Partners and other conservation organisations, governments and the private sector to safeguard KBAs. The work of the Task Force also provides scientific analysis on the drivers of protected area effectiveness. This research was directly built into the IUCN Green Status of Protected Areas and provides the basis for countries to manage for effective and equitable protected areas that lead to effective biodiversity outcomes.

Assess

Capacity building: (1) hold KBA training workshops; (2) develop KBA training materials.

Research activities: (1) complete a peer-reviewed publication of the global Key Biodiversity Areas standard; (2) complete an IUCN guidance document on assessing the value of ecosystem services at sites, for KBAs, protected areas, and World Heritage Sites; (3) complete research papers on protected area effectiveness and biodiversity outcomes: ‘A global analysis of management capacity and ecological outcomes in terrestrial protected areas’; (4) complete research papers on protected area effectiveness and biodiversity outcomes: ‘Why Make Protected Areas Effective in Conserving Nature’; (5) hold training workshops on the KBA standard; (6) assist in development of a KBA National Coordination Group for Canada; (7) complete a research paper on the relationship between Key Biodiversity Areas and systematic conservation planning; (8) complete a research paper on the end user engagement process during development of the global Key Biodiversity Areas standard.

Technical advice: (1) complete Guidelines for using A Global Standard for the Identification of Key Biodiversity Areas, Version 1.0; (2) establish the KBA Standards and Appeals Committee; (3) complete Guidelines for using A Global Standard for the Identification of Key Biodiversity Areas, Version 1.1.

Plan

Policy: (1) help develop an IUCN-led guidance document on businesses working in or impacting Key Biodiversity Areas; (2) promote KBAs as a key part of the post-2020 conservation targets under the Convention on Biological Diversity (CBD).
Conservation actions: participate in the Key Biodiversity Areas Partnership as representative for the World Commission on Protected Areas (Stephen Woodley).

Activities and results 2020

Assess

Capacity building

i. An in-person KBA training workshop was held in Nairobi, Kenya, with 25 participants. Participants included Regional Focal Points (from Africa and the Mediterranean), National Coordination Group coordinators (Kenya, Malawi, Tunisia, South Africa), KBA partners (IUCN Freshwater Biodiversity Unit), and national experts from Kenya. (KSR #22)

ii. A virtual KBA training workshop targeted at potential trainers was held with 20 participants. Participants included Regional Focal Points (from Latin America, Asia-Pacific and Europe), Technical Working Group members, Important Bird and Biodiversity Area regional coordinators, other KBA partners, and regional experts (including from IDB). (KSR #22)

iii. A comprehensive set of PowerPoint presentations with notes for presenters for use in in-person or virtual KBA training workshops was developed and tested. Presentations are available in English, French, Spanish and Portuguese. (KSR #22)

Technical advice

i. The KBA Standards and Appeals Committee (KBA SAC) was formed. At the end of 2020, the KBA SAC’s membership was Charlotte Boyd (Chair), Mike Bruford, Graham Edgar, Lincoln Fishpool, Vergilio Hermoso, Axel Hochkirch, Mike Hoffmann, John Lamoreaux, Greg Mueller, Emily Nicholson, Eimear Nic Lughadha, Cristiano de Campos Nogueira, Ana Rodrigues, Carlo Rondinini, Stephen Woodley. (KSR #22)

ii. The first version of the KBA Guidelines providing detailed guidance on how to apply the KBA Standard in practice were developed, reviewed and published online via the IUCN portal. (KSR #22)

iii. A revised version of the KBA Guidelines was prepared, reviewed and published online via the IUCN portal. (KSR #22)

Acknowledgements

KBA training workshops and the development of KBA training materials were funded by the Critical Ecosystem Partnership Fund with additional support from Global Wildlife Conservation.

Summary of activities 2020

Components of Species Conservation Cycle: 1/5

Assess: 6

Main KSRs addressed: 22

Resolutions addressed: WCC-2016-Res-041

KSR: Key Species Result
Mission statement

The mission of the IUCN SSC Task Force on Human-Wildlife Conflict is to support the IUCN SSC network in addressing human-wildlife conflict (HWC) by providing interdisciplinary guidance and expert support, through an integration of ecological and social sciences.

Projected impact for the 2017-2020 quadrennium

The SSC Human-Wildlife Conflict Task Force was created for the 2017–2020 quadrennium. Its remit is to focus on SSC Key Species Result 37 (KSR-37): Livelihoods of people and species conservation are enhanced through improved human-wildlife interaction. The Task Force is not taxon-specific, it focuses on humans and their conflicting interactions with any species. It has predominantly social scientist members, and strongly emphasises interdisciplinary working. The main needs for reducing and managing HWCs worldwide are: (a) better understanding and awareness of the complexities of conflict; (b) more collaboration between practitioners and policy; (c) more resources committed to good HWC management; (d) more proactive conflict mitigation is undertaken; and (e) better confidence among practitioners in how to approach and work with conflicts. To this end, the Task Force’s role is: (1) act as an authoritative advisory body on matters of human-wildlife conflict, providing expert advice and a platform for the exchange of best practice; (2) facilitate interdisciplinary approaches to human-wildlife conflict mitigation by encouraging the collaboration of experts from biological as well as social sciences, economics, humanities and other fields; and (3) build capacity to support the SSC network by developing technical or framework guidance materials, tools and training as needed by those working on human-wildlife conflict issues.

Targets for the 2017-2020 quadrennium

Plan

Policy: (1) publish papers on HWC; (2) provide support and advice to governments, organisations and individuals on HWC matters.

Network

Capacity building: (1) identify the capacity needs for practitioners working on HWC; (2) work with SSC Specialist Groups to develop species-specific resources on HWC; (3) develop training material for practitioners of HWC.

Membership: maintain a diverse membership of the Task Force both in topic and species expertise.

Synergy: (1) produce an IUCN definition and position statement on HWC; (2) collaborate with Specialist Groups within the SSC and other IUCN Commissions on HWC matters.

Communicate

Communication: (1) produce a website for the HWC Task Force; (2) produce and maintain a resource library to highlight some of the key papers and resources for HWC topics and species; (3) identify and use online platforms to communicate to relevant audience members the work of the Task Force and key information regarding HWC; (4) lead or attend relevant meetings and events to present the work of the Task Force and network with relevant attendees.
Activities and results 2020

Plan

Policy

i. In October 2020, the Task Force published an IUCN SSC Position Statement on the Management of Human-Wildlife Conflict (https://www.iucn.org/theme/species/publications/policies-and-position-statements) calling for holistic, interdisciplinary and multilateral management of human-wildlife conflict and coexistence. The Position Statement is available in four languages, and we will be tracking its uptake. (KSR #26)

ii. The Chair published a blog on the World Bank’s website on the need to invest in conflict resolution for better biodiversity outcomes, which provided links to the Task Force’s resources (https://blogs.worldbank.org/voices/why-we-need-invest-conflict-resolution-better-biodiversity-outcomes). (KSR #26)

iii. The Chair, Programme Officer, and several Task Force members provided and continue to provide input into the Convention on Biological Diversity (CBD) Post-2020 Framework for a target on HWC. (KSR #26, 27)

iv. The Task Force continues to provide ad hoc advice and support to individuals on HWC when contacted. Responses vary from providing advice or resources, to directing enquiries to suitable experts or providing assistance in addressing the situations presented. (KSR #26, 27)

Network

Capacity building

i. The Task Force co-designed a global survey of training and information needs in managing human-wildlife conflicts, which collected responses from nearly 900 people from 124 countries. (KSR #18)

ii. The Task Force continues to focus efforts on the development of the ‘IUCN Guidelines on the Management of Human-Wildlife Conflict’. The Editorial Officer hired in 2019 has been driving forward this process with the Chair, and first drafts have now been completed for 60% of the chapters. Potential gaps in the guidelines have been identified and are being filled; we aim to pilot the draft guidelines, conduct a consultation, peer review and publish in 2021. (KSR #18)
iii. In collaboration with the IUCN SSC Asian Elephant Specialist Group, the Chair and several Task Force members continue to draft chapters for ‘Guidelines for Managing Human-Elephant Conflict and Coexistence’. (KSR #18)

Membership

i. As it was the final year of the quadrennium and plans focused on delivering the conference and the Task Force’s remaining outputs, no new members joined the group in 2020.

Synergy

i. Alongside the Position Statement, the Task Force published a Briefing Paper on Human-Wildlife Conflict which included the Task Force’s definition of human-wildlife conflict and provided an explanation of the different considerations and nuances of this term and concept. The IUCN SSC Human Wildlife Conflict Task Force describes human-wildlife conflict as struggles that emerge when the presence or behaviour of wildlife poses an actual or perceived, direct and recurring threat to human interests or needs, leading to disagreements between groups of people and negative impacts on people and/or wildlife (www.hwctf.org/resources/tf-publications). (KSR #26)

ii. The Task Force continues to collaborate with the Asian Elephant Specialist Group on their Guidelines. (KSR #29)

iii. The Task Force collaborated with the IUCN Sustainable Use and Livelihoods Specialist Group, the IUCN Commission on Environmental, Economic and Social Policy, and the IUCN Commission on Education and Communication in delivering the International Conference on Human-Wildlife Conflict and Coexistence. (KSR #29)
Communicate

Communication

i. The HWC Task Force website continued to be maintained in 2020, with additional pages added for resources published by the Task Force (www.hwctf.org/resources/tf-publications). The website was visited by over 15,000 users, resulting in nearly 40,000 unique page views. (KSR #28)

ii. Over 150 key pieces of literature and resources were added to the document library during 2020. Resources within the document library were used over 3,700 times. (KSR #28)

iii. Three key topic pages (role of the media, historical perspectives, engaging with stakeholders) and one key species page (snakes) were added to the library. (KSR #28)

iv. Platforms used to deliver relevant information about the Task Force and HWC continued to grow. Facebook page likes grew from 2,757 to 3,216, while followers on Twitter grew from 1,472 to 1,993. Thirty-three new members joined the People & Wildlife Google group. (KSR #29)

Scientific meetings

i. As for most meetings in 2020, the Task Force turned to virtual formats for meetings. In September 2020, the Task Force held its annual meeting virtually, split over three days, with attendance from 23 members. In the current circumstances regular virtual catch-up meetings will be held to keep the Task Force’s outputs on track. (KSR #28)

ii. The International Conference on Human-Wildlife Conflict and Coexistence, planned for March 2020 in Oxford UK (http://www.hwcconference.org / www.hwcconference.org), was postponed due to the global COVID-19 pandemic. The conference had sold out within six weeks, with 600 delegates and over 100 presentations expected. Interest in the event remains high and the conference is currently postponed to March 2022. (KSR #28)

Acknowledgements

We thank Elephant Family for funding the salary of our part-time Programme Officer and Editorial Officer, and the Wildlife Conservation Research Unit of Oxford University for hosting the Task Force. We are grateful to the many collaborators that are helping to support the International Conference on Human-Wildlife Conflict and Coexistence. We thank the IUCN SSC Chairs’ Office for support in publishing our publications in 2020.

Summary of activities 2020

| Components of Species Conservation Cycle: 3/5 |  |
| Plan | 4 |
| Network | 7 |
| Communicate | 6 |
| Main KSRs addressed: 18, 26, 27, 28, 29 |
| Resolutions addressed: WCC-2016-Res-068, WCC-2016-Res-085 |

KSR: Key Species Result
Mission statement
The goal of the Marine Mammal Protected Areas (MMPA) Task Force is to facilitate mechanisms to encourage collaboration, sharing information and experience to access and disseminate knowledge and tools for establishing, monitoring, and managing MMPAs and promoting effective spatial solutions and best practices for marine mammal conservation.

Projected impact for the 2017-2020 quadrennium

By bringing to the attention of managers, decision makers and the general public the presence and whereabouts of important marine mammal areas (IMMAs), we are facilitating the consideration of marine mammal habitats in decisions concerning marine spatial planning and the planning of human activities at sea that have or can have a negative impact on marine mammal status. IMMAs have also been brought to the attention of policy makers, having been the subject of Convention on the Conservation of Migratory Species of Wild Animals (CMS) Resolution 12.13. Most of this work, however, is still potential given the recent date in which IMMAs have been made public.

Targets for the 2017-2020 quadrennium

Act
Conservation actions: (1) complete Important Marine Mammal Area (IMMA) identification in the tropical and temperate Indian and South Pacific Oceans; (2) identify IMMAs for Australia–New Zealand and South East Indian Ocean.

Network
Membership: increase Task Force membership through addition of regional group coordinators.
Synergy: improve streamlining between the IMMA and the Key Biodiversity Area (KBA) processes.

Activities and results 2020

Act
The review panel accepted 31 IMMAs for Australia–New Zealand and South East Indian Ocean, 2 candidate IMMAs (cIMMAs) and 13 Areas of Interest (AoI), out of an initial 45 cIMMAs proposed by the workshop. Accepted areas can be found on the e-Atlas and the online searchable database. (KSR #26)

Synergy
Twenty-five (25) IMMAs have been identified that could be KBA candidates. (KSR #29)
Acknowledgements
The Marine Mammal Protected Areas Task Force would like to thank the International Climate Initiative (IKI) of the Government of Germany; the Global Ocean Biodiversity Initiative; Whale and Dolphin Conservation, UK; the Tethys Research Institute, Italy; the Perth Workshop participants; and the McClintock Lab (University of California Santa Barbara) for the SeaSketch platform.

Summary of activities 2020
Components of Species Conservation Cycle: 2/5

| Act | 2 |
| Network | 2 |

Main KSRs addressed: 26, 29

KSR: Key Species Result

The Important Marine Mammal Area (IMMA) Workshop for Australia-New Zealand and South East Indian Ocean engaged 31 scientists in the 6th IMMA Workshop of the IUCN Marine Mammal Protected Areas Task Force, February 2020, Perth, Australia.

Photo: Erich Hoyt
Co-Chairs
Erik Meijaard (1)
Malika Virah-Sawmy (2)

Location/Affiliation
(1) Brunei Darussalam
(2) Humboldt Universität zu Berlin, Germany

Number of members
26

Social networks
Website: www.iucn-optf.org

Mission statement
The Oil Palm Task Force (OPTF) aims to inform the debate on the sustainability of palm oil, using the latest research and scientific information, and give guidance to, for example, IUCN about its policies and strategies that affect or are affected by palm oil. We aim to make use of IUCN’s extensive knowledge networks on biodiversity and environmental issues, social, economic and cultural issues, and policy to comprehensively guide thinking on the complex issues of agro-industrial and small-holder oil palm in the world’s tropical regions. The OPTF will act as an authoritative advisory body on oil palm and how this relates to global sustainability objectives, and an intermediary between the oil palm industry, the IUCN network, and the other stakeholders in the oil palm discussions.

Projected impact for the 2017-2020 quadrennium
Oil palm threatens tropical wildlife when plantations are developed in forested areas. We seek to minimise impacts on tropical wildlife by helping promote palm oil production practices that avoid negative impacts on threatened wildlife species, such as orangutans, while maximising socio-economic benefits from palm oil production. The broader sustainability context of vegetable oil production requires that the Task Force also looks at other oil producing crops to ensure that reductions in palm oil production and concomitant reductions in conservation threats do not lead to disproportionate increases of production of other vegetable oil crops and even larger negative conservation impacts elsewhere.

Targets for the 2017-2020 quadrennium
Assess
Research activities: (1) coordinate the IUCN review process of the draft Situation Analysis (with support from the SSC Chair’s Office), incorporate the comments and suggested edits into the final Situation Analysis, and publish the Situation Analysis; (2) carry out global mapping of oil palm and other vegetable oil crops; (3) develop a study on the socio-economic impacts of oil palm and how these affect biodiversity and environmental outcomes; (4) conduct a study and publish a paper on the global distribution of oil palm.

Network
Membership: expand Task Force membership and coordinate membership registration with IUCN.
Synergy: (1) conduct third workshop for discussing the situation analysis and developing OPTF strategies 2018–2020; (2) lead internal IUCN meetings to discuss the strategic objective of the IUCN Oil Palm Task Force to focus on palm oil production in forest frontiers; (3) get conflict of interest statements from all Task Force members.

Communicate
Communication: (1) develop Task Force website; (2) translation of Oil palm and biodiversity. A situation analysis by the IUCN Oil Palm Task Force into Indonesian; (3) organise webinar ‘Palm oil and other vegetable oils: impacts and prospects’.
Scientific meetings: organise a symposium at IUCN Congress.
Activities and results 2020

Assess

Research activities


Communicate

Communication

i. Webinars were held on 15 and 17 September 2020. (KSR #28)

Scientific meetings

i. Organisation of the symposium at IUCN Congress was delayed due to COVID-19. (KSR #28)

Acknowledgements

We thank the Global Environmental Facility (GEF) for funding the IUCN project ‘Global Commons: Solutions for a Crowded Planet’, which contributed to the Task Force’s development of the Situation Analysis on Oil Palm and Biodiversity.

Summary of activities 2020

Species Conservation Cycle ratio: 2/5

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Main KSRs addressed: 28, 32, 41

Resolutions addressed: WCC-2016-Res-061

KSR: Key Species Result
Mission statement
The aim of the IUCN SSC Phylogenetic Diversity Task Force (PDTF) is to provide leadership and guidance on the inclusion of phylogenetic diversity in conservation strategies. By providing the necessary scientific and technical expertise, we will promote wider adoption and greater understanding of this approach by conservation practitioners, decision makers, and the public.

Projected impact for the 2017-2020 quadrennium
Newly established in 2019, the PDTF has developed a work plan with the aim of delivering measurable results for the next quadrennium. Impact will focus on raising the profile of phylogenetic diversity and evolutionary history amongst the conservation and policy community.

Targets for the 2017-2020 quadrennium
Assess
Research activities: (1) develop state-of-the-art methods for measuring and categorising the success of conservation. These will be the two indicators proposed by the PDTF to the Convention on Biological Diversity (CBD) Secretariat for inclusion in the post-2020 framework; (2) identify gaps in knowledge or application of phylogenetic diversity (PD) metrics as a result of the review and guidance planning. Encourage PDTF members and the wider scientific and conservation community to undertake targeted scientific research and conservation applications (such as through post-graduate research or conservation projects) that will add to our knowledge base. High profile scientific analyses and investigations that have wide implications are completed and published. These will enable the updating and generating of guidance as required, feeding back into the other objectives.

Plan
Communication: consider a structure for information exchange and collaboration to occur more effectively to increase understanding of PD importance and application in conservation by practitioners; adding value to existing activities through conferences, meetings, grant support.

Policy: develop a variety of guidance documents that will include practical examples and review obstacles and lessons to share best practice on the ground. This will contribute to improved and more widely adopted approaches for species prioritisation for incorporation into conservation planning (KSR 15); create cutting-edge tools and approaches for incorporating evolutionary history into conservation (KSR 18); and support conservation planning processes to include evolutionary history and thus feed into policy and action (KSR 21).

Proposal development and funding: develop consultation-informed recommendations for guidance documents. Initiate guidance planning consultation with IUCN Specialist Groups, interested academics and practitioners to identify the potential for a variety of guidance documents for practitioners and policy makers that will address current barriers to the use of PD-metrics to inform conservation. Encourage consideration of PD and evolutionary distinctiveness (ED) in new sectors, such as business.
Endangered Ginkgo biloba is the sole survivor from an ancient clade of trees that predates the dinosaurs, making it the most evolutionarily distinct gymnosperm alive today.

Photo: Shutterstock

Task Force

Act
Policy: (1) develop knowledge exchange and consultation between various stakeholders to enable adoption of PD-prioritisation and guidelines to inform global and national conservation policy (KSR 26) – such as the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES), the post-2020 CBD framework, CITES, Convention on Migratory Species (CMS), and Ramsar – and at national and cross-boundary levels (KSR 27). Scientific advice from PDTF used to drive actions and policies for species and sites are implemented at the national level (linking to National Biodiversity Strategies and Action Plans (NBSAPs) and national Red Lists); (2) contribute as a Task Force to the increased awareness and wider adoption of PD-informed conservation, through representation at conferences, workshops and other events, to develop knowledge exchange amongst attendees.

Network
Capacity building: (1) develop knowledge exchange and consultation between academics, practitioners and policy makers. This will contribute to building capacity for species conservation planning (KSR 17), feed into the identification of sites of global biodiversity conservation significance (KSR 22) such as Key Biodiversity Area prioritisation, build mutually beneficial institutional partnerships for SSC Specialist Groups and increase the number of groups that adopt PD as a prioritisation tool (KSR 29); (2) develop or support training programmes on species conservation planning by building capacity. Capacity is developed to expand effective species conservation planning efforts throughout the SSC network and beyond and ensure that these efforts are considered valuable and accessible to all relevant parties. Membership: develop and update PDTF governance documents, foundational statements, work plan and review of members to ensure continued strategic planning and progress. Synergy: collaborate with and contribute to IUCN strategy and World Conservation Congress conferences to promote the uptake of PD in policy and conservation practices.

Communicate
Communication: (1) develop a consultative database by compiling information on the applied use of PD in conservation around the world, including organisations and contacts, to assess the current extent of application of PD-metrics. This will contribute to better monitoring and evaluation of the impact of PD-prioritisations on the effectiveness of conservation action and inform the future PDTF membership; (2) communicate species conservation work, such as application of PD, best practice, PDTF achievements and activities that frame PD around evolutionary heritage as a storehouse of future benefits, and so linked to a fundamental value of biodiversity, namely the maintenance of options. This could be done through the PDTF website, social media, and other mass media avenues. Documents review: develop and update PDTF governance documents, foundational statements, work plan and review of members to ensure continued strategic planning and progress.
More than half of the world’s crocodilians face extinction, including the evolutionarily and ecologically unique Critically Endangered Gharial, Gavialis gangeticus. Photo: Rikki Gumbs / ZSL

Activities and results 2020

Assess
Research activities
i. The PDTF has developed two indicators that have been submitted to the CBD Secretariat for inclusion in the post-2020 framework. The PDTF has also initiated preparation for a peer reviewed policy paper for submission in 2021. The paper will be shared with the CBD Secretariat for inclusion in the post-2020 framework. (KSR #11)

ii. The PDTF supported the SSC by developing and updating the highly Evolutionarily Distinct species lists for the SSC EDGE Grant. The lists were sent to the SSC to support them in the selection and prioritisation of submitted grant proposals by the SSC Specialist Groups. The Zoological Society of London’s EDGE of Existence Programme also updated its website to provide the ability for Specialist Groups to search by country and taxonomic group in support of their proposal writing. (KSR #32)

Plan
Communication
i. The PDTF is currently reviewing and adapting a structure for information exchange and collaboration due to changes with the new SSC quadrennium plan.

Act
Policy
i. The PDTF has been actively contributing to the Convention on Biological Diversity (CBD) post-2020 process and attending the Subsidiary Body on Scientific, Technical and Technological Advice (SBSTTA) and Subsidiary...
Body on Implementation (SBI) meetings. The PDTF submitted its technical summary paper to the CBD, including two separate contributions with comments on the monitoring framework and indicators. The PDTF also provided its feedback on the technical submission by the IUCN Species Survival Commission’s Post-2020 Biodiversity Targets Task Force to the CBD and contributed with statement papers to national stakeholders and delegations to the CBD. This included submitting briefs to the Chilean delegation, French delegation – the National Museum of Natural History, and the UK government bodies – Department for Environment, Food & Rural Affairs (DEFRA), Environmental Audit Committee and All-Party Parliamentary Group on International Conservation. The PDTF also contributed to a roundtable discussion with leading UK conservation organisations, culminating in an open letter calling for the UK Government’s support in conserving the evolutionary heritage in the UK, in the Overseas Territories, and globally as part of the CBD. (KSR #26, 27)

ii. On the EDGE Conservation, the host of the PDTF, organised a UK panel event on 8 December 2020. The panel was attended by the former Vice President of the United States, Al Gore, and the UK Minister for Pacific and the Environment, the Rt Hon Lord Goldsmith. The PDTF Chair, Dr Nisha Owen, presented on the importance of reversing the extinction crises with a focus on Evolutionarily Distinct and Globally Endangered species and the role of the PDTF. Other meetings that have been planned for 2020 have been postponed to 2021 due to COVID-19 restrictions on in-person meetings, including the IUCN World Conservation Congress and the CBD. (KSR #26, 28)

Network
Capacity building
i. The PDTF has supported the SSC EDGE grant by submitting two new evolutionarily distinct and globally endangered (EDGE) taxonomic groups and updated an online species search database to aid Specialist Groups in the proposal developments. The PDTF also collaborated with the post-2020 Task Force in contributing to the CBD post-2020 consultations. (KSR #17, 22, 29)

ii. The PDTF supported the inclusion of the range state criteria in the SSC internal EDGE grant requirement to support in country scientists and updated an online species search database to aid Specialist Groups in their proposal developments. (KSR #17)

Membership
i. The PDTF has developed and adopted a work plan of activities and a governance document. The PDTF is reviewing nominations for new members on an ongoing basis, based on identified skills and experiences needed to fulfill its work plan commitments. The PDTF has initiated planning and the development of the foundational statements. The PDTF will also initiate further planning on its messaging framework once it identifies additional capacity to aid in its communications and social media work.

Synergy
i. The PDTF has submitted a World Conservation Congress (WCC) session proposal to the SSC, however, the WCC has been postponed until 2021.

Communicate
Communication
i. The PDTF developed and launched its website in 2020. The PDTF uploaded news and stories associated with the Tree of Life and provided informational resources, including for policymakers and conservation practitioners, for the purpose of easing the understanding of PD. (KSR #16)

ii. The PDTF has developed a website (www.pdtf.org) and a twitter account (@IUCN_TreeOfLife). The website has a variety of Tree of Life resources, including science publications, blogs and news about recent events and research that is also published on Twitter. (KSR #28)

Acknowledgements
We thank On the EDGE Conservation for resourcing the group and their activities, the EDGE of Existence Programme at the Zoological Society of London for facilitating meetings and sharing technical resources, and On the EDGE Conservation and the Muséum National d’Histoire Naturelle for promoting the Task Force’s technical submission to relevant delegations and within the Convention on Biological Diversity’s negotiation process.

Summary of activities 2020
Components of Species Conservation Cycle: 5/5
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Main KSRs addressed: 11, 16, 17, 22, 26, 27, 28, 29, 32

KSR: Key Species Result
Mission statement
The IUCN SSC Post-2020 Biodiversity Targets Task Force aims to provide focus and leadership on species issues in the framework of the Post-2020 Global Biodiversity Framework of the Convention on Biological Diversity (CBD), through coordination with IUCN Secretariat. The Task Force seeks to do this by collating inputs and views from across the SSC network and providing scientific and technical expertise on species related target(s).

Projected impact for the 2017-2020 quadrennium
At the end of 2020, there will be a deeper understanding amongst CBD Parties of the importance of an ambitious target for species conservation and the challenges of meeting that target during the implementation of the Post-2020 Global Biodiversity Framework. This understanding will be reflected in a strong target for species conservation being kept in the Post-2020 Global Biodiversity Framework, and with a more realistic mechanism for measuring progress. There will also be stronger engagement by the species conservation community, represented by SSC, in delivering this new target.

Targets for the 2017-2020 quadrennium

Plan
Policy: (1) ensure that new conservation targets relating to species under the CBD and associated Protocols and Multilateral Environmental Agreements (MEAs) are ambitious while achievable, practical and helpful in terms of implementation of the overall objectives of the CBD. These objectives are the conservation and sustainable use of biodiversity, and the fair and equitable sharing of benefits arising out of use of genetic resources; (2) work with the IUCN Secretariat to support the development of a short policy position paper framing and outlining what is needed for species conservation for the next decade, within the framework of the CBD and other MEAs/mechanism of biodiversity/living in harmony with nature (2021–2030); what will Target 12 look like post 2020?; (3) position the Assessment-Plan-Action approach for species conservation: for example, by ensuring the IUCN Red List informs and feeds into the CBD post-2020 process, as well as a mechanism for measuring conservation actions at the national level (i.e. hold CBD Parties accountable for reporting).

Act
Technical advice: work in collaboration with the IUCN Secretariat to provide scientific and technical guidance to Parties on species conservation planning and implementation.

Network
Synergy: (1) determine the views of members of the SSC on the species conservation planning targets beyond 2020, and their views on potential advice that can be provided to help with implementation of work towards any future species conservation targets. This will allow the Task Force to identify key issues for species
in the post-2020 agenda; (2) develop a road map of engagement so that the Task Force, working with IUCN Secretariat, will be ready for the major CBD milestones over the next three years.

Activities and results 2020

Assess

Research activities
i. We assessed how many bird and mammal species had avoided extinction since 1993, when CBD came into force (between 28 and 48) and since 2010 (between 11 and 25) and found that extinction would have been between 2.9 and 4.2 times higher over the last three decades in the absence of conservation action (Bolam, FC et al. 2021. How many bird and mammal extinctions has recent conservation action prevented? Conservation Letters 14 (1), e12762. https://doi.org/10.1111/conl.12762).

Plan

Policy
i. Due to delays related to COVID-19, the final wording of conservation targets relating to species under the CBD and associated Protocols and Multilateral Environmental Agreements (MEAs) is not yet agreed. Members of the Task Force published a scientific paper on the wording of the species goal and submitted a further scientific publication on the wording for the proposed target on species-specific recovery actions, which has been cited by the CBD Secretariat. (KSR #26)

ii. We investigated which threats are addressed by each of the Aichi Targets, to quantify which targets need most action to prevent species loss. We did so by matching threats to species, as identified by the IUCN Red List, to the Aichi Targets. (KSR #26)

iii. Positioning the Assessment-Plan-Action approach for species conservation clearly requires significant action across SSC and indeed wider IUCN. For our part, we have provided the mechanism that will allow the IUCN Red List (and in due course other comparable data sources) to determine what threats must be mitigated, and where their impact on species must act for extinction risk to be reduced at national level (or any other spatial scale). This provides a clear mechanism for using Assessments to Plan for Action for species at large (e.g. national) scale. (KSR #26)

Act

Technical advice
i. In 2020, we provided input on the following: IUCN position paper for the second meeting of the Open-Ended Working Group on the post-2020 global biodiversity framework (OEWG-2); proposed monitoring framework for the post-2020 global biodiversity framework; peer review of documents for the 24th meeting of the CBD Subsidiary Body on Scientific, Technical and Technological Advice (SBSTTA-24); and comments on their updated zero draft. (KSR #18)

Network

Synergy
i. We are monitoring the developments of proposed meetings regularly and keep an eye on any documents published on the CBD post-2020 website.

Acknowledgements
We thank the following organisations: BirdLife International, Botanic Gardens Conservation International, Conservation International, the Conservation Planning Specialist Group, EcoHealth Alliance, the Institute of Botany at the Chinese Academy of Sciences, International Institute for Environment and Development, ISPRA (Institute for Environmental Protection and Research), the Morton Arboretum, NatureServe, SSC, SSC Mollusc Specialist Group, South African National Biodiversity Institute, UNEP WCMC, University of Brasilia, Wildlife Trust of India, Wildoceans, WWF, and Newcastle University.

Summary of activities 2020
Components of Species Conservation Cycle: 3/5

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KSR: Key Species Result
Mission statement
To develop a ‘Green Status of Species’ to document and incentivise successful species conservation and recovery.

Projected impact for the 2017-2020 quadrennium
During the 2017–2020 quadrennium, the Task Force has produced a scientific method for a Green Status of Species assessment of species recovery and conservation impact, tested the method with over 200 species, and consulted with IUCN members and other stakeholders around the world to further refine the method. The Green Status of Species Standard has been approved by IUCN Council and the Green Status of Species is officially part of the Red List of Threatened Species.

Targets for the 2017-2020 quadrennium
Assess
Green Status: Green Status criteria for species conservation actions developed and ready for implementation, including links with Green Status criteria for ecosystems and protected areas.

Activities and results 2020
Assess
Green Status
1. The IUCN World Conservation Congress was postponed, so the launching of events was postponed. We are now planning to launch in June 2021, decoupled from the World Conservation Congress. (KSR #11)

Acknowledgements
We are very thankful to all those who have supported the development of the IUCN Green Status of Species. Financial support has been made by: IUCN SSC, the WWF US Innovation Fund, the NERC Knowledge Exchange Fellowship programme, Global Wildlife Conservation, Fondation Franklinia, and Cambridge Conservation Initiative.

Summary of activities 2020
Components of Species Conservation Cycle: 1/5
Assess 1
Main KSRs addressed: 11

KSR: Key Species Result
Jon Paul Rodriguez discusses the Green Status of Species
Photo: Molly Grace
Mission statement
No mission statement.

Targets for the 2017-2020 quadrennium
Plan

Activities and results 2020
Plan

Policy
i. No progress due to the delay of the IUCN World Conservation Congress (WCC). Delivery of this result will depend on decisions made by GOFrance and IUCN. (KSR #26)

Summary of activities 2020
Components of Species Conservation Cycle: 1/5
Plan: 0
No activities due to delay of WCC
Resolutions addressed: WCC-2016-Res-086
Mission statement
The IUCN SSC CEM Task Force on Systemic Pesticides (TFSP) is the response of the scientific community to concern around the impact of systemic pesticides on biodiversity, ecosystems and public health. Its intention is to provide the definitive view of science to inform more rapid and improved decision-making.

Targets for the 2017-2020 quadrennium
Assess
Research activities: (1) prepare and publish part 3 of the article series ‘An update of the Worldwide Integrated Assessment (WIA) on systemic insecticides’, focused on alternatives; (2) prepare a publication on the effect of neonicotinoid pesticides on bat health; (3) publish the book Systemic Pesticides: A Worldwide Assessment; (4) prepare a publication on the effect of neonicotinoid pesticides on butterflies; (5) publish an article on alternatives in major cropping systems; (6) publish an article on global contamination of food; (7) publish an article on public health.

Plan
Policy: publish an open letter to policy makers and regulators on use of neonicotinoid pesticides.

Network
Capacity building: hold the first workshop in Africa on neonicotinoids, organised by the South African Academy of Sciences.

Communicate
Communication: (1) publish an opinion paper on bees; (2) publish an opinion paper on agro-ecology; (3) publish an open letter on UN Food and Agriculture Organization (FAO) Policy. Scientific meetings: (1) conduct a series of international symposia on the impact of and alternatives to systemic pesticides; (2) organise the Task Force on Systemic Pesticides (TFSP) Annual Meeting 2018 in Paris.

Activities and results 2020
Assess
Research activities


Communicate


Acknowledgements

The IUCN Task Force on Systemic Pesticides is a totally independent research group. TFSP thanks the Stichting Triodos Foundation (STF, The Netherlands) for funding. The STF received funds from the Umwelt Stiftung Greenpeace (Germany), Pollinis (France), the M.A.O.C. Gravin van Bylandt Stichting (The Netherlands) and Zukunftsstiftung Landwirtschaft (GLS Treuhand, Germany). The funders had no role in the works of the TFSP, the design of the studies, the collection and analysis of the data, the decision to publish, or the preparation of the manuscripts.

Summary of activities 2020

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Main KSRs addressed: 26, 32

KSR: Key Species Result
IUCN SSC Freshwater Conservation Committee

2020 Report

Co-Chairs
Topiltzin Contreras MacBeath (1)
Ian Harrison (2)

Red List Authority Coordinator
Jörg Freyhof (3)

Location/Affiliation
(1) Universidad Autónoma del Estado de Morelos, Cuernavaca, Mexico
(3) Museum für Naturkunde, Berlin, Germany

Number of members
16

Social networks
Twitter: @FW_Conservation

Mission statement
To raise the profile of freshwater biodiversity through: (1) coordinating freshwater species conservation activities through the SSC, highlighting emerging patterns and ensuring that increasing attention is given to issues concerning freshwater biodiversity conservation; (2) making freshwater recommendations to the SSC based on the work of the Freshwater Conservation Committee, and ensuring that freshwater species conservation issues are well represented within the SSC and the wider IUCN; (3) assisting the SSC by providing authority and credibility in its engagement with policy processes and major freshwater related events.

Projected impact for the 2017-2020 quadrennium
By 2020, we envision that the Freshwater Conservation Committee (FCC) can provide stronger recommendations for freshwater conservation priorities, in terms of which species and regions require most urgent action, and how to link conservation action between regions through habitat connectivity. We can achieve this through mobilising the newly assimilated Red List assessment data for application to management and policy. Conservation action will be directed at selected, leading threats to freshwater ecosystems, in particular, invasive species and fragmentation of habitats by dams. By working with partners such as the IUCN World Commission on Protected Areas (WCRA) Freshwater Specialist Group, we can provide guidance for better conservation of freshwater ecosystems in protected areas. By facilitating communication and collaboration between SSC Specialist Groups with a freshwater interest, and by linking this to the work of other IUCN Commissions and the Secretariat, as well as contributing to other major freshwater initiatives beyond IUCN, we will ensure that future freshwater conservation planning is more fully integrated across IUCN’s programmes. Conservation of freshwater species and habitats will be given a higher profile as a core component in wider landscape management, conservation and policy making. Freshwater conservation initiatives will be better coordinated to complement each other, rather than operating in parallel.

Targets for the 2017-2020 quadrennium
Assess
Red List: complete Red List assessments of all freshwater species targeted by IUCN for global coverage (ca. 38,300 species).
Research activities: (1) develop a programme of Conservation Evidence, documenting conservation success (e.g. what is the relationship between conservation success and protected areas, and links between biodiversity and ecosystem services/human health); (2) Ramsar site review; (3) conduct a metadata analysis of freshwater biodiversity and dams/other infrastructure.

Plan
Planning: (1) promote the inclusion and effective management of freshwater ecosystems in protected areas and other effective area-based conservation measures (OECMs); (2) provide input into the development and implementation of the IUCN 2021–2024 Programme of Work.
Policy: (1) publish a paper on review of threats to freshwater wetlands; (2) ensure that freshwater ecosystems are better integrated into the post-2020 global biodiversity outlook.
Conservation actions: develop projects and collaborations focused on freshwater invasive species.

Network

Capacity building: (1) plan and run a workshop, focused on challenges, opportunities and priorities for freshwater biodiversity conservation, at the 2019 SSC Leaders’ Meeting; (2) following the freshwater workshop at the 2019 SSC Leaders’ Meeting, plan and run a cross-linked series of freshwater themed events at the 2020 World Conservation Congress, focused on challenges, opportunities, and priorities for freshwater biodiversity conservation.

Proposal development and funding: fundraise for projects/Programme Officer.

Synergy: (1) be a key partner in developing the IUCN One Programme Strategy for Freshwater Biodiversity (as defined by a white paper describing the objectives of the strategy); (2) develop and help coordinate an IUCN Freshwater Network, for sharing information and freshwater objectives, with an online mechanism for sharing information; (3) review freshwater targets and objectives of other Specialist Groups to identify areas of shared or supporting interest; (4) be a key partner in developing the new initiative, the Alliance for Freshwater Life (AFL); (5) be a key partner in a new initiative/NGO focused on fundraising for freshwater biodiversity conservation; (6) be a source of advice and coordination on freshwater activities in SSC and partners; (7) support, promote and communicate the activities of the IUCN SSC Task Force on Global Freshwater Macroinvertebrate Sampling Protocols (MSP TF). The objectives of the MSP TF are integrated into FCC reporting: the FCC will consult with the MSP TF; FCC and MSP TF will collaborate in the production of key papers/reports that relate macroinvertebrate biodiversity to freshwater ecosystem health.

Technical advice: collaborate with Indianapolis Zoo in determining the functions of the Freshwater Officer position in the newly forming Global Centre for Species Survival.

Communicate

Communication: (1) create a list of ‘25 top species’ – representative across taxonomic groups and regions – that highlight some of the main issues associated with freshwater ecosystem conservation; (2) establish effective outreach and communications; (3) assist the BBC Natural History Unit in development of freshwater stories for their Planet Earth III series.

Activities and results 2020

Assess

Red List

1. The Freshwater Biodiversity Unit, led by Will Darwall, assessed 6,010 freshwater species in 2020 (3,676 fishes, 1,289 Odonates and 1,045 species from other freshwater taxa). Eighteen (18) regional assessments were carried out (+1,600 published individual species assessments, and twice as much to be published, not counting Brazil). Both Co-Chairs have been actively involved in the publication of the report for Mexican freshwater fishes (536 species), and the assessment of 223 freshwater fish species from Central America. This last activity has led to the creation of a Mesoamerican Freshwater Fish Conservation Group. (KSR #1)
Plan

Planning

i. No significant progress was made in 2020 promoting the inclusion and effective management of freshwater ecosystems in protected areas and OECMs. The Committee will work with the WCPA Freshwater Specialist Group on this activity during the next quadrennium. (KSR #26)

ii. FCC members have provided recommendations on the IUCN Programme of Work as it has been developed. Many members attended a session on the Programme during the 2019 SSC Leaders’ Meeting and made recommendations for strengthening the freshwater component of the programme. Specific written recommendations were then supplied to the IUCN Secretariat in follow up, and additional comments were provided on the draft circulated in 2020. (KSR #18)

Policy

i. FCC members have continued to provide feedback to IUCN’s Global Species Programme and the SSC Post-2020 Biodiversity Targets Task Force, in terms of review and editing of the Post-2020 Biodiversity Framework to ensure freshwater is properly referenced. Co-Chair Harrison also contributed to: Williams, B.A., et al. (2021). ‘A robust goal is needed for species in the Post-2020 Global Biodiversity Framework’. Conservation Letters 14:e12778. https://doi.org/10.1111/conl.12778 (KSR #7, 26)

Network

Capacity building

i. The outputs of a workshop, focused on challenges, opportunities, and priorities for freshwater biodiversity conservation, at the 2019 SSC Leaders’ Meeting have been informative to our Committee planning through 2020. (KSR #18)

ii. Our engagement in planning for the World Conservation Congress has been one of the main areas of activity for the FCC in 2019–2020. FCC members have contributed as lead, or as collaborators, to planning the following six Forum sessions: ‘Opening Plenary: Our Freshwater Global Risk - Taking Actions to Reverse the Trend’; ‘A cascade of benefits from healthy freshwaters’; ‘Protecting aquascapes: integrating freshwater, estuarine and marine conservation’; ‘Improving Protected Area designation, management and design for freshwater biodiversity’; ‘Global Invasive Alien Species Target for the Post-2020 Global Biodiversity Framework’; ‘Scaling up – expanding action on the global crisis facing freshwater biodiversity’. Co-Chair Harrison is also part of the Planning Committee for the Freshwater Theme events. FCC members have also provided input to the development of three successful Resolutions (WCC-2020-Res-006: Protecting rivers and their associated ecosystems as corridors in a changing climate; WCC-2020-Res-012: Aquatic biodiversity conservation of shallow marine and freshwater systems; WCC-2020-Res-018: Valuing and protecting inland fisheries) and one Motion still under review (013 – Protection of Andes-Amazon rivers of Peru: the Marañón, Ucayali, Huallaga and Amazonas, from large-scale infrastructure projects). (KSR #18)

Synergy

i. Members of the Freshwater Conservation Committee have remained closely involved with the development of the Alliance for Freshwater Life (AFL); however, there was relatively little further development of the AFL during 2020. In early 2021, Leibniz-Institute of Freshwater Ecology and Inland Fisheries, Berlin (IGB) advertised for a Sustainability Research Liaison Officer whose role will include promoting AFL, so we expect more development during 2021. Committee members have planned an Alliance Forum session (‘Scaling up – expanding action on the global crisis facing freshwater biodiversity’) for the 2020 World Conservation Congress. Furthermore, following the publication of the Mexican freshwater fish assessment report, as a result of several meetings in 2020 with the AFL, it has been decided that a pilot project will be developed for Mexican freshwater fish, with support from AFL. (KSR #29)
Technical advice

The Task Force has not yet been formed. Force was proposed to the Steering Committee when this Task Force. Similar information was provided to the two potential Co-Chairs proposing the Macroinvertebrate Sampling Protocols (MSP TF) to the IUCN SSC Task Force on Global Freshwater. Mendations on the structure and function of IUCN Species Annual Report 2020.

Communicate

ii. The mission of Shoal is to engage a wide range of organisations to accelerate and escalate action to save the most threatened fish and other freshwater species. Co-Chair Harrison assisted in the process of interviewing and selecting a Conservation Programme Manager for Shoal and has participated in weekly meetings with the Shoal staff team. Other Committee members (e.g. Topis Contreras MacBeath, Tim Lyons, recently recruited into the Committee) have also provided advice and input to Shoal. In 2020 Co-Chair Topiltzin Contreras talked remotely with Mike Baltzer, Executive Director of Shoal, to discuss possible fish conservation projects related to Mexican freshwater fish species; several initiatives are currently being integrated related to this. The FCC is listed as a strategic partner of Shoal. (KSR #29)

iii. The Co-Chairs provided review and recommendations on the structure and function of the IUCN SSC Task Force on Global Freshwater Macroinvertebrate Sampling Protocols (MSP TF) to the two potential Co-Chairs proposing the Task Force. Similar information was provided to the SSC Steering Committee when this Task Force was proposed to the Steering Committee. The Task Force has not yet been formed. (KSR #14, 29)

Technical advice

i. Co-Chair Topis Contreras participated in the selection process of the Freshwater Officer position for the Global Center for Species Survival. The FCC will work closely with Monika Bohm, who was selected for this position. (KSR #14, 29)

Communicate

Communication

i. Topis Contreras MacBeath has been involved with a working group on communications led by the SSC’s Chairs Office; we expect to use the information and alliances established by this group to develop a Communication Strategy for the FCC in 2021. Several members of the FCC participated on the publication ‘Wetlands: the ultimate biodiversity hotspot’, featured in the IUCN Crossroads Blog published on 30 January 2020 (https://www.iucn.org/crossroads-blog/202001/wetlands-ultimate-biodiversity-hotspot). Both Co-Chairs participated in the IUCN’s assessment report (Lyons, T.J., Málz-Tomé, L., Tognelli, M., Daniels, A., Meredith, C., Bullock, R. and Harrison, I. (eds.), Contreras-MacBeath, T., et al. (2020). The status and distribution of freshwater fishes in Mexico. Cambridge, UK and Albuquerque, New Mexico, USA: IUCN and ABQ BioPark.). FCC members have also worked individually on publications, and a few members have collaborated on publications (e.g. during 2019 some members collaborated on Tickner, D., et al. (2020). ‘Bending the Curve of Global Freshwater Biodiversity Loss: An Emergency Recovery Plan’. Bioscience 70:330–342. https://doi.org/10.1093/biosci/biaa002). The FCC has been running a Twitter account since 2014; it has 738 followers, but the Committee still needs to develop its own website and Facebook page. Topis Contreras gave five Keynote Conferences related to the work of the FCC in 2020 (‘Mexico, Central America & the Caribbean Status and trends’ in the Global Swimswims Webinar Marathon (14 May); ‘Estatus y distribución de los peces dulceacuícolas de México’, Simposio Ictiología en Mesoamérica (13 August); ‘Los peces dulceacuícolas de México, en peligro inminente’, Semana de la Biodiversidad CONABIO (27 May); ‘Flora, Fishes, and fireflies: Assessing Species in Peril in New Mexico and Abroad’ ABQ Biopark (8 October); ‘Hacia una alianza para la conservación de los peces dulceacuícolas de Mesoamérica’ Conversatorio SIMAC (27 November). (KSR #28)

Acknowledgements

We are grateful to Synchronicity Earth and Conservation International for providing support for Co-Chair Ian Harrison to work on Committee activities. We are grateful to administrative assistance and advice from Rachel Roberts, SSC Director of Oversight and Conservation Outcomes. We would also like to thank the International Alliance for Protected Areas for sponsoring a workshop on Freshwater Protected Areas in Inner Mongolia (2019), with the participation of Topis Contreras and Harmony Patricio. Thanks to National Geographic and the Mohamed bin Zayed Species Conservation Fund for supporting our invasive species work. We are also very grateful to the Albuquerque Biopark for hosting and funding two workshops where freshwater fishes from Mexico (526) and Central America (200) were assessed. The Biopark has also provided full-time funding for Tim Lyons, who has compiled data and prepared the assessments.

Summary of activities 2020

Components of Species Conservation Cycle: 4/5

Assess 1

Plan 3

Network 6

Communicate 1

Main KSRs addressed: 1, 7, 14, 18, 21, 26, 28, 29

Resolutions addressed: WCC-2016-Res-062, WCC-2016-Res-086

KSR: Key Species Result
**Mission statement**

The mission of the Invertebrate Conservation Committee (ICC) is to foster the conservation of terrestrial and freshwater invertebrates and their habitats around the world. We assess their conservation status, raise awareness and engage in practical conservation of these most species-rich taxonomic groups on Earth.

**Projected impact for the 2017-2020 quadrennium**

Our work will help to increase the taxonomic diversity represented in the IUCN SSC. The higher number of Red List assessments and new Specialist Groups will help to instigate new conservation actions for invertebrate species.

**Targets for the 2017-2020 quadrennium**

**Assess**

Red List: add 500 charismatic invertebrate species to the IUCN Red List.

Research activities: (1) develop monitoring standards for selected groups of invertebrates; (2) write a publication on closing knowledge gaps in invertebrate conservation.

**Plan**

Planning: conduct an integrative multi-taxon Assess-Plan-Act Project in the Nilgiri Biosphere Reserve (India).

**Network**

Capacity building: meet with invertebrate Specialist Group Chairs and Red List Authority (RLA) Coordinators.

Membership: increase the number of invertebrate Specialist Groups (N=15).

Scientific meetings: organise a first international conference on insect conservation.

**Communicate**

Communication: (1) produce guidelines for Invertebrate Conservation in Protected Areas; (2) publish a roadmap on insect conservation; (3) publish a ‘Scientists Warning’ on insect declines; (4) publish a ‘Solutions’ paper on insect declines; (5) publish an article on how Red List assessments have led to conservation action for invertebrates; (6) publish a comment on the murder of two butterfly conservationists in Mexico; (7) publish an article on how to calculate population reduction in insect species with strong population fluctuations; (8) organise a name and leadership change of the IUCN SSC Bumble Bee Specialist Group to become part of a wider IUCN SSC Wild Bee Specialist Group.

**Activities and results 2020**

**Assess**

Research activities

i. A paper on Data Deficiency in neglected biodiversity written in collaboration with the Fungal Conservation Committee and Plant Conservation Committee was accepted for publication and published online in July 2020 (Hochkirch, A., et al. (2021). ‘A strategy for the next decade to address data deficiency in neglected biodiversity’. Conservation Biology 35:502–509. https://doi.org/10.1111/cobi.13589). (KSR #43)

**Plan**

Planning

i. The first fieldwork in the Nilgiri Mountains has been conducted, but the organisation of a workshop has been postponed due to COVID-19. (KSR #21)
Network
Scientific meetings
i. The organisation of the first international conference on insect conservation has been postponed due to COVID-19. (KSR #43)

Synergy
i. A new Mite Specialist Group and Ant Specialist Group have been instigated.

Communicate
Communication
i. A draft outline of the ‘Guidelines for Invertebrate Conservation in Protected Areas’ has been created. (KSR #14)


v. A letter on the murder of two butterfly conservationists has been published in Science.


vii. The name and leadership of the IUCN SSC Bumble Bee Specialist Group was changed to IUCN SSC Wild Bee Specialist Group.

Acknowledgements
We thank the IUCN–Toyota Red List Partnership for funding invertebrate Red List assessments. Furthermore, we are grateful to the Mohamed bin Zayed Species Conservation Fund for constant support of invertebrate conservation projects by IUCN SSC Invertebrate Specialist Groups.

Summary of activities 2020

| Components of Species Conservation Cycle: 4/5 | | |
| --- | --- | |
| Assess | 1 | |
| Plan | 1 | |
| Act | 2 | |
| Communicate | 7 | |

Main KSRs addressed: 14, 21, 43

KSR: Key Species Result

Least Concern Green-eyed Flower Bee, cf. Anthophora bimaculata, found outside it’s clay nest, near Funcheira, Southern Portugal
Photo: Sérgio Henriques
Mission statement
The mission of the IUCN SSC Marine Conservation Committee is to support, connect and promote expertise in marine species conservation. Its mandate is to ensure that decisions taken on the future of marine species are directed at long-term population health and based on sound technical knowledge. Specifically, it helps and links volunteer experts from the IUCN Species Survival Commission’s (SSC) network who have special knowledge of particular taxa or of cross-cutting concerns. It also advocates the use of SSC marine knowledge and skills in the broad global community, particularly by policy makers and resource managers.

Projected impact for the 2017-2020 quadrennium
The SSC Marine Conservation Committee (MCC) acts to support, connect and mobilise expertise in marine species conservation to secure a healthy ocean. We make a difference by encouraging and advancing SSC excellence in marine taxa and issues, energising IUCN’s engagement with the ocean, and ensuring SSC marine expertise is put into service effectively around the world. The MCC assists SSC Specialist Groups, stand-alone Red List Authorities and Task Forces to meet their Assess-Plan-Act objectives. We are particularly determined that the World Conservation Congress theme of Restoring Ocean Health will mark real change. The MCC is also energetically promoting far better coverage of ocean concerns in the post-2020 Biodiversity Targets. A key focus of the MCC is to develop tools and approaches to connect SSC expertise with management and policy initiatives globally.

Targets for the 2017-2020 quadrennium

Plan
Planning: ensure that the Marine Conservation Committee (MCC) is working effectively.

Act
Policy: promote and mobilise SSC marine expertise to advance ocean conservation globally.

Network
Policy: (1) advance IUCN capacity for marine conservation; (2) support and enhance SSC marine expertise.

Activities and results 2020

Plan
Planning
i. We held five virtual meetings, enhanced the MCC website (www.iucn-sscmarine.org), and communicated on the MCC Twitter account (@SSCmarine). (KSR #21, 28, 29, 30)

Act
Policy
i. The MCC provided input to the evolving Post-2020 Global Biodiversity Targets. (KSR #21, 29, 30)

Activities and results 2020

Plan
Planning
i. We held five virtual meetings, enhanced the MCC website (www.iucn-sscmarine.org), and communicated on the MCC Twitter account (@SSCmarine). (KSR #21, 28, 29, 30)

Act
Policy
i. The MCC provided input to the evolving Post-2020 Global Biodiversity Targets. (KSR #21, 29, 30)


Network Policy

i. We facilitated online discussion and revisions for IUCN World Conservation Congress (WCC) Motion 124 – Reducing the impact of fisheries on marine biodiversity. (KSR #26, 29)

ii. All three IUCN WCC Motions drafted by the MCC – on incidental capture (Resolution WCC-2020-Res-023), ecosystem restoration (Resolution WCC-2020-Res-025) and fisheries (Resolution WCC-2020-Res-107) – were approved by e-votes in November 2020. (KSR #26, 29)

iii. All three IUCN WCC Motions on species specific issues fostered by the MCC – on banjo rays (Resolution WCC-2020-Res-091), narrow-ridged finless porpoise (Resolution WCC-2020-Res-094) and seahorses, pipefishes and seadragons (Resolution WCC-2020-Res-095) – were approved by e-votes in November 2020. (KSR #26, 29)

iv. The MCC contributed to the development of the Ocean Health theme at the IUCN World Conservation Congress. (KSR #26)

v. We participated remotely in a World Commission on Protected Areas marine workshop on 3 and 5 February 2020. (KSR #26)

vi. We served as a panelist for a discussion hosted by the IUCN Global Marine and Polar Programme on Key Biodiversity Areas and the marine environment (8 December 2020). (KSR #26)

vii. We appointed a new marine representative to the IUCN Red List Committee.

viii. The MCC supported transition in the leadership of the Shark Specialist Group, identified new Co-Chairs for the Sea Snake Specialist Group, encouraged the SSC Sciaenid Red List Authority to become a Specialist Group, and provided input to development of the Fungal Conservation Committee.

ix. We hosted a discussion workshop for SSC marine leaders on bycatch and developed action ideas for collective engagement.

x. We communicated about IUCN marine Motions – both to generate votes and to report results – with SSC marine leaders. (KSR #26, 29)

xi. We contributed to the hiring process for the Marine Coordinator at the SSC / Indianapolis Zoo Global Center for Species Survival (GCSS).

xii. We contributed perspectives on marine issues and more to the SSC Steering Committee Working Groups on Network Development, Conservation Action and Communications.

Acknowledgements

The SSC Marine Conservation Committee thanks the SSC Chair’s Office and the IUCN Global Species Programme for their support, with particular gratitude to Jon Paul Rodriguez, Rachel Hoffmann and Olivier Hasinger. The MCC operates from the Chair’s institution at the University of British Columbia, which funds her salary as a professor and other benefits. The Chair is also grateful to Guylian Belgian Chocolates and the Langar Foundation for their long-standing support for her Project Seahorse team’s conservation activities, including some assistance to the MCC. We also thank Lily Stanton very much for her wonderful support work that helps power the MCC.

Summary of activities 2020

Components of Species Conservation Cycle: 3/5

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Main KSRs addressed: 21, 26, 28, 29, 30

KSR: Key Species Result
Mission statement

The IUCN SSC Plant Conservation Committee (PCC) leads IUCN’s efforts in stemming the loss of global plant diversity through its wide-ranging network of plant conservationists. The PCC is responsible for advising and assisting on the overall prioritisation and programme oversight within the SSC to deliver on its plant conservation responsibilities. The PCC works to support and facilitate the activities of the SSC Chair, the IUCN Global Species Programme, and the expert volunteer network of Specialist Groups, Red List Authorities, Task Forces and others, providing overall strategic guidance and direction in accordance with the mandate of the SSC.

Projected impact for the 2017-2020 quadrennium

The Plant Conservation Committee aims to achieve the following outputs by 2020: (1) barometer of life targets achieved for plants (38,000 plants included on the IUCN Red List); (2) guidelines on including plant diversity in action plans and sector based plans developed; (3) ex situ conservation of plants promoted by involving botanic gardens in conservation and support of IUCN SSC groups; (4) each IUCN SSC Specialist Group has a sustainable use focus; (5) quantifiable targets related to plant diversity incorporated into the post-2020 global biodiversity framework.

Targets for the 2017-2020 quadrennium

Assess

Green Status: test the Green Status for Cycads, Kew Caribbean plants, Cacti, and sample Global Tree Campaign species.

Red List: (1) manage and drive assessments forward in 13 megadiverse countries (US, Mexico, Colombia, Brazil, Ecuador, Peru, South Africa, Ethiopia, Madagascar, India, Indonesia, China, Australia); (2) champion Red List assessment of CITES-listed plants (those affected by trade, not look-alike): identify the gaps, encourage Specialist Groups to prioritise assessments; (3) assess conservation status of species important to livelihoods (Plants for People/P4P species prioritised) in order to support conservation action, such as species conservation action plans, national strategies, etc.; (4) develop a system for automating Least Concern assessments for plants, that includes: (i) clearly defined thresholds for what qualifies as Least Concern, e.g. minimum extent of occurrence (EOO) and number of countries, (ii) determine how habitat information can be automatically brought in and test different spatial ecosystem classification systems, e.g. ecosystem assessment for South America, WWF ecoregions, etc., (iii) determine what land cover layers are best used to determine level of habitat loss, (iv) determine thresholds of habitat loss that mean a species cannot qualify as Least Concern; (5) prioritise Crop Wild Relative (CWR) assessments in hotspots, e.g. Indonesia (underway with Crop Wild Relative Specialist Group; Global Trees to build it in through David Gill), investigate working on Crop Wild Relatives in Brazil with the Brazilian Agricultural Research Corporation (EMBRAPA) and in Ethiopia; (6) develop an information system to automate Least Concern assessments that is compatible with SIS Connect; (7) develop a protocol for producing semi-automated Least Concern assessments approved and signed off by the Red List Committee; (8) determine timelines for production of Least Concern assessments and determine feasibility of conducting global plant assessments.
Plan
Policy: (1) produce a policy brief on Crop Wild Relatives (CWR) and their role in adaptation to climate change, and consider turning this into a resolution for the IUCN World Conservation Congress (WCC); (2) champion/support piloting of the FairWild Standard and certification for high risk CITES-listed species, and summarise the case study at the relevant CITES events (in particular as relevant to livelihoods and incentives agenda items); (3) develop the next iteration of the Global Strategy for Plant Conservation that incorporates the views and aspirations of the entire plant conservation community (not just the ex situ community), develop better indicators for the post-2020 global biodiversity targets, and develop tools and data services for conservation practitioners and policymakers, including Convention on Biological Diversity (CBD) national focal points.

Research activities: (1) hotspot regions (Indonesia, Brazil, South Africa, Madagascar, Colombia) to list Alliance for Zero Extinction (AZE) sites for plants (once on the Red List); (2) hotspot regions (Indonesia, Brazil, South Africa, Madagascar, Colombia) where possible to identify Key Biodiversity Areas (KBAs) for plants (once on the Red List).

Act
Conservation actions: (1) ensure that use and trade of plants is reflected in the work of Specialist Groups as when appropriate, including to request plant Specialist Groups integrate species use and trade in their work, in particular for the new Specialist Groups; (2) champion the use of the Plant Sustainable Use guidelines by expanding the use of the FairWild Standard and its certification scheme as a recognised international best practice for sustainable harvest and trade in wild plants.

Network
Capacity building: (1) support Specialist Groups to achieve the assessments committed to in the IUCN Species Strategic Plan, through having one-on-one skype calls with each group and emailing them to encourage progress; encourage them to submit in new languages allowed on the Red List; provide training and reviews of assessments where needed; (2) encourage students to conduct assessments at selected universities where a champion lecturer is able to both teach assessment methodology and review assessments produced.

Synergy: facilitate the identification and engagement of plant Specialist Groups, designate CITES focal points with IUCN Global Species Programme (GSP) and SSC and work together to: (i) review plant Specialist Group engagement with CITES in 2017–18 and report back to PCC, (ii) make Specialist Groups aware of the usefulness of the application of the CITES Non-detritment Findings Guidance for Perennial Plants (the nine-steps methodology) for relevant taxa, (iii) identify how to flag priority issues to the Specialist Groups prior to particular CITES events, (iv) identify Specialist Group members who are involved with wildlife trade discussions and ask how to best support them in strengthening the arguments for plant trade in the international wildlife trade discussions, (v) encourage plant Specialist Groups to contribute to the CITES and livelihoods item, including responding to the current call for case studies on CITES and livelihoods, and also the CITES Rural communities process. Specifically, some of the potential case studies include: Palms; Medicinal plants; FairWild; Madagascar CITES species (ornamental); Central African ebones—Taylor guitars (check with George Schatz).

Communicate
Communication: engage with/contribute to the underpinning materials/publications for TRAFFIC’s public/consumer campaign (with/ via botanic gardens, private sector), to increase the awareness of the use of wild plants in products, highlight issues around their sustainability, and promote the more responsible practices to key companies involved in key plant resources in trade.

Activities and results 2020
Assess
Green Status
I. A sample of 39 plant species were tested for the Green Status of species, including cycads and trees. (KSR #11)

Red List
I. Assessments in megadiverse countries: good progress has been made in South Africa, Madagascar, Mexico, Indonesia, India, Australia, Brazil and Colombia; remaining work needs to be done in Peru, the US, Ecuador and Ethiopia. (KSR #1)

ii. A total of 224 taxa of crop wild relative species (CWR) from Mesoamerica, including squash (Cucurbita spp.), cotton (Gossypium spp.), potato (Solanum sect. Petota) and vanilla (Vanilla spp.), have been assessed (https://doi.org/10.1002/ppp3.10225). Other hotspots will be worked on in the new quadrennium. (KSR #1)

iii. Information system to automate Least Concern assessments: the tool Rapid Least Concern (https://sbpachman.shinyapps.io/rapidLC/) was developed and is freely available online. (KSR #1)
Plan

Policy

i. Comisión Nacional para el Conocimiento y Uso de la Biodiversidad (CONABIO) produced a policy brief focused on Mesoamerica. We will explore the opportunity to bring this in as a case study to support crop wild relative conservation planning guidance materials. (KSR #42)

ii. IUCN PCC and Medicinal Plant Specialist Group (MPSG) members published an article in May 2020 on ‘Strengthening Sustainable International Trade in Medicinal and Aromatic Plants: Updates from the 18th meeting of the Conference of the Parties to CITES and potential future directions’, focusing on the development of CITES requirements for Appendix II listed medicinal and aromatic plants, linked to both the practical case study in the project in Nepal, as well as in preparation for the post CITES CoP18 Plants Committee meeting. In 2020, a direct contribution was made to the CITES Secretariat document prepared for the Plants Committee on the implementation of Decisions 18.300 - 18.303 Trade in medicinal and aromatic plant species. The Plants Committee being delayed, CITES Secretariat will convene an Intersessional Working Group on the implementation of the Decision, which IUCN PCC will participate in (https://cites.org/sites/default/files/eng/com/pc/25/Documents/E-PC25-30.pdf). TRAFFIC, IUCN MPSG and other partners were in the final stages of the UK Government-funded project in Nepal on piloting FairWild certification of CITES Appendix II listed Nardostachys grandiflora (syn. Nardostachys jatamansi). TRAFFIC.org/news/succeeding-with-cites-new-project-aims-to-promote-sustainable-wild-jatamansi-trade-from-nepal/. In the CBD context, the report on the implementation of the Global Strategy for Plant Conservation 2011–2020 was launched alongside Global Biodiversity Outlook 5 in September 2020 by the CBD Secretariat. This Global Plant Conservation report includes a range of relevant elements concerning TRAFFIC work, including the FairWild implementation, CITES non-detirement findings (NDFs), under Targets 11 and 12 ([https://www.cbd.int/doc/publications/cbd-ts-95-en-hr.pdf). (KSR #26)

iii. A new Strategy has been developed in alignment with the new post-2020 framework. We worked to get CBD Global Strategy for Plant Conservation focal points from a selection of countries to make interventions at the CBD Subsidiary Body of Scientific and Technological Advice (SBSTTA) for the Global Strategy for Plant Conservation to be maintained in the post-2020 framework. Work will be ongoing until the new Global Biodiversity Framework is adopted at the 15th meeting of the Conference of the Parties to the CBD (CBD COP15). (KSR #26)

Research activities

i. Hotspot regions to list Alliance for Zero Extinction sites for plants: work initiated in South Africa and Colombia, but KBA national coordinator groups still need to be established in the remaining countries. (KSR #22)

ii. Hotspot regions where possible to identify KBAs: work initiated in South Africa and Colombia, but KBA national coordinator groups still need to be established in the remaining countries. (KSR #22)

Act

Conservation actions

i. Each plant Specialist Group was asked to appoint a focal person on Sustainable Use. In-depth discussions about the ways forward for the coordinated efforts around the use and trade issues took place during the SSC Leaders’ Meeting in Abu Dhabi in 2019. As a follow up, discussions started with the IUCN Sustainable Use and Livelihoods Specialist Group (SULi) on further alignment of targets for the next quadrennium, collaboration with IUCN SSC PCC and the establishment of the Plants Use Group, using the vehicle of SULi. (KSR #36)

ii. As a member of the FairWild partner organisation, IUCN PCC contributed to further development of FairWild Standard implementation and further development of the scope of the Standard, including consultation to adapt the FairWild Standard for fungi, together with the IUCN Fungi Conservation Committee. COVID-19 impacts and uncertainty, combined with the practical difficulties in scheduling audits for new operations, meant that few new companies were in a position to formally join FairWild in 2020 and some companies were forced to exit due to business disruption; however, despite this, three new brand manufacturers and one trader joined, resulting in a total of 34 formal participants at the end of 2020. Overall, in 2020, eight FairWild risk analyses were completed by the IUCN MPSG. By the end of 2020, 24 wild-harvested plant species were FairWild certified, with 34 companies formally engaged with the FairWild value chains; FairWild plant products and ingredients have been sourced from 11 countries and a FairWild pre-audit completed in China, as well as Nepal. FairWild implementation projects were ongoing in a selection of countries, including in the non-certification context. This included a Critical Ecosystem Partnership Fund-supported project in Cameroon (on Prunus africana), a Keidanren Nature Conservation Fund-supported initiative in Kazakhstan (on Glycyrrhiza spp.), a UK...
A prototype tool ‘Wild Plants for Wildlife’ has been developed by TRAFFIC and GIZ, with the focus on potential for matchmaking between producer and buyer companies, with the focus on high conservation value sourcing areas in Namibia’s KAZA region. South Africa was in the process of piloting the FairWild standard to develop a legislated biodiversity management plan for five medicinal plants in the eastern parts of South Africa. In terms of recognition, in June 2020, FairWild Foundation became the recipient of Nutrition Business Journal’s 2020 ‘Stewardship and Sustainability’ award, recognised for the role in ensuring the sustainable management of wild plant populations and the economic sustainability of the people who rely on them. To wrap up the year, in December 2020, shoppers were urged to support responsibly sourced wild plant products at Christmas by looking for FairWild label, recommending steps for consumers to take to identify wild plants in everyday products and select sustainably produced ones (https://www.traffic.org/news/shoppers-urged-to-support-responsibly-sourced-wild-plant-products-this-christmas/).

A publication, The Invisible Trade: Wild plants and you in the time of COVID-19, was published in June 2020, following the previous brief on the topic in April 2020 (for the World Health Day). The references and the topic concerning the increased use of herbal ingredients and products as prevention and treatment of COVID-19 (e.g. China through traditional Chinese medicine prescriptions, Turkmenistan for Liquorice root, etc.), including through requiring clearer efficacy against clinical trial rules (e.g. in South Africa). As previously, few conversations occur concerning the sustainability of those resources into the future and agreeing on the importance of sustainable wild harvesting/trade practices. The focus on the risks of illicit trade were also covered in an article on ‘Controlling the invisible trade: wild plant resources and their sustainability’ for the World Customs Organisation newsletter in 2020. (KSR #36)

Network

Capacity building

i. Specialist Groups were supported to achieve the assessments committed to in the IUCN Species Strategic Plan. (KSR #1)

Synergy

i. A survey was circulated to all plant Specialist Groups/Red List Authorities before the Abu Dhabi meeting which asked questions about current links to botanic gardens and gathered responses on which groups were interested in establishing stronger partnerships with botanic gardens and what kind of partnership would be most beneficial. These results have been shared with the Plants and Fungi Conservation Coordinator for action in the next quadrennium. (KSR #29)

ii. A Botanic Gardens Conservation International (BGCI) PlantSearch records match was carried out for the Freshwater Plant Specialist Group and Palm Specialist Group to identify gardens with important collections that could be potential hosts or provide support. Discussions were initiated with the Freshwater Plant Specialist Group for duplication of ex situ collections for this group at Singapore Botanic Gardens. (KSR #29)
Mission statement
Provide information and analyses on the status, trends and threats to species in order to inform and catalyse action for biodiversity conservation.

Projected impact for the 2017-2020 quadrennium
The goal of the IUCN Red List of Threatened Species is to provide information and analyses on the status, trends and threats to species in order to inform and catalyse action for biodiversity conservation.

This goal includes the "traditional" role of the IUCN Red List in identifying particular species at risk of extinction. While the role of the IUCN Red List in underpinning priority-setting processes for single species remains of critical importance, the goal has been expanded to encompass the use of data from the IUCN Red List for multi-species analyses in order to identify and monitor trends in species status and to catalyse appropriate conservation action.

To achieve this goal, the IUCN Red List has three main objectives:

1. To establish a baseline from which to monitor the change in status of species;
2. To provide a global context for the establishment of conservation priorities at the local level;
3. To monitor, on a continuing basis, the status of a representative selection of species (as biodiversity indicators) that cover all the major ecosystems of the world.

With these objectives in mind, the IUCN Red List Committee (RLC) sets forth ten key strategic results as its measures of success and which it aims to achieve by year 2020:

1. IUCN Red List taxonomic and geographic coverage is expanded to achieve the Barometer of Life target of 160,000 species assessed;
2. More IUCN Red List Assessments are prepared at national and, where appropriate, at regional scales;
3. The IUCN Red List Index is widely used as an effective biodiversity indicator;
4. The IUCN Red List is a scientifically rigorous tool for conservation;
5. IUCN Red Listing capacity is built through expanded training programmes;
6. The IUCN Red List is underpinned by cutting-edge information management technologies;
7. The IUCN Red List is used effectively to inform policy and action;
8. The IUCN Red List is widely communicated and recognised;
9. The IUCN Red List is sufficiently and sustainably financed;
10. Strategic oversight is provided to the IUCN Red List.

Targets for the 2017-2020 quadrennium
Assess
Green status: implement processes for documenting conservation success ("green listing").

Red List: (1) complete global comprehensive assessments for 58,836 taxa; (2) complete global non-comprehensive assessments for 56,434 taxa; (3) complete global sampled assessments for 15,765 taxa; (4) conduct core reassessments for long-term indicator groups (mammals, birds, amphibians, corals, cycads, conifers), totalling 25,790 taxa; (5) complete comprehensive reassessments to produce Red List Indices for key new indicator taxa,
focusing on marine, freshwater and invertebrate taxa, totalling 3,728 taxa; (6) undertake reassessments for selected regions where appropriate policy or implementation mechanisms, adequate funding and capacity exist (e.g. Europe, Africa), totalling 4,352 taxa; (7) involve at least 10 new priority countries, 80% of which are mega diverse, in capacity building / twinning activities / and conducting assessments that feed into national decision-making processes (5,000 taxa); (8) conduct sampled reassessments for speciose taxonomic groups, totalling 10,500 taxa (representing ~420,000 taxa); (9) improve the IUCN Species Information Service (SIS) interface and make it easier to use (building on SIS Connect), including new developments (such as dynamic publishing); (10) develop SIS to allow for increased uptake and use at the national level; (11) enhance the functionality of SIS for storing, managing, manipulating and querying data; (12) update key existing documents and tools for supporting global and regional Red Listing; (13) produce new guidance notes to support the Red Listing process; (14) successfully renew and strategically grow the Red List Partnership (three new full partners and new parallel partnership process instituted); (15) enhance the governance structures (Red List Committee and working groups meeting annually and working intersessionally) to ensure the targets in this strategic plan are met; (16) develop and maintain a searchable database for all National and Regional Red Lists and link it to the global IUCN Red List; (17) ensure IUCN Red List training resources are regularly updated, augmented, translated into additional languages and made available online.

**Plan**

Policy: (1) ensure Red List data in the Integrated Biodiversity Assessment Tool (IBAT) are used by 80% of international financial institutions (IFIs, etc.) in environmental safeguard screening policies and by 50% of the net worth of Fortune 500 companies to reduce biodiversity risk in investment decisions and business operations; (2) ensure 90% of governments use Red List data in National Biodiversity Strategies and Action Plans (NBSAPs) and all species conservation plans and funding mechanisms make effective and appropriate use of Red List data; (3) ensure Red List data and the Red List Index are profiled appropriately in all assessments and processes informing the post-2020 biodiversity framework and its associated mission, targets and indicators.

**Network**

Capacity building: (1) increase the number of Red List assessors and Red List trainers (assessors by 250 via online training and 400 via workshop training; 35 trainers trained); (2) ensure all IUCN and Red List Partner staff directly involved in managing Red List assessments and all SSC Red List Authorities are trained and have passed the Red List online exam. Proposal development and funding: (1) continue to explore online donation campaigns as a mechanism for generating targeted support for specific re/assessment initiatives; (2) ensure the Red List website includes more proactive requests asking users downloading data to consider making a nominal donation to support continuing making the data available. Synergy: (1) ensure the IUCN Red List improves linkages with peer organisations and agencies including other biodiversity knowledge products; (2) implement a mechanism for engaging with institutions or organisations not currently meeting all the admission criteria for full Red List Partners, nor the strategic commitment, but interested in making a substantial financial or in-kind contribution.

**Communicate**

Communication: (1) enhance the credibility of the IUCN Red List in the academic and scientific community (40 peer reviewed publications, symposia at Society for Conservation Biology meetings, DOIs continue); (2) ensure the IUCN Red List enhances its external communication potential and effectiveness.

**Activities and results 2020**

**Assess**

**Green status**

i. In 2020, the RLC finalised the relationship between Red List and “Green Status of Species” (GSS) whereby the GSS standard was formally approved by the RLC. The GSS standard was also unanimously adopted by IUCN Council and it has been signed off by IUCN and given an ISBN. The GSS standard will be translated into Spanish and French. The GSS standard has been tested for ~200 species covering a wide range of realms and taxa. (KSR #11)

**Red List**

i. Progress has been made on completing the global reptile assessment and most of the freshwater fish assessment; good progress has been made on plant and invertebrate groups funded by the IUCN–Toyota Red List Partnership. A number of freshwater and terrestrial invertebrate groups have not progressed due to lack of funding. (KSR #1)
behind schedule. (KSR #1)

flies, dung beetles and ascomycete fungi are phytes on track for 2020. Pteridophytes, monocots, legumes, cephalopods and bryophytes on track for 2020. Quite a bit of work has gone into improving Neil Cox was appointed by the RLC as a Regional assessments for Europe and the Mediterranean are completed (7,606 species). There is progress with reassessments of mammals, birds, amphibians, corals, cycads and conifers with the hope to complete all reassessments by the end of 2020. However, some delays may be expected due to COVID-19. (KSR #1)

We are behind schedule conducting reassessments to produce Red List Indices (RLIs) for key new indicator taxa. Only groupers have been reassessed; cartilaginous fish, tuna and billfish, and seagrasses are on track for reassessment. Freshwater decapods, mangroves, horseshoe crabs and bumble bees are behind schedule. (KSR #3)

Regional assessments for Europe and the Mediterranean are completed (7,606 species). Neil Cox was appointed by the RLC as a Co-Chair of the National Red List Working Group (NRLWG). The NRLWG, through a series of consultations with the SSC Chair’s Office, RLC and the SSC Steering Committee, will be piloting the establishment of a new SSC Specialist Group called the National Species Specialist Group (NSSG) in the 2021–2025 IUCN quadrennium. The terms of reference of the NSSG have been developed and pilot countries are at different stages of establishing the SSC NSSG. We are reinvigorating the national Red List website. (KSR #2)

Sampled reassessments conducted: monocots, eucrots (Legumes) and reptiles are on track for back cast assessment; bryophytes, pteridophytes, and reef building corals are behind. (KSR #1)

Quite a bit of work has gone into improving the experience of users into SIS, which is not always very easy due to its underlying technology. A major achievement has been SIS Connect, which allows data from external databases to be submitted. There has been some work carried out to look into how SIS Connect itself can be improved to support a lighter easy interface to SIS, but this has not materialised due to a lack of resources and prioritisation. We have also added some additional features like better view of the criteria calculator, easier navigation and arrangement of assessments, and a new Red List index module. With the new Red List website, we have also developed quicker mechanisms for publishing which is mostly automated. Some other developments include change in extinction date, five-year rules, SIS integrity checks, taxonomic management update, and better management of the Red List Index process, in a new module. (KSR #6)

SIS is being used to undertake and, in some cases, to store national assessments for various countries: Greece – national endemics (new project being developed); Republic of Korea – national endemics (project with the Korean Ministry of the Environment); Malawi – national Red List project coordinated by the South African National Biodiversity Institute (SANBI) and BirdLife South Africa (still in test phase); North Macedonia – national Red List project; Oman – new project which will use SIS to undertake assessments of amphibians and reptiles in that country; South Africa – SANBI uses SIS for some of their national assessments of animal groups (butterflies, mammals, freshwater fish, dragonflies and reptiles); United Arab Emirates – national assessments of birds, mammals, amphibians and reptiles, marine fish and plants are done using SIS and the data is stored for them in SIS, Mozambique – project coordinated by the Wildlife Conservation Society, SANBI and Royal Botanic Gardens, Kew. SIS Connect is being used by countries with their own national Red List process and database to submit global assessments of endemics: Brazil (CNCFlora and potentially ICMBIO), Colombia, Cuba (through the Cuban Plant Specialist Group), New Caledonia (for plants and reptiles), South Africa (SANBi for plants and spiders), Turkey and the US (NatureServe for North American plants). There is also support for assessments in languages other than English, like French, Spanish and Portuguese. The above is not a comprehensive list, but the main instances. (KSR #6)

We are working on adding additional fields and checks (like the integrity checker) to make it easier to validate data in SIS. The taxonomy module has been updated to enable better management of taxonomy. There are a lot more admin reports, which have been added to SIS to enable the Red List Unit to check on data and filter out issues. Reference management is being worked on to duplicate references. SIS Connect makes it easier to bring in bulk assessments from external sources. Partial updates in SIS Connect is being worked on, so that assessors are able to update only specific fields in existing drafts, therefore making the process of manipulating and updating data easier. SIS Connect also has an export feature to enable multiple data extraction types. Better management of data in SIS is an area which is constantly being addressed, with the help of the Red List Unit and the Red List Technical Working Group. (KSR #6)

The Red List Rules of Procedure document has been revised with clear guidance on who can be listed as an assessor in a Red List assessment and providing more details and clarity on the roles of the Red List Authority Coordinator. (KSR #6)

The Red List Rules of Procedure document has been revised which includes two annexes: (i) taxonomic guidelines and (ii) Conflict of Interest policy and procedures. Additionally, several amendments have been made to the Red List process. (KSR #6)

The Red List partner agreement is up for revision by the end of the quadrant and discussions are ongoing to investigate changes and solutions to expanding the Red List Partnership model. Albuquerque BioPark was formally accepted as a Red List partner, bringing the total number of Red List partners to 12. The Red List partnership encompasses 12 partner institutions with the addition of three new partners in the 2017–2020 IUCN quadrennium. (KSR #10)

A developer has been identified to redevelop the National Red List website and database to be easier to maintain but resources and capacity have been extremely limited to move this forward. Funding has been secured for a development team (Octophin Digital) to start redesigning the database to make it more user friendly and transform it into a more practical tool to link to a redesigned website with improved functionality for the regional and national Red List community. (KSR #6)

IUCN Red List training resources: (1) The final exams were made available in French and Spanish; (2) all course modules and lessons were reviewed and updated (in English, French and Spanish); (3) module 3 (the largest module focusing on the Red List Categories and Criteria) was completely overhauled to fix an ongoing bug issue caused by the Conservation Training website being updated several times. All lessons in this module are now fully functional again (in English, French and Spanish); (4) module 5 (IUCN Red List Mapping Standards) was completely rewritten and rebuilt to bring
this in line with the current Mapping Standards guidelines; (5) the Red List Unit initiated discussions with the IUCN SSC Climate Change Specialist Group to begin the process of developing a new lesson for the course, focusing on how to incorporate climate change modeling in Red List assessments. This work was not completed in the 2016–2020 time period and carries over to 2021–2025. (KSR #6)

**Plan**

**Policy**

i. The Red List is maintained as a core offering through IBAT, to nearly 100 commercial users. (KSR #7)

ii. About 50% of governments made reference to the IUCN Red List in their sixth National Reports to the Convention on Biological Diversity. (KSR #7)

iii. Red List data were profiled in the Species Threat Abatement and Restoration (STAR) metric, which is published in the journal Nature Ecology and Evolution. In this manuscript, Red List data were used to develop a metric for spatially explicit contributions to science-based species targets post 2020. The development of STAR, which draws from Red List data (categorisation schemes), allows countries and non-state actors to develop science-based targets for biodiversity at the species level under the post-2020 framework. Red List data have informed the post-2020 biodiversity framework, and Red List and Red List index data were profiled in the 2020 Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) global report. A comprehensive evaluation of mammal and bird species extinctions averted since 1993 has been completed. (KSR #7)

**Network**

**Capacity building**

i. Online IUCN Red List course: 1,464 people successfully completed the Global Red List Assessor course (modules 1–6 of the online course); 1,323 people successfully completed the Regional Red List Assessor course (modules 1–3 and 7 of the online course); 1,205 people successfully completed the Global and Regional Red List Assessor course (modules 1–7 of the online course). (KSR #5)

ii. IUCN Red List Assessor Training workshops: The Red List Trainer network facilitated (1) 46 full-length Red List Assessor Training workshops (3–4 day workshops), involving at least 1,098 participants (some data missing for one of these workshops); (2) 36 short Red List training workshops (1–2 days long), involving 979 participants; (3) 37 Red List sessions (~1 day long) attached to other meetings, conferences and workshops, which were attended by at least 711 people (data missing for one of these sessions). (KSR #5)

**Communicate**

i. According to Web of Science, 363 scientific papers had topic = “IUCN Red List” in 2020. This is surely an underestimate of the total output, e.g. 419 had topic = IUCN “Red List” and 532 had topic = “Red List”. (KSR #4)

**Summary of activities 2020**

**Components of Species Conservation Cycle: 4/5**

Assess 18

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Main KSRs addressed: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11

**Acknowledgements**

We thank all RLC members and partners for their dedication and immense contributions to achieving the targets of the RLC for the quadrennium.
Mission statement

The Standards and Petitions Committee is responsible for ensuring the quality and standards of the IUCN Red List of Threatened Species, developing guidelines for the application of the IUCN Red List Categories and Criteria and ruling on petitions against the listings of species on the IUCN Red List of Threatened Species.

Projected impact for the 2017-2020 quadrennium

The impact of the Standards and Petitions Committee (SPC) on conservation is indirect, through its efforts to maintain and increase the credibility and reliability of the IUCN Red List as the most authoritative source of the conservation status of species.

Targets for the 2017-2020 quadrennium

Assess

Red List: produce a new version of guidelines for application of the IUCN Red List Categories and Criteria.

Activities and results 2020

Assess

Red List

i. We started work on version 15 of the Guidelines for Using the IUCN Red List Categories and Criteria. (KSR #4)

ii. African Elephants Red List assessments were reviewed. (KSR #4)


iv. Twelve consultations were conducted: (1) criterion A1 (Norway); (2) criterion A3 (trees; Madagascar); (3) criterion A/E (salamanders; Europe); (4) criterion D: plausible threats for D/D1 vs for D2; (5) criterion E (frog; Korea); (6) extent of occurrence (EOO)/area of occupancy (AOO) from habitat maps (reptiles; Brazil); (7) severely fragmented and population viability (Australia); (8) extreme fluctuations (plants; Australia); (9) locations (trees, birds); (10) Critically Endangered (Possibly Extinct) (plants); (11) hybrids and domestication (Norway); (12) R package named ConR. (KSR #5)

v. Meetings: (1) Red List: technology-assisted Red List assessments; (2) Climate Change Specialist Group: use of species distribution models in Red List assessments. (KSR #6)
Standards and Petitions Committee at a meeting in November 2015 at the University of New South Wales, Sydney, Australia
Photo: Craig Hilton-Taylor