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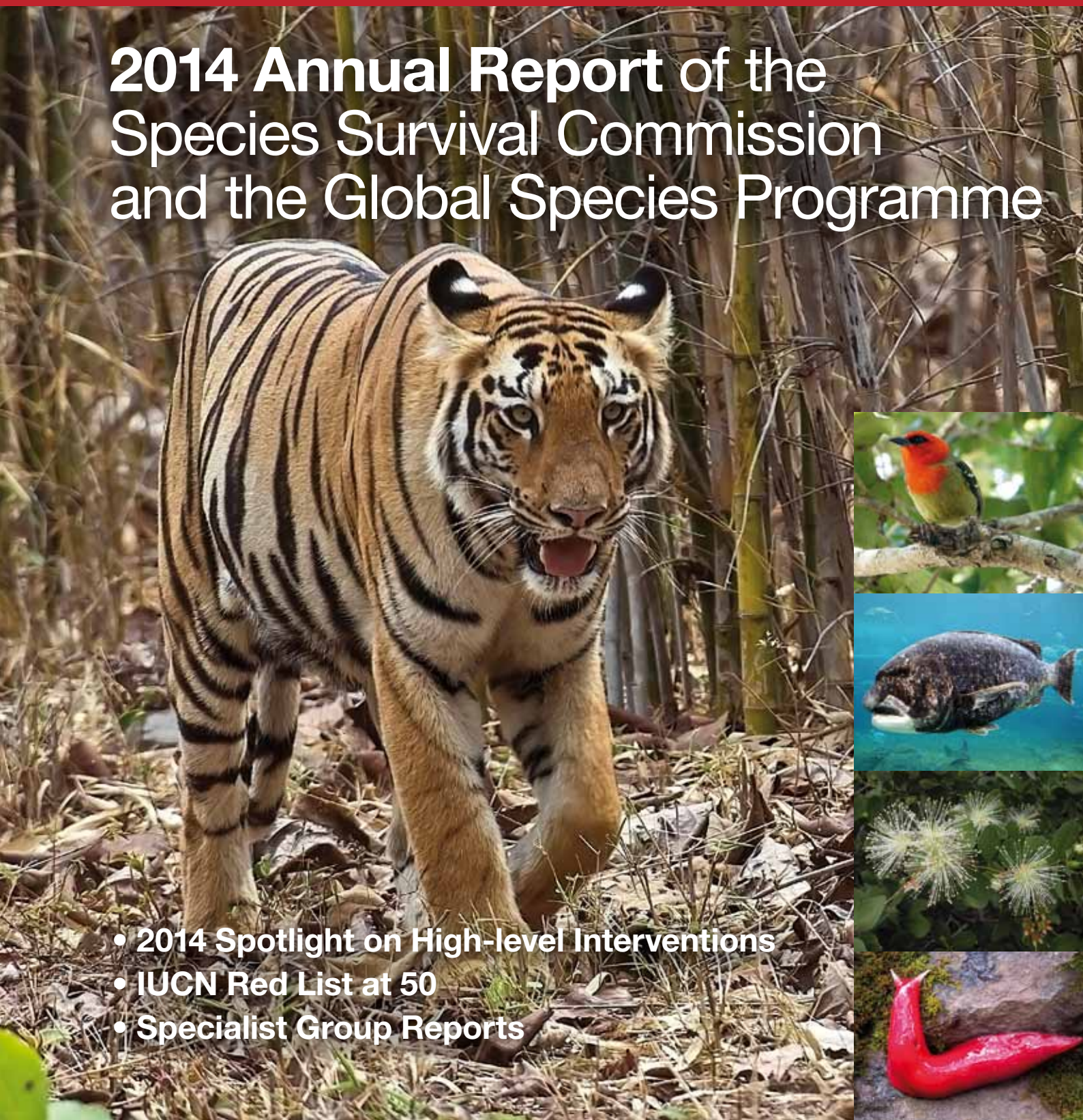

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Ethiopian Wolf (*Canis simensis*), Endangered. © Martin Harvey

In this issue

2014 Annual Report of the Species Survival Commission (SSC) and the Global Species Programme

TEAM SPECIES Dena Cator, Olivier Hasinger, Lynne Labanne, Olivia Nater, Rachel Roberts, Claire Santer.

LAYOUT www.naturebureau.co.uk

COVER Tiger (*Panthera tigris*), Endangered. © Debashish Dutta

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Mauritius Fody (*Foudia rubra*), Endangered. © Sugoto Roy

2014 SPOTLIGHT

High-level interventions are the means by which IUCN and/or the Species Survival Commission (SSC) addresses emerging conservation issues of serious concern (often brought to the attention of the SSC Chair's Office through the Specialist Group network). IUCN's influence and neutrality is used to put pressure on governments, organizations and companies and, depending on the issue in question, will either be signed by the Director General and sent from the Director General's Office, co-signed by the Chair of the SSC, or signed by the SSC Chair alone (and occasionally with signatories from other Commissions or regional offices).

The letters typically express concern about the issue, highlight – where relevant – the species (detailing their Red List status) and habitats which are to be impacted, and remind governments of their existing commitments (if any) e.g. Each letter provides all the necessary background and technical information and goes through a watertight review process, led by the SSC Chair's Office, engaging the appropriate Specialist Group and, when needed, the IUCN regional office(s) and IUCN programme(s). The content focuses on being helpful by suggesting some possible solutions, while recognizing simultaneously some of the good things that have happened already. The letter will conclude by extending the help of the IUCN, the SSC, and very specifically the technical expertise of the SG, in providing advice, support and knowledge as may be required.

Vaquitas on the verge of extinction, Mexico

On 5 December, at the request of the Cetacean Specialist Group, a letter was sent to the President of Mexico to address the catastrophic decline of the Vaquita (*Phocoena sinus*) by implementing urgent measures to stop the illegal Totoaba (*Totoaba macdonaldi* – a species urgently in need of conservation measures in its own right) fishery. With less than 100 individuals remaining, the letter urged the Government to take rapid action to strictly regulate all fishing activities in the upper Gulf of California to avoid the entanglement of Vaquitas in artisanal gillnets. Overseen by the SSC Chair's Office, the letter involved the Cetacean Specialist Group, senior Mexican colleagues, the Mexican State Member and the IUCN Regional Office for Mexico, Central America and the Caribbean (ORMACC). It was co-signed by IUCN's Director General and Simon Stuart. A response was received on 11 March from Minister Luis Fueyo Mac Donald, the Mexican National Commissioner, which stated that there would be a temporary suspension of gill net fishing in the Upper Gulf of California over the next two years, in an area comprising 1.3 million hectares; a two-year compensation programme for fisherman who are forced to give up their gill nets and long lines; encouragement of the development of new fishing gear and improved inspection and surveillance to be developed with the Department of the Navy, National Commission of Aquaculture and Fisheries, and the Federal Attorney for Environmental Protection with the collaboration of the people (fishermen). IUCN continues to closely monitor the situation and a response to this strategy is currently being drafted.

Vultures and the licensing of diclofenac in Europe

Alerted by a member of the IUCN SSC Vulture Specialist Group, the Director General and Simon Stuart wrote to the European Commissioner for Health and Consumer Policy in July to express serious concern on the EU's licensing of diclofenac for veterinary use in Europe and its impact on vultures. It was felt that given the strong scientific evidence of the causal relationship between the veterinary use of diclofenac and catastrophic vulture mortalities on the Asian sub-continent, similar devastating effects would also be seen on vultures in Europe as a result of use of the drug. A call was made to the European Commission to revoke the licensing of diclofenac for veterinary purposes in Europe and to spearhead a global effort for its worldwide ban for veterinary use. The letter was drafted by the SSC Chair's office in collaboration with the Vulture Specialist Group. It was reviewed by the Wildlife Health Specialist Group, the IUCN office in Belgium, RSPB (as the BirdLife partner engaged in this issue), the Vulture Conservation Foundation and the CMS Poison Working Group. The Commission responded rapidly, agreeing to submit a request for scientific advice on the possible effects of veterinary medicines containing diclofenac on necrophagus birds to the European Medicines Agency's (EMA) Committee for Medicinal Products for Veterinary Use ahead of its September meeting. The EMA expected to issue and publish its advice by December 2014. The SSC remains actively engaged in this issue since a ban has not yet been implemented.

on High-level Interventions

Hydropower dams in Yô Grande

Initiated by the SSC Stork, Ibis and Spoonbill Specialist Group, and some NGO Members of IUCN, the Director General and Simon Stuart wrote to the Prime Minister of the Democratic Republic of São Tomé and Príncipe expressing concern that the proposal to build three hydroelectric plants in Yô Grande River, in the district of Caué, would seriously impact the rich and unique biodiversity (including many endemic species) in the area. If built, the plants would destroy the habitat of two endemic and Critically Endangered birds, the Sao Tome Grosbeak (*Neospiza concolor*) and the Dwarf Olive Ibis (*Bostrychia bocagei*). São Tomé and Príncipe is the only place in the world where these extremely rare species occur. A rapid response was received to this letter from the Director General of Environment, thanking IUCN, and stating that São Tomé and Príncipe is "*very conscious of the importance of local biodiversity and the sensitivity and fragility of the proposed area*" and that all will be done to ensure that the environmental impact study required is done in a serious and responsible manner.

Proposed development of a trans-shipment port, Jamaica

On 29 January 2014, at the request of the SSC Iguana Specialist Group, the Director General and Simon Stuart wrote to the Minister of Water, Land, Environment and Climate Change in Jamaica considering a proposal to develop an extensive trans-shipment port on and around the Goat Islands, in the Portland Bight Protected Area (PBPA) created in 1999. The PBPA covers 1,876 sq km of land and sea and is considered of global importance because it is the Caribbean's largest contiguous swath of intact dry forest and is critical for the survival of many threatened species, including several that are endemic to the region such as the Critically Endangered Jamaican Iguana (*Cyclura collei*). There are also at least 379 plant species that have been recorded in the PBPA, with at least 50 of those endemic only to Jamaica. The letter involved consultation with the IUCN Mesoamerica and Caribbean Regional office, the Jamaica Environment Trust (JET) (an IUCN national member in Jamaica), and the relevant IUCN SSC Specialist Groups. It encouraged the Government of Jamaica to carry out a thorough and transparent Strategic Environmental Assessment (SEA), including an environmental and socio-economic cost-benefit analysis of the options for other locations for the port. It also offered IUCN's expert advice and technical advice for mitigating and minimizing adverse environmental effects should the development go ahead. Disappointingly, to date, we have received no response from the Government; a follow-up letter is under discussions which includes targeting the China Harbour Engineering Company (CHEC) which is responsible for the development proposal.

Environmental concerns associated with expansion of the Suez Canal

In September 2014, the SSC Invasive Species Specialist Group (ISSG) requested the possibility of IUCN intervening on the expansion of the Suez Canal in Egypt. The expansion has the potential to cause severe environmental impacts on the entire Mediterranean Sea, associated with increased opportunities for invasion by species from the Red Sea and Indian Ocean. The existing Suez Canal is considered to be one of the most significant pathways of marine invasions globally and has already led to the introduction into the Mediterranean of over 350 non-native species. Many are known to have had adverse effects, not only on the biodiversity of the Mediterranean by altering the structure and function of its ecosystems, but also on economic activities (such as fisheries and tourism) and on human livelihoods and health.

On 19 December, the Director General wrote to the European Commissioner on Environment, Maritime Affairs and Fisheries calling for the European Commission to urgently take a leading role in influencing the Government of Egypt to develop and implement practical mitigation measures to minimize species introductions through the enlarged Suez Canal. Main contributors of the letter were ISSG and the Marine Programme of the IUCN Centre for Mediterranean Cooperation, with advice from the IUCN European Union Representative Office. This issue will be closely followed as we await a response.

If you have an issue of conservation concern, which you believe warrants urgent intervention from IUCN and SSC, please contact Rachel Roberts at rachel.roberts@iucn.org. Additional letters of intervention, also sent in 2014, are profiled in the SSC Chair's report.

2014 Report from the Chair of the IUCN Species Survival Commission and the Director of the IUCN Global Species Programme

Simon N. Stuart, IUCN SSC Chair
Jane Smart, Director, IUCN Global Species Programme

The year 2014 was frantically busy for the IUCN Species Survival Commission (SSC) and the IUCN Global Species Programme (GSP) but, as always, extremely productive. For the most part it was dominated by the 50th anniversary of the IUCN Red List, with many wonderful and creative events, great publicity, and the launch of the 'Red List 50' – a fundraising campaign to expand the global taxonomic coverage of the Red List, increase people's knowledge of species and their levels of threat, and to build support for our work.

We continue to focus on numerous urgent conservation issues around the world. As usual, much of the focus has been on follow-ups to Resolutions and Recommendations from the IUCN World Conservation Congress in Jeju in September 2012 including:

Resolution 017 – Enhancing the usefulness of the IUCN Red List of Threatened Species
The implementation of this resolution is covered below in the section 'Promoting Biodiversity Assessment Work'. The Red List Committee (RLC), chaired by Mike Hoffmann, met in Cambridge on 12–14 May, and covered a number of critically important strategic issues.

Resolution 018 – Support for the development and implementation of national and regional red lists
The National Red List Alliance (NRLA) has now been established. This is a new network of national Red List practitioners from around the world. The SSC National Red List Working Group (NRLWG), co-chaired by Jonathan Baillie and Katherine Secoy from ZSL is the governing body of the National Red List Alliance. Further information on the implementation of this resolution is found in the section on 'Promoting Biodiversity Assessment Work'.

Resolution 022 – Supporting regional initiatives to conserve mammal diversity in West and Central Africa
The situation analysis (which has been expanded to include all terrestrial and freshwater vertebrates, not just mammals) has now been extensively reviewed by relevant IUCN and SSC members, especially within the region, and other experts. The four consultants (David Mallon; Phil McGowan; Fabrice Hibert and Nathalie van Vliet), each had distinctive roles in the project. This project has been overseen by Mike Hoffmann and the final draft of "*An IUCN Situation Analysis on Terrestrial and Freshwater Fauna in West and Central Africa*" is close to completion. It will be published in both French and English early in 2015. The SSC Steering Committee discussed next steps for this situation analysis to address what is clearly a conservation crisis across the region.

Resolution 025 – Conservation of African Elephants
The outcome of the African Elephant Summit (AES), jointly convened by IUCN and the Government of Botswana on 2–4 December 2013 has been very important in informing the negotiations on illegal wildlife trade during the first three months of 2014. The Urgent Measures from the AES were unanimously agreed upon by delegates representing the 30 countries present, representing every step along the illegal ivory trade value chain from producer to transit to consumer countries. The Urgent Measures were one of the most important sources drawn upon for the Declaration from the London Conference on Illegal Wildlife Trade on 13 February. Simon Stuart and Richard Jenkins from the IUCN GSP participated in the "Friends of the Chair" meeting on 14 January to help with the drafting of the Declaration. In addition to providing inputs based on the Urgent Measures, Simon and Richard also brought other inputs from SSC SGs focused on illegal wildlife trade. At the pre-meeting before the London conference on 12 February, IUCN was represented by Holly Dublin, Steve Broad (TRAFFIC International) and Richard Jenkins, at which we made our final inputs to the drafting of the London Declaration. During the conference itself on 13 February, IUCN was represented by President Zhang Xinsheng, Simon Stuart, Holly Dublin, and Steve Broad. President Zhang's speech to the conference is attached as Appendix 3. Work has already started on preparing for the follow-up meeting to the London Conference, which will be held in Gaborone, Botswana, in February 2015. IUCN is participating in the Illegal Wildlife Trade Senior Officials Group for this conference.

On 12 February, Simon Stuart represented IUCN at the launch of the United for Wildlife (UfW) in London. UfW is a collaboration between the Royal Foundation of the Duke and Duchess of Cambridge and Prince Harry, and with seven conservation organizations: Conservation International (CI); Fauna & Flora International (FFI); IUCN; The Nature Conservancy (TNC); the Wildlife Conservation Society (WCS); the World Wide Fund for Nature (WWF); and the Zoological Society of London (ZSL).

IUCN also provided inputs, most of them based either on the Urgent Measures or on other inputs from SSC SGs, to the European Commission's consultation on the European Union Approach Against Wildlife Trafficking. This meeting, which was attended by Dena Cator from the IUCN GSP, took place in Brussels on 10 April. The SSC African Elephant Specialist Group (AfESG) also participated actively in the IUCN delegation to the CITES Standing Committee meeting in Geneva on 7–11 July. The AfESG is actively seeking funding for the African Elephant Database which is in urgent need of a new financial injection if it is to continue to play its crucial role in providing the evidence-base necessary to inform decisions concerning the conservation of the African Elephant.

Very sadly, the AfESG Programme Officer, Diane Skinner, left this position to pursue new opportunities at the end of August 2014. We thank Diane for the outstanding job she has done and wish her the very best in her future career. She has now been replaced by Tara Daniel, whom we welcome to SSC.

African Elephant (*Loxodonta africana*), Vulnerable. © Esther Birchmeier

Resolution 028 – Conservation of the East Asian-Australasian Flyway and its threatened waterbirds, with particular reference to the Yellow Sea
Follow-up to Resolution 28 is being led for the SSC by Nicola Crockford from the Royal Society for the Protection of Birds (RSPB). Plans are progressing to advance national government-led workshops which will discuss possible steps forward in implementing the Resolution in each country. However, there have been continual delays. A national forum on integrated coastal zone planning of the Chinese Yellow Sea was originally planned to be held in Beijing from 18–19 November 2013, but was postponed until 9–10 May 2014 and was eventually held from 16–18 September 2014. The Beijing forum seems to have made some useful progress on this urgent conservation issue, although it was attended at a lower political level than had been hoped or expected. IUCN President Zhang Xinsheng gave the keynote address at the forum. Discussions are now underway to convene a follow-up forum to secure higher-level political commitment on the issue. Meanwhile, plans for national meetings in the Democratic Peoples' Republic of Korea and the Republic of Korea have also been delayed, raising questions about the level of political commitment to address this critical conservation issue in both countries. The new framework agreement between IUCN and the Republic of Korea has a small funding allocation to help support the implementation of this resolution, and the SSC working jointly with the IUCN Asia Regional Office (ARO), developed and submitted a proposal for the use of these funds in early October. We await the result of this proposal. Meanwhile, Princeton University has initiated a two-year post-doctoral study focused on providing an economic perspective of where costs are borne and where benefits accrue, resulting from land-use change (with study sites in Thailand, China and potentially South Korea). This provides a possible platform on which IUCN could piggy-back the ecosystem services study called for in Resolution 028 (operative paragraph 1a) to investigate "…*the benefits of ecosystem services provided by intertidal wetlands, especially tidal flats and associated habitats, in East Asia with particular reference to the Yellow Sea, in relation to the benefits arising from the reclamation (land claim) or conversion of such habitats*".
A proposal has been submitted to a potential donor to help pay for this ecosystem services study, and a response is awaited.

Resolution 041 – Development of objective criteria for a Green List of species, ecosystems and protected areas
As mentioned above, on 23–24 March, Jane and Simon attended the joint IUCN Commission on Ecosystem Management/Species Survival Commission/World Commission on Protected Areas meeting: "Green Lists: Concepts, Implementation, and Work Planning". This meeting was held in Xochitepec, near Cuernavaca, Mexico. The SSC was also represented at this meeting by Liz Bennett, Simon Hedges, Barney Long, and Jon Paul Rodríguez. The meeting represented a significant breakthrough in agreeing the overall focus and way forward for the IUCN Green Listing approach. The following vision for the Green List was agreed:

The IUCN Green List identifies conservation success, and recognizes, measures, and promotes progress towards its achievement. Green Listing is based on a common conceptual framework, applied initially across species, ecosystems, and protected areas that: (1) Recognizes positive impacts of actions towards the achievement of conservation targets; (2) Celebrates the reduction of risks to biodiversity and natural values; and (3) Supports and encourages actions that secure and defend nature.

It was agreed that in order to progress the development of IUCN Green Lists for Protected Areas, Species and Ecosystems, it would be desirable to maximise the synergies between them. The meeting focused on several areas of possible synergy, but in particular it was agreed the Green Listing should be focused on the achievement of biodiversity outcomes. The full report of the meeting is available from the SSC Chair's Office.

Since then, discussions have been held with a potential donor to seek support for the process to develop the Green List further for species and ecosystems, and as a result a project concept is being written. As mentioned above, the Green List was a major item of discussion at the SSC Steering Committee meeting in August 2014, at which a number of recommendations were made for the way ahead.

Resolution 137 – Support for a comprehensive scientific review of the impact on global biodiversity of systemic pesticides by the joint task force of the IUCN Species Survival Commission (SSC) and the IUCN Commission on Ecosystem Management (CEM)

The work of the SSC-CEM Task Force on Systemic Pesticides (TFSP) to produce a definitive, objective integrated assessment of the impacts of these chemicals on biodiversity has now been completed. The scientific journal *Environmental Sciences and Pollution Research* has published all of the papers that comprise that TFSP's "Worldwide Integrated Assessment" (WIA). The WIA is based on analysis by the TFSP on over 800 peer-reviewed papers on the impacts of systemic pesticides. The WIA covers the following aspects: Editorial, Trends, uses, mode of action and metabolites, Environmental fate and exposure, Impacts on invertebrates, Impacts on vertebrates, Impact on ecosystems and their services, Alternatives: Case studies, Conclusions.

Recommendation 138 – Conservation of rhinoceros species in Africa and Asia

Some of the activities reported above under Resolution 025 (Conservation of African Elephants) have also contributed to the implementation of Recommendation 138, in particular the work related to the London Conference on Illegal Wildlife Trade and the United for Wildlife (UfW) collaboration. Simon Stuart has continued to follow up on the results of the Asian Rhino Range States Meeting, hosted by the Government of Indonesia and facilitated by IUCN, and held in Bandar Lampung on 2–3 October 2013. The meeting brought the five Asian range countries (Bhutan, India, Indonesia, Malaysia and Nepal) together and was very successful, concluding in the adoption of the *Bandar Lampung Declaration* (see Appendix 4). Since this meeting, the SSC Chair's Office has been encouraging the ministers in each of the five countries to sign the *Declaration*, and the Indonesian Minister of Forestry did so on 29 January. Since then, the *Declaration* has been signed by Nepal and Bhutan. The original copies of the *Declaration* are currently in New Delhi awaiting signature by the Indian Minister of Environment and Forests, after which they will go for signature to Malaysia for signing. Simon Stuart has also been assisting with fundraising to help implement the *Declaration.* Meanwhile, a novel idea has emerged from UfW to form a new funding mechanism for rhinoceros conservation termed a Rhino Impact Bond (RIB). The Global Environment Facility (GEF) has awarded funding to ZSL (on behalf of UfW) to develop the RIB concept and test it out in a few sites. The SSC African Rhino SG (AfRSG) and Asian Rhino SG (AsRSG) have been advising on the development of the RIB, and Simon has been working with Jonathan Baillie from ZSL to help design the governance mechanism for the RIB initiative.

Sumatran Rhino (*Dicerorhinus sumatrensis*), Critically Endangered.
© Bibhab Talukdar

Recommendation 139 – Bear farming in Asia, with particular reference to the conservation of wild populations

The planning workshop to design the situation analysis called for in Recommendation 139 was held from 21–22 November 2013 in Beijing. The workshop was chaired by Dr Wang Weishing, Divisional Director, Department of Wildlife Conservation, in the Chinese State Forestry Administration (SFA). Following this, the IUCN SSC Bear SG (BSG) sent the Tentative Framework for the Situation Analysis to SFA (Appendix 5) on 12 February, and on 12 September the SFA responded positively to this. Both the BSG and the SFA have now announced the names of the participants in two working groups that have been formed to implement the situation analysis. The two principal investigators for the situation analysis are Prof Zhang Wei from the Northeast Forestry University and Dave Garshelis, Co-Chair of the BSG. On 30 September a major funding proposal was submitted to a donor to support this work.

Resolution 021 – Implementing the provisions on invasive alien species of the Strategic Plan for Biodiversity 2011–2020

A discussion has taken place and is ongoing between the ISI, ISSG and Jane Smart. Given the forthcoming retirement of Geoffrey Howard, it is felt that a new way forward is needed to try and build a programme bringing together the information, policy, action, and capacity building elements of the work. A paper was presented to IUCN's Global Management Team meeting in mid-September which was developed by ISI, ISSG and Jane. We wish to gain the support and input of senior management and our Strategic partnerships unit for the development of a proposal which brings together all elements of the work in the most relevant parts of the globe.

Resolution 036 – Biodiversity, protected areas, and Key Biodiversity Areas

IUCN GSP Freshwater Biodiversity Unit (FBU), BioFresh Project: This project completed very successfully in April this year (rated very highly by the EC) and we were able to present the results of the work we led on FW KBAs in Europe at a Science Policy Symposium in Brussels well attended by members of the EC. The IUCN paper on FW KBAs and their relevance to European Policy such as the Natura2000 and the EC restoration targets was well received and has since been submitted for publication.

FW KBA workshops: We held the last of our KBA workshops for the Mediterranean region in Jordan (December 2013) to obtain stakeholder input to validate sites proposed. In total 69 freshwater KBAs were delineated and validated stretching from the Hammar Marshes in southern Iraq to the Lake Iznik in North-West Turkey.

With support from Zoo Outreach Organisation we held two stakeholder workshops (funded by CEPF) in Tamil Nadu, India, in May 2014 to delineate and validate freshwater KBAs (and focal areas) for southern India. In total 34 KBAs were identified resulting in a KBA network that incorporates the ranges for 235 KBA trigger species. In addition, we ran a policy workshop which identified policy and conservation opportunities for KBAs and developed specific actions (commitments) from stakeholders at the workshop.

Publication of FW KBAs on the World Biodiversity Database managed by BirdLife International: The Freshwater KBA Datazone, developed as part of the BioFresh project, is in the final stages of testing before going live. As the first public database for freshwater KBAs, this is an enormous step forward for information provision.

FBU involvement in the CEPF ecosystem profile for the West Africa Guinea Forest Hotspot is also largely based upon application of KBA data sets as the basis for developing the subsequent CEPF funding strategy for the hotspot. FBU is responsible for drafting the chapters on species- and site-based (KBA) outcomes for the profile.

In addition, work was done on the following resolutions:
Resolution 020 – Further steps to combat the amphibian crisis
Resolution 027 – Conservation of tropical Asia's threatened species
Resolution 033 – Increasing the attention given to the conservation of fungi

High-level interventions

In addition to those profiled in the 2014 Spotlight section of this Annual Report, below is a list of the other high-level interventions that were made during this reporting period:

On 12 June, at the request of the CEM-SSC Sustainable Use and Livelihoods Specialist Group (SULi), Simon Stuart wrote to the Director of the Appellate Body Secretariat of the World Trade Organisation to outline various IUCN Congress Recommendations relating to harvesting of abundant species, including seals.

On 25 June, at the request of the SSC Anteater, Sloth and Armadillo Specialist Group, the Director General and Simon Stuart wrote to the President of the Fédération Internationale de Football Association (FIFA) requesting FIFA's support for the conservation of the Brazilian Three-Banded Armadillo (*Tolypeutes tricinctus*), which is the mascot of the 2014 World Cup.

On 29 July, at the request of the African Rhino SG, Simon Stuart wrote to the Minister of Tourism and Information in Malawi on the outbreak of poaching of Black Rhinos in that country, and offering the assistance of the AfRSG.

On 12 August, at the request of the SSC Crane SG, the Director General and Simon Stuart wrote to the Premier of China concerning apparently renewed interest in constructing some sort of dam or water control device at the exit of Poyang Lake. Previous letters sent by IUCN on this topic appear to have slowed down plans for this development which would have a catastrophic impact on freshwater species in this region.

On 8 September, at the request of the African Rhino SG and the Sustainable Use and Livelihoods SG (SULi), Simon Stuart wrote to the Minister of Environment in Australia concerning unintended negative conservation impacts of Australia's ban of the import of rhino trophies from southern Africa, while opposing canned hunting, especially of lions.

On 10 September at the request of the SSC Steering Committee, Simon Stuart wrote to the new President of Madagascar thanking him for his commitment to protecting the Malagasy biodiversity, offering the help of the SSC to save Madagascar's threatened endemic species, and welcoming him to the World Parks Congress in November.

On 7 November, at the request of the SSC Cetacean Specialist Group, the Director General and Simon Stuart wrote to the Premier of the Peoples' Republic of China concerning the illegal trade in the swim bladders of the Critically Endangered Totoaba fish. The swim bladders ("maw") are being traded from Mexico to China, sometimes through the United States. The Totoaba occurs only in the northern Gulf of California, and the illegal fishery for this species is leading to a bycatch of the Critically Endangered Vaquita, which numbers only 100 animals, declining at 18% per annum. IUCN requested the Chinese Premier to take urgent measures to stop the illegal trade in Totoaba "maw", working in collaboration with the Mexican and US authorities.

Policy and guideline development

Jean-Christophe Vié, Dena Cator and Rachel Roberts represented IUCN and SSC at the Convention on Migratory Species (CMS) Scientific Council meeting in Bonn on 1–3 July. David Mallon, Co-Chair of the SSC Antelope SG, represented IUCN and SSC at the CMS Stakeholder Meeting on the Conservation of Large Mammals in Central Asia, in Bishkek, Kyrgyzstan, on 23–25 September. The 11th Meeting of the Conference of the Parties to CMS took place in Quito on 2–9 November. The IUCN delegation included Victor Inchausty, Arturo Mora, Sarah Fowler (Shark SG) and Mimi Kessler (Bustard SG). The meeting considered the use of the IUCN Red List of Threatened Species in assessing listing proposals for the CMS appendices; Mike Hoffmann and Craig Hilton-Taylor had earlier assisted with the preparation of the formal agenda paper on this topic. Sharks, rays, sawfish, the European Eel, Great Bustard, African Lion and Polar Bear were also on the agenda.

Frédéric Launay has been appointed as SSC's representative on the IUCN World Heritage Panel (WHP). As preparation for this, Fred attended part of the World Heritage Committee meeting

in Doha, Qatar, in June 2014. Fred also attended his first meeting of the IUCN WHP in December, where he was able to provide SSC inputs to the proposals to nominate new World Heritage Sites.

Work has continued on developing SSC policies and guidelines. The new *IUCN Guidelines for Wildlife Disease Risk Analysis* were published in March and can be found here. Accompanying these *Guidelines* is a *Manual of Procedures for Wildlife Disease Risk Analysis* which can be found here. The *Guidelines* and *Manual* were jointly published with the World Organisation for Animal Health (OIE), which generously paid for the layout and printing.

The process to develop *IUCN Guidelines for Minimizing the Negative Impact to Bats and Other Cave Organisms from Guano Harvesting*, led by Ryan Richards, was completed in March, and the final version can be found here. As mentioned above, the *Position Statement on the Threats Posed by Unregulated Use of Poison to Africa's Biodiversity, Ecosystems, and Humans Health* was formally adopted in August, and can be found on the SSC website in English and French. The revised *IUCN Guidelines for the Management of Ex Situ Populations for Conservation* were also formally adopted and will be posted on the website soon.

In addition, the following guidelines and policies are under development:

Neil Maddison continues to lead the process to update the *IUCN Guidelines for the Placement of Confiscated Animals,* which were approved in 2000. A small core group has been appointed to assist Neil in this process including representatives from the Invasive Species, Reintroduction and Wildlife Health SGs, and from TRAFFIC and the GSP. A revised draft of the Guidelines has now been reviewed by the core group, and a new draft will soon be produced for broader circulation within the SSC.

The SSC fish-related SGs, together with the Sustainable Use and Livelihoods SG (SULi), have started the consultation process to develop *Guiding Principles on Recreational Fishing and Conservation*. This is being led by Steven Cooke and Pete Rand.

A new process led by Philip Seddon is developing new *Guiding Principles on Species De-Extinction*. This is the first of what is likely to be a growing area of SSC work on the impact of synthetic biology on biodiversity. The outline of these *Guiding Principles* has been reviewed by the core group which has been established to work with Phil. The first draft of the *Guiding Principles* themselves has now been produced and will soon go out for wider review.

An area of policy work on the impact of oil palm plantations on biodiversity is now underway. As a precursor, the Section on Great Apes of the SSC Primate Specialist Group completed a policy statement on *Industrial Oil Palm Expansion in Great Ape Habitat in Africa* in March. Since then, John Alejandro Garcia Ulloa has been seconded by the Swiss Federal Institute of Technology (ETH Zürich) to the GSP in IUCN headquarters to lead the process of developing an "*IUCN SSC Policy Statement and Guiding Principles for Reducing the Impacts of Oil Palm Expansion on Biodiversity*". The option is being left open for this to grow into a broader IUCN policy. It has been agreed to start this work on oil palm by setting the scene through a situation analysis which John is leading.

SULi is leading on the *Guidelines on Use and Trade of Species Threatened with Extinction* as part of the implementation of Resolution 017 (Enhancing the usefulness of the IUCN Red List of Threatened Species) from the IUCN World Conservation Congress in September 2012.

In addition, the SSC is also contributing actively to two broader areas of IUCN policy development. A working group of 27 SSC members has been formed to assist in the development of the new IUCN biodiversity offsets policy (in fulfilment of WCC Resolution 110 (*Biodiversity Offsets and Related Compensatory Approaches*) from the IUCN World Conservation Congress in September 2012. This working group is led by Jan Schipper, Co-Chair of the SSC Small Carnivore SG. On 30 June the working group submitted extensive comments on the draft technical document that had been prepared to underpin the biodiversity policy development process. These SSC comments have now been incorporated into the final draft of the technical document that will be published by IUCN. As mentioned above, Simon Stuart and Jan Schipper took part on the meeting of the IUCN Policy Working Group on Biodiversity Offsets in Switzerland on 6–8 October. As a result of this meeting, the outlines of an IUCN policy on this extremely important but highly complex topic were agreed. The first draft of the policy was completed on 18 December ready for review by the Policy Working Group. The next draft will be circulated to IUCN Members and Commissions for comments.

Another working group of six SSC members has been formed to assist with overall IUCN inputs to the Convention on Biological Diversity (CBD) regarding National Biodiversity Strategies and Action Plans (NBSAPs).

Following on from discussions that were held on synthetic biology at Steering Committee meeting 5.1 in November 2013, Simon met with the other IUCN Commission Chairs in Nyon, Switzerland, on 18 May to discuss how to take the matter forward. It was agreed that an inter-commissional task force would be established to work on this topic (with representatives from all six Commissions), and that a funding proposal would be prepared for a workshop. Since then, the Co-Chair of the SSC Marine Conservation Sub-Committee, Claudio Campagna, has submitted a project concept to the Rockefeller Foundation to hold an inaugural workshop on synthetic biology in Bellagio, Italy, sometime during 2015. We are currently waiting to hear whether or not this proposal will be successful.

The SSC Cetacean SG led the development of a short IUCN statement welcoming the ruling of the International Court of Justice on 31 March on whaling for "scientific purposes". This statement is included in Appendix 6. Justin Cooke represented IUCN at the annual meeting of the International Whaling Commission Scientific Committee, which took place in Bled, Slovenia, on 12–24 May.

Jane Smart led the IUCN delegation at the 12th Meeting of the Conference of the Parties (COP12) to the CBD in

Gray Wolf (*Canis lupus*), Least Concern. © Anders Illum CC BY-NC-ND 2.0

Pyeongchang, South Korea, in October. SSC was particularly engaged through the Invasive Species SG and the Wildlife Health SG. There was a strong emphasis on biodiversity and human health, and the need to better articulate the links between the emergence of infectious diseases such as Ebola, and biodiversity. The decisions on invasive alien species included a call to compile information on experience in the use of biological control agents against invasive alien species for consideration prior to CBD COP13. Other highlights from COP12 included the launch of the fourth edition of the Global Biodiversity Outlook (GBO-4), which is highly dependent on the knowledge products leveraged through IUCN and its Members and Partners (including the IUCN Red List of Threatened Species). GBO-4 informed the mid-term review of progress towards the goals of the Strategic Plan for Biodiversity 2011–2020 and its Aichi targets. In a nutshell, there has been progress towards achieving the Aichi targets but at an insufficient rate.

The SSC Large Carnivore Initiative in Europe (LCIE) played a major role in promoting the adoption of a resolution on "Hybridisation between wild Gray Wolves (*Canis lupus*) and domestic dogs (*Canis lupus familiaris*)" by Standing Committee to the Convention on the Conservation of European Wildlife and Natural Habitats (Bern Convention). This is a ground-breaking resolution to address the growing challenge of hybridization, and was adopted by the Bern Convention on 5 December. The SSC is very grateful to Luigi Boitani, LCIE Chair, for leading this work.

In addition, the SSC Chair's Office (specifically Mike Hoffmann and Simon Stuart) has been working with the University of Newcastle (UON – Philip McGowan) and the UK Department of Environment, Food and Rural Affairs (DEFRA – Dominic Whitmee) to provide technical and strategic input into the UON's ongoing development of the MAPISCO (Methodology for the Assessment of Priorities for International Species Conservation) policy tool. The MAPISCO tool provides a new way for donors (including governments) to measure how their investment in international species conservation priorities (to achieve CBD Aichi Target 12 to prevent species extinctions) and also contribute simultaneously to the achievement of other conservation objectives (specifically the other Aichi targets). Particular areas of input by SSC are: Advising on the longer-term ambitions of the project, including as an open-source knowledge tool; developing a possible engagement strategy including possible partnership/collaborative arrangements in the tool's future development; estimated anticipated financial needs for MAPISCO; and agreeing indicative timelines for development and key steps.

The Guidelines for Using the IUCN Red List Categories and Criteria version 11 was released by the GSP in February 2014. After a final review (by the Red List Technical Working Group) of the protocols for preparing distribution maps for species on The IUCN Red List, the mapping standards document is now being revised with the aim of publishing this before the end of 2014. The 'Documentation Standards and Consistency Checks for IUCN Red List Assessments and Species Accounts' is also under revision; release of the updated version will depend on the revised mapping standards document becoming available.

Promoting biodiversity assessment work

The IUCN Red List of Threatened Species 50th Anniversary

The SSC Chair's Office and the Global Species Programme played a major role in organizing the events and celebrations

for the 50th Anniversary of the IUCN Red List of Threatened Species. A sequence of events was held throughout the year, leading up to the Biophilia Ball on 22 November in the Dinosaur Hall of the Natural History Museum in London. The SSC is enormously grateful to Synchronicity Earth (SE), and especially to Adam and Jessica Sweidan, Laura Miller, Gemma Goodman and Victoria Steele at SE, for their leadership in conceiving and organizing the Biophilia Ball, and for paying for all the up-front costs. The Biophilia Ball was a fundraising event, and also a celebration of the Red List and of life on earth. Forty tables were "sold", with ten seats on each, plus a resource person. Each table had a geographic and ecosystem-related theme (such as forests of New Guinea), and each participant on the table had their own unique, hand-painted "species" mask (together with an Amazing Species account for that species) relevant to the theme of the table. This means that 440 different "species" masks were created, together with other specially commissioned art work that was auctioned on the night of the ball. Selecting all these species was a massive task in its own right, and this was led by Gemma Goodman from SE and Rachel Roberts from the SSC Chair's Office. Rachel also coordinated the review of the lists by SSC experts. Around 350 new Amazing Species accounts were written, and this was a massive amount of work. However, Rachel was able to deliver 550 Amazing Species accounts (350 new, 200 pre-existing) to Synchronicity Earth on 31 October. The event itself can only be described as the most remarkable celebration of species and life on earth ever held, leaving a lasting impression on all the participants. Synchronicity Earth attended to every detail and the evening was a huge success. The profits of the Biophilia Ball were split between the IUCN Red List and SE's field projects on threatened species; this resulted in £100,000 being received for the Red List.

Two books were prepared for the 50th Anniversary of the IUCN Red List. One of these is a special publication by SE for the Biophilia Ball itself, called "*Biophilia*", and to which Simon Stuart has contributed a chapter entitled "Coming back from the Brink". The second book, called "*The IUCN Red List – 50 Years of Conservation*", is a special celebration of the Red List was prepared by Jane Smart and Craig Hilton-Taylor of the IUCN GSP and Russell Mittermeier and Cristina Mittermeier, and funded and published by CEMEX. This book was published in October, and includes the definitive history of the Red List written by Craig. Each participant in the Biophilia Ball received free copies of both books. Richard Sneider generously funded the donation of the CEMEX books to the Biophilia Ball. Also, a special edition of the French magazine *Terre Sauvage* featuring The IUCN Red List and Save our Species, was produced to mark the 50th anniversary of the Red List. The magazine was published in French with an English pdf version available to download for free.

There have been a number of media releases related to the 50th anniversary, starting with the publication of the assessment of the status of the world's sharks and rays in January (published in the journal eLIFE with SSC Shark SG Co-Chair, Nick Dulvy, as the senior author). This paper showed that 25% of the species are threatened with extinction due to fisheries (especially large-bodied species), with only one-third of species considered to be safe.

Green Keel-bellied Lizard (*Gastropholis prasina*), Near Threatened. © Torsten Kunsch CC BY-NC 2.0

There have been numerous other media and news releases since then, as well as significant activity of the various social networks including a '50 Fascinating Facts' series about The IUCN Red List. Facebook and Twitter followers increased significantly during the year. In addition there has been a weekly blog on the National Geographic Society website on the Red List. The SSC is very grateful to Craig Beatty from IUCN US for leading this initiative.

Simon Stuart spoke at an event in London on 12 May organized by SE at which artwork relating to the Red List was displayed. And on 14 June he spoke at the Beastly Ball in Los Angeles (along with Richard Sneider and Russ Mittermeier) on the significance of the Red List. On 14 October Simon chaired a special symposium at the Zoological Society of London to mark the 50th anniversary, attended by 301 people, with a high proportion of young people present. Jane Smart spoke at the London launch of the CEMEX book "*The IUCN Red List – 50 Years of Conservation*".

A video to mark the 50th anniversary was produced and is narrated by the photographer and filmmaker Mattius Klum, who is also an IUCN Goodwill Ambassador. This outstanding video can be viewed here. On 17 July we heard the excellent news that the 2014 Prince Albert II of Monaco Prize for Biodiversity was awarded to the IUCN Red List of Threatened Species, honouring 50 years of important work. Caroline Pollock from the IUCN GSP Red List Unit was selected to receive the award (worth €40,000) on behalf of IUCN and all those who work on the IUCN Red List on 12 October in Palm Springs, California. She received the award from HRH Prince Albert II himself, joining Julia Marton-Lefèvre at the event.

An art exhibition shop called 'Here Today', organized by Freuds, was held in London from 24 November to 17 December with the proceeds going to the IUCN Red List. At the time of writing we are waiting to hear how much was raised. Jane and Simon attended the opening on 24 November, along with IUCN Director General Julia Marton-Lefèvre, as well as several other SSC members and IUCN staff. On 5 December Simon attended a superbly organized Red List Ball in Helsinki organized by the IUCN Finnish Committee. Like the Biophilia Ball, this event also featured beautiful hand-painted masks, this time featuring species on the national Finnish Red List. It was a good opportunity not only to celebrate the 50th anniversary of the IUCN Red List, but also the 30th anniversary of the Finnish Red List, and to raise the profile of the Red List and IUCN in Finland.

In conjunction with the IUCN Strategic Partnerships unit the GSP launched the "Red List 50" online fundraising campaign to raise additional funds to support our goal of assessing 160,000 species by 2020. The campaign was successful and reached its target of USD 25,000. This money will be used for Red List assessments.

Amazing Species

In order to promote popular understanding of threatened species, IUCN SSC continues to feature an Amazing Species each week on its website and those of its partners. Profiles are now also featured on the new fundraising microsite. Rachel Roberts in the SSC Chair's Office continues to lead this project. As mentioned above, as part of the 50th Anniversary celebrations of the IUCN Red List, almost 500 new Amazing Species profiles were prepared so that every species to be featured at the Biophilia Ball had its own Amazing Species account. Profiles were also used for a number of other events to help raise the profile of species for the Red List Anniversary.

Support to Particular IUCN Red List Assessment Projects

The SSC Chair's Office and the IUCN GSP have provided extensive support to particular Red List assessment projects, notably the following:

Extensive work has taken place on the global assessment of all reptiles, led by Philip Bowles, Coordinator of the Snake and Lizard RLA, who is hosted by the GSP with support from the Environment Agency Abu Dhabi. The assessment of 45 species of snakes and lizards endemic to Central Asia was completed, and is well underway for the remaining 25 endemics. Work on the East African (including Horn of Africa) assessments (770 species) is also progressing well, with some appearing on the Red List in 2014 and the remainder in 2015. In addition, there is a major project being implemented by NatureServe to complete the assessment of all South American snakes and lizards (over 1,700 species), and another project to complete the assessments of the 350 species in New Guinea. Support from Environment Agency Abu Dhabi (EAD) has been critical in support the operations of the Snake and Lizard RLA.

The SSC Chair's Office has also been working with the SSC Tortoise and Freshwater Turtle RLA to agree a strategy to complete the assessment of all 320 species within two years. EAD has generously agreed to fund the first year of this work, which is co-financed by the Chelonian Research Foundation.

The GSP Freshwater Biodiversity Unit (FBU) are working with the SSC Freshwater Fish, Mollusc, Aquatic Plant and Dragon and Damselfly Specialist Groups and completed Red List assessments for all species from these taxonomic groups (most of the mollusc fauna) for the Eastern Mediterranean Region (incl. Euphrates & Tigris). Progress has also continued towards the completion of the New Zealand assessment now being generously supported by Auckland Zoo.

The SSC Chair's Office continues to provide extensive support for the reassessment of all amphibian species. The Amphibian RLA, led by Ariadne Angulo, and Jennifer Luedtke in the SSC Chair's Office, is also serving as the Amphibian RLA Deputy Coordinator, assisted by our intern Evie Morris and a number of volunteers. Jennifer now works 75% of her time on the amphibian assessments. The work on the amphibian reassessment is a massive task, and negotiations are taking place with Texas A&M University, who will hopefully agree to serve as an institutional partner to complete the project. Meanwhile, reassessment work is continuing in Africa, Central and South America, China and tropical Asia, and 204 new species assessments have been submitted to the Red List Unit for inclusion in the first Red List update of 2014, and 104 species for the second update. A workshop, run by Jennifer Luedtke, took place in Madagascar 18–22 November to assess 60 newly described species of frog.

The SSC is also working towards completing the reassessment of all mammal species on the Red List by 2015, and Rachel Roberts in the SSC Chair's Office is providing support to the SSC Small Mammal Specialist Group in the reassessment of

the more than 2,000 species of rodents and insectivores. The Zoological Society of London has appointed an intern to help with this work.

The GSP Biodiversity Assessment Unit (BAU) has continued with its general mandate to expand the taxonomic and geographic coverage of the IUCN Red List of Threatened Species. Significant progress has been made in understanding the freshwater biodiversity of the Americas – projects supported by SSC Specialist Groups are now underway for both the Tropical Andes (funded by the John D. and Catherine T. MacArthur Foundation) and Canada (funded by the Mitsubishi Corporation Foundation for the Americas). BAU continue to work with the GSP Marine Biodiversity Unit – principally on finalizing a review of several hundred Caribbean shorefishes, funded through the Agence Française de Développement. Our work with the SSC Amphibian Specialist Group is making progress, where funding permits, in reviewing the status of all amphibians following the 2004 Global Amphibian Assessment.

The work on the bumblebee assessments is continuing with support from the BAU and the SSC Chairs office. Unforeseen circumstances prevented the completion of the assessments of the 81 species from the Americas in 2013, but these species will now be completed in 2014 and 2015 following reorganization of the work, and collaboration between the SSC Bumblebee RLA and the Xerces Society. Work will start on assessing the 256 species from the Old World later in 2015.

The Global Cactus Assessment (GCA) is almost complete now, with 1,477 species (99%) already published on the Red List.

The magnolia assessments are also nearing completion. Some species were included in the first Red List update of 2014, with the remainder coming later in the year. In total, 261 species have been assessed, with the preliminary results indicating a very high proportion being threatened with extinction (minimum 51%), with 25 species Critically Endangered. Only 14% of species are Least Concern, with 29% Data Deficient.

The assessment of the world's 160 species of slipper orchids is now well underway. This work will run through 2014 and into 2015. The Orchid RLA has organised more than 30 people in 15 countries to work on this and several species accounts are already under review. Overall, it is clear that the world's slipper orchid species are seriously threatened.

Work is continuing with the global assessment of carnivorous plants, starting with the high-profile *Nepenthes* pitcher plants. In early 2014, assessments of 28 species from Sulawesi, New Guinea, Sumatra, the Philippines and Borneo were submitted to the Red List Unit. One species, *Nepenthes rigidifolia*, is reduced to just 12 plants in a single locality, and faces almost certain extinction within the next few years unless urgent measures are taken to protect the remaining plants and establish an *ex situ* breeding programme. Assessments of an additional 60 *Nepenthes* species are underway and assessments have recently started for the genus *Drosera*.

The major Plants for People (P4P) project is continuing, covering crop wild relatives (CWR), medicinal plants, timber trees and palms, and part-funded by the MAVA Foundation. The major effort at present is focused on raising matching funds from other sources. We continue to work closely with four Specialist Groups, Crop Wild Relatives, Global Trees, Medicinal Plants and Palms, and are actively fundraising in order to be able to undertake new assessments. The GSP/CI BAU and the SSC Chair's Office continue to work closely with the Chairs of the Crop Wild Relatives Specialist Group and Conservation International staff to try to identify opportunities for assessing these important species within Latin America. SSC network support was able to secure a temporary position financed by the Swiss Government to support the fundraising and Red Listing effort related to the Plants for People project. In this regard Dr Fabian Schweizer joined the IUCN Global Species Programme as a secondee for a period of six months.

SSC Network Support is highly involved in the AFD Madagascar project called "Integration of knowledge products by IUCN for supporting land-use planning and policy in Madagascar" which aims at delivering an additional 1,000 species of Malagasy endemic plants published on The IUCN Red List of Threatened Species – with an emphasis on plants that are important for livelihoods.

The IUCN Global Species Programme is working on regional assessment projects in Europe (involving GSP staff in the Red List Unit (RLU), MBU, HQ and at the Brussels office) and in the Mediterranean (in collaboration with colleagues in the IUCN Centre for Mediterranean Cooperation in Malaga, Spain). Marine regional assessments are being conducted by the MBU and are reported on elsewhere. The National Red List Working Group (NRLWG) also includes a representative from the Red List Unit.

Europe: IUCN is currently producing European Red Lists for pollinators (1,949 bees), 406 priority medicinal plants, 1,200 marine fishes and 520 birds (in collaboration with BirdLife). In the last three updates, 883 bee assessments were published (including 187 endemic species); the remaining 1,066 bee assessments will be submitted to the final Red List

Star Magnolia (*Magnolia stellata*), Endangered. © Natalie Tapson BY-NC-SA 2.0

update of 2014 together with the marine fish assessments. All of the medicinal plant assessments have now been completed and published. The focus on medicinal plants and pollinators underscores the value of the Red List in providing vital information on factors that inform the state of human well-being.

Mediterranean: Work is underway on a diverse range of taxonomic groups including: an expected 1,400 endemic or near-endemic monocotyledon plants which will contribute to the P4P project objectives; 222 dung beetles, 550 saproxylic beetles, and 164 Anthozoans (corals and also sea anemones and other related species). An assessment workshop involving 12 experts was held in Doñana National Park (Spain) in July 2014 to evaluate the extinction risk of 222 dung beetles. The assessment workshop of the marine Anthozoa will be held the last week of September in Italy. In addition 500 species of freshwater fishes, molluscs and aquatic plants from the Eastern Mediterranean were assessed during a workshop held in Jordan in April, 2013. For the monocotyledon plants, workshops are planned for late 2014 (Turkey and the eastern Mediterranean) and the first and second quarters of 2015 for northern Africa and southern Europe respectively.

IUCN Red List updates 2014

First update
The first public update of the IUCN Red List in 2014 took place on 12 June, and the extensive publicity resulting from this was a major part of the 50th anniversary celebrations. There were a number of newsworthy items in this update. Almost 80% of temperate slipper orchids and over 90% of lemurs were publicly announced as threatened with extinction. The newly assessed Japanese Eel has been listed as Endangered, while the Brazilian Three-Banded Armadillo – the mascot of the 2014 FIFA World Cup – remains Vulnerable as its population continues to decline. Following this update, the IUCN Red List included 73,686 assessed species, of which 22,103 are threatened with extinction.

Second update
On 24 July a special bird-focused update of the Red List took place, following BirdLife International's taxonomic review on non-passerine species, which recognized 361 new species that were previously treated as subspecies of other forms. The new total of 4,472 non-passerines implies that previous classifications have undersold avian diversity at the species level by more than 10%.

Third update
The third IUCN Red List update took place on 17 November during the IUCN World Parks Congress in Sydney. Simon Stuart spoke at the press launch. As a result, the IUCN Red List now includes 76,199 assessed species, of which 22,413 are threatened with extinction including the Pacific Bluefin Tuna (*Thunnus orientalis*) moved from the Least Concern category to Vulnerable.

Climate Change and Species
Since the last reporting period, the GSP Climate Change Unit (CCU) has successfully modified its Species Vulnerability to Climate Change Assessment Framework for application to a range of new taxa. Owing to their suspected high climate change vulnerability, the predominant focus has been given to freshwater species groups, including molluscs, odonates, freshwater fish and freshwater plants, and work is now underway to apply the modified assessment protocol to species of the Tropical Andes.

An additional undertaking of the CCU has been a collaborative literature review (resulting in a peer-reviewed publication) of observed climate change impacts to species, in the Tropical Andes, which has facilitated a greater understanding of how climate change impacts (and particularly those occurring through impacts to co-existing species) are likely to manifest.

Much of the CCU's time has been devoted to assisting the activities of the SSC Climate Change Specialist Group. Of particular note is the production of climate change vulnerability assessment 'best practice guidelines', which will facilitate more robust and informative assessments by members of the wider conservation community wishing to investigate climate change vulnerability.

Following successful implementation of capacity building workshops in Sierra Leone and The Gambia which aim to inform national-level stakeholders and decision-makers of the ways that vulnerability assessment outputs can inform adaptation policies and practices, the CCU has since successfully held further workshops aimed at stakeholders of Chad, Mali and Togo. In a further project, the CCU is now working in Tanzania to explore how species data (Red List and climate change vulnerability) can inform the selection of sites for REDD+ projects, which also consider possible biodiversity conservation co-benefits.

Finally, initial steps are now underway to explore potential collaborations with IUCN's Ecosystem Management Programme (Red List of Ecosystems and Ecosystem-based Adaptation) to identify how species assessments and information can best inform the implementation and monitoring of Ecosystem-based Adaptation efforts.

Capacity building for the IUCN Red List

The GSP Red List Unit has been focusing on building capacity for The IUCN Red List through development of the online Red List Training Course. The final modules for the online IUCN Red List training course (Assessing Species' Extinction Risk Using IUCN Red List Methodology) were released towards the end of 2013. In April 2014 the final exam was also released, including bespoke versions for users' intent on carrying our global Red List assessments, and those carrying out regional or national assessments. Red List Authority Coordinators and assessment project staff in Red List Partner organizations are strongly encouraged to pass the online exam.

The course modules are also now available in French and Spanish, with work currently underway to translate the figures and diagrams within these modules. Translation work is also underway for the final exam, for release by early 2015.

During its first year (June 2013–July 2014), the online course attracted 998 users. Many people are using the course to

learn about specific aspects of The IUCN Red List (e.g. only viewing the introductory modules, or selecting specific lessons to refresh their memory on certain criteria or supporting information requirements). As of 28 July 2014, 135 people were enrolled in all modules for the Global Assessor course (75 having completed this course) and 141 were enrolled in all modules for the Regional Assessor course (69 having completed this course).

Red List Trainers: The number of certified Red List Trainers continues to increase. The third IUCN Red List Trainer workshop was held on 23–25 June 2014, resulting in another nine people receiving their Red List Trainer certificates. There are now 39 certified IUCN Red List Trainers, including 20 from within the IUCN SSC Specialist Group network, seven from Red List Partner organizations, 12 from the IUCN Global Species Programme (four of whom are also Specialist Group members), and four from IUCN Regional offices.

As from April 2014, it is now compulsory for all Red List Trainers to pass the advanced level online exam. All current trainers have been requested to pass this exam. So far 14 trainers have passed this exam; regular reminders are being sent to those trainers that have still to do this.

Red List Assessor Training Workshops: Three IUCN Red List Assessor Training workshops have been facilitated by Red List Unit staff since November 2013. Two workshops were held for the Bangladesh national red list assessment project being managed by the IUCN Bangladesh Country Office and resulted in 60 new Assessors being trained. A training workshop was also held in Mexico to train eight botanists to contribute to the Mexico national red list process; this workshop was hosted by the Comisión Nacional para el Conocimiento y uso de la Biodiversidad (CONABIO).

Cephalophis lukei, Endangered. © Quentin Luke

Training workshops and sessions facilitated by other certified Red List Trainers have included training sessions in Rome to train staff involved in managing the Global Mammal Assessment, a workshop in Lebanon to train 15 Assessors to contribute to Arabian Plants assessments (coordinated through RBG Edinburgh), and a training workshop in Peru for 29 scientists focusing on assessing the status of Amazonian biodiversity (arranged through a collaboration between the Instituto de Investigationes de la Amazonía Peruana and the Amphibian Specialist Group).

MBU held two Red List training sessions this year in the United States, with a total of eight participants from Old Dominion University and Christopher Newport University. An international training program was completed in 2013 for 21 participants from seven countries, including the United Arab Emirates, Qatar, Bahrain, Kuwait, Iran, Jordan, and the United States.

Ensuring that the IUCN Red List is sufficiently and sustainably financed

Licensing of Red List data is currently under discussion, with a focus on incorporation of Red List data into the Integrated Biodiversity Assessment Tool (IBAT). USD 240,000 has already been made available for 2014–2015 (through IBAT and ExxonMobil).

The project 'Costing the flagship knowledge products mobilized through IUCN' (coordinated by the Biodiversity Conservation Group and the IUCN Science and Knowledge Programme) assessed costs to date in development and maintenance, and estimated costs for complete coverage, of each of the six flagship knowledge products mobilized through IUCN. This project estimated annual costs for The IUCN Red List at around USD 850,000, however this is a minimum estimate and does not include costs for workshops or reassessments.

FBU has devoted significant time to fundraising with two small projects funded: (1) Chevron is to fund completion of the 18,000 FW maps for input to the Red List and IBAT; and (2) IGB in Berlin is funding work for a publication on the status of world's freshwater megaFauna – to be led by Savrina Carrizo (FBU). A number of other larger proposals are in the pipeline to expand Red List coverage and KBA designation through MacArthur, the EC, World Bank and IKI BMU.

The Thomas W. Haas Foundation supported the work of the GSP Marine Biodiversity Unit (MBU) in 2013. Unfortunately, this core funding has now ended and the MBU has spent additional time fundraising to make up this deficit. Financial support for core functions is essential for this unit to continue. Initiatives in the Persian Gulf, West Africa, Europe, Gulf of Mexico, and Oceania have been funded in cooperation with Qatar National Research Fund, Qatar University, Qatar Natural History Museum, MAVA Fondation pour la Nature, IUCN West African Marine Programme and European Office, Harte Institute, National Fish and Wildlife Foundation, and the Agence Française de Développement.

SSC Network Support has been fundraising for the Plants for People project, with governments, organizations, foundations and other sources as appropriate. This work is ongoing.

SSC Network Support continues to endeavour to foster relationships between the *ex situ* community and SSC Specialist Groups to gain extra capacity and resources to assist with sustaining the group's contribution to Red Listing activities.

SSC Network Support has been able to secure a temporary position financed by the Swiss Government to support the fundraising and Red Listing effort related to the Plants for People project. In this regard Dr Fabian Schweizer joined the IUCN Global Species Programme for six months.

Measuring conservation success

As mentioned in some previous reports, a small group of SSC scientists have been working to develop a new methodology to measure conservation success. Mike Hoffmann has led this team that also includes David Mallon, Will Duckworth, Ana Rodrigues and Simon Stuart. The methodology has been developed looking at 235 species of ungulate to determine what would have happened to them if conservation efforts were stopped in 1996. The results were dramatic, and showed that at least 152 of these species (that is 65 per cent of those considered) would have deteriorated seriously in the absence of ongoing conservation efforts. One of these species, the Javan Rhinoceros, would almost certainly have become extinct, and four others might have been lost in just a 12-year period. In reality the Red List Index for ungulates declined by 0.2 per cent, per year between 1996 and 2008. However, if there had been no conservation measures for ungulates after 1996, the Red List Index for these species would have declined by 21 per cent per year. In other words, conservation is making a massive difference to these species by slowing down their annual rates of decline by two orders of magnitude.

To put these declines into perspective, they equate to 151 ungulate species deteriorating by one IUCN Red List category between 1996 and 2008 compared with 21 species that actually did. The paper describing this methodology and giving these results will be published during 2015.

Also related to the measurement of conservation success, Mike Hoffmann and Simon Stuart were co-authors on a paper led by Ana Rodrigues from the University of Montpelier. This paper, entitled "*Spatially Explicit Trends in the Global Conservation Status of Vertebrates*" was published in the journal *PLoS ONE* on 26 November. This paper provides the first assessment of the performance of individual nations and regions in meeting their responsibilities for global biodiversity – specifically in this case the performance of countries in achieving Aichi Biodiversity 12: "*By 2020 the extinction of known threatened species has been prevented and their conservation status, particularly of those most in decline, has been improved and sustained*".

The study shows that eight countries (Australia, China, Colombia, Ecuador, Indonesia, Malaysia, Mexico and the United States) are responsible for more than half of the global deterioration in the conservation status of vertebrate species. However, in many ways the findings were unexpected. There was no relationship between the wealth of a country and its conservation performance. Australia and the United States were among the worst performers (mainly because of invasive species), whereas Brazil, India, Peru and Madagascar have done proportionately much better at holding their commitments towards avoiding global biodiversity loss. Perhaps most unexpectedly, a handful of countries stood out for having tipped the overall balance from species sliding towards extinction to a net improvement in the status of the species for which they are responsible by setting some of them on the road to recovery. The best performers were five small island developing states (SIDS) – Cook Islands, Fiji, Mauritius, Seychelles, and Tonga – which have achieved net improvements in vertebrate conservation status.

The Red List Index (RLI)

Reassessments of all the world's amphibians, birds and mammals are underway to enable the next Red List Index data point to be calculated. Use of online discussion forums are helping to speed up this process and reduce costs by limiting the need for expensive workshops. Reassessments are being published on The IUCN Red List as they are completed. The calculation of the Red List Index for conifers has not yet been completed, but it is hoped that this will be published in 2015. Initial results show that there are significant declines in this taxonomic group with the proportion threatened having increased from 30 to 34 per cent since 1998 partly as a result of the emergence of new diseases.

FBU have recently submitted a full proposal to the MacArthur Foundation to conduct the first regional reassessment of freshwater species for the important Lake Victoria catchment in eastern Africa and hope to hear good news in September this year. Our first FW RLI will be calculated for the catchment. SSC Network Support has been working with the SSC Specialist Groups to support their work in re-assessing species. In particular the mammal Specialist Groups which aim to re-assess all species by 2015.

Reducing biodiversity loss

During 2014, the SSC continued its work on two major initiatives with the aim of achieving significant reduction in biodiversity loss: the Asian Species Action Partnership (ASAP), focused around large Critically Endangered Asian animals, and the Amphibian Survival Alliance (ASA), addressing the global amphibian crisis.

Asian Species Action Partnership

The Asian Species Action Partnership (ASAP) brings together a number of organizations to focus conservation attention on the 154 Critically Endangered terrestrial and freshwater vertebrates of Southeast Asia, many of which are perilously close to extinction. The participating organizations include: BirdLife International, Conservation International, European Association for Zoos and Aquaria, Fauna & Flora International, Fonds de Dotation pour la Biodiversité, International Rhino Foundation, IUCN Species Survival Commission, IUCN Asia Regional Office, TRAFFIC, Wetlands International, Wildlife Conservation Society, Wildlife Reserves Singapore, World Association of Zoos and Aquaria, World Wildlife Fund, and Zoologische Gesellschaft für Arten- und Populationsschutz. Simon Stuart

served as Chair of ASAP until 3 October when he handed over the Lesley Dickie. Simon remains on the ASAP Steering Committee.

One of Lesley's first functions is to create some institutional and financial sustainability for ASAP. Madhu Rao from ASAP has been exploring fundraising opportunities for ASAP species, and she has been working with the CBD Secretariat LifeWeb Initiative that seeks to match projects to donors. Madhu is also working with Jean-Christophe Vié in the IUCN GSP to develop a fundraising approach for ASAP through the Save Our Species (SOS) fund. Particular ASAP initiatives over the last few months include:

IUCN SSC Otter Specialist Group: As a result of discussions with ASAP, the Otter SG has decided to prioritise efforts in tropical Asia. ASAP attended and ran several sessions at a training course and conservation workshop held in Bangalore, India, in November 2013 which clarified the direction the Specialist Group will take, and the decision was ratified by OSG's management team at a meeting in Luxemburg in February 2014 which ASAP attended. Although otters so far contain no ASAP species they are under such steep declines that three species will, if action is not greatly stepped up, warrant CR listing very soon. Where possible, ASAP will respond to requests for pre-emptive action to prevent CR status.

Coordinated Action for the Conservation of White-bellied Heron: The White-bellied Heron (*Ardea insignis*) is the most threatened species of heron in the world and threats to its survival are intensifying. In order to prevent further and perhaps irreversible decline of the species, action across its three remaining range states needs to be better coordinated, including sharing of current research findings. ASAP is currently supporting Synchronicity Earth in conjunction with the IUCN Heron Specialist Group in helping bring together existing information, identify key players in the conservation of the species and to bolster support for the species with the ultimate goal of identifying a coordinated approach to its conservation. A workshop to prepare a multi-stakeholder plan for this species took place in Guwahati, Assam, on 2–4 December, facilitated by Mark Stanley Price, Chair of the SSC Species Conservation Planning Sub-Committee and Sarala Khaling from ATREE. The workshop resulted in agreement among the stakeholders on the actions needed to save this species.

A Special Review of non-Panthera Cat Status in Southeast Asia: The ASAP process of reviewing information available about ASAP species revealed how little readily available up-to-date status information there is about many Southeast Asian species. In response, IUCN SSC Cat SG is producing a special issue of its journal, *Cat News*, dedicated to Southeast Asia's non-Panthera cats. Cats are a group of species often seen as at elevated susceptibility to extinction. Content was finalised late in 2013 and the issue is about to go to press. This reveals that, perhaps contrary to expectations, most of the species are doing well where even basically managed protected areas exist, but where threats, notably snaring, are allowed unchecked, population decline to densities so low as to be barely detectable. One species, the Fishing Cat (*Prionailurus viverrinus*), is not at all taken care of by the established protected area systems and urgently needs intervention to prevent its decline to CR status.

Javan Songbird Crisis: Most wildlife trade in Southeast Asia has a strong international aspect however one notable case is entirely a domestic issue – the trade in Indonesian songbirds. Most of these are sold within Java. Several species are now approaching extinction in the wild and few of these have viable captive populations. Although some species – notably the Bali Starling (*Leucopsar rothschildi*) – are globally well known and have long been Critically Endangered, economic strengthening in Indonesia has resulted in a host of other species now following the same decline trajectory. During 2013, the EAZA Passeriformes Taxon Advisory Group convened a Threatened Asian Songbird Working Group (TASWG) to address this issue. ASAP attended the inaugural meeting and is assisting during the early phase (primarily data collection to define the extent of the problem and determine priorities); a meeting in mid-2014 developed the plan of action. For the species where the situation is already clearly urgent, the TASWG has been assisting in securing resources.

Review of Red List categories of Southeast Asian mammals: IUCN has committed to review and where necessary revise the Red List categorization of all the world's mammals for 2015. ASAP are closely involved in the process by acting as reviewer of species accounts for various groups which hold Southeast Asian species that, although not yet listed as Critically Endangered (CR), might soon warrant this status. ASAP has also been reviewing the status of existing CR species among the pangolins, otters, small and medium cats, Asian wild cattle, small carnivores, and others as requested.

A Ten-Year Action Plan for the Indochinese Hog Deer (Axis porcinus annamiticus): The taxonomy of Hog Deer is to some extent still unclear. Some have proposed that Indochinese Hog Deer (*Axis annamiticus*) is a separate species from Indian Hog Deer (*Axis porcinus*), but confirmation is required via more genetic studies before this conclusion can be widely accepted. However, if it is deemed a full species, then it is expected to be Critically Endangered and thus within ASAP's remit. The Indochinese Hog Deer was previously numerous and widespread in suitable habitat in much of Cambodia, southern Vietnam, lowland Thailand and probably in the plains of Lao PDR. During the mid and late twentieth century, it underwent rapid range-wide reductions and is now on the verge of extinction in Southeast Asia. ASAP provided neutral facilitation for a planning meeting held in October 2013 in Phnom Penh to develop the components of a ten-year national action plan for Indochinese Hog Deer in Cambodia. The meeting was coordinated by the IUCN SSC Old-World Deer Red List Authority Coordinator and 24 participants attended from more than ten different organizations.

Saola Working Group (SWG). The Saola (*Pseudoryx nghetinhensis*) is one of the most urgent cases among the ASAP species. It was prioritised for early ASAP attention, also in part because IUCN SSC's Asian Wild Cattle Specialist Group's Saola Working Group had just been formed and was, at the start of ASAP, also in a phase of major expansion and able to absorb the support. The SWG is helping ASAP by advising the fledgling support alliances forming for other ASAP species, notably the Cat Ba Langur (*Trachypithecus poliocephalus*),

Edwards's Pheasant (*Lophura edwardsi*) and Indochinese Hog Deer (*Axis porcinus annamiticus*).

Saving Asian Vultures from Extinction (SAVE): Three species of Gyps vultures endemic to South and Southeast Asia, Oriental White-backed Vulture (*Gyps bengalensis*), Long-billed Vulture (*G. indicus*) and Slender-billed Vulture (*G. tenuirostris*), are threatened with global extinction after rapid population declines, which began in the mid-1990s. Two of these species, *G. bengalensis* and *G. tenuirostris* are also ASAP species. The SAVE consortium has recently developed a "Blueprint for the Recovery of South Asia's Critically Endangered *Gyps* Vultures" which specifies the timelines for priority actions in all four South Asian countries most concerned with the dramatic declines of these species. These are outlined for each country: Bangladesh, India, Nepal and Pakistan separately as well as Cambodia, and up to 2025. It is hoped that the timelines for other range states such as Myanmar, Laos and Bhutan may become possible in future. The Blueprint development has stimulated the widest input among SAVE partners and government officials and experts so far. It provides an important framework for governments to use to develop the national vulture action plans in more detail for immediate implementation. The Blueprint also allows others who would like to contribute to the conservation of these species to identify activities that are agreed priorities.

Links with Donors: ASAP often reviews itself and advises on the selection of reviewers for Southeast Asian species-focused funding proposals submitted to a number of donors. In some cases this is informal, but for CEPF's Indo-Burma hotspot, one ASAP staff member is a member of the Regional Implementation Team. Discussions on formalisation with other donors are ongoing with the intent of bringing attention to ASAP species within existing funding streams.

Continued Links with EAZA: EAZA support in 2011 and subsequently was crucial to establishing ASAP. As in recent years ASAP attended, at EAZA's invitation, their annual meeting (in Edinburgh in September 2013). This marked the close of the EAZA IUCN SSC Southeast Asia Campaign. Many links between ASAP field partners and the zoo community were strengthened or initiated. In the first category, the Saola Working Group also attended the meeting and the 'Intensive Management of Saola Advisory Group' (IMSAG), established by EAZA was launched in recognition that intensive management (perhaps full captivity) is now essential for this species. Recently, the SWG and IMSAG team visited senior Government in Lao and Vietnam to discuss the approach to be taken. Various TAGs (Taxon Advisory Groups) have species not yet Critically Endangered and wish to support their field conservation; they are in discussion with ASAP about directing resources (which are available in large part because of the charisma of the TAG animals) into areas where (less charismatic) ASAP species will also benefit. Discussions were also held between ASAP and EAZA about formalising continuing EAZA attention to Southeast Asia, and next year's report will detail the result (still under discussion). Finally ASAP is part of the decision-making body for allocation of the remaining Campaign funds.

Amphibian Survival Alliance

Simon Stuart attended the first meeting of the Amphibian Survival Alliance (ASA) Global Council on 14 February in London. The meeting launched the new governance

Raorchestes travancoricus, Endangered. © Manoj P CC BY-NC-ND 3.0

mechanism for the ASA, and made significant progress in the development of the ASA's five-year strategic plan, including the focus on habitat conservation, disease mitigation, captive breeding (through renewed collaboration with AmphibianArk), updating the Red List assessments, and communications. Don Church continues to serve as the ASA Executive Director with James Lewis as Operations Director. Jaime Garcia Moreno, the first ASA Director, left at the end of June to explore new opportunities. We thank him for his hard work in helping to build the ASA and wish him the very best for the future. There has been significant success fundraising for the ASA's activities, especially for field projects, in particular in collaboration with the Rainforest Trust. Several organizations are supporting the ASA's core costs, including Global Wildlife Conservation, Synchronicity Earth, Chester Zoo, the Zoological Society of London, Detroit Zoological Society, and others.

The ASA is intended to be an alliance for action. Having spent the last 12 months building support and funding, the ASA is now well into the phase of actively supporting conservation actions on the ground. So far in 2014, 11 grants and awards have been given by ASA totalling USD 243,000, supporting the conservation of 11 priority species. Specifically, the ASA has supported the following: (1) Travel Grant: USD $2,000 to Franco Andreone to support conservation efforts in Madagascar. Over the next few years it is hoped to establish a larger ASA travel support fund; (2) Research Grant: USD $16,000 to Dr Christopher Leary to explore the agrochemical updraft hypothesis for mass amphibian extinctions in high elevations of the Neotropics; (3) Research Grant: USD $15,000 to Dr Reid Harris to determine which bacterial species from the skins of Malagasy frogs can act as skin probiotics; (4) Leapfrog Conservation Fund: USD $40,000 to support Fundación ProAves in the protection of 3,305 hectares of one of the most critical high-elevation areas in the Serranía de Perijá. Surveys have confirmed that it is home to many of the endemic species known to exist in the Serranía de Perijá, and planned surveys hold the potential to discover new species (including amphibians) in the area; (5) Leapfrog Conservation Fund: USD $80,000 was raised to support Fundación Jocotoco in the purchase of 2,470 hectares of critical wildlife habitat in Ecuador, home to three threatened frogs and the Andean Condor; (6) Leapfrog Conservation Fund: The first instalment of USD $20,000 was channelled to ASA Partners the Center for Sustainability to start the process of designating the 40,000-ha Cleopatra's Needle Reserve in Palawan, the Philippines, home

to three threatened amphibian species and the last 200 members of the Batak tribe; (7) Leapfrog Conservation Fund: USD $10,000 to support the expansion of a private protected area home to the Bornean Orangutan and three amphibians new to science in the Kinabangan Floodplains through partners Hutan in Borneo; (8) Leapfrog Conservation Fund: USD $25,000 to support the protection of Ankaratra Massif in Madagascar, home to two Critically Endangered amphibians.

More information on these and other Alliance projects can be found on the ASA website.

The ASA has also launched a collaborative seed grant programme. Seed grants (typically small funds in the range USD $500–2,000), are frequently seen as a vital funding source to kick start projects and encourage innovative approaches to addressing conservation issues. The ASA has already secured some limited funding for this initiative and plans to work with Alliance Partners to match this funding. The ASA will aim to match funds 1:1 with all Alliance partners interested in joining resources.

The ASA is also making a formal commitment to financially support the reassessment or assessment of threatened and Data Deficient amphibian species whose conservation it actively supports through its work. In practice, what this will mean is that for every grant we provide that is likely to impact the conservation status of one or more species, we will provide financial support to the IUCN SSC Amphibian Red List Authority to reassess the species in question.

Policy engagement

Support to CITES

The IUCN GSP and the SSC continue to provide significant inputs in support of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES).

During this reporting period, the SSC provided extensive inputs to the meetings of the CITES Animals Committee (28 April–2 May) and the CITES Plants Committee (2–8 May) in Veracruz, Mexico. The IUCN delegations were led by Richard Jenkins, and coordinated by Dena Cator. Representatives from the following SSC SGs were on the delegations: Boa and Python, Cat, Crocodile, Global Trees, Primate, Seahorse, Pipefish and Stickleback, Shark, and Tortoise and Freshwater Turtle.

The SSC was also heavily engaged in the CITES Standing Committee meeting with took place in Geneva from 7–11 July. Once again, the IUCN delegation was led by Richard Jenkins and managed by Dena Cator. Representatives from the following SSC SGs were on the IUCN delegation: African Elephant, African Rhino, Asian Elephant, Boa and Python, Cat, Crocodile, Pangolin, and Sustainable Use and Livelihoods.

Numerous other activities in support of CITES have been implemented by the SSC SGs, including the ongoing participation on the Monitoring the Illegal Killing of Elephants (MIKE) programme by the African Elephant SG and the Asian Elephant SG. A new agreement between the CITES Secretariat

Vicuña (*Vicugna vicugna*), Least Concern. © Carine06 CC BY-SA 2.0

and IUCN on the management of MIKE is currently being completed to start at the beginning of 2015.

In December 2014 the South American Camelid SG (GECS), in response to a recent increase in Vicuña poaching, produced a short document entitled: "Poaching of Vicuña and the Illegal Commercialization of its Fiber: a Persisting Problem". The Vicuña is often cited correctly as an example of a conservation success story, and of the effective implementation of CITES. Not only has there been a significant increase in Vicuña numbers in recent decades based on the principles of sustainable use and trade, but local communities and indigenous people have derived livelihood benefits from the trade. The recent increase in Vicuña poaching, if unchecked, threatens to undermine the significant gains that have been made. As a result, the GECS published a document (in English and Spanish), containing some key recommendations on: (1) cooperation among Andean countries; (2) management at the national level; and (3) cooperation between exporting and importing countries. Simon Stuart has requested the CITES Secretariat to distribute the document to the range states and to key importing countries that use Vicuña products.

Other activities

The European Red List has been used by the European Commission to report on progress toward achieving the Aichi Targets, as part of the CBD Mid-Term Review. These data will also be used in the EU mid-term review of the EU Biodiversity Strategy to measure progress towards achieving EU targets (the review started in 2013 and will be completed by 2014). The European Red Lists are used by the EU financing instrument of the environment (LIFE Programme) to guide the allocation of funds.

Participation of IUCN Global Species Programme and SSC Specialist Groups in the CBD WGRI and SBSTTA18 meeting: Key issues included the mid-term review of the Global Strategy for Plant Conservation, progress in the revision and implementation of national biodiversity strategies and action plans (NBSAPs), IUCN's efforts in implementing the Strategic Plan for Biodiversity and the Aichi Targets, resource mobilization, Biodiversity and the Sustainable Development Goals (SDGs), the fourth edition of the Global Biodiversity Outlook (GBO4), Invasive alien species, Intergovernmental Science-Policy Platform for Biodiversity and Ecosystem Services (IPBES) and Health and biodiversity.

FBU have been involved, along with the CCU, in drafting the Ecosystem Profile for the CEPF funding strategy for the West African Guinea Forest Hotspot in collaboration with IUCN PACO and a number of consultants including Beth Polidero of the MBU. Use of the Red List and also KBA data will therefore inform allocation of an estimated USD $8 million to conservation across the region over the following years.

3S project: FBU collaborated with IUCN Vietnam providing an analysis of the projected impacts to species Red List status for a number of hydropower dam construction scenarios on migratory fish species in the Mekong River Basin. The outputs are in the form of projected changes to the Red List status of 100+ species of migratory fish, based on the modelled hydrological impacts of dam construction on loss of fish migration options and available spawning area.

The GSP MBU results are driving new United States government regulations for protecting and promoting recovery of threatened coral species. Largely based on our 2008 global Red List assessments of reef-building corals, NOAA has proposed the addition of 66 reef-building coral species to the Endangered Species Act and reclassifying Elkhorn and Staghorn Corals as Endangered (Strategic Plan Result 7), which should be released soon. Internationally, results from MBU-assisted assessments led by the Shark Specialist Group have been used to increase protection for commercially exploited species of sharks and rays via the Convention on the International Trade in Endangered Species of Wild Flora and Fauna (CITES).

Managing the SSC Membership

Chairs of Specialist Groups and Task Forces and Coordinators of Red List Authorities

There have been a few changes in the leadership of the SSC Specialist Groups (SGs) and Red List Authorities (RLAs) as follows:

Amphibian SG: Claude Gascon has stepped down as ASG Co-Chair in order to dedicate more time to chairing the Amphibian Survival Alliance. He has been replaced by Ariadne Angulo who serves alongside the continuing Co-Chair, Philip Bishop. Ariadne Angulo continues as the Amphibian Red List Authority Coordinator.

Bat SG: After 20 years of dedicated service, Paul Racey has stepped down as BSG Co-Chair. He has been replaced by Tigga Kingston who serves alongside the continuing Co-Chair, Rodrigo Medellin.

Climate Change SG: Steve Williams has stepped down as CCSG Co-Chair but will now fill the new position of CCSG Senior Scientific Advisor. He has been replaced by Wendy Foden who serves alongside the continuing Co-Chair, James Watson.

Conservation Genetics SG: this new SG has recently been approved, with Michael Bruford and Gernot Segelbacher as Co-Chairs.

Cuban Plant SG: Very sadly, the CPSG Chair, Ángela Leiva Sánchez, passed away on 3 June. She was greatly admired and respected by her colleagues and is deeply missed. She has been replaced by Luis Roberto González Torres.

Diver/Loon SG: The long-serving Chair, Joseph Kerekes, formally retired on 31 March. He was replaced by Neil Burgess.

Goose SG: Petr Glazo has been appointed to serve as GSG Co-Chair, serving alongside Bart Ebbinge was previously the sole Chair.

Mangrove RLA: Jean Yong has been appointed as the Mangrove Red List Authority Coordinator.

Monitor Lizard SG and RLA. This new SG was approved in September, with Mark Auliya and André Koch as the MLSG Co-Chairs, and Daniel Bennett as the Monitor Lizard Red List Authority Coordinator.

New Caledonia Plant RLA: This new RLA was approved in December, with Vincent Tanguy as the Chair.

Penguin SG. This new SG has recently been approved, with Dee Boersma and Pablo Garcia Borboroglu as the Co-Chairs.

Reintroduction SG: The long-serving RSG Co-Chair, Frédéric Launay, formally stepped down at the end of April in order to take on the new role as the SSC representative on the IUCN

World Heritage Panel. Axel Moehrenschlager continues as the sole Chair of RSG, and Frédéric Launay continues as a member of the SSC Steering Committee.

Spider and Scorpion SG. This new SG was approved in October, with Pedro Cardoso as the Chair.

Storks, Ibises and Spoonbills SG: Following the sad death of the Co-Chair, Malcolm Coulter in 2013, Luis Santiago Cano Alonso has been appointed as a successor, serving alongside the other Co-Chair, Wim van den Bossche. Wim will continue for one year to allow for a suitable handover phase for Luis. We expect to appoint an additional Co-Chair after Wim steps down in 2015.

Swan SG: Eileen Rees has been appointed SSG Chair, having previously been interim Chair.

Tapir RLA: Alan Shoemaker has stepped down as Tapir Red List Authority Coordinator, and has been replaced by Manolo García Vetorazzi.

Tortoise and Freshwater Turtle RLA: Peter Paul van Dijk has stepped down as Tortoise and Freshwater Turtle Red List Authority Coordinator, and has been replaced by Anders Rhodin. Peter Paul remains Co-Chair of the Tortoise and Freshwater Turtle SG.

Plans are underway to develop proposals for new SGs on *Whiptails and Tegus* and on *Wildlife Forensics*. The SSC Steering Committee also approved a change in the name of the *Freshwater Crab and Crayfish SG* to the *Freshwater Crustacean SG*, reflecting the expanding remit of this SG.

Resignations

As mentioned above, Claude Gascon resigned as Amphibian SG Co-Chair, Paul Racey as Bat SG Co-Chair, Steve Williams as Climate Change SG Co-Chair, Joseph Kerekes as Diver/Loon SG Chair, Frédéric Launay as Reintroduction SG Co-Chair, and Peter Paul van Dijk as Tortoise and Freshwater Turtle Red List Authority Coordinator. The SSC would like to thank Claude, Paul, Steve, Joseph, Frédéric, Peter Paul and Paul for their hard work for the SSC over many years.

In memoriam

As mentioned above, the SSC mourns the passing of Ángela Leiva Sánchez on 3 June. She was the pre-eminent botanist in her native Cuba. On 10 September, the former Chair of the Wild Pig SG, William Oliver, passed away. William led the WPSG in its various incarnations for over 30 years, and was the founder and driving force of wild pig conservation worldwide. He also made a huge contribution to threatened species conservation in the Philippines. On 29 October, the former Programme Officer of the Asian Elephant Specialist Group, Charles Santiapillai, passed away. He had been involved in a number of SSC Specialist Groups, and was a major player in conservation in his native Sri Lanka, and also in Indonesia where he lived for many years. All of these people are greatly missed by many people in SSC.

Specialist Group, Task Force and Red List Authority Members

As of 18 December there were 9,607 SSC members, most of these being members of Specialist Groups (SGS), Task Forces (TFS) and Red List Authorities (RLAs). The SSC currently has 121 SGs, three TFs and 17 stand-alone RLAs (with a further 96 RLAs within SGs). A total of six SGs (mainly newly established ones) still need to appoint their members for the 2013–2016 quadrennium. The SSC membership passed the 9,000 for the first time in its history during the IUCN council meeting on 20 May.

Bali Starling (*Leucopsar rothschildi*), Critically Endangered. © Bernard Dupont CC BY-SA 2.0

Securing additional funding to support the activities of the SSC

Funding of the SSC Chairs' Office

Simon Stuart is very pleased to announce the addition of six new donors to the SSC Chair's Office during 2014. These are the UK Department of Environment, Food and Rural Affairs (DEFRA), WWF, the Detroit Zoological Society (DZS), the New Zealand Department of Conservation (DOC), the British and Irish Association of Zoos and Aquariums (BIAZA), and the Indianapolis Zoo (IZ). We are particularly grateful to the following people for making this possible: Jeremy Eppel, Michael Sigsworth and Dominic Whitmee from DEFRA; Mike Barrett, Glyn Davies and Heather Sohl from WWF; Ron Kagan and Scott Carter from DZS; Andrew Bignell from DOC; Kirsten Pullen from BIAZA; and Mike Crowther and Rob Shumaker from IZ. DEFRA, WWF, DZS, DOC, BIAZA and IZ join the following institutions that have made funding commitments for the SSC Chair's Office during the 2013–2016 IUCN Quadrennium: Conservation International, MAVA Foundation; Environment Agency Abu Dhabi; Al Ain Zoo; Zoological Society of London; Wildlife Conservation Society; UNEP World Conservation Monitoring Centre; World Association of Zoos and Aquariums; Bristol Zoo; European Association of Zoos and Aquaria; Zoo Copenhagen; the Association of Zoos and Aquariums; Chicago Zoological Society, Chester Zoo; the Royal Zoological Society of Scotland; and Zoo Leipzig. We thank Russ Mittermeier, Niels Crone, Lynda Mansson, Paule Gros, Razan Khalifa Al Mubarak, Frédéric Launay, Ghanim Al Hajeri, Mark Craig, Ralph Armond, David Field, Jonathan Baillie, John Robinson, Liz Bennett, Jon Hutton, Tim Johnson,

Gerald Dick, Bryan Carroll, Lesley Dickie, Myfanwy Griffith, Bengt Holst, Kris Vehrs, Jim Maddy, Paul Boyle, Stuart Strahl, Mark Pilgrim, Chris West and Jörg Junhold for their ongoing generous support to the SSC.

As a result of this recent fundraising progress and some saving elsewhere, the funding shortfall for the current IUCN quadrennium has been reduced. The exact size of the shortfall is hard to calculate at the moment because of staff turnover in the SSC Chair's Office. The current fundraising push is therefore continuing, but the progress has been encouraging. The budget for the Chair's Office in 2014 is approximately £350,000 (salaries and consultancies), and income is now sufficient to cover this, but a shortfall remains for 2015 and 2016.

EAD-SSC Framework Agreement
Meanwhile, the Environment Agency Abu Dhabi (EAD) has generously renewed it framework agreement to the SSC for 2014–2016. The amount awarded is CHF 450,000 per year. In 2014 this is allocated as follows: CHF 80,000 for the CEESP-SSC Sustainable Use and Livelihoods Specialist Group; CHF 87,500 for the GSP Red List Unit; CHF 62,000 for the SSC Snake and Lizard Red List Authority; CHF 27,000 for the SSC Bumblebee Assessments; CHF 30,000 for the Invasive Species Specialist Group; CHF 44,000 for the Species Conservation Planning Sub-Committee; CHF 15,000 for the slipper orchid assessments; CHF 15,000 for the *Nepenthes* pitcher plant assessments; CHF 15,000 for crop wild relative assessments; CHF 45,000 for project management by the GSP; and approximately CHF 30,000 still to be allocated.

The reports on the activities from the previous EAD framework agreement (2011–2013) have been posted on the website as follows: 2011; 2012 and 2013.

SSC Development Director
Particular mention needs to be made of SSC Development Director, Jeremy Harris, who left the SSC Chair's Office in mid-April 2014 to take up the post of Director of the St Helena National Trust. It is hard to cover everything that Jeremy has done since joining the SSC Chair's Office since September 2009, but the highlights include: (1) Raising funds for several important projects, including the support from Rolex for the Red List Discover website; (2) Pioneering the licensing of Red List data with the corporate sector, and helping to develop new IUCN policies on data licensing, and building collaboration with IBAT and its partners; (3) Developing new partnerships with companies in the IT sector to support the Red List, notably Esri and Microsoft; (4) Acting as focal point for several other donors to SSC and the Global Species Programme; (5) Developing programmatic linkages between zoos and SSC Specialist Groups; and (6) Developing the original corporate fundraising plan for Save Our Species.

Programme Officer for Specialist Group Partnerships
Most recently Jeremy has been working on building partnerships between SSC SGs and zoos. This work is proving to be extremely promising (for example a recent new partnership between Al Ain, Marwell and White Oak Zoos with the Antelope SG), and so we advertised a replacement position called "Programme Officer for Specialist Group Partnerships" which, as mentioned above, was filled by Kira Mileham on 29 October. Kira has come to the SSC from Taronga Park Zoo in Sydney, and has started her work with huge enthusiasm and energy. She is currently building her connections with SSC SGs and zoos, and we look forward to reporting more fully on this in 2015.

Sustaining the SSC
Simon Stuart has also been working on a project concept entitled 'Sustaining the SSC' with the intention of developing an endowment to support the SSC Chair's Office in future (so that his successors do not have to spend so much time fundraising for core costs), and also to provide core support to SSC Specialist Groups.

Conclusion

Once again Simon and Jane wish to thank all donors as well as the SSC Members, GSP staff, and the SSC Chair staff for their hard work and commitment over the past year.

Dr Simon N. Stuart
Chair, IUCN Species Survival Commission

Dr Jane Smart
Director, IUCN Global Species Programme

The IUCN Red List –

RED LIST® Guiding Conservation for 50 Years

Concern & Action : The Idea — 1933

John C. Philips, American conservationist, suggests the need for a list of threatened species. He is motivated to raise money for and start projects to survey the status of extinct and vanishing mammals.

Survival Service — 1949

With Harold 'Hal' J. Coolidge as its first chairman, IUCN partners with UNESCO to create the Survival Service to research and share with policymakers information about species at risk of extinction.

"Animals and Plants threatened by extinction" — 1962

Boyle's card index system develops into a two-volume set of draft data sheets on threatened species. It's titled, "Animals and Plants Threatened with Extinction."

Preliminary List of Rare Mammals and Birds — 1965

The World Wildlife Fund's, "The Launching of a New Ark. First Report of the World Wildlife Fund" includes an annotated "Preliminary List of Rare Mammals and Birds" as compiled by the Species Survival Commission.

The Red Book – Wildlife in Danger Published — 1969

IUCN sponsors the publication of a popular version of the first Red Data Books, "The Red Book – Wildlife in Danger."

Threatened birds — 1988

The first comprehensive list of threatened birds was compiled and published. In 2014, 13% of birds are threatened with extinction.

Nile Crocodile — 1996

Nile Crocodile downlisted from Vulnerable to Least Concern. Although this crocodile may still be threatened in parts of its range, international trade controls and national laws protecting the species have improved its conservation status.

1948 International Union for the Preservation of Nature

The International Union for Conservation of Nature (IUCN), creators of The IUCN Red List, founded as the International Union for the Preservation of Nature.

1959 Threatened Mammals Card Index

The Species Survival Commission (successor to the Survival Service), led by Lt. Col. C. Leofric Boyle, begins a card index of data on 34 species of mammals considered threatened.

1964 The IUCN Red List is born

The IUCN Red List is born. A "Preliminary List of Rare Mammals" and a "List of Rare Birds" are complied and published for the first time.

1966 Red Data Books Published

The proto-type Red Data Books, shared in small circles in 1963/1965, is formally published. It takes more than a decade to publish all five of the original volumes, one each on mammals, birds, reptiles and amphibians, flowering plants, and freshwater fishes.

1972 Blue Whale

Blue Whale, at 30 meters long the largest animal on the Red List, is recorded as "Grossly Depleted." It is in all of the world's oceans except the Arctic.

1994 IUCN Red List Categories and Criteria

IUCN introduces a scientifically rigorous approach to determine risks of extinction applicable to all species. Called the IUCN Red List Categories and Criteria, it has become a world standard.

1998 Conifers

The first comprehensive assessment of all Conifers was completed. In 2014, all conifer species were reassessed, revealing that 34% are threatened with extinction.

50 years at a glance

Internet Database — 2000

The IUCN Red List data was made available through a single searchable Internet database, enabling broader access to information and allowing for more frequent updates at reduced costs.

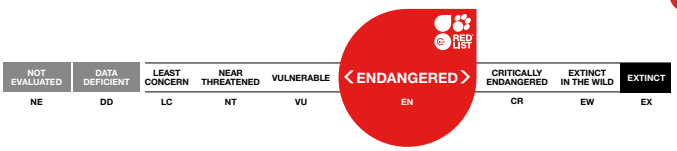
Cheetah — 2002

Cheetah is listed as Vulnerable; its conservation status has not changed since it was first assessed in 1986. In 2014, the species remains Vulnerable to extinction, with a decreasing population primarily caused by habitat loss, a reduction in its ungulate prey base, and persecution killing by ranchers.

Mammals Second Assessment — 2008

The second comprehensive assessment of all Mammals was published. In 2014, 25% of all Mammals are threatened with extinction.

New branding launched for The IUCN Red List — 2008



Tuna — 2011

The first comprehensive assessment on all Tuna was published – with three of the eight tuna species threatened with Extinction.

Facebook & Twitter — 2012

The IUCN Red List embraces social media with presence on Facebook and Twitter.

http://www.facebook.com/iucn.red.list
https://twitter.com/iucnredlist/

50th Anniversary — 2014

The IUCN Red List Turns 50 years old !

2000 — Categories and Criteria Version 3.1

The latest version of IUCN Red List Categories and Criteria (Version 3.1) developed and approved by IUCN Council.

2004 — Amphibians

The first comprehensive list of Amphibians was published. In 2014, 41% of Amphibians are threatened with extinction.

2008 — Humans

Humans listed as Least Concern. In mid-2007, the total population of human beings was estimated at 6.6 billion, an increase from 6.1 billion in 2001. Humans have the widest distribution of any terrestrial mammal species, inhabiting every continent on earth and outer-space.

2010 — Amazing Species

IUCN launches its Amazing Species program to increase awareness of the enormous variety of life on the planet, and raise the profile of threatened species. The online campaign features different species with information on the threats faced and any conservation action being undertaken.

2011 — Arabian Oryx

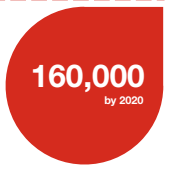
Arabian Oryx downlisted from Endangered to Vulnerable. This species now has a stable population following reintroduction to Israel, Oman and Saudi Arabia, with further reintroductions planned for Bahrain and Qatar.

2012 — Grand Cayman Blue Iguana

Grand Cayman Blue Iguana listed as Endangered. This species is threatened by feral cats, rats, and dogs, as well as habitat loss due to the conversion of traditional fruit farms to grassland for cattle grazing. As a direct result of conservation action, plus natural reproduction in protected areas, the population of Grand Cayman Blue Iguana is increasing.

2014 — 160,000 by 2020

IUCN Red List sets goal to assess the conservation status of 160,000 species by 2020.



The IUCN Red List 50th anniversary celebrations in pictures

In 2014 we celebrated the 50th anniversary of The IUCN Red List, with many creative events to build awareness of and raise funds for our work. With enthusiastic support from within IUCN, the SSC and the broader IUCN family, we raised more than USD 220,000. A fantastic effort from all involved!

IUCN Red List flags on Pont du Mont Blanc, Geneva. © IUCN

Fascinating Fact #28 from '50 Fascinating Facts' series. © IUCN

Laura Ball's 'Cycle' at 'The Ark' art exhibition by Bear Cub Gallery, London. © Laura Ball

CEMEX IUCN Red List book launch. © Robin Mayes

IUCN Red List receives Prince Albert II of Monaco Biodiversity Award. © Gaetan Luci, Palais Princier de Monaco

Masks from IUCN Red List anniversary celebrations in Helsinki. © IUCN

Cover of Terre Sauvage Special Edition on IUCN Red List and SOS – Save Our Species. © Terre Sauvage

Londoners wearing IUCN Red List wristbands during Louis Masai's 'This is Now' campaign. © Synchronicity Earth

Image from 'Holiday Giving' campaign on IUCN Red List fundraising microsite support.iucnredlist.org. © IUCN

IUCN Red List exhibit at Science Festival in Serbia. © IUCN

Synchronicity Earth's 'Biophilia Ball', London. © IUCN

Launch of new IUCN Red List video. © IUCN

'On the Brink' art exhibition by The G2 Gallery, Los Angeles. © The G2 Gallery

Louis Masai's threatened species street art campaign 'This is Now', London.
© Synchronicity Earth

red november
celebrating conservation

BIAZA Red November. © BIAZA

'Here Today' art exhibition, London. © Freuds

The Big Swim across Lake Geneva.
© Simon Bradley

Launch of new fundraising microsite support.iucnredlist.org. © IUCN

In 2014:

76,199 species assessed – OUR GOAL: 160,000 by 2020

90,969 Facebook followers

37,019 Twitter followers

Over 9,600 SSC experts

Over USD 220,000 raised

Report of the IUCN SSC Specialist Groups, Task Forces, Red List Authorities

Amphibian Specialist Group

Co-Chairs: Ariadne Angulo and Phil Bishop
Red List Authority Coordinator: Jennifer Luedtke
Programme Officers: Jos Kielgast, Helen Meredith, Leida dos Santos, Sally Wren
Location/affiliation: Ariadne is affiliated with the International Conservation Fund of Canada, Toronto, and Phil is affiliated with the University of Otago, Dunedin, New Zealand
Number of members: 515


Ariadne Angulo


Phil Bishop

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 mobilizing a global network of members to develop capacity, improve coordination and integration so as to achieve shared, strategic amphibian conservation goals.

Summary of main activities in 2014
In early January, facilitators were identified (often from within the ASG membership) and invited to form 12 thematic working groups (WG) associated with the various chapters of the Amphibian Conservation Action Plan (ACAP, http://www.amphibians.org/wp-content/uploads/2013/07/ACAP.pdf). During the year, as the groups started to form they were tasked with addressing the update of the global ACAP and producing short- and long-term priorities that were essential for amphibian conservation.

Pebas Stubfoot Toad (*Atelopus spumarius*), Vulnerable. © Ariadne Angulo

In April, a good working relationship with the Amphibian Survival Alliance (ASA) was established and new and improved combined website was re-structured (amphibians.org). This now acts as a portal for anything to do with global amphibian conservation.

In mid-June 2014 Ariadne Angulo was appointed as new ASG Co-Chair by SSC Chair Dr Simon Stuart. This appointment, together with the inclusion of ASG Programme Officers Sally Wren, Jos Kielgast and Helen Meredith in late 2013, was announced to the amphibian conservation community in its newsletter *FrogLog,* issue No. 111, July 2014 (see page 7 in http://issuu.com/amphibiansdotorg/docs/froglog111_high_res/7?e=2785774/8748906). Also in June, a letter was written to support WCS's application to the US Fish and Wildlife Service for the export of Kihansi Spray Toads back to Tanzania for the ongoing reintroduction work.

In August 2014, Phil Bishop attended the Joint Meeting of Ichthyologists and Herpetologists in Chattanooga (USA) and presented a talk entitled "ACAP 2.0 *Building on successes of the Amphibian Conservation Action Plan for a new amphibian conservation community*". This talk explained the relationship between ASA and ASG and encouraged scientists to participate in helping to turn the Amphibian Conservation Action Plan (ACAP) into a living document.

In September, the ASG started to receive a list of short- and long-term priority actions from the Working Groups (WG). These priority actions will be posted on the amphibians.org website and will form the basis of ACAP as a living document.

From 27–29 September 2014, Ariadne Angulo visited the site of the Critically Endangered (CR) *Melanophryniscus admirabilis* and participated in a conservation strategy workshop for this toad in southern Brazil. This was an opportunity to learn of this conservation

success story and to meet the species *in situ*. ASG established great relationships with the *M. admirabilis* team and other members of the herpetological community. Side benefits of this trip were: (1) to engage the team to coorganize an amphibian conservation symposium in the context of the next Brazilian Herpetological Congress, to be held September 2015; and (2) to disseminate the success story of *M. admirabilis* among the global community in *FrogLog* (see http://issuu.com/amphibiansdotorg/docs/froglog112_high/19?e=2785774/10002577).

In October 2014, the ASG provided input into the monograph "Amphibian Alliance for Zero Extinction Sites in Chiapas and Oaxaca" by Lamoreux, J.F., McKnight, M.W. and R. Cabrera Hernandez. The monograph is to be published in the first half of 2015 as an IUCN SSC Occasional Paper under the auspices of the ASG. October also welcomed a new member to the ASG Secretariat, Programme Officer Leida dos Santos.

In November 2014, the ASG Secretariat sent out a draft ASG strategic plan to all ASG Regional Chairs for their review and input. This document details the ASG structure and charts the group's priorities from here until the end of the 2012–2016 period. We are hoping to finalize the strategic plan and make it publicly available on amphibians.org in the first half of 2015, in addition to begin its implementation during this period. Also in November 2014, the ASG and the ASA issued a joint statement on emerging infectious amphibian diseases and trade, urging all governments to prioritize this issue and to implement actions needed to stop the spread of these diseases (http://www.amphibians.org/news/asg-asa-trade-statement/ and https://www.iucn.org/news_homepage/all_news_by_theme/species_news/?18577/Trade-and-Emerging-Infectious-Diseases-in-Amphibians).

Concomitantly, the ASG initiated a consultation process with the IUCN SSC Wildlife Health Specialist Group and TRAFFIC to explore suitable actions that could be furthered by ASG.

Given the presence of the amphibian chytrid fungus and an invasive Asian toad in Madagascar, the ASG worked together with the ASA and Durrell Wildlife Conservation Trust to organize a workshop in the Centre ValBio, Ranomafana, Madagascar (ACSAM2). This took place late November and was attended by Franco Andreone (ASG Madagascar) and Phil Bishop. During the workshop Franco and Phil met with Sahondra Rabesihanaka (Head of the Management Department of the Fauna and Flora Directorate of Forest Resources Valuation) and the Minister of Environment, Water and Forest and Tourism, Madagascar to discuss the future of amphibians in Madagascar.

A conservation strategy for amphibians in Madagascar (including suggestions from the Ministry) is now in its final stages of preparation and will be published shortly. In late November-early December ASG (as ASG Peru) conducted a third field trip to assess the status of two Critically Endangered (CR) amphibians in the cloud forests of Central Peru. This project, funded by the Mohamed bin Zayed Species Conservation Fund in January 2014, is a partnership between ASG Peru and Yanachaga-Chemillén National Park, and is an important foundation for continued collaboration with the National Park for the survey and monitoring of threatened amphibians of central Peru.

Future goals/activities

Main priorities for the ASG in 2015 are to finalize and publish the strategic plan and begin its implementation, as well as support the implementation of priority actions identified by the ASG Working Groups (where ASG may be able to provide input and help develop actions). Other priorities include attendance at an international amphibian trade workshop scheduled to take place in March 2015 in Dulles, Virginia, and hosted by Defenders of Wildlife and ASA, and a reassessment workshop of Chilean amphibians on behalf and in support of the Amphibian Red List Authority (scheduled for June 2015, pending funding).

Acknowledgements

Thanks to the SSC, the ASA, Global Wildlife Conservation, Universidade Federal do Rio Grande do Sul, Instituto Curicaca, Erik Ohlson and the Mohamed bin Zayed Species Conservation Fund for enabling our work this year. Our gratitude to those ASG members who selflessly give their time and expertise to advance amphibian research and conservation.

Anoline Lizard Specialist Group

Co-Chairs: D. Luke Mahler and María del Rosario Castañeda
Red List Authority Coordinator: Gregory Mayer
Location/affiliation: We are based in the United States and work throughout the New World tropics. We are affiliated with the University of Kansas (USA), Universidad del Valle (Colombia), and the University of Wisconsin at Parkside (USA).
Number of members: 53

María del Rosario Castañeda

D. Luke Mahler

Mission statement

The mission of the Anoline Lizard Specialist Group (ALSG) is to assess and monitor the conservation status of all species of anole lizards, to identify factors that place anoles at risk of extinction, and to develop effective strategies to ensure the long-term maintenance of healthy populations of these species in the wild.

Summary of main activities in 2014

In 2014, ALSG activities have focused primarily on conducting and reviewing IUCN Red List assessments for anoline lizard species that, to date, do not have published Red List accounts. Work during the past year has focused on completing assessments for all non-Caribbean anoline lizard species (i.e. those that occur in mainland Central and South America). Draft assessments have now been prepared for nearly all mainland anole species, and these are being reviewed and revised in preparation for final Red List submission. Assessment efforts for South American anoline lizard species have identified a large number of species about which very little is presently known, a finding that will help guide future research efforts in this region.

ALSG members published scientific work in 2014 documenting a novel conservation threat associated with anoline lizards – unprecedented rates of island invasion by introduced *Anolis* due to the rapid growth of economic trade in the Caribbean (Helmus et al. 2014; *Nature* 513:543-546). This work brings into focus an emerging species conservation problem associated with anoline lizards – the threat that certain anoline lizard species pose to native anoles as well as other native species and ecosystems on invaded islands. Although it remains unknown how introduced anoles threaten individual island species, it is clear that they fundamentally alter the composition of island communities, which could potentially have long-lasting impacts on Caribbean island diversity patterns. Accordingly, in 2014, the ALSG welcomed two new members with special expertise in invasion biology of *Anolis* species: Kristin Winchell (Boston, USA) and Wendy Jesse (Amsterdam, Netherlands). These members contribute expertise in forecasting the likelihood of island invasion by *Anolis* and predicting the long-term consequences of such invasion.

While focused primarily on the Red List assessment process, the ALSG also assisted SSC Chair Simon Stuart, Director General Julia Marton-Lefèvre, and the Iguana Specialist Group in preparing a letter to the Minister of Water, Land, Environment, and Climate Change in Jamaica, concerning the destruction of habitat within the Portland Bight Protected Area. This globally important dry forest reserve is home to several *Anolis* species, as well as many species of conservation concern from other groups, but is threatened by the development of a large trans-shipment port. Plans for this development are still under consideration by the Government of Jamaica.

Future goals/activities

ALSG activities in 2015 will focus on (1) final IUCN Red List publication of completed Central and South American anole assessments; (2) draft assessment of the conservation status of the ~120 Caribbean anole species that remain to be assessed; and (3) identification of the most likely routes of future island invasion by non-native Caribbean anoles. Our assessment goals should result in the publication of Red List accounts for all ~400 *Anolis* species by 2016 or 2017. Following this, the ALSG will draft conservation action plans for the most threatened anole species. We will also draft policy recommendations designed to curtail the introduction of non-native anoles to islands as well as mitigate the ecological effects of those already established.

Acknowledgements

The ALSG is grateful to the University of Kansas, Universidad del Valle, and the Museum of Comparative Zoology at Harvard University for their generous in-kind support.

Brown Red-bellied Anole (*Anolis koopmani*), Endangered. © D. Luke Mahler

Boa and Python Specialist Group

Chair: Tomás Waller
Red List Authority Coordinator: Mark Auliya
Executive Officer: Guillermo Puccio
Location/affiliation: Affiliated with Fundación Biodiversidad – Argentina, and based in Buenos Aires, Argentina.
Number of members: 76

Tomas Waller

Mission statement

The Boa and Python Specialist Group (BPSG) mission is to provide expert opinion and scientific advice to IUCN and other conservation organizations, government and non-government agencies, applicable to the conservation of boas and pythons. As the leading authority on boas and pythons we act as a focal point for all researchers working on the natural history and conservation of these species worldwide. Our key objectives are to monitor the conservation status of species worldwide, to enhance the status of threatened species, to identify solutions to complex conservation problems by conducting research and assessments, and to ensure trade is carried out sustainably on behalf of species and local livelihoods.

Summary of main activities in 2014

2014 was a very intense year for the BPSG. A number of boa and python species are in high demand as pets or for their skins for the fashion industry. For many of these species, we are challenged with the elusive issue of trade sustainability and transparency. The BPSG is actively contributing to address these concerns. We are working on several projects related to wild harvest, captive breeding, animal health and welfare, and the impact of this trade on livelihoods, in cooperation with source countries, international organizations and industry. These projects will provide the data and recommendations for international organizations like CITES, government authorities and the private sector to begin creating systems for improved monitoring of the trade in terms of sustainability, transparency and animal welfare.

Chaco Rainbow Boa (*Epicrates alvarezi*), Not Evaluated. © Tomas Waller

The Python Conservation Partnership (PCP), a collaborative initiative between the BPSG, Kering, the International Trade Center (ITC) established in 2013, and aimed at improving the sustainability of the Southeast Asian python skin trade, moves forward as planned. A first report *"Assessment of Python Breeding Farms Supplying the International High-end Leather Industry"*, authored by Daniel Natusch and Jessica Lyons, and published by IUCN, was launched on March 31. The study evaluates the economic feasibility and viability of captive breeding of pythons as a possible element of sustainable use and conservation of the species. During the rest of the year our specialists have been very busy in the field assessing the biology and the harvest of pythons captured at different locations of Indonesia. Recently, Malaysia joined the PCP, so we are expanding our work to this very important source country too. Currently Vietnam, Indonesia, Malaysia and Thailand actively participate in the PCP.

In April, we attended the CITES Animals Committee meeting (Veracruz, Mexico), and in early July, the meeting of the CITES Standing Committee (Geneva, Switzerland), during which we collaborated in the process aimed at regulating trade in these species more strictly in the future.

Furthermore, the CITES Secretariat through IUCN has entrusted the BPSG with the task of preparing several studies related to the snake trade. These studies, which were initiated in 2014 and will be concluded by mid-2015, comprise the elaboration of guidelines on Non-Detriment Findings (NDFs) for CITES-listed serpents, the assessment of the effect of harvest of some emblematic or rare snake species for the pet trade, additional studies on snake production systems in Southeast Asia, and methods to distinguish captive-bred specimens from those obtained in the wild. Seven BPSG specialists are contributing to the different areas of work.

Red List Assessments continue under the monitoring of Mark Auliya, our RLA Coordinator. We continue compiling and editing our Newsletter *Serpens* twice a year, and updating the BPSG's Facebook page thanks to Jessy Lyons. Our membership increased to 76 members, but we were deeply moved by the tragic death of Dr Bhupathy Subramanian (51), on April 28, 2014. Bhupathy, a member of the BPSG since its inception, was a great herpetologist and a pioneer in the study of pythons in his country, and his absence will be sadly felt in all the circles he used to frequent.

Future goals/activities

During the next year, we expect to begin reporting on PCP-project results. A PCP Steering Committee is planned for October 2015 where future steps and expansion of work to other source countries will be discussed. IUCN/CITES Secretariat Project on snakes is expected to present final reports by 31 May. A new project focused on assessing the biological attributes of Ayers water snakes collected for the skin trade is planned to initiate soon in 2015. We aim to assist with the next CITES AC Meeting to be held in Tel Aviv, Israel, in August 2015, and with the 3rd SSC Chairs' Meeting that will take place during September 2015 in Abu Dhabi.

Acknowledgements

Most of our work during 2014 was possible thanks to the support of Fundación Biodiversidad – Argentina, the Office Vétérinaire Federal of Switzerland, the CITES Secretariat, and Kering.

Chameleon Specialist Group

Chair: Richard K.B. Jenkins
Red List Authority Coordinator: Krystal Tolley
Location/affiliation: Richard is based in Cambridge in the United Kingdom and is affiliated with the IUCN Global Species Programme. Krystal is based in Cape Town, South Africa, and is affiliated with the South African National Biodiversity Institute.
Number of members: 12

Richard Jenkins

Mission statement

Our mission is to improve the conservation status and sustainable use of wild chameleons.
Objectives: (1) Support, coordinate or lead on the evaluation of chameleon species for the IUCN Red List; (2) Support CITES bodies in trade issues related to chameleons; (3) Identify priority sites, including Alliance for Zero Extinction, for the conservation of chameleons; (4) Promote scientific research on the ecology and habitat use of chameleons; (5) Design, implement or support effective conservation measures that secure habitats and wild populations of the most threatened chameleons through collaboration with governments, research institutions, conservation organizations and local communities; and (6) Make available published and unpublished information about chameleons in a central source.

Summary of main activities in 2014

We provided technical advice on chameleon export and sustainable harvest to the Government of Tanzania in relation to implementing CITES.

We alerted the Austrian CITES Management Authority to some potentially illegal imports of an African chameleon species.

We launched an online fund-raising initiative for the Critically Endangered Chapman's Pygmy Chameleon (*Rhampholeon chapmanorum*) which, by early 2015, had reached its $5,000 target to support a field expedition to the last known forest for this species (total raised = $5,670).

Our Facebook page has 1,608 likes and is instrumental in supporting our online fund raising campaigns.

Future goals/activities

(1) Carry out Red List assessments for additional species, including new species described in 2015 (to date, these are: *Rhampholeon hattinghi, Kinyongia mulyai*) so that all known chameleons are assessed on The IUCN Red List of Threatened Species; (2) Identify Alliance for Zero Extinction sites for chameleons; (3) Conduct a conservation assessment of the Critically Endangered Chapman's Pygmy Chameleon in Malawi.

Acknowledgements

We are grateful to the experts who participated in chameleon Red List assessments and to everyone who donated to our fundraiser for the Critically Endangered Chapman's Pygmy Chameleon http://www.rockethub.com/projects/50682-chapman-s-chameleon-conserving-the-world-s-most-range-restricted-chameleon.

Antsingy Leaf Chameleon (*Brookesia perarmata*), Endangered. © Richard Jenkins

Crocodile Specialist Group

Chair: Grahame Webb
Executive Officer: Tom Dacey
Red List Authority Coordinator: James Perran Ross
Location/affiliation: Grahame is the Director of Wildlife Management International in Blenheim, New Zealand.
Number of members: 536 members throughout 63 countries

Grahame Webb

Mission statement

To assist the International Union for Conservation of Nature (IUCN), and its Species Survival Commissions (SSC), to meet their missions with regard to the conservation, management and sustainable use of world crocodilians.

Summary of main activities in 2014

The Crocodile Specialist Group (CSG) has 536 members throughout 63 countries in the world, and conducts global working meetings biennially.

Valuing and conserving nature: Red List Assessments for *C. palustris, Tomistoma schlegelii* and *Mecistops* are complete and *C. mindorensis* is in final draft. Of the 24 species of living crocodilians the Red List assessments now categorize the global populations of six species as Critically Endangered, one as Endangered and three as Vulnerable.

CSG members have been intimately involved in successful reintroductions of two species listed in the IUCN Red List as Critically Endangered, namely *Alligator sinensis* in China and *Crocodylus mindorensis* in the Philippines. Various proposals are being considered to embark on reintroduction programs for another species listed as Critically Endangered, such as *Crocodylus siamensis* in both Thailand and Cambodia.

Governing nature's use and sharing its benefits equally: Management programs for the 24 species of crocodilians, across some 100 countries, are highly diverse. All species are listed on the Appendices of CITES, with 12 species involved in regulated international trade, producing either "classic" (*A. mississippiensis, Crocodylus acutus, C. moreletii, C. niloticus, C. novaeguineae, C. porosus* and *C. siamensis*), or caiman (*Caiman crocodilus, C. yacare, C. latirostris, Melanosuchus niger*) skins. The conservation-management programs for these commercially valuable species are highly diverse. Production is through captive breeding, ranching (eggs or juveniles), wild harvest, or various combinations of these. The CSG is committed to fostering protection strategies where they are the ones most needed within a national context, and sustainable use strategies where incentives are required to tolerate crocodilians. A key CSG aspiration in countries which trade in crocodilians is that trade is legal, sustainable and verifiable.

Deploying nature-based solutions to global challenges – climate, food and economy: Through supporting sustainable use programs, the CSG contributes to economic development within countries managing their crocodilian populations for this purpose. The CSG also assists by making small grants available to graduate students working on crocodilians for their research projects anywhere in the world. In 2013, a further 13 students were granted CSG Student Research Assistance Scheme grants, which makes a total of 80 recipients from 27 countries, since the scheme was initiated (2009).

Saltwater Crocodile (*Crocodylus porosus*), Least Concern. © Grahame Webb

Acknowledgements

Virtually all donations in cash and in-kind received by the CSG come from or through its members. These donations are made to an NGO (International Association of Crocodile Specialists Inc.), whose mission is to support the IUCN SSC Crocodile Specialist Group.

Iguana Specialist Group

Co-Chairs: Charles Knapp and Stesha Pasachnik
Red List Authority Coordinator: Tandora Grant
Programme Officer: Tandora Grant
Location/affiliation: Pasachnik and Grant are based at the San Diego Zoo Institute for Conservation Research, in Escondido, California, USA. Knapp is based at the Shedd Aquarium in Chicago, Illinois, USA.
Number of members: 91

Stesha Pasachnik and Charles Knapp

Mission statement

The mission of the Iguana Specialist Group (ISG) is to prioritize and facilitate conservation, science, and awareness programs that help to ensure the survival of wild iguanas and their habitats. To achieve these goals we implement, advise, and fundraise for programs that include population surveys, protected area management, invasive species control, field research, genetic studies, education, and captive breeding and headstarting initiatives.

Summary of main activities in 2014

In 2014, the ISG resurrected our annual newsletter to provide documentation of our group's activities, project updates, and to further promote communication within the group and externally. We also published the *Iguana delicatissima* Conservation Action Plan. This is the ninth action plan published by the ISG, but this contribution is unique because it involved stakeholders from multiple island nations. The regional plan explores the broad and specific challenges for Lesser Antillean Iguana conservation across the range and offers management opportunities to offset population declines. We are extremely grateful for the efforts of many ISG members and regional partners that made the plan possible. In addition, early in 2014 we officially announced that we would be publishing an iguana monograph entitled: Advances in Systematics, Ecology, and Conservation of Iguanas. This will be an open-access publication available through the journal Herpetological Conservation and Biology. Throughout the year we worked closely with over 70 authors to compile approximately 20 chapters. We hope for this special publication to be available in 2015.

We continued to expand the content on the ISG's website with resources for members and the public, including sampling protocols, iguana news, updates on field research, and taxon accounts. The Virtual Library now contains over 1,700 iguana-specific articles. The site has reached over 5,300 users. Additionally, we completely redesigned the website for the closely-associated International Iguana Foundation, to attract donors and generate increased awareness for iguana conservation projects. ISG researchers collaborated with the Google Earth Outreach team to create 360-degree user-navigable images of iguana habitat and connect them to Google's world map of contributed photospheres. In just a few months, our Google+ site received over 23,000 views of our iguana photospheres.

The ISG also worked to address recent threatening events. ISG members served as consultants to the Bahamian Government while decisions were made on where and how to repatriate 12 Sandy Cay Rock Iguanas (*Cyclura rileyi cristata*) that were confiscated from smugglers at the Heathrow Airport (UK) in February 2014. Consultations with Government officials are ongoing and include developing monitoring and management protocols for the animals. ISG members also invested a considerable amount of time providing science-based information to environmental groups and individuals campaigning to change the location for a massive transshipment port proposed to be constructed in the last remnant habitat of the Critically Endangered Jamaican Iguana. We worked with the IUCN Director General and SSC Chair to deliver a letter to the Jamaican Government outlining our concerns regarding this development. We also contributed information intended for the general public in order to apprise the debate concerning the impacts that the port would have on endemic and endangered wildlife and habitats in this protected area. A significant amount of news agency articles, social media activity, science journal articles, and local media coverage was generated during the year. A website was developed as a repository of information for stakeholders on this issue.

We held our 2014 annual meeting in Puerto Ayora, Santa Cruz, Galápagos, Ecuador. Having a meeting at this location has long been a priority for our group in order to forge a deeper engagement with iguana researchers working in the Galápagos. We are incredibly thankful to the Galápagos National Park Service and the Charles Darwin Foundation for making it possible. Following our standard meeting, which consisted of oral and poster presentations, group business updates, and a round-table discussion, we held a workshop with local stakeholders, staff from the Galápagos National Park and Charles Darwin Foundation, and researchers to address conservation challenges and discuss management strategies for Galápagos land and marine iguanas.

Future goals/activities

For the first time since 2008, our upcoming annual meeting will be held in the United States, with lower associated costs, in order to facilitate more participation from the wide range of our members, and for members working on under-represented taxa. By the end of the year our goal is to submit 15 more species assessments to the IUCN Red List, bringing our total species assessed to 32, and leaving only a dozen to be finalized in the following year. We intend to further develop the scientific information available through our website.

Acknowledgements

We wish to thank the International Iguana Foundation for their financial support of eight projects this year, totaling $61,927, focused on iguana conservation in the Caribbean, Central America, Mexico, and Fiji; as well as those who made donations in order to offset meeting travel costs to those in need.

Lesser Antillean Green Iguana (*Iguana delicatissima*), Endangered. © Charles Knapp

Marine Turtle Specialist Group

Co-Chairs: Roderic Mast and Nicolas Pilcher
Programme Officer: Brian Hutchinson
Red List Authority Coordinator: Bryan Wallace
Location/affiliation: Roderic Mast is based in Washington, DC, USA, and is affiliated with the Oceanic Society. Nicolas Pilcher is based in Kota Kinabalu, Sabah, Malaysia, and affiliated with the Marine Research Foundation.
Number of members: 260 members in 88 countries and territories.

IUCN-SSC MARINE TURTLE SPECIALIST GROUP


Roderic Mast


Nicolas Pilcher

Mission statement

Our mission 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.

Summary of main activities in 2014

Under the leadership of Red List Authority Coordinator Bryan Wallace, teams of Marine Turtle SG (MTSG) members have continued to make progress toward new Red List assessments of Green, Loggerhead, Kemp's Ridley, Flatback, Hawksbill, and Olive Ridley Turtles, which will be completed in 2015 and 2016. The new assessments are being developed following the methodology set forth by the recent Leatherback Turtle assessment published in late 2013 that includes subpopulation-level assessments and explores a wider range of assessment criteria than had been used in previous marine turtle assessments.

In 2014, the Marine Turtle SG continued to partner with the State of the World's Sea Turtles (SWOT) program. Activities in 2014 included the publication and dissemination of the State of the World's Sea Turtles-SWOT Report, Vol. 9, growth and maintenance of the global SWOT database of marine turtle biogeography (managed by Duke University's OBIS-SEAMAP), and grants awarded to marine turtle research and conservation programs in Bangladesh, Chile, Colombia, France, Indonesia, Kenya, and Mexico. The SWOT database continues to be the most comprehensive and widely used database of sea turtle biogeography, containing data from nesting beaches, satellite tracking studies, climate change research, genetic research, and other sources. All data are available online at http://seamap.env.duke.edu/swot.

The Marine Turtle SG held its Annual General Meeting in New Orleans, Louisiana, USA in April 2014. The meeting was attended by approximately 60 members and featured regional updates and discussion on topics including the role of the MTSG outside of Red Listing, sustainable use of marine turtles, and the globalization of threat data.

Marine Turtle SG members have continued to participate in efforts to curb illegal poaching of marine turtles in Southeast Asia. MTSG Co-Chair Nicolas Pilcher served as technical support for the key tri-national government (Indonesia, Malaysia, and Philippines) meetings held in June 2014, with invitees from Vietnam and China also participating. MTSG member Marina Antonopoulou of the United Arab Emirates presented the results on behalf of the MTSG at the IOSEA Marine Turtle Memorandum of Understanding's 7th Meeting of the Signatory States in September 2014 in Bonn.

Future goals/activities

Completion of new Red List assessments for all marine turtle species at the global scale and subpopulation scales (except the Leatherback which was completed in 2013).

Continued partnership with the State of the World's Sea Turtles (SWOT) program to produce SWOT Report, Vol. 10, grow the global SWOT Team, conduct the 10th round of annual SWOT grants, and produce conservation analyses for the broader sea turtle community.

Hosting our Annual General Meeting in April 2015 in Dalaman, Turkey.

MTSG members Alan Rees and Robert Baldwin, and Co-Chair Nicolas Pilcher are key data providers and technical specialists will participate in the Northwest Indian Ocean CBD EBSA delineation workshop in April 2015.

Acknowledgements

The Marine Turtle Specialist Group is grateful to IUCN, the US State Department, and the National Fish and Wildlife Foundation for their support.

Leatherback Sea Turtle (*Dermochelys coriacea*), Vulnerable. © Brian J. Hutchinson

Monitor Lizard Specialist Group

Co-Chairs: Mark Auliya and André Koch
Red List Authority Coordinator: Daniel Bennett
Location/affiliation: M. Auliya is based in Leipzig, Germany, and affiliated with the Helmholtz Centre for Environmental Research-UFZ. A. Koch is based in Brunswick, Germany, and is affiliated with the State Natural History Museum. D. Bennett is based in Larnaca (Cyprus) and affiliated with Mampam Conservation.
Number of members: 40


Mark Auliya


André Koch

Mission statement

The majority of *Varanus* spp. still need to be assessed in the IUCN Red List, and some species that have already been assessed in the past require updating. This will be one of the major tasks to provide current Red List assessments of all monitor lizard species within their global range. For this reason and in terms of efficacy, it is envisaged to establish thematic and regional subgroups that also need to create networks with interdisciplinary working groups that may contribute to an improved understanding of conservation and threat situation of single species. There is a prerequisite to evaluate conservation-oriented research for management programs. Further, conservation shall be promoted through various outreach activities.

Summary of main activities in 2014

The IUCN Monitor Lizard Specialist Group was only formally established in late 2014.

Future goals/activities

An inaugural meeting is scheduled for July 2015 in Bangkok, Thailand. In 2015, we do plan to assess and re-assess those species of highest conservation concern.

Clouded Monitor (*Varanus nebulosus*), Not Evaluated. © Mark Auliya

Sea Snake Specialist Group

Co-Chairs: Kate Laura Sanders and Arne Redsted Rasmussen
Location/affiliation: We are based in the School of Earth and Environmental Sciences, University of Adelaide, Adelaide, South Australia 5000, Australia and The Royal Danish Academy of Fine Arts, School of Architecture, Design and Conservation, Esplanaden 34, DK-1263, Copenhagen, Denmark, respectively.
Number of members: 35 members in 20 countries.

Kate Laura Sanders and Arne Redsted Rasmussen

Mission statement

The Sea Snake Specialist Group (SSSG) aims to promote the conservation of the world's sea snakes by identifying, documenting and developing practical strategies for mitigating threats to their long-term survival and promoting, where necessary, the recovery of sustainable wild populations. We also work to advance knowledge and raise awareness of sea snakes and their habitats. Our focal species are the marine and coastal hydrophiines, and marine and freshwater homalopsids and acrochordids.

Summary of main activities in 2014

The focus of the year 2014 was the ongoing decline of sea snakes. A couple of papers have been published in 2014 mentioning the unexplained declines of sea snake species in Timor Sea reefs (Rasmussen, Sanders et al. 2014, Sanders, Rasmussen et al. 2014, Udyawer, Cappo et al. 2014). However, the decline is still a big mystery for the involved scientist. Investigations along the shoreline of North-western Australia revealed unknown populations of the Critically Endangered and endemic Short-nosed and Leaf-scaled Sea Snakes, *Aipysurus apraefrontalis* and *A. foliosquama*, which were previously known only from Ashmore and neighbouring Hibernia Reef (Sanders, Schroeder et al. 2015). The newly recognized populations present another chance for Leaf-scaled and Short-nosed Sea Snakes, but coastal habitats in northwest Australia are widely threatened by infrastructure developments and sea snakes are presently omitted from environmental impact assessments for industry (Sanders, Schroeder et al. 2015).

In Asia, conservation of sea snakes is nearly non-existent despite sea snakes having been part of the wildlife trade for decades. In 2014, it was documented that sea snakes were collected and traded from The Gulf of Thailand in large scales (Cao, Thien Tao et al. 2014). It was estimated that roughly 225,500 individuals of live sea snakes were brought to ports in Vietnam for human consumption and as a source of traditional remedies. These activities may represent one of the largest marine reptile harvests in the world today (Cao, Thien Tao et al. 2014).

Olive Sea Snake (*Aipysurus laevis*), Least Concern. © Tchami CC BY-SA 2.0

2014 also brought new data showing that Pelagic Sea Snakes (*Hydrophis platurus*) dehydrate at sea (Lillywhite, Sheehy et al. 2014). The information provides new insights for understanding water requirements of sea snakes and could indicate reasons for recent declines and extinctions of sea snakes. The findings could also give more accurate prediction for how changing patterns of precipitation might affect sea snakes and other secondarily marine vertebrates living in tropical oceans (Lillywhite, Sheehy et al. 2014).

Other results from 2014 show that destruction and pollution of coral reefs threaten these marine biodiversity hotspots which shelter more than two thirds of sea snake species. It has been shown that in many coral reef ecosystems of the Western Pacific Ocean, large populations of sea kraits (amphibious sea snakes) have drastically declined during the past three decades. The last 10 years mark/recapture study in New Caledonia on Yellow Sea Kraits (*Laticauda saintgironsi*, 8,700 individuals marked) revealed that most neonates aggregate in highly localized coastal sites, where they feed and grow during several months before dispersal (Bonnet, Brischoux et al. 2014). Hundreds of females emigrate seasonally from remote populations (50 km away) to lay their eggs in these coastal nurseries, and then return home. Protecting these nurseries is a priority to maintain recruitment rate, and to retain sea krait populations in the future (Bonnet, Brischoux et al. 2014). The year 2014 also resulted in a new key for all homalopsids species with an updated taxonomy of the group (Murphy and Voris 2014), which, because of decline of costal mangroves, is a useful tool to identify rare and endangered homalopsid species in their natural environment. The endemic Lake Taal Sea Snake's (*Hydrophis semperi*) distribution and food habits was reported in detail for the first time (Garcia, Papa et al. 2014). The study poses implications towards its conservation as it occurs in a restricted ecosystem that has undergone considerable habitat alteration.

Future goals/activities

SSSG members will continue the monitoring of threatened sea snake populations in the Indian and the Pacific Ocean, and will try to reveal the causal factors underlying the decline of the sea snakes.

Snake and Lizard Red List Authority

Red List Authority Coordinator:
Philip Bowles
Location/affiliation: The RLA Coordinator is based in Washington DC and is affiliated with the IUCN Biodiversity Assessment Unit, part of IUCN's Global Species Programme.
Number of members: 30

Philip Bowles

Mission statement

With IUCN's Global Reptile Assessment ongoing, the Red List Authority's main current objective is to support workshop-based assessments with post-workshop reviews and submissions, and by acting as a taxonomic reference point. With no consensus global taxonomic list of reptiles, one of the RLA's main activities is ongoing work to complete a global reptile species list. The RLA also organizes assessments of individual species identified as conservation priorities. The RLA also acts as a point of contact and support for the Red Listing work of the reptile Specialist Groups.

Summary of main activities in 2014

In 2014 the RLA made progress on the global species list, completing the list of reptiles for mainland South America and supporting three reptile assessment workshops held in this region over the course of the year. Support for other reptile assessment work included the review of reptile assessments completed for East Africa and the submission of the final outstanding assessments for the reptiles of Central America, and a preliminary review following a workshop to assess the reptiles of New Guinea. A single additional species identified as a conservation priority, the Chinese Crocodile Lizard (*Shinisaurus crocodilurus*) was assessed, reviewed and submitted to the Red List in 2014.

In total, 160 snakes and lizards were added to the Red List this year, in addition to 84 species of chameleon. The latter comprised the majority of outstanding species in this taxonomic group, and the Snake and Lizard Red List Authority Coordinator worked closely with the Chameleon Specialist Group to support these assessments.

Additional activities included the completion of most reptile assessments for the Horn of Africa, which are now in review for publication in 2015 and, in November, the creation of a new regional subgroup as part of the RLA's efforts to improve the geographical coverage of its expertise. This new South African Regional Reptile Specialist Group, headed by Regional Coordinator Krystal Tolley, has already added 15 members to the RLA and will be responsible for keeping the South African reptile assessments, currently in review for the Global Red List, updated.

Future goals/activities

As the Global Reptile Assessment draws nearer to completion, finalizing the global species list in 2015 is a RLA priority, as is completing the review and submission process for outstanding assessments from South America and Africa, as well as those emerging from workshops to be held in 2015. The South African Regional Reptile Specialist Group has developed a detailed timeline for future activities, with a key goal in 2015 to update the taxonomy and confirm the accuracy of national geodatabase records for reptile species.

Acknowledgements

The Snake and Lizard Red List Authority would like to thank Environment Abu Dhabi for its ongoing, generous support for the Global Reptile Assessment, and the South African National Biodiversity Institute (SANBI) for its support of the South African Regional Reptile Specialist Group.

Broad-headed Woodlizard (*Enyalioides laticeps*), Not Evaluated. © Phil Bowles

Tortoise and Freshwater Turtle Specialist Group

Co-Chairs: Brian D. Horne and Peter Paul van Dijk
Red List Authority Coordinator: Anders G.J. Rhodin
Location/affiliation: Brian Horne is affiliated with the Wildlife Conservation Society in New York, NY, and San Diego, CA, USA, Peter Paul is affiliated with Conservation International, Arlington, VA, USA.
Number of members: 296 members from 51 countries


Brian D. Horne


Peter Paul van Dijk

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 and subspecies of tortoises and freshwater turtles, and to help catalyse conservation action to ensure that none become extinct and that self-sustaining populations of all species persist in the wild.

Summary of main activities in 2014

The TFTSG co-convened two workshops to develop conservation strategies for top priority freshwater turtles. A workshop in April concerned the conservation of the Giant South American River Turtle (*Podocnemis expansa*), focusing on forming collaborations between investigators working in the range countries of this species and developing a distribution-wide monitoring system via standardized protocols.

In December 2014, a technical conservation strategy workshop for *Rafetus swinhoei*, a giant softshelled turtle with four known surviving individuals in China and Vietnam, was held in Hanoi, and a follow-up workshop to develop a pragmatic implementation plan is envisaged for 2015. The goals of the December workshop were to prioritize immediate actions necessary for the species conservation (e.g. the use of eDNA and artificial insemination) and to organize systematic surveys for any remaining yet to be verified animals.

We continue to work with the CITES Animals and Standing Committees, the CITES Secretariat and National Authorities to work towards eliminating unsustainable and illegal trade of tortoises and freshwater turtles, based on the best available biological and conservation status information. This includes preparing a study on making non-detriment findings for CITES-listed tortoises and freshwater turtles in international trade as authorized by CITES Res. Conf. 16.109 and administered through IUCN. We continue to engage with federal, national and state authorities to improve existing legislation and regulations, and assist authorities with identification of specimens in trade and other technical information.

We updated the annual *Checklist of Turtles of the World* and expanded it to include GIS-based digitally-produced distribution maps for all species. This global standard is freely downloadable at http://www.iucn-tftsg.org/checklist/

We continue our work to complete the Red List assessments for the remaining unlisted tortoise and freshwater turtle species and update the out-of-date assessments, including plans for a workshop in late 2015 to close the last remaining gap, Meso-America.

We were able to support TFTSG members and others to carry out conservation and research activities through a variety of means, including through the Turtle Conservation Fund, through supporting applications for turtle projects to other potential donors, and through assistance and support for members' initiatives.

The TFTSG list-serve continues its vital role of enabling TFTSG members to inform others of their progress and pose questions to help solve conservation and research challenges.

Hoge's Sideneck Turtle (*Mesoclemmys hogei*), Endangered. © Peter Paul van Dijk

Acknowledgements

Last year's activities of the TFTSG were made possible through support from Conservation International, and the Wildlife Conservation Society, the Mohamed bin Zayed Species Conservation Fund, the Panaphil Foundation, the SOS Fund of IUCN, the CITES Secretariat, and members contributing their time and expertise. Moreover, gatherings of turtle conservationists, including TFTSG leadership and members, are greatly facilitated by the Turtle Survival Alliance, the Turtle Conservancy, and the Andrew Sabin Family Foundation.

Viper Specialist Group

Chair: Christopher L. Jenkins
Deputy Chair: Stephen Spear
Red List Authority Coordinator: Johannes Penner
Programme Officer: Heidi Hall
Location/affiliation: Both the Chair and Deputy Chair are affiliated with The Orianne Society, Athens, GA, USA.
Number of members: 184

Chris Jenkins

Mission statement

The Viper Specialist Group's mission is to advance the conservation of the world's vipers. Specific objectives include: (1) bring together a global group of viper conservation biologists to facilitate communication and collaboration; (2) Complete and maintain Red List assessments for all viper species; (3) facilitate focal projects on highly endangered viper species; and (4) serve as a voice and a source of communication material for viper conservation issues and associated projects.

Summary of main activities in 2014

In 2014, the Viper Specialist Group worked to solidify our membership, increase our collective impact on viper conservation, and expand our communication efforts. Our regional coordinators worked extensively in their respective regions to increase membership. Our Red List Authority Coordinator worked with the regional coordinators to designate members of the Red List Authority from each region. Second, we began the process of determining which of the world's viper species have been assessed for the Red List. We are currently identifying regions to initiate viper focused assessments. The RLA Coordinator contributed to an IUCN document on the utilization of Asian snakes. We also developed the concept of a viper research, conservation, and education small grant program and have begun raising funding with hopes of launching the program within the next year.

We participated in multiple conferences. First, we hosted a Viper Specialist Group Session at a rattlesnake biology conference in the United States. The session included presentations from viper experts from around the world and concluded with a Viper Specialist Group meeting that was successful in adding additional members. Second, we participated in the 4th Viper Conference in Athens (Greece). Presentations on recent research covered aspects of biology and ecology of all viper species in Europe. We coordinated two round table discussions on current IUCN assessments on European vipers with the following topics: quality of available scientific information in regard to update of the assessments, possible changes of taxonomic positions of species and subspecies, proposed changes of current IUCN Red List status of the species and threats related to mass illegal export of African vipers for the pet industry. The last topic was included upon request of Viper Specialist Group members engaged in reptile keeping in Zoos and specialized institutions. The questionnaires for changes of IUCN Red List species status were shared among participants and later among the entire European region of the Viper Specialist Group in order to collect as much relevant data for new assessment as possible.

We continued to develop focal projects. The Viper Specialist Group in partnership with the Orianne Society and the Mohamed bin Zayed Species Conservation Fund continued efforts to document the distribution of the Black-headed Bushmaster (*Lachesis melanocephala*) in Costa Rica. Multiple expeditions in the field and a network of local contacts has only yielded a few observations suggesting that this may be one of the rarest vipers in the world and we need to reassess its status on the Red List. In addition, the European Regional Coordinator is developing focal projects on two species, *Vipera ursinii graeca* and *V. ursinii moldavica*. Our North Africa/West Asia Coordinator has been conducting surveys for the very rare Persian Horned Viper (*Pseudocerastes p. persicus*) but they have not successfully documented their occurrence. Finally, we have increased our communication and outreach efforts by improving our Facebook page and launching our newsletter.

Future goals/activities

Our future goal is to continue to grow our membership and increase our impact on viper conservation. Specifically, we will continue our outreach efforts through our regional coordinators, social media, and newsletter to increase our membership and promote conservation. We plan to finalize our prioritization of regions for viper status assessments and begin the process of implementing assessments with the ultimate goal of having all the world's vipers assessed. We also plan to solidify a funding source for our small grants program. We hope to award a $5,000 to $10,000 grant annually. Finally, we plan to expand our focal initiatives to include projects in each region.

Yellow-blotched Palm Pit Viper (*Bothriechis aurifer*), Vulnerable. © Pete Oxford

Bird Red List Authority: BirdLife International

Red List Authority Coordinator: Andy Symes
Location/affiliation: The RLA Coordinator is based at the BirdLife International Global Secretariat, Cambridge, UK.
Number of members: 184

Andy Symes

Mission statement
BirdLife International is the world's largest nature conservation Partnership. Together we are 120 BirdLife Partners worldwide – one per country – and growing. We are driven by our belief that local people, working for nature in their own places but connected nationally and internationally through our global Partnership, are the key to sustaining all life on this planet. This unique local-to-global approach delivers high impact and long-term conservation for the benefit of nature and people.

BirdLife is widely recognized as the world leader in bird conservation. Rigorous science informed by practical feedback from projects on the ground in important sites and habitats enables us to implement successful conservation programmes for birds and all nature.

We believe that our actions are providing both practical and sustainable solutions significantly benefiting nature and people.

Summary of main activities in 2014
In July, BirdLife completed the 2014 Red List update for birds, including status reviews prompted by the availability of new information, via discussions on BirdLife's Globally Threatened Bird Forums. Input to the forum process was received from many contributors, including BirdLife Partners and other ornithological and conservation experts. The assessment concluded that 1,373 species (13% of extant species, or one in eight) are globally threatened with extinction. Of these, 213 species – an all-time high – are considered Critically Endangered.

The launch of the Red List coincided with the publication of the first instalment of a two-volume *Illustrated Checklist of the Birds of the World*. To maintain a scientifically credible taxonomic basis for BirdLife's work on species, we have spent the past few years collaborating with Lynx Edicions by carrying out taxonomic research and providing improved species range maps to allow the publication of the *HBW and BirdLife Illustrated Checklist of the Birds of the World*. This collaboration bore its first fruit in August 2014, when Volume 1 (covering non-passerines) was published, to wide acclaim. This Checklist is the first such book to include illustrations and range maps for all species, and we invested a lot of work in updating the maps for existing species, and in producing new maps for the 361 newly recognized (i.e. split) species. These changes have had a significant impact on the Red List and will influence bird conservation priorities across the world. More than 25% of these newly recognized bird species have been listed as threatened on the IUCN Red List, making them urgent priorities for conservation action. In the case of the Blue-bearded Helmetcrest (*Oxypogon cyanolaemus*), a beautiful hummingbird

Somali Ostrich (*Struthio molybdophanes*), Vulnerable. © Peter Steward

from Colombia, it may already be too late, as the species has not been seen for nearly 70 years. Following the launch, we advocated successfully for the adoption of the Checklist as the standard reference on bird taxonomy and nomenclature for use by the Convention on Migratory Species (CMS), for its appendices, and by the European Union, for its revised list of birds covered by the Birds Directive.

The 2014 assessment also raised the importance of several threatened bird hotspots. Many of the newly recognized species are found in South-East Asia, where biodiversity is highly threatened. Parts of this region have already been identified as globally important areas of endemism. Some have now been shown to host even more unique species than previously thought, including the Indonesian islands of Talaud and Sangihe, and parts of the Philippine archipelago, such as the island of Cebu.

Aside from the Red List, BirdLife Science highlights in 2014 included the launch of *Important Bird and Biodiversity Areas: a global network for conserving nature and benefiting people*, synthesising four decades of pioneering conservation work on IBAs, at the World Parks Congress. We also launched the IBAs in Danger initiative to identify those sites in most immediate need of conservation action. The 2014 *IBAs in Danger* list includes 356 sites in 122 countries worldwide – roughly 3% of all IBAs. All face intense threats and need urgent attention. To raise awareness of these sites a leaflet was also launched at the World Parks Congress.

In October, Global Biodiversity Outlook 4, the flagship report of the Convention on Biological Diversity, was launched. Overall, one third of the 55 indicators used were based on the BirdLife Partnership's data. The report was underpinned by a BirdLife-coauthored study published in *Science* showing that, despite some progress, much more needs to be done to reach the internationally agreed set of 'Aichi' biodiversity targets by 2020. BirdLife's data and indicators based on IBAs were also profiled in the *2014 Protected Planet Report*, published by UNEP-WCMC. In addition, indices based on the IUCN Red List for birds and the protected area coverage of IBAs were used in the *Millennium Development Goals Report 2014*, to assess progress to achieving the United Nations 2015 goals.

We also contributed to published papers on a number of topics including: targeting global protected area expansion for imperilled biodiversity, prioritizing islands for the eradication of invasive vertebrates in UK overseas territories, using the IUCN Red List Index to evaluate institution-level conservation impacts, trends in the global conservation status of vertebrates, preventing species extinctions resulting from climate change, and addressing challenges to monitoring progress towards the Aichi biodiversity targets.

Future goals/activities

Those listed are those most directly relevant to BirdLife's role as bird RLA: (1) support the completion of the European Red List of Birds, ensuring that the global implications are reflected in the global 2015 IUCN Red List update, scheduled for release in November 2015; (2) continue work on Volume 2 (passerines) of the HBW-BirdLife Checklist, which is scheduled for completion in 2016. As with Volume 1, this work involves establishing the Red List status and mapping the ranges of hundreds of newly recognized (especially split) species; and (3) start work on the comprehensive 2016 IUCN Red List update, which will involve reviewing the global status of all c. 11,000 bird species, and especially those of global conservation concern.

Acknowledgements

BirdLife wishes to acknowledge and thank its Founder Patrons, the Aage V. Jensen Charity Foundation and Tasso Leventis Foundation, and all BirdLife Species Champions. We would also like to thank all those who have contributed information to the bird Red List assessments and via the Globally Threatened Bird Forums (www.birdlife.org/globally-threatened-bird-forums).

Bustard Specialist Group

Chair: Nigel Collar
Location/affiliation: The Chair is based in Cambridge, UK, and is affiliated with BirdLife International.
Number of members: 16

Nigel Collar

Mission statement

The mission of the Bustard Specialist Group is to advise on, support and contribute to the conservation of the three highly threatened bustards in the Indian subcontinent and Cambodia.

Summary of main activities in 2014

Great Indian Bustard (*Ardeotis nigriceps*): The Chairman attended a workshop convened by the Government of India in January 2014 where it was decided, against his advice, to commit to a captive-breeding programme for the species. Despite dissenting from this decision, the Group has sought to offer support to the Government of India in pursuit of the optimal conditions for such a programme, and member Keith M. Scotland, who also attended this workshop, has revisited India to inspect proposed facilities and advise on design and protocols. The Chairman visited India in December 2014 and travelled to Rajasthan to confer over the needs for *in situ* conservation in the state (the only one with a viable remaining population). This has led to the development of a set of plans for rapid improvement of conditions in the wild in order to begin to increase breeding success in future years. Funding applications have been filed to support this work, an outline of which will be published in the course of 2015.

Bengal Florican (*Houbaropsis bengalensis*) in India: The Chairman visited Assam in December 2014 and consulted with Namita Brahma of Aaranyak, who studies the species in Manas National Park. Together a plan was developed for an important initial piece of work to secure the long-term preservation of a 10 km^2 tract of farmland adjacent to the park on which some 15 male Bengal Floricans display each year. This land is at risk from agricultural intensification. Funding applications have been filed to support this work.

Bengal Florican in Cambodia: The Chairman has liaised closely with the Wildlife Conservation Society (WCS) about plans it is developing for further research and conservation work on the species at the Tonle Sap. These plans are taking shape slowly.

Lesser Florican (*Sypheotides indica*): No specific progress has been made by the Chairman in supporting efforts to conserve this species in India, but contacts have been established with key figures working in this cause.

Future goals/activities

Work closely with members in Rajasthan to ensure total fulfilment of the recovery plan for the Great Indian Bustard in the state; work closely with Indian conservationists in Assam to achieve further land protection at Manas and to expand activities to other key reserves; share responsibility with WCS for developing and implementing a research and conservation plan for the Bengal Florican in Cambodia; build a constituency of Indian conservationists working to save the Lesser Florican and develop a set of practical, fundable goals to meet over the next five years.

Lesser Florican (*Sypheotides indicus*), Endangered. © Bhardwaj

Cormorant Specialist Group

Co-Chairs: Mennobart van Eerden and Rosemarie Parz-Gollner
Location/affiliation: Mennobart is affiliated with Rijkswaterstaat, Min. Infrastructure, Water & Environment, Lelystad, the Netherlands, Rosemarie is based in Vienna, Austria
Number of members: 350

Mennobart van Eerden

Mission statement

Funded in 1993, the Cormorant Research Group (CRG) is a Specialist Group from IUCN and Wetlands International. At the moment our active membership comprises 350 people, mostly from Europe. Its main aim is to provide a platform for people interested in cormorants, shags and darters. We facilitate the exchange of information on both ecology and biology of the different species of cormorants worldwide and on the relationship between cormorants and human interests.

Some cormorant and shag species are vulnerable because of specialized feeding habits or changing conditions due to fish abundance, climate change or predators and need special attention and protection, a big contrast to the ongoing discussion about damage to fish stocks and other human interests which prevails in Europe, North America, Canada and Japan.

Summary of main activities in 2014

The Group participates in the EU-funded projects of CorMan and CormoDist. CorMan intends to focus in the size and distribution of breeding Cormorants in Europe and CormoDist studies the European migration patterns. The projects deal mainly with the continental sub-species *Ph. c. sinensis*. The work is led by Thomas Bregnballe from Aarhus University (DK) but other institutions, researchers and key cormorant ringers are involved to varying extents. For details, see the newsletters of the CRG.

We continue to manage the database which records the developments of the European breeding numbers of the Great Cormorant. The Pan European colony count in the breeding season of 2012 was published and can be downloaded in full at: http://tinyurl.com/qjkd45b

All five INTERCAFE reports are out and have been printed by the end of 2014. Findings from this major Europe-wide study into cormorant-fishery conflicts involving Great Cormorants (*Phalacrocorax carbo*) have been published, providing one of the most detailed ecological and socio-economic investigations of these fish-eating birds, their impacts and implications for their management. The five reports are available in PDF at our website http://cormorants.freehostia.com/index.htm. For further information contact David Carss at dnc@ceh.ac.uk

The Group organized the 9th International Conference on Cormorants in Osijek, Croatia 23–27 April 2014, at which some 45 specialists contributed. The meeting was organized together with the Croatian Society for Bird and Nature Protection.

Our website was kept updated and the coordination of colour-ringing projects within Europe was continued.

Future goals/activities

Besides Europe we would like to extend our network into Australasia, Africa and the Americas. For this we need regional officers who could further extend the network and help to set-up a database of population counts, with a priority and focus on the species with a vulnerable or endangered status. If you are interested please contact Mennobart at: freebirders@kpnmail.nl

A lot of scientific knowledge that was gathered on Cormorants during the last ten years in various projects will be put together in a special issue of the scientific journal Ardea, to appear in 2016.

The next volume of the CRG bulletin will be digitally available and includes abstracts and extended abstracts from all oral and poster presentations of the International Cormorant Research Group meeting in Osijek, Croatia, held in April 2014.

Acknowledgements

The continuous support by volunteers is basic to our achievements. Thanks to all of those who contributed in some way or another! The participation in the EU-funded projects of INTERCAFE, CorMan and CormoDist guaranteed us to carry out Europe-wide counts of both breeding and wintering Great Cormorants, as well as to extend the network and achieve additional scientific knowledge.

Double-Crested Cormorant (*Phalacrocorax auritus*), Least Concern. © Linda Tanner CC BY-NC-ND 2.0

Crane Specialist Group

Chair: James Harris
Vice-Chair: George Archibald
Programme Officer: Claire Mirande
Location/affiliation: Harris is based in Harbin, China. Archibald and Mirande are based in Baraboo, Wisconsin, USA. All three of us are affiliated with the International Crane Foundation, Baraboo, Wisconsin, USA.
Number of members: 328

Jim Harris

Mission statement

The Crane Specialist Group promotes the study and conservation of the world's 15 crane species and the ecosystems on which cranes depend.

Our vision: all 15 crane species are stable or increasing over the long term, living in harmony with people with mutual benefits from the ecosystems upon which cranes and people depend.

Summary of main activities in 2014

Publication of 'Eurasian Cranes and Climate Change: Will Short Term Gains be Followed by Long Term Loss?'
This 22-page document summarizes what we know about impacts of climate change on this second most abundant crane species. This publication aims to stimulate more efforts at climate change adaptation, research to fill knowledge gaps, and similar investigations for other crane species. Thirty-one specialists contributed from across Europe and Asia.

Expansion of the Crane and Power Lines Network, with drafting of white paper
Overhead power lines are a significant global threat affecting 12 crane species. Our Cranes and Power Lines Network, established at the end of 2012, has expanded its membership and geographic representation in 2014 (now over 20 members from four continents) through presentations at three regional crane workshops. The network shares lessons, develops capacity, pools resources, and accelerates collective learning towards innovative solutions to mitigate impact on threatened cranes. The network has drafted a briefing document detailing: baseline information on collisions; hotspots, processes to address impacts; and a list of research and mitigation needs. If you are interested in participating, please contact Megan Diamond megan@feathersenv.co.za.

Red-crowned Crane (*Grus japonensis*), Endangered. © Wang Keju

Handbook on Cranes and Agriculture
In 2014, we completed a draft of this practical guide to helping managers and conservation practitioners apply best practice to integrate needs of cranes with farmers and herdsmen, reduce conflicts, and develop more effective solutions. By summarizing current knowledge in 10 chapters and 14 case studies, the publication also aims to stimulate new research and innovative solutions.

Addressing urgent threats
The Crane SG continues to follow threats highlighted in the last annual report. We have closely monitored the condition of waterbirds and wetlands at Poyang Lake in the mid Yangtze Basin of China, with the largest population of wintering waterbirds in East Asia, maintaining regular contact with conservation authorities and the office in charge of the proposed water structure for the outlet to Poyang. An interdisciplinary process is underway to develop a waterbird and wetland management and monitoring plan for the sub lakes within Poyang Lake National Nature Reserve, to enhance biodiversity values of these key crane habitats while maintaining fisheries benefits for local people.

We continue efforts focused on domestic and international trade that poses a major threat to Grey Crowned and Black Crowned Cranes of Africa. Under auspices of the African – Eurasian Waterbird Agreement (AEWA), we are working with the range states to develop a Single Species Action Plan for Grey Crowned Cranes; this plan addresses impacts of illegal crane trade. We are preparing to conduct a similar process for Black Crowned Cranes in 2016.

Preparation of a global Crane Conservation Strategy
A large number of Crane SG members have been involved in preparing the 15 species assessments, range maps, and threat assessments for a Crane Conservation Strategy being developed by the Crane SG; these materials are now under review. This strategy will be the first global update of conservation planning for the entire family of cranes since the 1996 IUCN publication.

Meeting of the Crane SG Steering Committee
The Steering Committee and a small number of other specialists (18 people from 13 countries including 10 of 11 Steering Committee members) gathered for three long days in Germany in November 2014. This workshop provided committee members opportunity to discuss directions for the Crane SG. We achieved our main tasks to review key sections of the Crane Conservation Strategy and to draft the Vision, Objectives, and many of the Actions.

Single species plans and networks: in addition to plans for the crowned cranes, a Biodiversity Management Plan is under preparation for South African cranes (which will cover almost the entire world population of the threatened Blue Crane).

The Black-necked Crane Network held its third annual meeting near the species' breeding grounds in Qinghai, China, with 50 managers and specialists attending. The Crane SG helped arrange the annual meeting of the International Red-crowned Crane Council held in Panjin, China.

Web resources: we posted 26 updates on cranes and Crane SG member activities on Global Crane News in 2014 (http://www.savingcranes.org/crane-specialists.html). We are using the new IUCN Crane SG Portal to share information and update the Crane Conservation Strategy.

Future goals/activities
(1) Complete and send the Crane Conservation Strategy to IUCN for review; (2) Complete, publish and disseminate the booklet, *Cranes and Agriculture*; (3) Complete and secure endorsement of the Single Species Action Plan for Grey Crowned Cranes at the Meeting of Parties for AEWA; (4) Using the Open Standards/Miradi process, complete a Conservation Plan for the eastern population of Siberian Cranes and secure funding for the first year of implementation; (5) Develop an International White-naped and Hooded Crane Network and hold its first meeting in Faku County, China.

Acknowledgements
Weltvogelpark Walsrode in Germany supported food, lodging, and other local expenses for the meeting of the Crane SG Steering Committee as well as international travel for six participants. The International Crane Foundation supported international travel, salaries of the Chair, Vice-Chair and Programme Officer, publication costs, and communications and office expenses.

Diver/Loon Specialist Group

Chair: Neil M. Burgess
Location/affiliation: The Chair is based in Mount Pearl, Newfoundland & Labrador, Canada. He is affiliated with the Wildlife & Landscape Science Directorate of Environment Canada.
Number of members: over 2,000

Neil Burgess

Mission statement

Diver/Loon Specialist Group (DLSG) is an association of amateurs and professionals from all parts of the world interested in divers/loons. Our objectives are to: (1) Provide an international network of experts on the world's divers/loons; (2) Stimulate, coordinate and promote diver/loon research and information exchange world-wide; and (3) Provide research information and advice to Wetlands International/IUCN SSC and others in support of promoting the conservation management and wise use of divers/loons and their habitats.

Summary of main activities in 2014

In 2014, Dr Joseph Kerekes wrapped up many years as Chair of the Diver/Loon Specialist Group and handed the reins to Neil Burgess, who also studies common loons in eastern Canada. Neil looks forward to meeting the many members of this group over the coming years.

In October 2014, more than 130 North American loon researchers, managers and enthusiasts gathered at the Sigurd Olsen Environmental Institute at Northland College in Ashland, Wisconsin, USA for the North American Loon Symposium. Presentations were made by 27 leading loon scientists on topics including threats and concerns affecting loon populations; status of Common, Red-throated and Yellow-billed Loon populations and monitoring efforts in various jurisdictions; loon banding, satellite tagging and migration; loon mortality, parasites and disease; loon vocalizations and behaviour, and citizen science. Working groups were set up to continue the dialogue on: a) Research Directions and Conservation Strategies; and b) Citizen Science and Monitoring. Keynote presentations were made by Dr Michael Meyer on recent advances in loon research and Dr Judy McIntyre on her long career studying Common Loons.

More information on the presentations and presenters can be found at: http://www.northland.edu/loonsymposium.htm

Future goals/activities

(1) To increase the flow of information and advice on diver/loon research, monitoring, assessment and management to members around the world, Wetlands International and IUCN SSC; (2) To raise awareness of the impacts of human development and activities on diver/loon populations and habitats, and improve the management of those impacts; (3) To raise awareness of diver/loon symposia, workshops and meetings; and (4) To facilitate international collaboration among members in diver/loon research, monitoring, assessment and management.

Great Northern Loon (*Gavia immer*), Least Concern. © Neil Burgess

Duck Specialist Group

Chair: Richard Hearn
Location/affiliation: The Chair is based in Slimbridge, Gloucestershire, UK and is affiliated with the Wildfowl & Wetlands Trust.
Number of members: 169 in 38 countries

Richard Hearn

Mission statement

The Duck Specialist Group (DSG) network works to generate and disseminate knowledge and best practice between members and others with an interest in duck conservation and management, and to ensure priority issues for duck conservation are identified and addressed.

Summary of main activities in 2014

During 2014, a new Duck Specialist Group (DSG) website was developed – www.ducksg.org. Launched in July 2014, this marks a significant improvement in the profile of and communication from the DSG. Its current use has primarily been to spread news among DSG members, which has proven to be highly used and appreciated. In future, it will continue to be developed such that it also becomes an increasingly useful repository of duck conservation resources.

The DSG network supported a number of key conservation activities during 2014. An Action Plan for the Critically Endangered Baer's Pochard (*Aythya baeri*) was prepared and submitted to the Meeting of Parties of the East Asian-Australasian Flyway Partnership. The Plan was approved at that meeting and a Baer's Pochard Task Force established to drive forwards the implementation of the Plan. In relation to the management of the global captive stock of Baer's Pochard, an analysis of *Aythya* and *Netta* genetics was initiated in collaboration with Cardiff University (UK); this was supported by many DSG members and is expected to be concluded in 2015.

An Action Plan for the Vulnerable Long-tailed Duck (*Clangula hyemalis*) was also prepared and submitted to the African-Eurasian Waterbird Agreement (AEWA). This Plan is currently under consultation and will be adopted at the AEWA Meeting of Parties in November 2015.

A focus on other European seaduck conservation activities was also undertaken. The DSG's European Seaduck Working Group (ESWG) held a workshop in November to discuss the strategic priorities for improving the monitoring of European seaduck populations. This will lead to a strategic document outlining the priorities for developing a comprehensive and well coordinated network undertaking this monitoring by 2020.

The DSG also collaborated with the Waterbird Harvest Specialist Group in the production of guidelines for the sustainable management of huntable waterbirds (including many ducks) in the European Union.

Dr Matthieu Guillemain was appointed as the Regional Coordinator for Europe. Matthieu is a leading duck biologist in Europe and ideally placed to bridge the research, hunting and conservation communities there. He joins Diana Solovyeva (RC, North Asia) and Doug Harebottle (RC, Africa) on the DSG Steering Committee. The Group successfully raised €6,000 in late 2014 to support the attendance by students and key DSG members of the 4th Pan-European Duck Symposium, to be held in April 2015.

Future goals/activities

Asia is the priority region for duck conservation and will remain the principal focus. In addition to ongoing activities on known threatened species, two other key areas are particularly important: (1) undertake a status and threat assessment of all Asian duck populations; and (2) develop activities to alleviate the threat from unsustainable harvesting of ducks, particularly from poisoning, egg collection and other illegal methods that are currently carried out extensively in China.

Other priority issues and work areas are: (1) European seaduck conservation; (2) flyway mapping and delineation in Eurasia and South America; and (3) improving the International Waterbird Census in priority regions.

Acknowledgements

Funding was received from *Federation of Associations for Hunting and Conservation of the EU (FACE),* the *Agreement on the Conservation of African-Eurasian Migratory Waterbirds (AEWA)* and *Fondation Tour du Valat*. In kind support was received from *Institute of Biological Problems of the North*, *Office National de la Chasse et de la Faune Sauvage*, *University of Cape Town (Animal Demography Unit)*, *University of the Western Cape*, and the *Wildfowl & Wetlands Trust*.

Long-tailed Duck (*Clangula hyemalis*), Vulnerable. © John Anderson

Flamingo Specialist Group

Chair: Rebecca Lee
Location/affiliation: The Flamingo Specialist Group is coordinated by the Wildfowl & Wetlands Trust (WWT), Slimbridge, Glos. GL2 7BT, United Kingdom.
Number of members: 191

Rebecca Lee

Mission statement

The FSG mission is to actively promote the study, monitoring, management and conservation of the world's six flamingo species by: (1) Developing and maintaining an active and comprehensive international network of flamingo specialists; (2) Stimulating and supporting information exchange between specialists; (3) Taking a leadership role in the development and implementation of conservation action plans; (4) Taking a leadership role in promoting innovative conservation approaches; and (5) Providing information and technical advice in support of the programmes of Wetlands International, IUCN SSC, BirdLife International, Ramsar and others that promote the conservation of flamingos and their habitats.

Summary of main activities in 2014

Third International Flamingo Symposium
From 5–9 October 2014, scientists and managers from around the world gathered in San Diego, US, at the 3rd International Flamingo Symposium to present their findings and discuss future research directions and conservation of flamingos. Such gatherings do not occur frequently; the 2nd symposium took place in 1998 in Miami, US, and the 1st in 1973 at WWT Slimbridge, UK. The 3rd symposium, hosted by Sea World San Diego and organized by Laurie Conrad (the FSG's *Ex situ* Coordinator for North America) and other FSG members, brought together over 100 flamingo specialists from 18 countries doing research and conservation in the field on wild populations, as well as zookeepers and captive collection managers.

The symposium programme opened with a Keynote Address by Dr Onnie Byers, Chair of the IUCN SSC Conservation Breeding SG, where she promoted integrated species conservation planning, considering all populations, whether *in situ* or *ex situ*. Over two days there were 35 presentations and 20 posters on all aspects of research, management and conservation of the six flamingo species, from the effects of climate change on wetlands in Africa, the economic value of flamingos for the tourism industry in Mexico, the evolutionary relationships of flamingos to encouraging flamingo breeding in captivity and how to best transport flamingo eggs. On the third day, participants gathered in workshops and round-table discussions on research techniques and collection management.

One goal of the symposium was to increase collaborations among people working on wild populations and habitats, and the international zoo community. In this regard the symposium was extremely successful in that collaborations were immediately catalysed, with several zoos pledging support for field research and conservation projects. The FSG announced the establishment of the FSG Small Grants Fund to support field-based conservation projects, and the International Flamingo Foundation announced the establishment of the Brooks Childress Memorial Award that will honour groups or individuals who have made significant contributions to advancing flamingo conservation.

Two regional workshops were held in conjunction with the symposium. On 5 October, a meeting with representatives from 11 countries in Africa, organized by Cathy King of Weltvogelpark Walsrode (the FSG's *Ex situ* Coordinator for Europe), was held to discuss priorities for the Lesser Flamingo. The group identified the need to conduct a comprehensive, simultaneous survey to obtain reliable population estimates and discussed survey methods for such a census. Because 75% of the world's Lesser Flamingos breed at Lake Natron, which continues to be under threat, monitoring and ensuring its conservation is also a priority. Furthermore threats and actions that were included in the 2008 Lesser Flamingo Single Species Action plan were reviewed and adjusted.

The 6th West-African and Mediterranean Greater Flamingo Network held their 6th regional workshop on 9 October, organized by Arnaud Béchet of Tour du Valat (the FSG's Eastern Hemisphere Coordinator). The meeting gathered partners of the network coming from Tunisia, Mauritania, Italy, Spain and France together with guests from the

Lesser Flamingos (*Phoeniconaias minor*), Near Threatened. © James Lees/WWT

symposium. The workshop discussed conservation issues at national sites and current problems such as PVC ring losses, negative trends in resightings from some Mediterranean countries, hybridization with alien flamingo species, and other issues. A project on MHC and microbiome diversity in the Greater Flamingo was also introduced.

Fifth International Simultaneous Census of flamingos in South America
The FSG's Western Hemisphere Coordinator, Dr Felicity Arengo, participated in the Fifth International Simultaneous Census of flamingos in South America in February 2015 which is coordinated by the Grupo Conservación Flamencos Altoandinos (GCFA). The census includes a comprehensive survey of wetlands throughout the distribution range of both of the High Andes species, the Andean and Puna Flamingos, in Argentina, Bolivia, Chile and Peru. Preliminary results will be available soon.

Appointment of a Communications Coordinator
The FSG appointed a Communications Coordinator, Paul Rose (WWT Associate Researcher and PhD student for Exeter University), who will be responsible for social media and other communications tasks. The FSG has active Facebook and Twitter accounts with 1,624 and 470 followers, respectively.

Small Grants Fund
Financial and legal issues surrounding the FSG establishing a Small Grants Fund have been resolved and the fund is due to be launched in April 2014.

Future goals/activities
(1) Launch the FSG Small Grants Fund and fundraise for future years; (2) Publish *Flamingo 19*, bulletin of the FSG; (3) Publish proceedings of the Third International Flamingo Symposium; (4) Conduct a survey of FSG membership expertise; (5) Report on the results of the Fifth International Simultaneous Census of flamingos in South America; and (6) Re-establish an FSG website and continue social media activity.

Acknowledgements
The Third International Flamingo Symposium was hosted by Sea World San Diego, organized and sponsored by Sea World San Diego, the Center for Biodiversity and Conservation at the American Museum of Natural History, Weltvogelpark Walsrode, Tour du Valat and the Wildfowl & Wetlands Trust. Financial support was provided by the International Flamingo Foundation and over 20 organizations and individuals.

Galliformes Specialist Group

Co-Chairs: Peter Garson and Ilse Storch
Location/affiliation: Peter is based in SW Scotland in the UK. He is affiliated with the School of Biology at Newcastle University. Ilse is based in Freiburg in Germany. She is affiliated with the Department of Wildlife Ecology and Management at the University of Freiburg.
Number of members: 263

Peter Garson and Ilse Storch

Mission statement

(1) To prioritise and encourage conservation-related research and scientifically robust action, especially for our 77 threatened species (23% of total); (2) To operate review and mentoring processes to assist researchers and managers in project development, implementation, and publication; and (3) To encourage technology transfer and local capacity building through international networking, study visits and joint working.

Summary of main activities in 2014

Having changed our constitution to become fully independent of an NGO with some common concerns (World Pheasant Association), we have redefined our main roles. Communication and networking remain crucial. Our website (http://www.galliformes-sg.org/gsgindex.html) carries all our twice-yearly newsletters – *G@llinformed*, *Grouse News* and *Cracid News* – as our window for the wider conservation world. Active researchers and managers trying to deal with problems faced by our threatened species benefit through constructive engagement with experienced and technically expert members in our large group spread across North and South America, Asia and Europe. Mentoring is arranged whenever possible, right from proposal writing to journal manuscript preparation. Our threatened species (one EW, nine CR, 20 EN, 47 VU), and especially our 'top ten' including seven South American cracids, remain the focus of our attention. Whenever the situation suits, we are identifying 'species champions' to focus our efforts. A review of the status of 57 species native to SE Asia revealed how little we knew about their specific threats and ecological requirements. We are also lacking systematic information on recent or current conservation actions (mainly in PAs) that may be benefiting them, although aimed primarily at improving ecosystem function or conserving keystone and charismatic species.

Future goals/activities

Our coverage of Africa, in terms of membership and species knowledge, still remains a significant challenge. We want to encourage more international partnerships to raise funds for projects, transfer technology, and build local capacity, especially through exchange visits. Members are organizing a session on Tinamiformes and Neotropical Galliformes at the Neotropical Ornithological Congress (Brazil, July 2015), and the 13th International Grouse Symposium (Iceland, September 2015).

Where there are uncertainties or disputes about the best way forward for seriously threatened species (i.e. EN or worse) on the ground, we will promote the use of the SSC's Strategic Planning for Species Conservation framework.

Acknowledgements

We are a volunteer self-help network and thank all our members and their institutions for supporting our goals and implementing projects worldwide. We thank the members of our Co-Chairs' Advisory Board for all their advice and assistance, and our webmaster and newsletter editors for their work in bringing galliform matters to the world's attention.

Alagoas Curassow (*Mitu mitu*), Extinct in the Wild. © Luis Fabio Silveira

Goose Specialist Group

Co-Chairs: Barwolt S. Ebbinge and Petr M. Glazov
Location/affiliation: Barwolt S. Ebbinge, retired senior researcher of the Dutch institute Alterra Wageningen UR, is currently based in Wijk bij Duurstede, the Netherlands. Petr M. Glazov, researcher, is based in Moscow, Russia and is affiliated with the Institute of Geography Russian Academy of Sciences.
Number of members: 624

Barwolt S. Ebbinge and Petr M. Glazov

Mission statement
The Goose Specialist Group (GSG) of IUCN's Species Survival Commission and Wetlands International seeks to strengthen contacts between all researchers on migratory goose populations in the northern hemisphere. Apart from regular meetings, a digital newsletter "Goose Bulletin" is prepared twice a year. See http://www.geese.org/gsg/.

Summary of main activities in 2014
In 2014, the 16th meeting of the GSG was held from 22–25 November in Beijing, China. The meeting attracted 166 delegates from 15 different countries and it was the third meeting of the Goose Specialist Group in Asia (Matsushima, Japan in 1999 and Ladakh, India in 2008).

Apart from the host country, China (represented by 77 participants), 49 delegates attended the meeting from 14 other countries, including the Russian Federation (11), Mongolia (three), Japan (five), South Korea (one), India (one), Australia (one), USA (one), England (two), Denmark (one), Norway (two), the Netherlands (six), Belgium (three), Finland (one) and Germany (one).

The meeting was very well organized on behalf of the GSG by the team of Prof. Cao Lei from Research Center for Eco-Environmental Sciences of the Chinese Academy of Sciences (RCEES).

Although most goose populations in North America and Europe are thriving, and in the case of some species, are even considered to be "too numerous", in China, goose populations have seriously declined, which is therefore a matter of concern. An impressive photo exhibition on the theme of "waterbirds and wetlands" illustrated the wealth of waterbird species in East Asia.

During the three days of the conference, delegates listened to 43 oral presentations in English, one in Mongolian and one in Chinese, together with seven poster presentations. These presentations illustrated our current knowledge of goose populations in East Asia as well as highlighting our knowledge gaps, and how to fill these gaps with new research and new research techniques, including logging devices combined with triaxial accelerometers that both track the geese in space and time and simultaneously record their behaviour throughout the annual cycle.

Red-breasted Goose (*Branta ruficollis*), Endangered. © P.M. Glazov

To make an inventory of the technical problems that can occur with the increased and fascinating use of transmitters and loggers to study bird migration, Thomas Lameris and Petr Glazov initiated a special working group, to share the current knowledge on tagging of geese, and to create a platform for good tagging practices, such as the use of backpacks, implanted transmitters, neck-collars or legbands.

Further subjects covered in the programme included the degree to which migratory geese are involved in spreading avian influenza, impacts of climate change on the breeding success of Swan Geese, poaching with nets and poison, the role of ecotourism and the status of various East Asian goose populations (notably Swan Geese, Bar-headed Geese, Bean Geese, White-fronted Geese and Lesser White-fronted Geese) were discussed at length.

It was also encouraging to note the results of good cooperation between Chinese universities and the universities in Aarhus (DK) and Wageningen (NL) studying goose behaviour on Chinese wintering grounds.

Judit Szabo from the East Asian-Australasian Flyway Partnership, Liying Su from the International Crane Foundation, Nina Mikander from the African Eurasian migratory Waterbird Agreement (AEWA) and Peter Prokosch with his new project "Linking tourism and conservation" (http://www.ltandc.org/) all contributed their experiences of working in partnerships and their ideas for the future of fruitful group discussions.

Petr M. Glazov from Moscow was appointed as Co-Chair of the GSG. He is a very active goose researcher, and a regular attendant of the GSG-meetings.

After the conference a field trip to the largest freshwater lake in China, Poyang Lake, was organized. Here the participants witnessed no less than four different species of cranes (Siberian Crane, White-naped Crane, Hooded Crane and Eurasian Crane), hundreds of Greater White-fronted Geese, several thousands of Eastern Tundra Bean Geese (*Anser fabalis serrirostris*), hundreds of just arrived Swan Geese, thousands of Oriental Storks, hundreds of Eurasian Spoonbills, over 10,000 Tundra Swans feeding on *Vallisneria*, 800 roosting Night Herons, tens of thousands of Little Grebes and similar numbers of Spotted Redshank, by far the most common wader species around this impressive lake, though also hundreds of Lapwings were observed.

It was impressive to see how many arctic-nesting wild birds can spend the winter undisturbed on this protected wetland in a fast developing country like China with an excellent infrastructure of roads and airports.

Future goals/activities

Next meeting: Yevgeniy Syroechkovskiy and Sofia Rozenfeld invited the GSG to hold the 17th meeting in November/December 2015 in Salekhard, Russia jointly with the Russian Goose, Swan and Duck Study Group of Northern Eurasia. This invitation was unanimously accepted.

The Organizing Committee of the conference "Waterfowl of Northern Eurasia: Research, conservation, and sustainable use" has created a special website with information on the conference http://onlinereg.ru/Salekhard2015 (pages "Hotel accommodation", "How to get to Salekhard", and "Post-conference excursions").

The conference deadlines: submission of proposals for organizing symposia, special workshops and round tables – 1 April 2015; abstract submission – 1 May 2015.

Acknowledgements

The 16th meeting of the GSG was supported financially by the National Natural Science Foundation of China, BirdLife International and the Dutch Faunafund.

Heron Specialist Group

Chair: James A. Kushlan
Location/affiliation: The Chair is based in Key Biscayne, Florida, USA.
Number of members: 56

James A. Kushlan

Mission statement

The goals of the Heron Specialist Group are to promote conservation of herons and their necessary habitats worldwide through networking among specialists, projects, meetings, identifying and encouraging biology and conservation projects, synthesizing information, encouraging population-level conservation assessment, advising the IUCN on species conservation assessment, advising the Ramsar Convention on wetlands and Wetlands International on population status, advising resource managers on heron conservation, and supporting developing conservation action plans.

Summary of main activities in 2014

Organization
The Group actively contracted its membership to a core of members to ensure active participation.

Communications
The Group increased its use of its Facebook page, HeronConservation, using it as its newsletter and its primary means of communication.

Planning
Action planning process was completed for the Reddish Egret, under the leadership of the US Fish and Wildlife Service. Conservation planning has been initiated for the White-bellied Heron under the leadership of Synchronicity Earth. A conference of interested parties was held in Assam, India. Planning for the Agami Heron has been initiated under the leadership of Group for the Study and Protection of the Birds of French Guiana.

Population estimation and status
The group has consulted regarding listing status review (BirdLife) and population estimates (Ramsar, Wetlands International). A worldwide census database has been established under EBird (Cornell University). Uniform census methods area documented on the website.

Future goals/activities

The immediate goals of the Group include finalizing conservation action planning and action for the Agami Heron and supporting and encouraging the White-bellied Heron Working Group and Reddish Egret Working Group, a strategic review of the future plans for the Group and continued realignment of membership, supporting a genetically-based review of heron systematics, completion of the revision of the website.

Great Blue Heron (*Ardea herodias*), Least Concern. © Kirsten Hines

Pelican Specialist Group

Chair: Giorgos Catsadorakis
Location/affiliation: The Chair is based in Alli Meria, Volos, Greece, and is affiliated mainly with the Society for the Protection of Prespa, Greece.
Number of members: 50

Giorgos Catsadorakis

Mission statement

We have not yet defined a mission or key objectives for our group through an open, participatory process. However, the key objective of our group as defined by its Chairman could be:
Ensure maximum exchange of information and data on the status, research, conservation and management practices regarding the pelican species of the Old World between members and promote and enhance international collaboration for pelican causes.

Summary of main activities in 2014

(1) Our membership has been continuously increasing; (2) We have maintained the operation of the PELECANUS GROUP email list; (3) We have coorganized a very constructive and fruitful international workshop in Kfar Blum, Israel, on the Great White Pelican Migration over Israel: Management of Ecological Demands and Conflicts with Inland Fisheries on 27–29 October 2014; (4) We have achieved to collect, compile and circulate once a year up-to-date data on the status of breeding colonies of the Dalmatian Pelican in almost all countries of SE Europe and Turkey where they occur; (5) We are participating as advisors in an international Dalmatian Pelican conservation project in Albania, Montenegro and Greece, titled "Dalmatian Pelican Conservation and Wetlands Management in the Mediterranean Basin", implemented by NOE Conservation and funded by MAVA; (6) We are participating as advisors in an international Dalmatian Pelican conservation project for Lake Skadar (2013–2016), funded by CEPF/CMS; (7) We have managed to organize for the second time a Pan-Hellenic census of pelicans present in Greece in spring, mainly targeting to estimate the numbers of non-breeders present in the country; (8) We are helping managers of national parks in Greece hosting nesting colonies of Dalmatian Pelicans to organize breeding censuses and train their staff; (9) We have created a network of protected areas hosting pelicans in Greece for working together for pelicans; (10) The research project: "Investigation of Population Size and Trend, Breeding Biology"; (11) We have produced an article in a peer-review scientific journal on the recent status of Dalmatian and Great White Pelicans in SE Europe; and (12) We have given lectures and presentations in four regional, national and international meetings on pelicans and their cause in the Western Palearctic.

Future goals/activities

(1) Increase degree of contact and info exchange between members; (2) Recruit members working on species other than Dalmatian and Great White Pelican; (3) Recruit members working in countries of central and west Asia and Russia; (4) Collect and disseminate recent data on the status of nesting colonies of Dalmatian and Great White Pelicans in Kazakhstan and other neighbouring countries; (5) Collect enough data to do the most up-to-date estimation of the global population of the Dalmatian Pelican; (6) Provide support to individuals, groups and bodies keen to set up new small monitoring and conservation projects; (7) Compile more data on the global status and population of the Spot-billed Pelican; and (8) Organization of simultaneous, censuses of pelicans in winter and spring, covering simultaneously all countries of SE Europe and Turkey.

Acknowledgements

There are no donors yet to the Pelican Specialist Group itself but only to organizations which its members are affiliated with. Giorgos Catsadorakis's work is supported by the Society for the Protection of Prespa, through funding provided by the MAVA Foundation.

Great White Pelican (*Pelecanus onocrotalus*), Least Concern, and Dalmatian Pelican (*Pelecanus crispus*), Vulnerable. © Kostas Papadopoulos

Penguin Specialist Group

Co-Chairs: P. Dee Boersma and Pablo Garcia Borboroglu
Location/affiliation: Dr Boersma is based in Seattle, State of Washington, USA and is affiliated with the University of Washington, the Wildlife Conservation Society, and The Global Penguin Society. Dr Borboroglu is based in Puerto Madryn, Chubut, Argentina and is affiliated with the National Research Council of Argentina and The Global Penguin Society.
Number of members: nine experts from eight different countries

P. Dee Boersma and Pablo Garcia Borboroglu

Mission statement

The Penguin Specialist Group (PSG) carries out activities central to its mission, to further the conservation of penguins. The group is a network of penguin specialists all active in scientific research and conservation. The PSG fosters the use of the best available ecological and biological knowledge to further the conservation of the 18 penguin species. The group seeks to be instrumental in mobilizing international and disciplinary expertise to inform local, regional, national, and international conservation decisions and policy about penguins.

Summary of main activities in 2014

The PSG was established a few months ago and we are in the process of defining its structure and organization. We have formed a core group of nine experts from eight different countries. Over the next year the core group of penguin experts will launch the PSG.

(1) Publication of "Penguins: Natural History and Conservation" in. Spanish in March 2015.
(2) Support of nomination of UNESCO Biosphere Reserve, Blue Patagonia Argentina, that includes 20 penguin colonies in Argentina.
(3) Support of technical work proposing Punta Tombo Marine Protected Area, Argentina.
(4) Preparation of penguin species fact sheets for the IUCN's Amazing Species fact sheets.
(5) Expert advice regarding a little penguin colony decline at Victor Harbour, South Australia.
(6) Advice to South Atlantic Environmental Research Institute (SAERI) regarding penguin species on penguin population status.
(7) Working with the Association of Zoos & Aquariums on conservation of endangered penguin species.

Future goals/activities

(1) Identify the need for management of particular species and critical areas; (2) Provide advice on conservation issues of penguins to interested parties; (3) Work with institutions and organizations to facilitate the collation and dissemination of information on penguins; (4) Identify regional and species-specific conservation issues for penguins; (5) Foster the formation of working groups to assess and help implement conservation solutions for penguins; (6) Act as the body coordinating input from penguin experts to BirdLife International's assessments of penguins for the IUCN Red List; and (7) Encourage and help sponsor national and international symposia and conferences.

Acknowledgements

Global Penguin Society, Whitley Fund for Nature Partnership Grant by Fondation Segré, and the Wadsworth Endowed Chair in Conservation Science, University of Washington.

African Penguins (*Spheniscus demersus*), Endangered. © D. Boersma

Stork, Ibis and Spoonbill Specialist Group

Chair: Luis Santiago Cano
Location/affiliation: The Chair is based in Addis Ababa, Ethiopia. He is affiliated with the "*Vertebrate Conservation Research Group*" of the Complutense University of Madrid (Spain).
Number of members: 22

Luis Santiago Cano

Mission statement

To support and develop species action plans for endangered species; to increase sharing of efforts to protect key habitats with other Specialist Groups and other conservation organizations; to increase communication among researchers and conservationists working on storks, ibises and spoonbills.

Summary of main activities in 2014

The membership list was updated and a questionnaire was released among the members in order to gather information about background, knowledge, species expertise, field/s of interest and availability of the members to contribute through the Specialist Group to establish actions in the future. Key experts were identified for those species that are under Critically Endangered conservation status (four in total). The Specialist Group started taking actions focused on these species. First, the Specialist Group promoted a letter from the IUCN on the hydropower dam projects in the Democratic Republic of São Tomé and Príncipe which would damage dramatically the habitat of the endemic and Critically Endangered Dwarf Olive Ibis (*Bostrychia bocagei*), among other species. Secondly, the Specialist Group also contacted the Northern Bald Ibis International Working Group (NBI IWG) in order to collaborate with each other to promote the conservation of the Northern Bald Ibis (*Geronticus eremita*). Finally, the Specialist Group has informed stakeholders and decision-makers on the status and trends of storks, ibises and spoonbills upon requests.

Future goals/activities:
Appoint a new Co-Chair for the coming three years to strengthen the management of the Specialist Group; increase the number of specialists from the New World, Africa and Oceania; re-launch the newsletter of the Specialist Group; increase the presence of the Specialist Group on the internet and scientific forums; promote coordinated research/studies of the most concerned species; participate in the 3rd SSC Chairs' Meeting in Abu Dhabi (September 2015).

Acknowledgements

The Stork, Ibis and Spoonbill Specialist Group wants to express appreciation and gratitude to Mr Williem Van den Bossche for his role as Co-Chair of this Specialist Group.

Black Stork (*Ciconia nigra*), Least Concern. © Juan Pablo Resino

Swan Specialist Group

Chair: Eileen Rees
Location/affiliation: Wildfowl & Wetlands Trust, Slimbridge, UK
Number of members: over 400 members from 38 countries

Eileen Rees

Mission statement

The Wetlands International/IUCN SSC Swan Specialist Group is a global network of swan specialists who undertake monitoring, research, conservation and management of swan populations. The SSG strives to facilitate effective communication between members and others with an interest in swan management and conservation world-wide, 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.

Summary of main activities in 2014

The 5th International Swan Symposium (5th ISS) of the Wetlands International/IUCN SSC Swan Specialist Group (SSG) was held at Easton, Maryland, USA from 3–6 February 2014. International swan symposia have been convened at c. 10-year intervals since the inaugural meeting in December 1971. About 100 swan researchers and conservationists from 16 countries attended the 5th ISS, which was kindly hosted by The Trumpeter Swan Society (TTSS), and coincided with the 23rd Conference of the TTSS (http://www.wetlands.org/Portals/0/5th%20International%20Swan%20Symposium%20report.pdf). Three days were dedicated to presentations and workshops, which covered all aspects of swan ecology, with sessions on: (1) populations and distribution; (2) habitat and diet; (3) management; (4) breeding biology; (5) migration strategies; and (6) threats to swan species. Key management issues discussed included the control of the non-native Mute Swan within North America; illegal shooting of migratory swans in Europe and the illegal poisoning and trapping of swans in China were raised as points of conservation concern. Research areas included tracking studies (to determine the overlap of Tundra Swan populations in North America and the migration routes of Bewick's and Whooper Swans in relation to wind farm sites), development of a ringing programme for Black Swans in Australia, the status of swans breeding in North America and habitat use by swans in the Baltic. A special workshop led by the Avian Power Line Interaction Committee (APIC) addressed avian interactions with power lines and focused on methods to minimize swan collisions with the cables. Three other workshops were convened, on the use of stochastic growth models for estimating swan populations, the organization of the Swan Specialist Group, and on the implementation of the AEWA Bewick's Swan Action Plan. Seven papers presented at the meeting were subsequently published as a "mini proceedings" in *Wildfowl* 64 in November 2014 (http://wildfowl.wwt.org.uk/index.php/wildfowl/issue/view/286), with other papers also published elsewhere.

Following adoption by AEWA of a Bewick's Swan Species Action Plan for the NW European population in May 2012 (http://www.unep-aewa.org/sites/default/files/publication/ts44_ssap_bewicks_swan.pdf), several initiatives are being taken forward for implementation of the plan. These include a National Bewick's Swan Action Plan developed for Estonia (http://www.envir.ee/sites/default/files/elfinder/article_files/vaikeluige_ktk_eelnou.pdf), and discussions are underway for an Action Plan for Germany. The international censuses of migratory swans (both Bewick's and Whooper Swans), which have been undertaken in Europe at five-year intervals since the mid 1980s, were extended to include countries generally held to be wintering areas for the Caspian Population of Bewick's Swans (traditionally thought to amount to c. 1,500 birds) for the January 2015 census. Numbers of Bewick's Swans wintering on the Evros Delta in Greece have increased markedly from a few hundred individuals to c. 3,600 birds over the past five years, and extending the census will contribute to assessment of whether these swans are from the NW European or the Caspian Populations. Census results are scheduled to be collated by summer 2015 for dissemination by the end of the year.

Whooper Swan (*Cygnus cygnus*), Least Concern. © Juha Soininen/WWT

Threatened Waterfowl Specialist Group

Chair: Baz Hughes
Location/affiliation: The Threatened Waterfowl Specialist Group was established in 1990 and is coordinated by the Wildfowl & Wetlands Trust (WWT), Slimbridge, Glos. GL2 7BT, United Kingdom.
Number of members: 266 members in 70 countries worldwide


Baz Hughes

Mission statement
Identify which Anseriformes taxa are globally threatened, monitor their status, produce and implement international action plans, and carry out and exchange information on conservation projects on globally threatened Anseriformes.

Summary of main activities in 2014
An action plan for the Critically Endangered Baer's Pochard (*Aythya baeri*) was completed in November 2014. This was subsequently endorsed by the East Asian – Australasian Flyway Partnership 8th Meeting of Partners in January 2015.

A study of the genetic status of captive Baer's Pochard was initiated to establish which of the current global captive populations are pure Baer's Pochard, and to use this information to inform captive management of the species.

Surveys of Scaly-sided Merganser (*Mergus squamatus*) in the core study area in the Russian Far East in 2014 found 32 pairs, a similar number to the previous two years, but lower than the long term average of 40–50 pairs. The causes of this decline, and the decline in breeding success, remain unclear but could be due to predation of nests and adults by Sable and Yellow-throated Martens and/or high levels of heavy metals (particularly arsenic), which have been found in unhatched eggs in recent years (possibly picked up on their main wintering area in the Yangtze catchment in Central China). Heavy metals research was initiated in collaboration with Biodiversity Research Institute, USA, with funding from the Rufford Foundation.

Moulting habitats were identified using stable isotopes analysis: most Scaly-sided Mergansers of both sexes are likely to moult on freshwater, but some male, subadult and failed breeding females may undertake moult migration to brackish and marine waters.

A new nature reserve for Scaly-sided Merganser (and other endangered species) was established in Changbaishan, China, in 2013. Ten nest boxes were erected in autumn 2014.

The captive population of the Critically Endangered Madagascar Pochard (*Aythya innotata*) now stands at 54 adults. There was no captive breeding in 2014 (this will happen next in early 2015) to bring the timing in line with the wild birds. A paper was published on the ecology and demography of the last remaining 25 wild birds – there is high adult survival and high hatching success, but very low chick-rearing success, due apparently to shortage of accessible food at Lake Matsaborimena. This supports the need for a reintroduction to kick-start population recovery – the wild population is not productive enough to generate surplus birds that might disperse and colonize new sites.

We secured funding from the UK Government's Darwin Initiative for a three-year project to empower communities to benefit from the natural resources of our proposed Madagascar Pochard reintroduction site – Lac Sofia. It will develop local management structures alongside sustainable and biodiversity-focused management of the lake and its watershed. In turn, this should create conditions suitable for the release of captive-bred pochards and for other threatened Madagascar wildlife.

We continued the €2.7M LIFE+ Project "Safe Grounds for Redbreasts" led by the Bulgarian Society for the Protection of Birds. An analysis of the impact of wind farms and other landscape elements (roads, treelines, powerlines, settlements) on the distribution of Red-breasted Geese (*Branta ruficollis*) and European White-fronted Geese (*Anser albifrons albifrons*) in Bulgarian Dobrudja was completed and submitted for the EC court case over Kaliakra. It showed that geese strongly avoid foraging near these elements, but the effect only arises over short distances. Overall habitat suitability is reduced by 50% compared with the theoretical maximum, due in particular to the avoidance of powerlines and treelines. Currently,

Scaly-sided Merganser (*Mergus squamatus*), Endangered. © Peiqi Liu

wind turbine avoidance contributes a further 6% reduction in habitat suitability after accounting for the other elements. However, if all currently planned and permitted wind turbines in the region were erected, this reduction would increase to around 20%.

We have also developed a sensitivity map for wintering geese which will be used by authorities and companies as an early stage planning tool for wind energy and other developments in the region, providing an overview of the relative sensitivity of different areas to the potentially negative effects of wind turbines.

Future goals/activities

Baer's Pochard
Establish Baer's Pochard Task Force under the EAAFP and hold Action Plan implementation workshop in summer 2015; report on winter census carried out in January 2015; conduct winter survey in Myanmar (funding already secured for this); conclude genetics study; and trial treatment wetland system for Baer's Pochard captive management and initiate a conservation breeding programme at Slimbridge.

Scaly-sided Merganser
Complete and implement Scaly-sided Merganser action plan; hold EAAFP Scaly-sided Merganser Task Force meeting in Vladivostok in September 2015; establish artificial nest programme in Changbaishan Nature Reserve; and complete heavy metal research and publish results.

Madagascar Pochard
Maintain sustainable captive breeding population of Madagascar Pochard in Madagascar and develop release plan with partners; conduct integrated conservation and development project at the proposed release site; and build public exhibit in Madagascar.

Red-breasted Goose
Complete Red-breasted Goose LIFE project and develop future management recommendations.

Acknowledgements
The Madagascar Pochard project has been funded by: Darwin Initiative, Mitsubishi Corporation Fund for Europe and Africa, Fota Wildlife Park, BBC Wildlife Fund, Synchronicity Earth, the Mohamed bin Zayed Species Conservation Fund, US Fish & Wildlife Service, Aviornis UK, British Birds, private donors, and WWT and Durrell members.

'Safe Ground for Redbreasts' LIFE09/NAT/BG/000230 was funded by the contribution of the LIFE financial instrument of the European Community.

Vulture Specialist Group

Co-Chairs: André Botha and Chris Bowden
Location/affiliation: André Botha is affiliated with the Endangered Wildlife Trust in South Africa and Chris Bowden is affiliated with the Royal Society for the Protection of Birds (RSPB) and is currently based in Bangalore, India.
Number of members: 90 members spread over five continents


André Botha


Chris Bowden

Mission statement

The IUCN SSC Vulture Specialist Group (VSG) was formally established in April 2011 and aims to advocate and create awareness of the plight of these birds (both Old- and New World vulture species) and help coordinate conservation activities to their benefit.

Summary of main activities in 2014

The licensing of diclofenac products for veterinary use in Europe (which threatens a repeat of the Asian vulture crisis) has provoked major efforts to reverse this decision, and high-level letters from IUCN, along with the efforts of BirdLife International, an independent e-petition and Vulture Conservation Foundations, have had an important impact with the European Commission. However, so far there has been no clear decision taken to prevent veterinary use of diclofenac in Europe.

The mass-poisoning of vultures in southern Africa during the year was a great cause for concern with more than 2,500 birds known to have been killed in this manner since 2012. A workshop to address this in southern Africa was hosted in Namibia during May 2014 and was facilitated by VSG member José Tavares. Follow-up initiatives have resulted in renewed focus and action in three southern African countries, while plans are in place to initiate work in two more. The situation in Africa was highlighted by the IUCN Position Statement on 29 September 2014, which urges governments to take action to address this most prominent threat to vultures in Africa.

In Asia, efforts continue to be led by the Saving Asia's Vultures from Extinction (SAVE) consortium which grew to 13 formalized partners and produced a recovery plan to 2025, endorsed by all partners and importantly by the four key South Asian Governments and the Regional Steering Group. These initiatives operate in synergy with the VSG.

The VSG also supports the International Vulture Awareness Day which was established in 2009 and has become an annual event that was observed in 47 countries and by 176 organizations globally in 2014. The event aims to promote awareness and to educate the public about the plight of vultures and the need to conserve them and their habitats.

We produce a two-page newsletter twice a year, summarising key developments for vultures globally which has been circulated to all members and more widely. We are currently working on a website which will, in addition to appropriate current information, allow open access to the journal *Vulture News* to members.

Rüppell's Griffon (*Gyps rueppelli*), Endangered. © André Botha

Woodcock and Snipe Specialist Group

Chair: Yves Ferrand
Location/affiliation: The Chair is based in Nantes (France) and is affiliated with the Office national de la chasse et de la faune sauvage (National Hunting and Wildlife Agency).
Number of members: 50

Yves Ferrand

Mission statement

The Woodcock and Snipe Specialist Group (WSSG) is a network of specialists (both scientists and non-scientists) concerned with the study, monitoring, management and conservation of the eight woodcock and 18 snipe species in the world. Its first aim is to provide up-to-date knowledge, to encourage new research and to facilitate contact between researchers. As these are mainly game species, the final objective is to ensure the sustainable use of the populations. The WSSG publishes an annual newsletter which is available on the IUCN website.

Summary of main activities in 2014

Monitoring of populations of woodcock and snipe species is an ongoing job for the WSSG and represents a great part of the annual activity for biologists as well as members of hunter associations. This is essential for the management of the game species. Three species are principally concerned: European Woodcock, American Woodcock and Common Snipe. For this last species, the monitoring launched in European Russia has been pursued and should give robust data for estimating the demographic trend.

Thanks to miniaturization of Argos platforms (transmitters), several projects were launched to improve our knowledge on migration. About 50 European Woodcocks were equipped with PTT solar tags in Spain, Italy, Great-Britain and France. First results showed that Siberia is a non-negligible origin area for birds wintering in West and South-West Europe which enlarged the area of concern. A similar project has been initiated in North America to better understand the migration phenology of American Woodcocks.

In terms of regulation, a European Woodcock bag limit is now applied applied routinely for the past three hunting seasons and will surely help to make bags sustainable.

In terms of conservation in the last years, we have to underline the rediscovery of the Moluccan Woodcock (*Scolopax rochussenii*) during a French ornithological survey of the Obi archipelago in 2010 (information recently published). This species has not been observed since the beginning of 1980s and is classified as “Endangered” by IUCN and BirdLife International. Even if this was not initiated by WSSG, it represents good news for its species spectrum.

Future goals/activities

In light of the constant development of demographic models in the context of exploited populations, an effort has to be performed to provide efficient models for our species which support a high hunting pressure. At the same time, predictive models of abundance should be developed to prevent over-exploitation in case of demographic problems, and regulation tools, such as bag limits, should be applied to control this over-exploitation.

Acknowledgments

We thank the Office national de la chasse et de la faune sauvage (France) for its constant financial support of the WSSG.

European Woodcock (*Scolopax rusticola*), Least Concern. © Jean-Lou Zimmermann

Freshwater Fish Specialist Group

Chair: Richard Sneider
Red List Authority Coordinators: Rajeev Raghavan and Jörg Freyhof
Programme Officers: Suzanne Turnock (January – April) and Alex Mauroner (June 2014 – January 2015)
Location/affiliation: We are currently operating without a host organization. Until April 2014, we were hosted by Chester Zoo (North of England Zoological Society); our previous Global Chair (Gordon McGregor Reid; Director of the Zoo) retired in December 2013 and our previous Programme Officer (Suzanne Turnock, who was based at the Zoo) left her position in April 2014. Efforts are being made to secure a new host organization. Our current Global Chair is based in Los Angeles, California, USA.
Number of members: 186


Richard Sneider

Mission statement

The mission of the Freshwater Fish Specialist Group (FFSG) is to achieve conservation and sustainable use of freshwater fishes and their habitats through generating and disseminating sound scientific knowledge, creating widespread awareness of their values, and influencing decision-making processes at all levels.

Summary of main activities in 2014

The FFSG (www.iucnffsg.org) appointed a new Global Chair (Dr Richard Sneider) in December 2013. Below is a summary of our main achievements during the following year.

The Global Freshwater Fish BioBlitz was launched with iNaturalist in February 2014. It is a citizen science project, engaging all varieties of nature lovers to record their observations of freshwater fishes in their natural habitat. Their photos, along with details of when and where they saw the fish, are uploaded to the iNaturalist project website. Expert curators verify the data, and all "research-grade" data are shared with global scientific databases such as the Red List and the Global Biodiversity Information Facility.

Another major project, launched in May 2014, was the World Fish Migration Day (WFMD; http://www.worldfishmigrationday.com/). The FFSG was one of the initial collaborators. This was a one day global initiative with local events held worldwide to create awareness on the importance of open rivers and migratory fish. The goal was to improve the public's understanding of the importance of open rivers and migratory fish and their needs. Well over 1,000 different organizations contributed to the day's events. Over 270 events took place in over 50 countries worldwide. The inaugural WFMD was considered such a success that the organizers launched the World Fish Migration Platform (http://fishmigrationplatform.com/), of which the FFSG is also a partner.

Several internal achievements took place in 2014. We launched a new Home Aquarium Fish Sub-Group (http://www.iucnffsg.org/about-ffsg-2/home-aquarium-fish-sub-group/) to promote environmentally sustainable practices, support conservation of freshwater ecosystems that are home to fishes

Sakhalin Taimen (*Hucho perryi*), Critically Endangered. © Satoshi Adachi

important for the aquarium trade, and support the livelihoods of people engaged in sustainable harvesting of the fishes. We also established a new Central Asia Region to more thoroughly address the issues surrounding freshwater fishes and habitats in the area. Its two new Co-Chairs will create a regional network of experts and conduct projects in the region with the collaboration of the FFSG. Lastly, since the end of 2013, we had been operating without an official Red List Authority Coordinator. As the SSC's authority on freshwater fish, it was imperative to fill this gap. In November, two of our Steering Committee members volunteered to share the duties of this role and we now have Co-Red List Authorities.

Our Anguillid Species Sub-Group (ASSG) (http://www.iucnffsg.org/about-ffsg-2/anguillid-specialist-sub-group/) had major accomplishments as well. They had been conducting a comprehensive assessment of anguillid species since March 2013. In June 2014, 12 of the 13 assessments conducted by the ASSG were published on the Red List. Three species were assessed as threatened (one Critically Endangered, one Endangered, and one Vulnerable), four were Near Threatened, two were Least Concern, and three were Data Deficient.

Members of the FFSG and IUCN's Freshwater Conservation Sub-Committee co-authored a chapter on "Sustaining Freshwater Biodiversity in the Anthropocene" that was featured in the book "The Global Water System in the Anthropocene: Challenges for Science and Governance released in September. The chapter stresses the importance of conserving freshwater biodiversity as a critical part of water resources management.

Another great achievement of the FFSG was gaining more freshwater representation at the IUCN World Parks Congress in November. Members of the FFSG were involved in planning freshwater content for the Congress. By contributing to the sessions through presentations and side events, and by identifying specific outputs that could be produced from the sessions, freshwater issues were well represented in the statements produced from each Stream in support of the official "Promise of Sydney". The reports submitted by the Stream leaders on 22 December, 2014 make several recommendations for including freshwater ecosystems as components of future conservation and protected area planning, and water management.

We also had many great achievements on a regional level. Pete Rand published the results of his study, using new sonar technology, to assess the populations of the Critically Endangered Sakhalin Taimen (*Parahucho perryi*) in Japan; the first successful effort to count adults during their spring spawning migration. In Brazil, a national assessment of extinction risk for over 12,000 species of fauna was completed. The IUCN/CI Biodiversity Assessment Unit (USA) in collaboration with the Chico Mendes Institute finished the assessments in Fall 2014. This included 3,122 species of freshwater fishes. FFSG members were vital to the completion of the freshwater fishes component.

Future goals/activities

The FFSG has identified several significant projects which are priorities for our strategic plan between now and the end of the existing IUCN Quadrennium in 2016. These will include outreach and education to the general public about sustainable practices of harvesting freshwater fishes for the aquarium trade, assessment of threats to migratory species of freshwater fishes, and a review of threatened freshwater fishes found in Ramsar Sites (Wetlands of International Importance). The FFSG is also contributing to the World Fish Migration Platform's "Fish Passage Conference" in the Netherlands in June 2015 (https://fishpassage.umass.edu/).

Acknowledgements

Thanks to the Chester Zoo for years of support and its continued hosting of our website. We would like to thank the Zoological Society of London for contributions towards running costs this year. Thank you to the IUCN SSC and the Morelos State Government (Mexico) for supporting this year's annual meeting.

Grouper and Wrasse Specialist Group

Co-Chairs: Yvonne Sadovy de Mitcheson and Matthew Craig
Location/affiliation: Yvonne Sadovy Mitcheson and Matthew Craig are currently based at the University of Hong Kong in Hong Kong Special Administrative Region, and the University of San Diego, USA, respectively.
Number of members: 40 members from 20 countries


Yvonne Sadovy de Mitcheson


Matthew Craig

Mission statement

The Grouper and Wrasse Specialist Group (GWSG) seeks to promote the sustainable use of groupers and their relatives (Serranidae and Epinephelidae) and wrasses (Labridae), many of which are important food fishes and a number of which are threatened. We work towards better stewardship of these taxa especially for depleted populations and threatened species. Our goal is to enhance awareness of the natural vulnerabilities of many species in this group of 1,000 or so fishes, and to generate and apply good science to enable decisions and actions to sustain their populations.

Summary of main activities in 2014

During 2014, member activities ranged from IUCN Red Listing, to field work, to analyses of the impacts of international trade, to input on management consultations and training. In relation to Red Listing, Matt attended the Colombian National Red Listing workshop in Cali, Colombia, in September 2014. The workshop aimed to assess threat levels across a broad array of marine fishes based on IUCN Red List criteria for inclusion in the Colombian national list of threatened species. In Hong Kong several members completed regional Red Lists for groupers and wrasses, among other species, as part of a government consultation in relation to the development of its Biodiversity Strategic Action Plan, under the Convention on Biological Diversity.

Several threatened species of grouper are a particular focus of attention by members, including the Nassau Grouper (*Epinephelus striatus*), the Goliath Grouper (*E. itajara*), and the Brown Grouper (*E. marginatus).*

The Endangered Nassau Grouper is being proposed for listing on the USA Endangered Species list and several members provided input to consultations. Projects continue to manage and monitor the Goliath (USA and Brazil) and Brown Grouper (several Mediterranean countries). Work on spawning aggregations of several threatened species such as the Squaretailed Coralgrouper (*Plectropomus areolatus*), and Near Threatened species, such as the Camouflage Grouper (e.g. *E. polyphekadion*) and the Leopard Coral Trout (*P. leopardus*) is highlighting the importance of management, particularly the protection of their spawning aggregations, for maintaining populations based on studies in Australia, Indonesia, Philippines, Solomon Islands, Pohnpei, Palau, Papua New Guinea and Fiji, among others.

Work continued with the Indonesian Government to resurvey monitoring sites of the Napoleon Wrasse (*Cheilinus undulatus*) listed on CITES App II in 2004 and designed to assess the outcomes of the CITES listing and controls on international trade. Findings were that where the species was protected or fishing declined, fish numbers remained stable or increased, respectively. Where fishing continued, the Napoleons declined. Surveys of trade in this valuable and threatened species were also carried out in Mainland China as part of a larger study on illegal international trade of the species. Several mainland hotels agreed to take the Napoleon wrasses off their seafood menus because legality of trade could not be assured, and a number of hotels and restaurants in Hong Kong have done likewise. A data-poor training workshop was conducted in Indonesia for Government staff focused on inshore, reef fisheries.

Future goals/activities

For 2015 we plan to focus on furthering Red List assessments on our species, some of which will be updates of already-completed assessments which are coming due, some will support others in their regional Red Listing work, and some will be new assessments. We will also be engaged in a study on illegal, unregulated and unmonitored trade in Napoleon Wrasse that is ongoing in Southeast Asia. Work will continue on the Nassau Grouper to better understand its presence in international trade as concern for this species increases, as well as on focal threatened species such as the Goliath Grouper *E. itajara.* The growing international trade in these species and increased mariculture production in groupers will also be a focus of attention.

Napoleon Wrasse (*Cheilinus undulates*), Endangered. © Yvonne Sadovy

Marine Fishes Red List Authority

Red List Authority Co-Coordinators: Kent Carpenter and Beth Polidoro
Programme Officer: Gina Ralph
Location/affiliation: Kent Carpenter is a professor at Old Dominion University, in Norfolk, Virginia, USA, where he manages the IUCN Species Programme Marine Biodiversity Unit (MBU). Beth Polidoro is an assistant professor at Arizona State University, in Phoenix, Arizona, USA ,and formerly a research assistant with the MBU.
Number of members: 40

Kent Carpenter and Beth Polidoro

Mission statement

Our mission is to transform marine conservation capabilities by completing IUCN Red List assessments for 20,000 marine species, including all vertebrates and complete clades of selected plants and invertebrates.

Summary of main activities in 2014

In 2014, we continued to make progress towards our goal of assessing the conservation status of 20,000 marine species using IUCN Red List methodology. We completed four Red List workshops, in Corpus Christi, Texas, USA; Doha, Qatar; Brussels, Belgium; and Libreville, Gabon. With the help of over 60 taxonomic and regional experts, we assessed approximately 450 species globally and another 1,000 species at regional levels for our ongoing regional initiatives. In collaboration with international colleagues, we also published results of the first global assessment of the world's sea cucumbers (Aspirochirotida) in the *Proceedings of the Royal Society B*. Over the past year, we published an additional 1,050 species assessments on the IUCN Red List website, including all marine Blennioidei, Sparidae, and Tetraodontidae. Scientific publications highlighting the results for these important taxonomic groups are in progress, and are anticipated by the end of 2015.

In terms of direct conservation action, the results from our 2008 global Red List assessments for reef-building corals were used as the basis for petitions to the US Endangered Species Act; in September 2014, 20 of the petitioned species were listed as threatened or endangered and will receive additional protection under US law. With funding from the Red List Committee, we organized and led a meeting to discuss modifications to the Red List Guidelines specifically for exploited marine species. Established in 2013, the Goby Group also sits within the Marine Fish Red List Authority and presently has 22 members from 13 countries.

Future goals/activities

We look forward to continued contributions to global marine conservation. We anticipate completing our regional initiatives in Europe, the Caribbean, Gulf of Mexico, the Eastern Central Atlantic, and Persian Gulf in 2015, which will provide key information for effective conservation planning and action.

Acknowledgements

We would like to thank the Thomas W. Haas Foundation for their generous support of the Global Marine Species Assessment project during 2014. We also thank Jean-Christophe Vié for his continued support of these activities that are affiliated with the IUCN Global Species Programme Marine Biodiversity Unit.

Axelrod's Combtooth-Blenny (*Ecsenius axelrodi*), Least Concern. © Jeffrey T. Williams

Salmon Specialist Group

Chair: Peter S. Rand
Red List Authority Coordinator: Steven Weiss
Location/affiliation: The Chair is based in Portland, Oregon, USA.
Number of members: 12


Peter S. Rand

Mission statement

The main objective of our Specialist Group is to develop and review IUCN Red List status assessments for fish in the Family Salmonidae, a group of ray-finned fishes whose natural range extends across cold water environments throughout the northern Hemisphere. We also engage in activities that promote conservation of these fishes and their habitat. We are particularly concerned about the loss and degradation of habitat (freshwater, estuarine and marine), impacts of dams, fisheries effects and climate change.

Summary of main activities in 2014

During 2014, we contributed to and reviewed the status assessment of European Atlantic Salmon (*Salmo salar*) as part of the EU Marine Fish status assessment. The species status in 2014 was changed from Least Concern to Vulnerable. We are working on a full assessment of North American salmonids. We initiated a new international effort to establish guidelines for recreational fishing for IUCN threatened species. The SSG Chair (Pete Rand) is co-leading the effort with Steven Cooke and Shannon Bower of Carlton University in Canada. We have reviewed progress in Japan on meeting conditions related to dam removal and salmon river restoration in the Shiretoko World Heritage Site. We are recommending more work be done to satisfy the original conditions at the time the site was inscripted.

Future goals/activities

In 2015, we intend to hold a special session on Asian Masu (or Cherry) Salmon (*Oncorhynchus masou*) at the American Fisheries Society Conference in Portland, Oregon, USA. We will be convening specialists for a series of presentations and will engage them in a workshop to complete a range-wide IUCN assessment for this species. We intend to complete the guidelines document on responsible recreational fishing on IUCN threatened species and to carry out some targeted communication work related to our findings.

Atlantic Salmon (*Salmo salar*), Least Concern. © Michel Roggo (www.roggo.ch)

Sciaenidae Red List Authority

Red List Authority Coordinators: Ning Labbish Chao and Ming Liu
Location/affiliation: Ning Labbish Chao is affiliated with the National Museum of Marine Biology & Aquarium, Pingtung, Taiwan, and Bio-Amazonia Conservation International, Baltimore, USA. Ming Liu is affiliated with Xiamen University, Xiamen, China.
Number of members: 50 members in 25 countries


Ning Labbish Chao


Ming Liu

Mission statement

The mission of the Sciaenidae RLA is to complete the global assessment processes of all known sciaenid fishes. Through the Sciaenidae Red List assessment processes, we also provide training on Sciaenidae species identification, taxonomy and methods of collecting fishery and population data for an adequate Red List Assessment.

Summary of main activities in 2014

The Sciaenidae Red List Authority, in collaboration with the National Museum of Marine Biology (NMMB), has established a Global Sciaenidae Conservation Network to host a worldwide sciaenid specimen, tissue and otolith collection. Since 2012, specimens of 160 species (out of 280 species worldwide) have been catalogued.

In June 2014, NL Chao visited Univ. of Malaysia, Terengganu, and collected Sciaenidae in the Malaysia Peninsula. In October 2014, Prof. Dr Mazlan Abd. Ghaffar and Dr Seah Ying Giat visited NMMB and a MOU between Univ. of Malaysia and NMMB was signed to promote Sciaenidae Red List assessments and research projects.

In November, NL Chao also gave a short course (nine hours) on "IUCN Red List assessment criteria and practice" to graduate students at the National Sun Yat Son University in Kaohsiung, Taiwan. This course has led to a proposal to organize a training course on IUCN Red List assessment and a workshop to revise the Sciaenidae Red List of the Far East region in late 2015 or early 2016. This event will include Sciaenidae RLA specialists and graduate students from Japan, China, Vietnam, Thailand and Malaysia. Chao also visited Koch University in Japan and got endorsement of Dr Kunio Sasaki, the foremost Indo-Pacific Sciaenidae expert, to actively participate in the Sciaenidae RLA processes.

Other activities of the Sciaenidae RLA include:
(1) participation in the Gulf of Mexico Red List Assessment workshop in Corpus Christie, Texas, USA (January 2014);
(2) A diagnostic on risk of extinction of Brazilian fauna (2012–2014) has been published online (downloadable), which lists 52 species of Sciaenidae (p.259–260) in Red List categories following IUCN RLA criteria; (3) A report paper on "A popular and potentially sustainable fishery resource under pressure – Red List Assessments of Brazilian Sciaenidae (Pisces: Perciformes)" has been submitted to an international scientific journal; (4) We also found three common but misidentified new species of Sciaenidae from Malaysia and Taiwan. These will change the previous Red List Assessment of several Sciaenidae species in the region; and (5) We participated in the reviewing processes of European Red List Assessment of Sciaenidae.

Future goals/activities

The short- and mid-term goals of the Sciaenidae RLA are:
(1) A workshop and training program on West Pacific Sciaenidae is planned for the winter of 2015 or spring of 2016 in Kaohsiung, Taiwan, pending funding availability; (2) An atlas of global catalogue of Sciaenidae aimed to help species identification and conservation awareness is planned by NL Chao (Co-Chair) and Dr Kunio Sasaki (Koch University, Japan); (3) Review and update of species sheet of Sciaenidae RLA for formal submission to IUCN is ongoing.

Acknowledgements

The Sciaenidae Red List Authority would like to thank the National Museum of Marine Biology, Taiwan, for hosting the Co-Chair (NL Chao), Sciaenidae collections and other logistic support for the Global Sciaenidae Conservation Network. Bio-Amazonia Conservation International, USA, provided partial travel fund to NL Chao.

Argyrosomus japonicus, Not Evaluated. © NL Chao

Seahorse, Pipefish and Stickleback Specialist Group

Chair: Amanda Vincent
Red List Authority Coordinator: Riley Pollom
Location/affiliation: We are based in Vancouver, Canada. We are affiliated with Project Seahorse, Fisheries Centre, The University of British Columbia.
Number of members: 15 members from nine countries

Amanda Vincent

Mission statement

Mission: To promote the long-term conservation of the world's seahorses, pipefishes, sticklebacks and their near relatives through the identification and alleviation of threats to wild populations and their aquatic habitats.
Key objectives: The Seahorse, Pipefish and Stickleback (SPS) Specialist Group provides independent technical and scientific advice to improve the conservation status of our species. We assess the threat of extinction for these animals, undertake and publish research that assists in the survival of wild populations, and develop conservation action plans for threatened species. We also seek to provide support to frontline projects working to conserve SPS species, as our resources allow.

Long-snouted Seahorse (*Hippocampus guttulatus*), Data Deficient. © Roberto Strafella/Guylian SOTW

Summary of main activities in 2014

Project Seahorse (www.projectseahorse.org) was appointed to act as the SPS Specialist Group, with support from notable colleagues around the world. We here report Project Seahorse achievements that bear directly on SSC responsibilities, as well as other SG activities.

Organizational:
We recruited 11 members from outside Project Seahorse, and now have a near-global representation of syngnathid experts. We are keen to identify more experts (ideally colleagues from outside North America and Europe) for pipefishes, sticklebacks, and the smaller families. We held our first virtual meeting by Skype in April, with all members participating, and we prepared an SPS SG website, to be launched early in 2015.

IUCN Red List:
We published global assessments for 13 SPS SG species, with nine more queued. We completed assessments and evaluations for 22 European SPS SG species, to be published in March in an IUCN document. We launched assessments on 27 Gulf of Mexico/ Caribbean SPS SG species, and we offered a directed studies course in IUCN Red Listing at the University of British Columbia.

CITES:
Seahorses, which are all listed on Appendix II, are the first marine fishes to be brought under the CITES Review of Significant Trade (RST). This process enforces obligations for CITES listed species. Work with seahorses is thus setting precedent for other marine fishes listed on CITES. Project Seahorse/SPS SG input and advice has been central to all CITES decisions on seahorses and pipefishes.

In 2014, Project Seahorse/SPS SG continued working with Vietnam to address the challenge of ensuring

sustainable trade for *Hippocampus kuda*. In March 2013, the CITES RST process had led to a ban on export of this species from Vietnam, the first such prohibition for any marine fish under CITES. See http://www.cites.org/sites/default/files/eng/com/sc/63/E-SC63-14.pdf.

In May, the SPS SG Chair and one SPS SG member (Sarah Foster) served on the IUCN delegation at the 27th meeting of the CITES Animals Committee in Mexico. Our input was materially important in generating two courses of action:
(1) CITES expressed Urgent Concern about Guinea and Senegal's exports of West African Seahorses (*Hippocampus algiricus*) and Thailand's exports of Three-spotted Seahorses (*Hippocampus trimaculatus*). All three countries have been given recommendations on how to move exports of these Vulnerable species towards sustainable levels. The main focus is on mapping, enforcement and monitoring. See http://www.cites.org/sites/default/files/eng/com/ac/27/wg/E-AC27-WG-01.pdf.
(2) CITES also decided to ask all Parties to explain how they decide on appropriate levels of exports for the Lined Seahorse (*Hippocampus erectus*). In addition, the Secretariat reported on a contract to Project Seahorse/SPS SG on Building in-country capacity to undertake Non-Detriment Findings with regard to Hippocampus species in Indonesia, Thailand and Viet Nam. This led, inter alia, to a step-by-step framework for making NDFs relating to seahorses (and for developing adaptive management programmes), see http://www.cites.org/sites/default/files/common/com/ac/27/E-AC27-Inf-20.pdf. That NDF framework for seahorses has been translated into Spanish and French and has been used as a foundation for the NDF framework for sharks.

Project Seahorse/SPS SG also assisted Thailand and provided input as CITES considered how Thailand had responded to previous expressions of Urgent Concern, dating from 2012, for three seahorse species: *Hippocampus kelloggi*, *Hippocampus kuda*, and *Hippocampus spinossismus.* Subsequently, at its 65th meeting, the CITES Standing Committee congratulated Thailand on its progress, noting contributions from Project Seahorse, while requesting that Thailand address outstanding recommendations. See http://www.cites.org/sites/default/files/eng/com/sc/65/E-SC65-26-01_0.pdf.

Publications:
Project Seahorse published nine papers on SPS species including one evaluating the CITES database on seahorse trade: Foster, S.J., S. Wiswedel and A.C.J. Vincent. 2014. Opportunities and challenges for analysis of wildlife trade using CITES data – seahorses as a case study. Aquatic Conservation: Marine and Freshwater Ecosystems. DOI: 10.1002/aqc.2493. Other SPS SG members published nine more papers on SPS species. In response to CITES requests, we completed a draft scholarly manuscript – *A Global Annotated Checklist of the Seahorses* – in order to address taxonomic issues that are hampering CITES enforcement and other management measures.

Supporting frontline projects:
We provided technical input regarding a development in Merambong, Malaysia, which involves destruction of seahorse habitat by land filling. We sent an open letter to Malaysian officials, expressing SPS SG concern. The lead advocate for seahorses in Malaysia – Save our Seahorses and its Director, Adam Lim – convinced Malaysian authorities to restrict damage to seahorse habitats and to monitor impacts of the development.

Future goals/activities
During 2015, the SPS SG will undertake the following:
Publication of *A Global Annotated Checklist of the Seahorses;* Red List assessment and evaluation of 50 more SPS SG species; Launch of the SPS SG website; Initiate a SPS SG Action Plan to set priorities and guide actions; Plan SyngBio, the global meeting for syngnathid scientists and managers, to be held in 2017; Support frontline projects as requested and resources allow; Recruit more SPS SG members.

Acknowledgements
Project Seahorse is grateful to Guylian Chocolates Belgium and an anonymous donor for supporting the SPS SG Red List Authority Coordinator as well as Project Seahorse expenses. The University of British Columbia kindly hosted the SPS SG and facilitated student involvement in Red Listing. The SPS SG has no dedicated funds.

Shark Specialist Group

Co-Chairs: Nicholas K. Dulvy and Colin Simpfendorfer
Red List Authority Coordinators: Peter Kyne and Rachel Walls
Programme Officer: Julia M. Lawson (current) and Rachel Walls (September 2013 to August 2014)
Location/affiliation: The IUCN Shark Specialist Group (SSG) is based in Simon Fraser University, Burnaby, Vancouver, British Columbia, Canada. Co-Chair Colin Simpfendorfer is based in James Cook University and his SSG work is supported by Dr Andrew Chin.
Number of members: 128 experts from 35 countries distributed among 12 regional groups (roughly reflecting FAO fishing areas)

Nicholas K. Dulvy

Colin Simpfendorfer

Mission statement
Our vision is for a world where sharks, rays, skates, and chimaeras are valued and managed for sustainability. Our mission is to secure the conservation, management and, where necessary, the recovery of the world's sharks, rays and chimaeras by mobilizing global technical and scientific expertise to provide the knowledge that enables action.

Summary of main activities in 2014
2014 was a very busy year for the Shark Specialist Group in Red Listing, conservation planning, provision of technical advice, and strategic planning.

In January 2014, we published a global summary of 18 years of work documenting the global extinction risk of the sharks, rays and chimeras (eLife 3:e00590) followed up by Kyne et al. 2015. Biodiversity: Sharks and rays in peril too. *Nature* 518: 167–167. This was the culmination of 18 years of work, by over 300 scientists from 64 countries to Red List an entire class of vertebrates. This work has been viewed over 34,000 times and has already been influential for galvanizing large NGOs to act on shark and ray conservation.

In March 2014, the global reassessment of chondrichthyans, with a view to developing a Red List Index in support of Aichi targets 6 (fisheries sustainability) and 12 (extinction prevented, conservation improved) was launched. The first reassessment workshop was organized by Taxonomy Vice-Chair and NE Pacific Regional Vice-Chair David Ebert with the kind support of Seattle Aquarium and Point Defiance Zoo & Aquarium, focusing on 77 NE Pacific chondrichthyans involving 35 graduate students, faculty, and fisheries scientists.

In April 2014, both Co-Chairs Simpfendorfer and Dulvy and the Vice-Chair for Trade, Glenn Sant, ran a meeting in Hong Kong to lay out the opportunities for sustainable traceable shark and ray fisheries and products in response to policy development needs of a major airline.

In May 2014, Rachel Walls (then Program Officer of the SSG), Nick Dulvy, the four Regional Vice-Chairs (Edward Farrell, Fabrizio Serena, Alen Soldo and Heike Zidowitz) and Ali Hood of the Shark Trust, organized a Red List Assessment workshop for the 133 species across the NE Atlantic, Mediterranean and Black Seas and the National Marine Aquarium, Plymouth, UK, involving 13 participants and engaging more than 50 government, academic and NGO scientists over the past 18 months.

In June 2014, conservation planning also took centre stage during the year with the launch and publication of the SSG's global conservation strategy for sawfishes [Harrison LR, Dulvy NK. 2014. Sawfish: A Global Strategy for Conservation. IUCN SSC Shark Specialist Group]. This document sets out a global plan to save the most imperilled family of sharks and rays. We followed up soon after with the publication of a paper summarizing the conservation plan, but with a new analysis revealing that the five species of sawfish were found in the waters of 90 countries, and are entirely extinct from 20, with at least one species extinct from 43 countries [Ghosts of the coast: global extinction risk and conservation of sawfishes. *Aquatic Conservation*].

Later in June 2014, the next stage of conservation planning began for the Devil and Manta Rays (Mobulidae) in Durban, South Africa, supported by the Save our Seas Foundation involving 18 graduate students, faculty, and NGO staff. With the recent CITES Appendix II listing of both Manta Rays, the trade in gill plates is increasing shifting toward the larger Devil

Largetooth Sawfish (*Pristis pristis*), Critically Endangered. © David Wackenfelt

Ray species. The plan is incredibly timely to develop broader scientific capacity to monitor and track shifting fisheries and trade patterns.

In 2014, the Zoological Society of London, under leadership of Jo Barker, began work towards an Angel Shark Conservation Strategy, Universidad de Las Palmas de Gran Canaria and Alexander Koenig of Zoological Research Museum. They are working with anglers to reduce mortality and have launched a citizen science sightings program in the last stronghold of the Critically Endangered Angel Shark in the Canary Islands.

In November 2014, a further 21 sharks and rays were listed on the Appendices of the Convention on Migratory Species. The listing proposals relied heavily upon both IUCN SSG Red List assessments but also the Sawfishes and the (nascent) Devil and Manta Ray Conservation Strategies.

In March 2015, Co-Chair Simpfendorfer, Andrew Chin, and Australia and Oceania Regional Vice-Chair and Red List Authority, Peter Kyne, led a reassessment of the 330 chondrichthyans in Australia involving 23 assessors. This work will mainstream Red List assessment into Australian National Reporting.

Future goals/activities

Working towards the reassessment of the status of all of the sharks, rays and chimeras will be a focus for the next few years. This is a big undertaking with >1,100 species to take care of, but we will focus on reassessment of Oceania (2016), and Indian Ocean, and Central America and Caribbean (2017).

We will also be looking to finalize the Devil and Manta Ray global conservation strategy and seek funds to implement the Sawfish Conservation Strategy and complete the Global Angel Shark Strategy.

Acknowledgements

The SSG is grateful for support from the US State Department, NOAA fisheries, Save Our Seas Foundation, the Mohamed bin Zayed Species Conservation Fund, IUCN Species Survival Commission Sub-Committee for Species Conservation Planning, Environment Agency Abu Dhabi, Wildlife Conservation Society, MacArthur Foundation, Disney Worldwide, Zoological Society, London, National Marine Aquarium, Plymouth, UK, Seattle Aquarium and Point Defiance Zoo & Aquarium, Chester Zoo, Dallas World Aquarium, Flora & Fauna International, Flying Sharks, and Global Ocean.

Snapper, Seabream and Grunt Specialist Group

Co-Chairs: Barry Russell and Ken Lindeman
Red List Authority Coordinator: Barry Russell
Location/affiliation: Barry Russel is Curator Emeritus of Fishes at the Museum and Art Gallery of the Northern Territory, Darwin, Australia. Ken Lindeman is Professor and Sustainability Program Chair, Florida Institute of Technology, Melbourne, Florida, USA.
Number of members: approx. 70 in seven regional groups


Barry Russell


Ken Lindeman

Mission statement

To achieve sustainable use and global conservation of snappers, seabreams, grunts, and associated reef-fish species through improved scientific knowledge, community engagement, and management decision-making.

Summary of main activities in 2014

Global Red Listing of >140 species of Seabreams and Porgies Completed
With over 500 species, the SG has continued to focus on Red List assessments and development of the regional workgroups. Red List assessments of global extinction risk for 134 sparid and nine centracanthid species has been a major initiative over several years. In August 2014, the species accounts prepared by SG members went through final reviews by a dozen members of the SG and other colleagues. The final assessments were published in the IUCN Red List in November 2014.

Mediterranean Red List assessments
Support of an IUCN European regional assessment has continued, with completion of draft assessments of 32 sparid, centracanthid, haemulid and lutjanid species occurring in the EU region. The IUCN EU regional office in Brussels is coordinating this assessment and following expert review, the regional assessments will be published early in 2015.

Greater Caribbean Red List assessments of grunts and snappers
Members of the Northwest Atlantic workgroup reviewed 39 species accounts for haemulids and lutjanids (grunts and snappers) from past workshops. These include many iconic coral reef fishes, many of which are also subject to high levels of fishing impact. Submission to the Red List Unit in Cambridge will occur during 2015.

Southwest Atlantic Red List assessments
SG members from Brazil are working with colleagues to build a full set of Red List assessments for many coastal fish families including lutjanid and haemulid species.

Regional Fishery Management Organizations (RFMOs)
The SG began gathering information on member engagement with RFMOs in late 2014 to target future engagement with select RFMOs. Globally, RFMO work is very geography- and culture-specific but for SSG species there are often common conservation threats including bycatch of juveniles; long term overfishing; MPA management needs; nearshore habitat loss; spawning aggregation conservation; climate change impacts; and other issues. There are many examples of bycatch fisheries that induce high mortality on the early life stages of lutjanid and haemulids species, often in regions where adult fishing mortality is also high.

Species Conservation Planning Sub-Committee (SCPSC)
The SG has worked with the IUCN's Species Conservation Planning Sub-Committee to examine the transfer of SCPSC planning principles, developed largely for terrestrial species, to coastal marine fish management and vice-versa. Conservation planning using SCPSC best practices is also very specific to geography and culture, as well as regional trends in climate change. A library of species conservation plans focusing on marine and estuarine species is being assembled, including marine fishes, mammals, reptiles, and invertebrates from diverse countries and management systems. Conservation of diverse, co-occurring SSG SG species assemblages often includes a focus on multispecies planning and marine protected areas that include spawning aggregation sites, including multi-species spawning sites that serve as key biodiversity areas.

Amazing Species
In association with the global sparid Red-Listing, please note the IUCN's *Amazing Species* profile for the remarkable Black Musselcracker (*Cymatoceps nasutus*), endemic to South Africa and recently Red-Listed as Vulnerable, was published online on 8 December: published online.

Future goals/activities

Red Listing of other families
As the SG progresses through Red Listing of sparids, haemulids, and lutjanids, >100 species from other families still require first assessment, including emperors (Lethrinidae), threadfin breams (Nemipteridae) and fusiliers (Caesionidae).

Applied management work with the SCPSC and RFMOs
The SG will continue to gather and apply information on member engagement with species conservation planning and identify opportunities to target engagement with select RFMOs. This work will continue to focus in part on working with fishers to employ traditional ecological knowledge to protect spawning aggregations.

Black Musselcracker (*Cymatoceps nasutus*), Vulnerable. © J. Maggs, Oceanographic Research Institute, Durban

Sturgeon Specialist Group

Co-Chairs: Phaedra Doukakis and Mohammad Pourkazemi
Red List Authority Coordinator: Jörn Gessner
Location/affiliation: Phaedra Doukakis is based in the Center for Marine Biodiversity and Conservation at Scripps Institution of Oceanography, University of California San Diego and the National Marine Fisheries Service (USA); Mohammad Pourkazemi is based at the Iran Fisheries Research Organization, Tehran (Iran) and Jörn Gessner is based at the Leibniz Institute of Freshwater Ecology and Inland Fisheries, Berlin (Germany).
Number of members: 80


Phaedra Doukakis


Mohammad Pourkazemi

Mission statement

The IUCN SSC Sturgeon Specialist Group brings together the world's top expertise on sturgeon conservation and research with a view to assessing the extinction risk of sturgeon species and catalyzing actions to save species from extinction and bring about their recovery.

Summary of main activities in 2014

Sturgeon are amongst the most threatened fish species in the world. Of the 27 species, 17 are Critically Endangered, two Endangered, four Vulnerable, two Near Threatened and just two Least Concern. Some species, such as the Chinese Paddlefish *Psephurus gladius*, are very close to extinction. The sturgeon include some of the largest known fish species that occur in freshwater, including the Chinese Paddlefish, Kaluga (*Huso dauricus*), Beluga (*Huso huso*) and White Sturgeon (*Acipenser transmontanus*). The rapid decline of sturgeon species is due to many factors, including serious over-fishing (both legal and illegal, including for "caviar"), pollution, disruption of migratory routes caused by dams, and habitat loss (for example caused by the formation of shipping routes along rivers, and by flood control measures).

In 2014, the Sturgeon Specialist Group continued its work to reassess the nine species of North American sturgeons for the IUCN Red List of Threatened Species. The species are being assessed as part of a project to prepare a multi-author book on North American sturgeon. The nine species currently under reassessment are the Shortnose Sturgeon (*Acipenser brevirostrum*), the Lake Sturgeon (*A. fulvescens*), the Greed Sturgeon (*A. medirostris*), the Atlantic and Gulf Sturgeon (*A. oxyrinchus oxyrinchus*) and (*A. o. desotoi*), the White Sturgeon (*A. transmontanus*), the American Paddlefish (*Polyodon spathula*), the Pallid Sturgeon (*Scaphirhynchus albus*), the Shovelnose Sturgeon (*S. platorynchus*), and the Alabama Sturgeon (*S. suttkusi*). Most of these species have not been updated on the IUCN Red List since 2004, and so it is a priority of the Sturgeon Specialist Group to complete the reassessments, hopefully during 2015. Of particular concern is the Alabama Sturgeon which was listed as Critically Endangered in 2004.

The European and Asian species were last assessed in 2010. Because these species are particularly threatened (16 of them Critically Endangered), the Sturgeon Red List Authority is starting to formulate plans to reassess them, especially as there is a need to capture more data for some of the species.

The Sturgeon Specialist Group is also considering how it might take more advantage of interactions with the World Sturgeon Conservation Society (WSCS). There is the potential to hold meeting of Sturgeon Specialist Group members to discuss critical priorities for these species at the annual meetings of the WSCS.

Finally, seven sturgeon species were featured at the Biophilia Ball in London on 22 November 2014, celebrating the 50th anniversary of the IUCN Red List. These species are the Yangtze Sturgeon *Acipenser dabryanus*, the Amur Sturgeon *A. schrenckii*, the Chinese Sturgeon (*A. sinensis*), the Kaluga, the Beluga, the American Paddlefish, and the Chinese Paddlefish. This large number of species featured is a testimony to the growing attention being given to these remarkable species, many of which are on the edge of extinction.

Chinese Paddlefish (*Psephurus gladius*), Critically Endangered. © Qiwei Wei

Tuna and Billfish Specialist Group

Chair: Bruce B. Collette
Red List Authority Coordinator: Beth Polidoro
Location/affiliation: The Chair is based in Washington, DC, USA. He is affiliated with the National Marine Fisheries Service Systematics Laboratory at the National Museum of Natural History, Smithsonian Institution.
Number of members: 30

Bruce B. Collette

Mission statement

The main mission of our Specialist Group is to keep the assessments of the threat status of all the species of mackerels, tunas, billfishes, and dolphinfishes (families Scombridae, Istiophoridae, Xiphiidae, and Coryphaenidae) current.

Summary of main activities in 2014

Our main achievement in 2014 was re-assessing the Pacific Bluefin Tuna, which changed in status from Least Concern to Vulnerable.

Future goals/activities

Future goals include re-assessing those species that we had to list as Data Deficient in the 2011 Red List, and completing a book "*Tunas and Billfishes of the World*".

Pacific Bluefin Tuna (*Thunnus orientalis*), Vulnerable. © Monterey Bay Aquarium/Randy Wilder

Chytrid, Zygomycete, Downy Mildew and Slime Mould Specialist Group

Co-Chairs: Tetyana Kryvomaz and Mayra Camino Vilaro
Red List Authority Coordinator: Mayra Camino Vilaro
Location/affiliation: Tetyana is based in Kyiv, Ukraine and is affiliated with Kyiv National Construction and Architecture University; NGO "Ukrainian Ecological Society"; the European Mycological Association; and the International Society for Fungal Conservation. Mayra is based in Havana, Cuba, and is affiliated with the National Botanic Garden, University of Havana
Number of members: 24 members from 17 countries


Tetyana Kryvomaz


Mayra Camino Vilaro

Mission statement

Our mission is to promote the conservation of chytrids, downy mildews, myxomycetes and zygomycetes.

Key objectives:
Raise awareness of the ecological and economical importance of chytrids, downy mildews, myxomycetes and zygomycetes; identify threats these organisms face; establish plans, policies and priorities for dealing with those threats; assess the conservation status of individual species; identify geographical areas and habitats important for their diversity; act as a focal point for organizations and individuals interested in their conservation; provide advice about methods and policies for conserving these organisms

Summary of main activities in 2014

We organized a workshop at the III International Congress on Fungal Conservation (Akyaka, Turkey, November 2013), where conservation perspectives were developed for myxomycetes and other taxa of our Specialist Group. Conservation activity has been overlooked for organisms which previously classified together as "lower fungi": myxomycetes (Protozoa), chytrids and zygomycetes (Fungi), downy mildews (Chromista). We also organized a workshop during the 26th International Days for the Search and Study of Nivicolous Species of Myxomycetes (France, Alps, May 2014), where problems of myxomycetes conservation were discussed with specialists and amateurs.

We created a preliminary conservation action plan for myxomycetes protection as a model for the first conservation evaluation of chytrids, zygomycetes and downy mildews. We organized a workshop at the 8th International Congress on Systematics and Ecology of Myxomycetes (China, August 2014), where IUCN Red List criteria were analysed for slime mould and other "lower fungi".

The first steps were made to adapt IUCN criteria for the evaluation of myxomycetes, chytrid, zygomycete and downy mildew. During the Fungal Red List workshop focused on European species (Sweden, Ekenäs, February 2015) we gave a presentation about myxomycetes assessment and conservation activity and organized a discussion about the terminology problems of evaluations. Five myxomycete species (*Barbeyella minutissima, Diacheopsis kowalskii, D. metallica, Dianema inconspicuum, Lamproderma disseminatum*) were assessed for Red Listing at the European and global level (http://iucn.ekoo.se).

We also promoted the conservation of myxomycetes, chytrids, downy mildews and zygomycetes in scientific institutions, universities and in public. The first private reserve of myxomycetes was created in the Alps (Engins, France) for stationary observation in nature. Finally, the number of Specialist Group members has increased from five to 24.

Future goals/activities

(1) Move forward the conservation activity for chytrid, zygomycete, downy mildew, slime mould; (2) Organize a network of specialists and stakeholders for discussing conservation problems for "lower fungi" and for exchange of successful protection measures; (3) Analyse population trends, threats, and assess species using the IUCN Red List criteria and determine conservation actions for chytrids, zygomycetes, downy mildews, slime moulds; and (4) 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.

Acknowledgements

Thanks to the Mohamed bin Zayed Species Conservation Fund for providing the opportunity to participate in the III International Congress on Fungal Conservation in Turkey and the Fungal Red List workshop in Sweden.

Diacheopsis metallica, Not Evaluated. © Alain Michaud

Cup Fungi, Truffles and Allies Specialist Group

Chair: David Minter
Red List Authority Coordinator: David Minter
Location/affiliation: The Chair is based in Whitby, North Yorkshire, UK. He is affiliated with CAB International (formerly the International Mycological Institute), Egham, Surrey, UK.
Number of members: 11

David Minter

Mission statement

Our mission is to promote the conservation of fungi in general, and cup fungi, truffles and their allies in particular. Their well-being is essential for sustainable life on this planet: plants (the producers) and animals (the consumers) could not exist without fungi (the recyclers). Widespread ignorance of their importance is a key problem for the conservation movement. The Group works to address this problem through education, information, infrastructure, policy and science.

Summary of main activities in 2014

In collaboration with other IUCN SSC fungal Specialist Groups, and with the International Society for Fungal Conservation, we wrote to every CBD Subsidiary Body on Scientific, Technical and Technological Advice (SBSTTA) National Focus Point (the contact person responsible for Rio Convention policy in each participating country), drawing attention to the importance of fungi and the need to take them into account in national reports and strategies; we published an in-depth study of ten species of desert truffles, including a preliminary evaluation of the conservation status of each; we proposed 30 candidate species for Red Listing and contributed information about them to the Global Fungal Red List Initiative [http://iucn.ekoo.se/]; we lobbied the British Government about the importance of retaining mycology at the Royal Botanic Gardens, Kew.

Future goals/activities

(1) Evaluate CBD national reports submitted in 2014, comparing them with earlier reports in their coverage of fungi, and publish the results; (2) Provide feedback to CBD SBSTTA National Focus Points in the light of those evaluations, with suggestions, where appropriate, of ways to cover fungal conservation more adequately; (3) Publish a more general review of the conservation status of desert truffles; and (4) As RLA, process those candidate species which have been passed by the Global Fungal Red List Initiative.

Acknowledgements

The Mohamed bin Zayed Species Conservation Fund is thanked for support of work with desert truffles.

Terfezia alsheikhii, Not Evaluated. © David Minter

Lichen Specialist Group

Co-Chairs: Christoph Scheidegger and Olga Nadyeina
Red List Authority Coordinator: Christoph Scheidegger
Location/affiliation: We are based in Birmensdorf, Switzerland. We are affiliated with the Swiss Federal Institute for Forest, Snow and Landscape Research WSL
Number of members: 24

IUCN SSC Lichen Specialist Group


Olga Nadyeina


Christoph Scheidegger

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.

Summary of main activities in 2014

We assessed two lichen species (*Anzia centrifuga* and *Gymnoderma insulare*) for the 2014 revision of the IUCN Red List.

We established a group of 23 members, who are specialists either on regional floras (Europe, Asia, Africa, Australia, North and South America), or on ecological and taxonomic groups of lichens (like tropical lichens, arid lichens in steppe ecosystems, European deciduous forest lichens, Caucasian lichens, or lichens of the family Parmeliaceae).

We contributed to the Global Fungal Red List Initiative, which was kindly supported by IUCN and the Mohamed bin Zayed Species Conservation Fund. During this year, the Lichen Specialist Group has started a process to Red List a considerable number of lichen species from various part of the world using the fungal Red List website (http://iucn.ekoo.se/en/iucn/welcome).

A project on population biology and conservation measures of the model lichen species *Lobaria pulmonaria* in Tanzania has been initiated and is being supported by a Rufford Small Grant.

Future goals/activities

(1) Organizing two workshops on Lichen Red List assessment at the forthcoming annual meeting of the American Society of Botany and at The New York Botanical Garden; (2) Assessment of 15 or more species for the 2015 revision of the IUCN Red List; (3) Apply for a Mohamed bin Zayed Species Conservation Fund grant for a workshop on Lichen Red List assessments at the 2016 conference of the International Association for Lichenology.

Acknowledgements

The Mohamed bin Zayed Species Conservation Fund, Rufford Foundation.

Common Lungwort Lichen (*Lobaria pulmonaria*), Not Evaluated. © C. Scheidegger

Mushroom, Bracket and Puffball Specialist Group

Chair: Gregory M. Mueller
Location/affiliation: The Chair is based in the USA and works internationally. He is affiliated with the Chicago Botanic Garden, Glencoe, Illinois, USA 60022.
Number of members: 14

IUCN SSC
Mushrooms, Brackets, and Puffballs Specialist Group

Gregory M. Mueller

Mission statement

The Mushroom, Bracket, and Puffball Specialist Group works to raise awareness of the ecological and economical importance of these fungi, develop tools to facilitate efforts by mycologists to document the conservation status of fungi using IUCN guidelines, significantly increase the numbers of fungi that are nationally and globally Red Listed, and ensure that fungi are included in conservation conversations and actions.

Summary of main activities in 2014

Efforts in 2014 focused on implementing the Global Fungal Red List Initiative through workshops, short courses, and seminars. In April, we organized the first-ever global fungal Red List workshop. After training, the 13 participants completed 24 preliminary assessments. Workshops and seminars were held at a number of national, regional, and international conferences including the International Mycological Congress (Bangkok, Thailand), Latin American Mycological Congress (Medellin, Colombia), Mycological Society of America (East Lansing, Michigan, USA), and Polish Mycological Congress (Lodz, Poland), and SSC Steering Committee Seminar (Tallinn, Estonia). Successful grant proposals were submitted in support of 2015 Red Listing workshops. Publications arising from this work include: Mueller, G.M., A. Dahlberg, M. Krikorev. 2014. Bringing Fungi Into The Conservation Conversation: The Global Fungal Red List Initiative. Fungal Conservation 4:12–16; and Suz, L.M., N. Barsoum, C. Cheffings, F. Cox, L. Hackett, A. Jones, G.M. Mueller, D. Orme, W. Seidling, S. van der Linde, and M.I. Bidartondo. 2015. Monitoring forest mycorrhizas at large scales to inform science, management and conservation. Annals of Forest Science: DOI 10.1007/s13595-014-0447-4.

Future goals/activities

A series of Red Listing workshop are being held in 2015: European regional workshop (February), Rusts and Smuts workshop (March), global mushrooms and related fungi (April), Australasian mushrooms and related fungi (July).

Important conference participation includes a dedicated symposium and satellite activities at the 10th Convencion Internacional Sobre Medio Ambiente Y Desarrollo/5th Congreso Biodiversidad y Manejo de Ecosistemas (Havana, Cuba) and Asian Mycological Congress (Goa, India).

Acknowledgements

The Mohamed bin Zayed Species Conservation Fund and Foundation of Lilli and Oscar Lamm are gratefully acknowledged for their critical support of the 2014 and 2015 Red List workshops.

Russula griseocarnosa, Not Evaluated. © Zhu L. Yang

Rusts and Smuts Specialist Group

Chair: Cvetomir M. Denchev
Red List Authority Coordinator: Cvetomir M. Denchev
Location/affiliation: The Chair is based in Bulgaria and works internationally. He is affiliated with the Institute of Biodiversity and Ecosystem Research, Bulgarian Academy of Sciences, 1113 Sofia, Bulgaria.
Number of members: nine

Cvetomir M. Denchev

Mission statement

The main goals of our SG are as follows: (1) organization of global conservation of so-called "microscopic fungi", placed in basidiomycetes; and (2) estimation of species conservation status.

Summary of main activities in 2014

Various difficulties in assessing the status of smut and rust fungi were discussed. The most serious problem for assessment of the conservation status of species of these groups of fungi is connected with a gap in knowledge on the distribution of species (a limited number of distribution records from almost all non-European regions). Our efforts in 2014 were focused on (1) taxonomic revisions; (2) accumulation of distribution records; and (3) assessment of the conservation status of smut and rust fungi.

In the framework of the project *Global Fungal Red List Initiative,* members of the Rusts and Smuts Specialist Group took part in the initial global Red Listing workshop which was held in Flen, Sweden (13–16 April 2014). Twenty-one species of smut and rust fungi with occurrences in countries from Africa, Asia, Australasia, Europe, North and South America have been nominated for assessments. Members of the Specialist Group organized the *Rust and Smut Fungus Red Listing Workshop* which will be held in the Royal Botanic Garden Edinburgh, at the end of March and the beginning of April 2015.

We published *The genus Anthracoidea (Anthracoideaceae) in Japan and some adjacent regions* (Denchev, T.T. et al., 2013. *Mycobiota* 2: 1–125) – a comprehensive account of the species composition and distribution of the *Anthracoidea* species in Japan, Kurile Islands, Sakhalin, and the Korean Peninsula. It reflects the great, but incompletely known biodiversity of East Asia.

Challenges include building awareness that microscopic fungi also need to be included in conservation documents and actions, and promoting research in rust and smut conservation biology.

Future goals/activities

We will continue to study the conservation biology of rust and smut fungi and prepare a global checklist of threatened rust and smut fungi.

Acknowledgements
The Mohamed bin Zayed Species Conservation Fund is acknowledged for the support of *Global Fungal Red List Initiative*.

Ustacystis waldsteiniae, Not Evaluated. © K. Vánky

Bumblebee Specialist Group

Chair: Paul Williams
Deputy Chair: Sarina Jepsen
Red List Authority Coordinator: Rich Hatfield
Programme Officer: Ed Spevak
Location/affiliation: Paul is affiliated with the Natural History Museum in London, UK, and Sarina is affiliated with the Xerces Society in Portland, USA.
Number of members: 77 members from 22 countries

Paul Williams

Mission statement

The aim of the Bumblebee Specialist Group (BBSG) is to foster the conservation of bumblebees (c. 250 species) and their habitats around the world.

Summary of main activities in 2014

The regional Red List assessments have continued to make progress with assessments of most of the North American fauna now in review. In South America, initial draft assessments are nearing completion. In Mesoamerica, we are on the verge of draft assessments. In Asia, the faunas are larger and their taxonomy and distribution is less well known, so much more remains to be done. In North Asia, bumblebee distributions are being mapped with first versions of maps now online, although field surveys and quantification of populations continues. In West Asia, field surveys are being extended to new areas in Iran. In East Asia, with half of the world's species, the first guide with keys and distribution maps to the bumblebees of North China (78 species) has been published and a broad-scale preliminary analysis of the situation for the large alpine fauna (44 species) of the Tibetan plateau has been produced.

Future goals/activities

An international workshop for Regional Coordinators of the BBSG is planned for April 2015 at the IX Mesoamerican Congress on Native Bees, at San Cristobal de Las Casas, Chiapas, Mexico, to help standardize Red List methods among the New World members and to help complete draft assessments.

Acknowledgements

Thanks to the IUCN for funds to facilitate the BBSG workshop at the IX Mesoamerican Congress on Native Bees.

Bombus pyrosoma, Not Evaluated. © Paul Williams

Butterfly Specialist Group

Chair: Scott Hoffman Black
Red List Authority Coordinator: Monika Böhm
Location/affiliation: Scott is affiliated with the Xerces Society for Invertebrate Conservation (USA) and Monika is affiliated with the Institute of Zoology at the Zoological Society of London (UK).
Number of members: 14 members from seven countries

Scott Hoffman Black

Mission statement

The goal of the IUCN Butterfly Specialist Group is to conserve all Lepidoptera insects (butterflies and moths) and their habitats around the world by empowering assessments, and practical conservation programs – including habitat restoration and management, monitoring of populations and reintroduction projects.

Summary of main activities in 2014

The Butterfly Specialist Group held our semi-annual meeting in conjunction with the International Butterfly Conservation Symposium in Southampton, England, in April 2014. Several Butterfly SG members also gave presentations at the symposium, including Robert Michael Pyle, Dave Edge, Jaret Daniels and Scott Black.

The IUCN Butterfly Specialist Group reviewed the IUCN assessment for the Black Grass-dart Butterfly (*Ocybadistes knightorum*) from Australia and we are currently reviewing over 100 assessments of species that are endemic to Mediterranean and Europe.

The Butterfly Specialist Group continues to manage a discussion list serve with over 100 participants. This list serve was used to reach out to butterfly experts to pull together scientific research related to pollination by butterflies. The information is being used in various publications to inform the public about the important role butterflies and moths play in the pollination of plants.

The Butterfly Specialist Group is also launching a new website next month that will better convey what we are doing and provide a clearing house for resources for butterfly conservation scientists.

Specialist Group Chair Scott Black met with staff from the World Wildlife Fund Mexico and the Mexico Secretariat of Environment and Natural Resources (*Secretaría del Medio Ambiente y Recursos Naturales, SEMARNAT*) in October 2014 to discuss butterfly conservation in Mexico. The main focus of the meeting was Monarch Butterfly conservation. In his capacity as Co-Chair of the Monarch Joint Venture, Ex officio Member of the Federal (US) Monarch Butterfly High Level Working Group, IUCN Butterfly Specialist Group and Executive Director of the Xerces Society, Scott Black is assisting in developing a Tri-National Monarch Butterfly Conservation Plan for Mexico, Canada and the US that is slated to be signed off by all three countries in the fall of 2015.

Future goals/activities

We will continue to provide expert review for butterfly and moth assessments. We also hope to launch a special campaign to highlight the conservation needs of the world's swallowtail butterflies. We will also continue to serve as a network for communication.

Acknowledgements

Thanks to the Xerces Society for Invertebrate Conservation for providing funding for staff time for all administrative activities of the IUCN Butterfly Specialist Group.

Leona's Little Blue (*Philotiella leona*), Not Evaluated. © Sarina Jepsen, Xerces Society

Cave Invertebrate Specialist Group

Co-Chairs: Tony Whitten and Louis Deharveng
Red List Authority Coordinator: Sonia Khela
Location/affiliation: Tony is affiliated with Fauna & Flora International, UK, and Louis is affiliated with the National Museum of Natural History, France. The Group's Secretariat is based in Cambridge, UK, in the offices of Fauna & Flora International.
Number of members: 78


Tony Whitten


Louis Deharveng

Mission statement

The mission of the Cave Invertebrate Specialist Group is to stimulate the conservation of all cave invertebrates, focusing on those not yet covered by other SSC Specialist Groups.

Summary of main activities in 2014

Soon after the group was established at the end of 2013, members were requested to put forward any species requiring Red List assessments. The number of submissions has been disappointing, but we are dealing with a group – and a group of specialists – which has not received much attention in the past. The RLA Coordinator (working in a part time voluntary capacity from Aug 2014 after the initial part-time funding was exhausted) has set up two working sets in IUCN SIS for first assessments and re-assessments with the intention to enter and manage species assessments into SIS, coordinate, review and submit assessments. Members are advised and are being provided with the relevant Red List training and assessment materials to carry out assessments themselves. Louis Deharveng is working on processes that will help the scientific review of these submissions. During the period of its establishment, a 'living fossil' spider (*Liphistius kanthan*) which is threatened by a Lafarge limestone quarry in Malaysia was listed as CR.

The focus on limestone quarries operated by major cement companies and the micro-endemic species they impact is continuing, and the Chair of the SSC has signed a number of letters to their CEOs expressing concern and offering assistance.

A brochure outlining the purpose of the Group was prepared for cement executives as part of a consultation by the Cement Sustainability Initiative of the World Business Council for Sustainable Development.

The Group's Facebook page now has 452 likes.

Future goals/activities

Red List assessments are now underway and the following species will be submitted to the IUCN Red List for the June 2015 update:

Five species for re-assessment: *Spelungula cavernicola, Neoleptoneta myopica, Mictocaris halope, Platyops sterreri, Meta dolloff*.

The following species will be assessed for the first time: seven species of *Heteropoda*, *Sidublemus solidus, Eostemmiulus caecus,* seven species of Anatolian cave crickets and a further 25 species of anchialine marine invertebrates from Bermuda.

In 2015, the Group will continue its close cooperation with the IUCN Key Biodiversity Areas (KBA) group in order to get KBAs relevant to cave biodiversity registered.

Undescribed species of whip-spider from a cave in Bali, Indonesia. © Tony Whitten

Coral Specialist Group

Chair: David Obura
Red List Authority Coordinator: Flávia Nunes
Location/affiliation: The Chair is based in Mombasa, Kenya, affiliated with CORDIO East Africa.
Number of members: 21

David Obdura

Mission statement
To identify the key opportunity/advantage of the Coral Specialist Group (CSG) in the context of global action and interest on coral reefs to deliver on the goals of sustaining coral reefs into the future.

Summary of main activities in 2014
Continued inputs with the IUCN Global Marine Species Assessment (GMSA) and US offices on the proposed listing of 66 corals on the Endangered Species Act, USA. The final decision was to list 20 species of corals as threatened on the US ESA, comprising five Caribbean and 15 Indo-Pacific corals.

The Red-Listing of Mediterranean anthozoan species was conducted through the IUCN Mediterranean office in 2014, with an expert workshop in September 2014. Of 25 species, 19 were proposed as Data Deficient, three as Endangered and three as Least Concern. The results of the listing process to be submitted to the RLA for verification during 2015.

Future goals/activities
The principle goal is to deliver on the group's mission through consolidating the relevance of species assessments in the context of ecosystem, ecosystem service and resource sustainability assessments in the context of global issues of poverty, food security and resilience/adaptation to global changes (including climate change, population growth and development). This will make species assessments more attractive and relevant to donors, as well as participants in the process. As part of this, to deliver on the IUCN Programme goals of updating the Red List assessment of corals in line with reporting on the CBD's Strategic Programme for Biodiversity's Aichi Target 10.

Ctenella chagius, Endangered. © David Obura

Dragonfly Specialist Group

Chair: Viola Clausnitzer
Red List Authority Coordinator: Frank Suhling
Location/affiliation: The Chair is located in Senckenberg, Görlitz, Germany
Number of members: 44 members from 28 countries

Viola Clausnitzer

Mission statement

Our aim is to foster the conservation of dragonflies (Odonata) and their habitats globally; by assessing their threat status according to The IUCN Red List; education of non-specialists (field guides, workshops, publications etc.) and using dragonflies as a flagship species for monitoring water quality.

Summary of main activities in 2014

In 2014, several small grants were granted to members of the DSG, allowing projects concerned with dragonfly conservation issues and assessments in understudied areas, e.g. the sub-Himalayan region in Pakistan, New Guinea, Mondulkiri Province, Cambodia, and Samoa.

African Odonatology has been greatly pushed forward in 2014 with the publication of an identification book (see further down) and the possibility to distribute 100 copies free of charge to African scientists and institutions thanks to a JRS grant to Michael Samways and KD Dijkstra (http://jrsbiodiversity.org/grant/stellenbosch_dragonflies/). Also based on this grant, a training workshop for participants from all over Africa will be held in South Africa later in 2015. See also https://www.facebook.com/african.dragonflies for the African activities. Identification books are usually the main key to enhance further studies. Especially for tropical areas there is still a lack in appropriate and up-to-date identification literature. From DSG members two identification books were published in 2014:

The "*Dragonfly fauna of Sri Lanka: distribution and biology, with threat status of its endemics*", published by Pensoft Publishers Ltd is authored by members of the Dragonfly Specialist Group (Matjaz Bedjanic, Karen Conniff, Nancy van der Poorten and Ali Salamun); field work for the book was partly funded by Rufford Small Grants support. The book has 321 pages and beside detailed texts it also includes hundreds of colour photographs, maps and charts. It is an Open Access publication and can be freely downloaded as a .pdf file (26 mb), or ordered as a paperback.

Violet Dropwing (*Trithemis annulata*), Least Concern. © H.-J. Clausnitzer

The "*Dragonflies and Damselflies of Eastern Africa: Handbook for all Odonata from Sudan to Zimbabwe*" was published by DSG members Klaas-Douwe B. Dijkstra and Viola Clausnitzer. This is the first handbook of its extent and detail on afrotropical Odonata. Extending from Sudan and Somalia to Zambia and Mozambique, including the entire eastern half of the Congo Basin, the book covers a third of Africa, about ten million square kilometres, an area comparable to China or the United States, but treats almost two-thirds of the continent's species. More than 500 species are illustrated with 1,120 original drawings and over 360 colour photographs portraying 320 species. Identification keys to adult males of all species set a new standard for recognizing 'the birdwatcher's insects' in Africa, detailed genus descriptions provide the most comprehensive account of their ecology and taxonomy so far, and all species have been furnished with a vernacular English name for the first time. Verified checklists are presented for Democratic Republic of Congo, Ethiopia, Kenya, Malawi, Mozambique, Rwanda, Somalia, South Sudan, Sudan, Tanzania, Uganda, Zambia and Zimbabwe. Thanks to a JRS grant 100 copies of the Eastern Africa dragonfly book are distributed free of charge to African scientists and institutions.

In South America, selected dragonflies were assessed according to the Red List for Bolivia with Dennis Paulson, Ken Tennessen and Joachim Hoffmann present in the First Tropical Andes Workshop in April 2014. Members of the DSG contributed to the "Amazing Freshwater Species" project by the SSC.

Future goals/activities

We are aiming to have all dragonflies on the Red List by 2016. This requires a lot of work, and meetings (especially for South America's dragonflies) and will become difficult without external funding. Currently, 2,791 dragonflies are on the RL (half of all known species). In 2014, over 40 new assessments were published. Most Australian and North American dragonflies are not on the Red List, but a comprehensive database is available. Hopefully these data can be transferred into the Red List in 2015. All African Dragonflies are currently updated and will be published with the next Red List release.

Freshwater Crustacean Specialist Group

Chair: Neil Cumberlidge
Red List Authority Coordinators: Keith Crandall (Crayfish), Darren C.J. Yeo (Freshwater Crabs), Sammy de Grave (Freshwater Shrimps)
Location/affiliation: The Chair is based in the USA and is affiliated with Northern Michigan University in Michigan and works on African and Madagascan freshwater crabs.
Number of members: 27

Neil Cumberlidge

Mission statement

Key objectives: (1) To act as the Red List Authority and to update Red List species assessments; (2) To promote long-term conservation worldwide by the development of conservation strategies for species threatened with extinction; (3) To promote integrated research on biodiversity and conservation; (4) To educate non-specialists about all aspects of the group; and (5) To maintain and share up-to-date world species lists, keep track of the discovery of new species, and list the Red List status for each species.

Summary of main activities in 2014

In 2014, the Freshwater Crustacean Specialist Group (FCSG) changed its name (and logo) from the FCCSG to reflect its expanded coverage beyond freshwater crabs and crayfish to now include freshwater shrimps. All three freshwater decapod groups now have global Red List conservation assessments available, and three significant reports of the Red List results have been published in top scientific journals. Our name change and new logo are aimed at accommodating future expansions.

We appointed several new members to the FCSG, including a new Red List Authority Coordinator for the freshwater shrimps. The FCSG now contributes more than 2,600 species of Red-Listed invertebrates to the CBD targets (which have long been dominated by vertebrates). We plan future expansion of the FCSG taxonomic coverage to include the 85 species of Aeglidae (anomuran freshwater crabs from South America) whose global Red Listing is currently underway). Another 200 species of freshwater fairy shrimps and clam shrimps could also be included in the future.

The FCSG processed the Red Listing of species of other freshwater crustaceans (water fleas and sesarmid crabs) despite the fact that we do not yet formally cover these groups.

Aubry's Crab (*Sudanonautes aubryi*), Least Concern. © Jens Kipping

Invertebrates

In March 2014, several FCSG members took part in a workshop in Singapore (with the IUCN SSC Invertebrate Conservation Sub-Committee on Strategic Conservation Planning) to develop a Species Conservation Plan for the Critically Endangered Singapore Freshwater Crab. The plan will be implemented in 2015.

In March 2014, FCSG members participated (and Crandall coorganized) a Royal Society Meeting on '*Phylogenetics, Conservation and Extinction*' which had a broad array of IUCN Red List contributions and usages for conservation efforts. FCSG members contributed three species of freshwater crustaceans to IUCN's *'Amazing Freshwater Species'* project.

In 2014, distribution maps for all of the assessed species of Neotropical freshwater crabs were completed, published, and will now be made available on the IUCN Red List website. Conservation assessments of the more than 100 new species of freshwater crabs described since the last global Red Listing in 2009 were processed. FCSG members also contributed to the IUCN report '*The Status and Distribution of Freshwater Biodiversity in the Arabian Peninsula'*.

Success stories

Coorganization by FCSG members of a special symposium on decapod conservation at the 8th International Crustacean Congress in Frankfurt, Germany, in August 2014, including presentation of a keynote address "*Developing Conservation Strategies for Threatened Freshwater Decapods Worldwide*".

Co-editing by three FCSG members of a major volume on freshwater decapod conservation (*Crustaceana Monographs: Advances In Freshwater Decapod Systematics and Biology*, Koninklijke Brill, The Netherlands, 2015).

Presentation of a keynote address by FCSG Chair at a special symposium on freshwater decapod conservation ('*Freshwater Crabs and the Biodiversity Crisis: Meeting the Conservation Challenges*') at the Joint International Conference of the International Association of Astacologists and the Carcinological Society of Japan, in Sapporo, Japan.

Co-editing by two FCSG members of a multi-author volume *'A Global Overview of the Conservation of Freshwater Decapod Crustaceans'* (Springer, 2015/16).

Publication by FCSG members of two major articles summarizing the results of the global Red Listing of 572 species of freshwater crayfish (*Philosophical Transactions of the Royal Society*, 2015) and 763 species of freshwater shrimps (*PLOS One*, 2015).

Publication by FCSG members of papers on the phylogenetic distribution of IUCN Red List conservation categories and the first EDGE analysis for the freshwater crayfish (*Philosophical Transactions of the Royal Society*, 2015).

Publication and implementation of the IUCN Species Conservation Strategy recovery plan for the Critically Endangered Singapore Freshwater Crab following a workshop in Singapore in March 2014.

Future goals/activities

(1) To help implement the Species Conservation Plan aimed at saving the Critically Endangered Singapore Freshwater Crab from extinction; (2) To process the more than 100 first-time Red List assessments of new species of freshwater crabs, crayfish, and shrimps described since the last global assessments of these groups; (3) To encourage global Red Listing studies of other groups of freshwater crustaceans that have not yet been assessed; (4) To link updated freshwater crustacean species lists to the WoRMS taxonomic database; and (5) To represent freshwater crustaceans as high priorities for genome sequencing and to provide genomic resources for conservation efforts for the Invertebrate Genome Alliance.

Grasshopper Specialist Group

Co-Chairs: Axel Hochkirch and Mark Bushell
Red List Authority Coordinator: Baudewijn Odé
Location/affiliation: Axel Hochkirch is based in Trier (Germany) at Trier University. Mark Bushell is based in Bristol (UK) at Bristol Zoological Society.
Number of members: 74 members from 30 countries


Axel Hochkirch


Mark Bushell

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.

Summary of main activities in 2014

A strategic planning workshop was held in June for *Prionotropis hystrix rhodanica,* a Critically Endangered grasshopper from southern France. The conservation action plan for this subspecies was finalized in summer 2014 and will be implemented in the coming years. The number of assessments of Orthoptera for the IUCN Red List was increased by 205 to 441 species. These assessments include all known bush-cricket species of South Africa, which were assessed by Corinna Bazelet and Piotr Naskrecki. Additionally, one mantis species was re-assessed and another one newly assessed (Roberto Battiston). The fourth issue of the GSG newsletter "*Newshopper*" was published and widely circulated.

Phalangacris alluaudi, Critically Endangered. © Lucy Neumann and Dominik Schwab

Red List assessments of all European species of Orthoptera are now funded by the European Commission (starting November 2014). We participated at the World Parks Congress, where we showed the film "Sticky" on the recovery of the Lord Howe Island Stick Insect. The director (Jilli Rose) was present as well as some living insects. Many GSG members are involved in research projects for Orthoptera conservation, including research on habitat preferences and distribution of rare Orthoptera on the Seychelles, the feeding ecology of the La Palma Stick Grasshopper (*Acrostira euphorbiae*) and an evaluation of the translocation success of the Mercury Islands Tusked Weta (*Motuweta isolata*).

Future goals/activities

The European Red List of Orthoptera will be completed by 2016. The implementation of the conservation strategy for *Prionotropis hystrix rhodanica* will be continued in 2015 and a breeding program will be started in Thoiry Zoo. New Red List assessments are planned for South American and Mexican species of Orthoptera, Tanzanian bush-crickets, European mantids and a re-assessment of *Dryococelus australis* as well as new assessments for several other species. We also plan to identify other priority species of Orthoptera for strategic conservation planning.

Acknowledgements

Thanks to the Mohamed bin Zayed Species Conservation Fund, Zoologische Gesellschaft für Arten- und Populationsschutz (ZGAP), Trier University, and Bristol Zoological Society.

Horseshoe Crab Specialist Group

Co-Chairs: Mark L. Botton and Paul K.S. Shin
Red List Authority Coordinators: Mark L. Botton and Paul K.S. Shin
Programme Officer: Kevin Laurie
Location/affiliation: Mark Botton is affiliated with the Department of Natural Sciences, Fordham University, USA; Paul Shin with the Department of Biology and Chemistry, City University of Hong Kong, Hong Kong, and Kevin Laurie with the Hong Kong Coast Watch, Hong Kong.
Number of members: 56


Mark L. Botton


Paul K.S. Shin

Mission statement

The four extant species of horseshoe crabs are imperiled because of overfishing for use as food, bait, the production of biomedical products derived from their blood, and because of habitat loss or alteration due to shoreline development and armoring 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.

Summary of main activities in 2014

Publication and Conferences

Specialist Group Co-Chairs Paul Shin and Mark Botton, along with SG members Siu Gin Cheung and Ruth Carmichael, received a book contract from Springer Publishing to edit a book, entitled "Changing Global Perspectives on Biology, Conservation and Management of Horseshoe Crabs". This volume will contain 37 chapters written by authors from nine nations, and will feature a foreword authored by Dr Simon Stuart of IUCN. We are currently working on the final copy editing of the manuscripts, with expected publication in June 2015.

Much of our energy in the past year has been devoted to the planning of the Third International Workshop on the Science and Conservation of Horseshoe Crabs, which will take place from 15–19 June 2015 in Sasebo, Japan (http://www.pearlsea.jp/iwscahc2015-e/index.html). The Horseshoe Crab SG is responsible for organizing the scientific presentations, workshops, and public education events. We have given input to our Japanese coorganizers regarding the overall meeting schedule and planning.

The 2015 Workshop will be an opportunity for us to gauge our progress as a SG since its inception in 2012, and to meet and discuss horseshoe crab conservation issues with scientists who have recently joined our efforts. These efforts will better inform Co-Chairs Botton and Shin in advance of the 2016 IUCN World Conservation Congress and will assist us in preparing the documentation for the Red List Assessments for the Asian horseshoe crabs (see below).

Specialist Group member Dr John Tanacredi organized a meeting of the Horseshoe Crab SG at Molloy College, New York on 24–25 April 2015. In addition to conducting regular business, our meeting was highlighted by lectures by Shin and Botton about horseshoe crab conservation issues in Southeast Asia and the US, followed by a panel discussion about the overall importance of horseshoe crabs and the role of the IUCN in their conservation. This event attracted an audience of several hundred College and High School students from the area. We gratefully acknowledge the travel support provided by Molloy College to the SG members.

Co-Chair Paul Shin and SG members Siu Gin Cheung and Joe Cheung from Hong Kong and Tom Novitsky from USA attended a "Workshop of Taiwan, Hong Kong and Mainland on the Nearshore Resources and Environment of Beibu Gulf – Conservation and Wise Use of Horseshoe Crab Resources" in Behai City, Guangxi Province, China on 7–8 June 2014. The workshop comprised presentations on the conservation and wise use of horseshoe crabs as a resource, artificial breeding, protection of spawning ground and habitat, population assessment, utilization of horseshoe crab blood as TAL (*Tachypleus* amoebocyte lysate) and its alternatives, and public education by scientists, conservationists and stakeholders from the three places. A half-day field trip was also arranged

American Horseshoe Crabs (*Limulus polyphemus*), Near Threatened. © Mark L. Botton

to view a demonstration of how to implement *in situ* breeding trials from mating pairs of the Chinese Horseshoe Crab (*Tachypleus tridentatus*) based on experiences from Taiwan. One of the major outcomes of the workshop is the formation of a regional Horseshoe Crab Conservation Consortium, with the missions to: (1) promote the conservation status of horseshoe crabs; (2) reduce illegal utilization and trade of horseshoe crabs and enhance their sustainable use; (3) promote the establishment of protected areas for horseshoe crabs and enhance effective management and habitat restoration; (4) develop research and conservation capacity and strengthen sharing of information; and (5) raise the awareness of the Government, public and other stakeholders regarding the conservation of horseshoe crabs.

Update on Red List Assessment
The *Limulus polyphemus* (American Horseshoe Crab) Red List Working Group completed its Draft Assessment in summer 2014. The document is currently undergoing internal review before submission to IUCN.

The Asian Red List Working Group has made important new contacts with scientists in some of the nations in Southeast Asia where information about the status of horseshoe crabs has been scarce. At present, all three species of Asian horseshoe crabs (*Tachypleus tridentatus*, *T. gigas* and *Carcinoscorpius rotundicauda*) are regarded as 'Data Deficient.' Synthesis of data and information about Asian horseshoe crab populations is ongoing. The group is prioritizing the Red List assessment for *Tachypleus tridentatus*, based on evidence of serious population declines from Japan, Taiwan, Hong Kong and elsewhere.

Future goals/activities
The group's plan for 2015 is to complete the updated Red List assessment for *Limulus polyphemus*, with a view to submitting to IUCN for validation, and collect further data on the Red List assessment for another species, *Tachypleus tridentatus*. Our most important event will be the Third International Workshop on the Science and Conservation of Horseshoe Crabs, June 2015, in Sasebo, Japan.

Mollusc Specialist Group

Chair: Mary Seddon
Red List Authority Coordinators: Manuel Lopes-Lima (Freshwater Bivalves), Howard Peters (Conus), Louis Alcock (Cephalopods), Eike Neubert (European Landsnails)
Location/affiliation: The Chair is based in the UK
Number of members: 79 members in 31 countries

IUCN SSC MOLLUSC SPECIALIST GROUP

Mary Seddon

Mission statement
To conserve the diversity of Mollusca and their habitats globally by:
(1) assessing their threat status according to the IUCN Red List; (2) communicating through production of newsletters, species profiles, workshops, social media; (3) developing conservation plans for management of Critically Endangered species; and (4) promoting sustainable use of harvested species (marine, freshwater and terrestrial realms)

Summary of main activities in 2014
Mission 1: Progress on Red Listing
In 2014, over 430 new mollusc assessments were published, so by the latest update (2014.3), we have assessed over 7,200 molluscs. We are now 66% towards our target of the completion of the Global Freshwater Mollusc Assessment (c. 6,000 species).

Freshwater habitats and their species (3,942 freshwater species on Red List):
In cooperation with the IUCN Freshwater Biodiversity Unit in Cambridge, efforts have been focused on the Red List assessments for the SW Asia and Eastern Mediterranean regions in 2014. Two IUCN publications improve knowledge on this region: Darwall, W., Carrizo, S., Numa, C., Barrios, V., Freyhof, J. and Smith, K. (2014). *Freshwater Key Biodiversity Areas in the Mediterranean Basin Hotspot: Informing species conservation and development planning in freshwater ecosystems*. Cambridge, UK and Malaga, Spain: IUCN. x + 86pp.; and Smith, K.G., Barrios, V., Darwall, W.R.T. and Numa, C. (Editors). 2014. *The Status and Distribution of the Freshwater Biodiversity* in the Eastern Mediterranean. Cambridge, UK, Malaga, Spain and Gland, Switzerland: IUCN. xiv+132pp.

The Eastern part of the Mediterranean Basin is a region rich in highly threatened freshwater species. Over 45% of the molluscan fauna is threatened with extinction in the region (Seddon et al., 2014), making molluscs one of the most threatened taxonomic groups, contrasting with the dragonflies, which with their more mobile lifestyle, have 6.7% species that are threatened. In this region, freshwater molluscs were most threatened by modification of the freshwater habitats, pollution and climate change.

An ongoing assessment of Canadian freshwater species is being managed by Natureserve/BAU unit (Washington) with the assistance of Mary Seddon and other Mollusc Specialist Group (MSG) members, using the revised Conservation Assessment for North American Species (published in 2013) and existing Natureserve data, with planned update of the IUCN listings in 2015.

The Freshwater Bivalves Red List Authority subgroup was established under the coordination of Manuel Lopes-Lima to deal with the c. 1,000 species of this keystone group in freshwater systems. To date, 713 species have assessments in the Red List. In 2014, we supported the BAU unit (Washington) with their assessments on the Tropical Andes. In addition, six Australian species assessments were completed, and a new project to monitor the status of all Asian bivalves is ongoing. Future meetings include the 2nd International Meeting on Biology and Conservation of Freshwater Bivalves in New York State in October 2015.

Marine habitats and their species (1,172 marine species on Red List):
A new project is being developed by Howard Peters (University of York), a global assessment of the Abalone Species. Within *Conus* with 661 species on the Red List, Howard Peters and Manolo Tenerio created a review of the AZE species for the Cape Verde Islands, a hot-spot of diversity for these species. The Cephalopod Red List Authority subgroup led by Louise Alcock have now assessed 494 species. The IUCN Global Marine Species Assessment Unit conducted an assessment of the reef-forming bivalves, and these species will be added to the Red List during 2015.

Terrestrial habitats and their species (2,332 land snails on Red List):
The European Landsnail Red List Authority subgroup led by Eike Neubert (National Museum, Bern) worked with the European Red List Unit in Brussels on plans to assess the remaining 800

Kaputar Pink Slug (*Triboniophorus* sp. nov. *'Kaputar'*), Endangered. © Michael Murphy

species. This project should commence in 2015.

Data is being collected for the predatory landsnails from the Eastern Arc mountains (e.g. *Gulella* and *Tayloria* species) for re-assessments by members of the informal *African Non-marine Molluscs* network. Mary Seddon is coordinating this activity.

A new project funded by a grant from MBZ on the Galapagos landsnails has been started on Floreana coordinated by Island Conservation with MSG member Christine Parent. Surveys continue to try to assess the impact of non-native species, as well as establish whether some of the Critically Endangered species are still extant. Christine Parent is coordinating the reassessment of the Red List status.

Mission 2: Outreach: Our editor Robert Cowie has taken on two sub-editors (Europe and North America) to increase speed of production of *Tentacle*, our annual newsletter. It is produced electronically as downloadable pdfs, from University of Hawaii. One issue was produced in March 2014 and another in February 2015.

Lobbying: Working with the SSC Cave Invertebrates Group Chair Tony Whitten, the species *Plectostoma sciaphilum,* a snail known from a single limestone hill in Peninsular Malaysia, is now listed as Extinct as a result of the hill being entirely destroyed by limestone quarrying by a large company. The future of several other species in the region is uncertain for similar reasons. Whilst some mining companies are starting to take the necessary steps to reduce impact, IUCN is urging stronger commitment to prevent further extinctions. IUCN have written an official letter to the cement company drawing attention to the current status of these species, which include a species named after the company, *Charopa lafargei.*

Mission 3: On the Ground Conservation
A *Partula* workshop was held in 2014, reviewing the status of the iconic *Partula* species in active management programmes for the conservation breeding programme for those species which are Extinct in the Wild. There is ongoing work on reintroduced populations in Tahiti, with funding support from various donors and assistance from the French Polynesian ministry.

A large landsnail from Viet Nam, *Bertia cambodjiensis*, was Red Listed in 2014, and is now part of a conservation breeding programme combining Viet Nam state agencies and organizations, Natural History Museum (London) and London Zoo.

The project on Freshwater Bivalves in Morocco is still looking for funding. When funding has been put in place, then it will form part of the proposed ICSC actions on testing IUCN conservation planning processes for the SSC strategic plan.

One freshwater gastropod in Europe, which was CR in 2011, is now extinct at its last remaining site, but is currently being maintained as EW, due to conservation breeding programmes in Romania, although the longevity is still in doubt.

Recent work has been supported by Natura 2000 and EU Life Plus projects for the high altitude areas on the Madeiran Islands to establish and model the future impacts of climate change on the endemic species, as well as re-establish grassland and stabilize the steep slopes where the endemic Madeiran Storm Petrel breeds. This provides valuable data on the application of modelling under different climate change scenarios.

The new protected landsnail community in Australia, provides the first use of a community, rather than specific species, for designating protected areas. One iconic and eye-catching species, the Kaputar Pink Slug was Red Listed in November 2014. This slug (*Triboniophorus* sp. nov. *"Kaputar"*), endemic to Mount Kaputar in New South Wales, Australia was listed as Endangered based on its restricted range and threats from climate change and habitat loss. The species is naturally very limited in its distribution and habitat requirements, as it occupies the highest parts of Mount Kaputar and as the area increases in temperature and habitats disappear, this species has nowhere to move to. Habitat is being degraded by increased frequency of fire and grazing of feral pigs. Much of the high-elevation wet eucalypt forest on freehold properties bordering the eastern edge of Mount Kaputar National Park has been cleared for agriculture and it is likely that the majority of off-park habitat for this species has been lost.

Future goals/activities
The main focus of activities remain the completion of the Global Freshwater Mollusca Assessment, with ongoing assessments in Canada and South America due for publication in 2015 and 2016. New projects are planned for Madagascar, Wallacea, and SW Asia. Other work on landsnails and marine species continues by scientists in voluntary capacity: they are working on assessments for Ogasawa (c. 60 species), Galapagos (c. 50 species) and the Eastern Arc Mountains (120 species) to improve knowledge of the status of 1397 out-dated IUCN Red List assessments. New assessments include the octopus, squid and cuttlefish.

Acknowledgements
Thanks to the many zoos, snail farms, aquarium, aquaculture and fish farms around the world for their work on conserving populations of threatened landsnails, marine molluscs, and freshwater bivalves.

Thanks to the many sponsors of different activities of members of MSG: IUCN FBU, IUCN European Office, IUCN BAU Washington, CEPF Mediterranean, CEPF Oceania, CEPF Indoburma, CEPF Western Ghats, NERC, University of York, Natural History Museum (London), Frozen Arc Project, Netherlands Organisation for Scientific Research, Zoological Society of London, Auckland Zoo, University of Seville, University of the Azores, University of Hawaii, Oahu Army Natural Resources Protection Program, Hawaii Department of Land and Natural Resources and the Nature Conservancy, Unitas Malacologica, North Caroline State Museum, Kadoorie Farm and Botanic Garden and the National Natural Science Foundation of China, the Spanish Agency for International Development Cooperation (AECID), European Commission funded Biofresh project, and the National Parks Autonomous Agency (OAPN) of the Spanish Ministry of Agriculture, Food and the Environment.

South Asian Invertebrate Specialist Group

Co-Chairs: B.A. Daniel and Muhammed Ather Rafi
Red List Authority Coordinator: Sanjay Molur
Location/affiliation: The Chairs are based in Coimbatore, India and Islamabad, Pakistan. They are affiliated with Zoo Outreach Organization, India and the National Agricultural Research Centre, Pakistan.
Number of members: 27


B.A. Daniel


Ather Rafi

Mission statement

To influence, encourage, and assist societies in South Asia to conserve invertebrate diversity; to achieve it through knowledge, empowerment, governance and operations.

Summary of main activities in 2014

This regional Specialist Group includes eight South Asian countries: Afghanistan, Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan and Sri Lanka. During 2014, the South Asian Invertebrate Specialist Group (SAsISG) activities were focused on fulfilling the IUCN Species Strategic Plan 2013–2016. Some of the major activities of the SAsISG are included in this report. From the regional perspective, butterflies, millipedes and selected spider groups are the priority groups included in the Species Strategic Action Plan for IUCN Red List assessment. South Asia has more than 1,500 species and subspecies of butterflies. The SG, with the generous support of the funding agencies and with the support of the network members, collated information on butterflies of south Asia for about 900 species from six families. The biggest challenge of this ongoing project is the taxonomic disputes and scattered species information. The objective of this project is to assess and to develop butterfly conservation action plan for this region.

As per the strategic action plan, the SG initiated a project in early 2014 to collate species information on millipedes of India. The estimated number of Indian millipedes is about 500, however, based on the existing literature, a checklist containing 229 species has been worked out. Species information collation is in progress but, information on distribution are scanty. This is a project run with the support of the host institute; however, efforts are made to raise funds and to complete it by the year 2016.

In 2014, a series of training programmes on the freshwater biodiversity of the Western Ghats in India, such as odonates, molluscs and aquatic plants, were conducted. That was to fulfill the recommendations of the status assessment workshop organized by the IUCN Global Species Programme and Zoo Outreach Organization. After the project period, in 2014, three national level conferences on freshwater biodiversity were conducted by the participating institutes and also a variety of awareness programmes on freshwater biodiversity conservation were organized at a national level (http://zooreach.org/ZOO_WILD_Activities/2012/Aug2012_Edu_Cons_FWBWG.htm).

As a network activity, the SG encouraged researchers from this region to publish their research findings in the monthly peer-reviewed *Journal of Threatened Taxa* (www.threatenedtaxa.org). A total

Rhyothemis variegate, Least Concern. © Ashish

of 37 invertebrate articles have been published in the Journal during 2014. Articles include a variety of species groups such as copepods, ostracods, rotifers, nematodes, orthropods, molluscs, spiders, beetles and a high number of articles on butterflies, moths, hymenopterans and odonates.

Understanding the impact of biodiversity is one of the priorities of the SSC. The SAsISG is one of the 48 globally contributing partners to the Mosquito Onset Surveillance Initiative (MOSI) Project to set up a permanent mosquito monitoring station at Coimbatore, Tamil Nadu. The project was initiated by WAZA in concert with ZSL and other institutes. The goal of the project is to monitor the impact of climate change on mosquito species range shift, activity periods and behaviour. This is a recent initiative in India, and would form an important part of an international, largely zoo-based mosquito surveillance Initiative. The data generated from this project will help to monitor and control disease vector species and vector-borne diseases. It will also help raise levels of awareness among public and policy.

Future goals/activities

The SG has two major sub-networks, i.e. the Invertebrate Pollinator Network and Freshwater Invertebrate Network, that are actively functioning. In future, the SG will expand its activities and also form a new sub-network, Terrestrial Invertebrate Network. The SG will also strengthen the existing sub-networks through conservation action such as hands-on training programmes, publication and education. The group will also develop an action plan for butterflies of south Asia, create an exclusive website for the SG and invite more members.

Acknowledgements

Thanks to the Zoological Society of London for their generous support to carry out invertebrate conservation activities in this region. Thanks to the Mohamed bin Zayed Species Conservation Fund, Chester Zoo, Columbus Zoo and Critical Ecosystem Partnership Fund for project support. Thanks to Paul Pearce-Kelly, Curator, ZSL, for his constant encouragement and support to run the invertebrate network in South Asia.

Spider and Scorpion Specialist Group

Chair: Pedro Cardoso
Location/affiliation: The Chair is based in Helsinki, Finland and is affiliated with the Finnish Museum of Natural History – University of Helsinki.
Number of members: 56 from 26 countries

Pedro Cardoso

Mission statement

The main objectives of the Spider and Scorpion Specialist Group (SSSG) are to assess the extinction risk of a representative sample of arachnid species globally; assist on international law and agreements (e.g. Habitats Directive, Convention on International Trade in Endangered Species – CITES); contribute towards national and regional legislation protecting threatened species; develop scientifically sound species conservation strategies in cooperation with relevant authorities; and promote the public knowledge of arachnids.

Summary of main activities in 2014

The SSSG has begun operating this year, being officially approved only in October 2014. We are therefore in the process of structuring it and creating a minimum set of tools and guidelines for future work. Among the already available tools we emphasize: (1) A mailing list, the main communication channel for the group; (2) A shared drive where common documents are available at all times for all members; (3) A summary of the IUCN criteria and guidelines, limited to useful information on arachnids, often adapted for better application to our taxa; (4) A summary of CITES guidelines, limited to useful information on arachnids; and (5) A common database editable by all members where all assessments are made before uploading to SIS. This facilitates the comparison between species and the crosschecking for inconsistencies. Additionally, it allows all members to know at all times at what stage are the ongoing assessments for all species.

We have begun assessing the Red List status of a number of species worldwide, including all endemics in the Azores, Madeira and Selvagens archipelagos (ca. 90 spp.) and all troglobionts in Portugal (ca. five spp.), a random selection of Canary Islands (60 spp.), Cape Verde (10 spp.) and Macaronesian (10 spp.) endemics, all currently outdated assessments (15 spp.), and all species listed by CITES (26 spp.).

We finished the assessment for two species put into a fast track process for Red Listing: the Madeira endemic Desertas Wolf Spider (*Hogna ingens*), assessed as Critically Endangered, and the UK endemic *Nothophantes horridus*, assessed as Critically Endangered.

In cooperation with the SSC Species Conservation Planning Sub-Committee we are developing a Conservation Strategy for *Hogna ingens*. A strategic planning workshop is planned together with the local authorities in the near future.

We have contributed the species profile of *Hogna ingens* to the SSC's Amazing Species campaign.

During its first consultation phase, we contributed towards the definition of the future criteria to define Key Biodiversity Areas.

After being contacted by the national authorities, we suggested the inclusion of eight arachnid species in the protected species legislation in Portugal.

Following a request from CITES, we have highlighted the overwhelming trade of the scorpion *Pandinus imperator* and have since been following the possible restriction on trade numbers, which represent about 1/5 of all CITES species trade by number of individuals.

Finally, we submitted one research project intended to assess the IUCN Red List status of a random sample of species worldwide, following the SRLI approach. Unfortunately this was rejected by Kone Foundation (Finland), but will serve as the basis to future submissions elsewhere.

Future goals/activities

As most important activities for 2015 we emphasize: (1) Resubmitting the above mentioned global SRLI project; (2) Finishing the ongoing assessments (Macaronesian endemics, outdated species, CITES species); (3) Leading a conservation planning workshop for *Hogna ingens*; (4) Creating guidelines for mapping of species, including AOO, EOO and SIS maps; (5) Conducting a Red Listing workshop during the next European Congress of Arachnology (Brno, Czech Republic) in August 2015; and (6) Planning a Red Listing workshop during the next International Congress of Arachnology (Golden, Colorado, USA) in July 2016.

Desertas Wolf Spider (*Hogna ingens*), Critically Endangered. © Pedro Cardoso

Terrestrial and Freshwater Invertebrate Red List Authority

Red List Authority Coordinator: Justin Gerlach
Location/affiliation: The RLA Coordinator is based in Cambridge, UK, as an independent researcher.
Number of members: 47

Justin Gerlach

Mission statement
To facilitate the Red Listing of non-marine invertebrates not currently covered by any Specialist Groups (SG); to encourage the formation of new invertebrate SGs; to assist in the development of the Red List into a meaningful Barometer of Life

Summary of main activities in 2014
There has been some success in reducing the size of the Terrestrial and Freshwater Invertebrate Red List Authority (TIRLA) through the creation of new SGs. The establishment of the Spider SG has resulted in the removal of the arachnid orders from TIRLA. There has been further interest in more Red Listing of ants, although this remains largely at the ideas stage.

There are currently 1,423 assessments on the Red List that fall under TIRLA. 44 'out of date' assessments were reassessed in 2014, leaving 234 remaining. Reassessment of a small number of these did start, but the process appears to have stalled. It has proved difficult to maintain the enthusiasm of potential assessors for these species. This is partly because the complexity of the systems involved has also dissuaded many potential assessors. There has also been some difficulty in some cases with published assessments that seem to bear no connection to reality as most of the relevant assessments were simply transferred on to the list from paper lists in 1996, without the implementation of the Red List Criteria. In several cases the Red List category is clearly wrong, but no-one appears to know why it was placed in that category. Previous reports have alluded to the issue of locally extinct species being entered as globally Extinct, this remains an issue; it would be desirably to purge these misleading assessments from the list.

Despite the difficulties with 'out of date' assessments, 470 new assessments were added to the Red List, of these the majority (258) were listed by the Dung Beetle SLI and 168 by the European Pollinator Initiative.

Future goals/activities
TIRLA will continue to encourage further invertebrate listing, particularly any initiatives that lead to representative assessments. It is hoped that 2015 will see productive discussions on improving public access to data submission to the Red List.

Calmanesia erinaceus, Not Evaluated. © Justin Gerlach

African Elephant Specialist Group

Chair: Holly Dublin
Programme Officer and Red List Authority Coordinator: Diane Skinner (Jan–Aug); Tara Daniel (Sept–Dec)
Location/affiliation: The Chair is located in Nairobi, Kenya and is affiliated with the IUCN Eastern and Southern Africa Regional Office (ESARO).
Number of members: 53


Holly Dublin

Mission statement

The mission of the IUCN SSC African Elephant Specialist Group (AfESG) is to promote the long-term conservation of Africa's elephants throughout their range.

Summary of main activities in 2014

Throughout 2014, the 53 members of the AfESG continued to engage with various aspects of elephant conservation in their individual capacities as well as their roles as members. Among other activities, they provided insights and expertise to the Pan African Elephant Aerial Survey or Great Elephant Census, gave feedback on a Range State elephant conservation and management strategy, ensured the submission of key data to the African Elephant Database, and contributed vital perspectives to work exploring the economics of ivory.

The African Elephant Database continued to expand its repository of elephant survey data, attracting over 17,000 visitors to its website to view newly posted survey data as well as the continental, sub-regional, and country totals published in 2013. The Data Review Working Group guided the integration of this data throughout the year, but a meeting was convened in May 2014 to map the way forward on the African Elephant Database. Long-time member Dr Chris Thouless was appointed Chair of this working group to help shepherd the integration of more data and new ways of presenting this data, and another vital part of this meeting was the exploration of the idea of a Multi-Species Database, with lion and buffalo data to be contributed by the Cat and Antelope Specialist Groups.

In addition to answering data requests for specific data from the African Elephant Database, the AfESG continued to expand its resources for anyone interested or working in elephant conservation. The AfESG worked with an Information Management Assistant to aid in digitizing the African Elephant Library (AEL). The AEL now holds over 6,500 references and is hosted on the online reference management system Zotero, enabling the public to view the citations of all references and contact the Specialist Group for access to full text. Two issues of *Pachyderm*, the journal

African Elephant (*Loxodonta africana*), Vulnerable. © Esther Birchmeier

of the African Elephant and African and Asian Rhino Specialist Groups were published, covering the periods July–December 2013 and January–June 2014. These issues were distributed to members as well as contacts within wildlife agencies across the range of the African elephant.

The AfESG participated in several key meetings and planning initiatives this year. In February, the AfESG Chair and Programme Officer traveled to London for a conference on illegal wildlife trade, which resulted in the London Declaration, a commitment by 41 country signatories to curb illegal wildlife trade. In the third and fourth quarters of 2014, AfESG participated in the planning for the second such conference, to be held in Kasane, Botswana, in 2015. Additionally, given that the AfESG, together with the Government of Botswana and the IUCN Secretariat, had convened the African Elephant Summit in December 2013, the AfESG has also been contributing to the planning for its follow-up meeting, scheduled for the same week in Kasane.

In July, the AfESG Chair and Programme Officer participated in the 65th meeting of the CITES Standing Committee where they presented on the status, threats, and conservation actions as part of the Elephant Conservation, Illegal Killing and Ivory Trade report with partners CITES MIKE and TRAFFIC. The AfESG's reporting mandate to CITES will continue at the 66th meeting of the CITES Standing Committee.

The year was also marked by a key transition. The AfESG's long-time Programme Officer, Diane Skinner, returned home to Zimbabwe in September, though she was able to recruit and train her replacement before she left. She navigated the AfESG through the debut of the African Elephant Database's new web platform, numerous CITES meetings, the African Elephant Summit, and countless other activities during her six-year tenure, and she will be greatly missed by the AfESG Secretariat and members alike.

Future goals/activities

The work of the AfESG in 2015 will include multifaceted efforts to respond to the needs of the conservation community. The AfESG Secretariat staff will be expanding to include a Database Manager, a vital position in the plans to enhance the African Elephant Database as a tool for conservation and communication. The year will also bring continued involvement supporting work on the economics of ivory, led by the World Bank; the input of extensive amounts of data with the conclusion of the Great Elephant Census; and increased attention to the dynamics of conflict and co-existence within communities.

Acknowledgements

The AfESG wishes to express its sincere gratitude to the following donors for their continued support: USFWS-African Elephant Conservation Fund, DEFRA, CITES MIKE, Bundesamt für Naturschutz, Tusk Trust, Save The Elephants, and the International Elephant Fund.

African Rhino Specialist Group

Co-Chairs: Michael Knight and Benson Okita
Scientific Officer and Red List Authority Coordinator: Richard Emslie
Location/affiliation: MH Knight is based in Port Elizabeth, South Africa, and is affiliated with South African National Park. Ben Okita is based in Nairobi, Kenya, and is affiliated with Save the Elephants organization. R. Emslie is based in Hilton, South Africa.
Number of members: 43

Michael Knight

Benson Okita

Mission statement

The mission of the African Rhino Specialist Group (AfRSG) is to promote the development and long-term maintenance of viable populations of the various sub-species of African rhinos in the wild.

Summary of main activities in 2014

Provided the CITES Secretariat and CITES Parties with the best information to make informed and balanced decisions
(1) Actively contributing to work of CITES Rhino Working Group intersessionally and at CITES Standing Committee Meeting 65, keeping the international focus on Mozambique and Vietnam. Produced information document for delegates attending CITES SC65.
(2) Updated continental rhino poaching statistics for 2014.
(3) Detailed comments/review on UNODC '*Guidelines for forensic laboratory methods and procedures for ivory sampling and analysis guidelines*'.

Facilitated rhino conservation through liaison
(1) Regular engagement with the Chair: IUCN SSC, and other IUCN members/ staff.
(2) Organized/participated/contributed to SA Parliamentary Portfolio Committee meetings; the SAf Ministerial Committee of Enquiry on rhinos; CITES Rhinoceros Enforcement Task Force in cooperation with ICCWC, Kenya; South African Private Rhino Owner association (PROA); 65th CITES Standing Committee, July 2014; regular liaison with senior DEA members;Botswana translocation plans; Joaquim Chissano Foundation rhino conservation initiative launch; Panel of experts at South Africa's side event at IUCN World Parks Congress; ZSL conference on Illegal Wildlife Trade. Assisted RESG/Interpol Environmental Crime Working Group Chair.
(3) Working to revise and update continental and regional (SA, Lesotho and Swaziland) Red Lists for African Rhino.
(4) Met the Kenyan Parliamentary Committee on Environment and Natural Resources on the progress and how to address the rhino crisis.

To enhance rhino conservation through the development of rhino conservation plans, strategies and policies
(1) Rhino plans: South African White Rhino Biodiversity Management to be submitted in early 2015; Botswana rhino strategy approved; Contributed to SANParks strategic rhino plan revision; Advised on the need for a mid-term review of the Kenyan Rhino Strategic plan 2016–2012.
(2) Planning for workshop in 2015 to revise Zambia's national rhino plan.
(3) Future plans: Advice provided on how to monitor the delivery of the South African Black Rhino Biodiversity Management plan.
(4) Represented on multi-institutional South African Scientific Authority.
(5) Contributed to IUCN comments on

Black Rhinoceros (*Diceros bicornis*), Critically Endangered. © Michael Knight

draft EU Parliamentary Wildlife Crime Resolution and London Conference Draft Declaration.

To recommend best practice and capacity building of range states and their rhino programmes
(1) Provided advice to and on: WWF-Black Rhino Range Expansion Project (BRREP); Northern White Rhino Project; WWF's African Rhino Program; WWF-SA project on disrupting organized crime through tracking the money; SAB-Boucher supporting RhoDIS rhino DNA analysis; check of South African Black Rhino hunting permit applications; working on UFW project to develop Rhino Impact Bond innovative funding mechanism concept; Black Rhino translocations from South Africa to Botswana; Rhino population analysis methods (Lowveld Trust, Zimbabwe); Dehorning and critically commented on horn devaluation techniques; GOH rhino conservation in Kaziranga NP, India for report to Guwahati High Court; and (2) participated in the second international rhino security and law enforcement meeting. Provided advice on cooperation between the Kenya Wildlife Service and the Rhino Fund Uganda on collection of samples for RhoDIS rhino DNA analyses.

To facilitate the spread of information on rhino-related issues amongst range states and civil society through enhanced communication and awareness activities
(1) Chair's reports (*Pachyderm* 55:6–19) and refereed submissions to the journal.
(2) Engaged actively in rhino sustainable use discussions (e.g. Dallas Safari Club Namibian black rhino hunt auction).
(3) Numerous media interviews with 20+ foreign news networks.
(4) Engaged with American, British and Australian parliamentary delegations to South Africa.
(5) Close cooperation with Asian Rhino Specialist Group Chair (AsRSG)
(6) Articles and papers and presentations: SRI's *The Horn* magazine; keynote presentation at the Contemporary Conservation Practice Symposium, South Africa; Australian Rhino Project (Sydney University Business School); Queens University, Belfast, Northern Ireland; Namibian Conservancy Programme and Illegal Wildlife Trade meetings.
(7) Attended and participated at the 1st United Nations Environment Assembly (UNEA) on the illegal wildlife trade in Nairobi. Attended by over 1,065 participants, 163 member states and 113 ministers.

To assist donors in making informed and strategic decisions on project applications by others
Consultation with WWF-ARP and WWF-SA rhino program, Peace Park Foundation, Radio Jacaranda Fund; My Planet; WWF-BRREP; Save African Rhinos Foundation (Australia); Stoprhinopoaching.com; Save Rhino International; Endangered Wildlife Trust (EWT); GEF, ZSL, Social Finance, Royal Foundation and Australian Save African Rhino.

To assist in minimizing illegal rhino-related activities by enabling decision-makers (judiciary) to make informed decisions
Assisted in development of document for prosecutors, and conservation law enforcement staff and expert witnesses giving evidence in aggravation of sentence or opposing bail in rhino cases. Working to develop a magistrate's information booklet.

To cultivate and maintain positive donor support base
Moving three-year business plan for the AfRSG with updated KPAs, and budget updated annually.

Future goals/activities
CITES Rhino Working Group; complete updates of African rhino Red Listings; explore innovative sustainable funding mechanisms (e.g. Rhino Investment Bonds); enhance international cooperation and sharing of information and promote innovative ways to reduce the illegal trade in horn; plan and participate in a SADC Rhino Management Group meeting in 2015 and 2016 AfRSG meeting; revitalise an East African Rhino Management Group; increase the international status of rhino related crimes, promote the need for strong and consistent penalties for rhino crimes.

Acknowledgements
DEFRA (UK), Endangered Wildlife Trust (EWT), International Rhino Foundation, Save the Rhino International, SANParks, USFWS, WWF-ARP, WWF-SA.

Afrotheria Specialist Group

Chair: Galen B. Rathbun
Red List Authority Coordinator: Andrew Taylor
Location/affiliation: The Chair works out of his home in Cambria, California, USA, but is affiliated with the California Academy of Sciences in San Francisco.
Number of members: We have 38 members distributed in five sections (hyraxes, Aardvark, tenrecs, golden moles, and sengis)

Galen B. Rathbun

Mission statement

The IUCN SSC Afrotheria Specialist Group facilitates the conservation of hyraxes, the Aardvark, 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.

Summary of main activities in 2014

In 2014, we continued our focus on achieving our education goals by producing our yearly newsletter and maintaining our website (www.afrotheria.net). We also continued to provide expert advice, especially with updating the IUCN Red List assessments for about 80 afrotheres. We were involved with providing background information on the endangered Golden-rumped Sengi endemic to the Arabuko-Sokoke Forest in Kenya, which is under threat of hydrocarbon exploration and possible extraction.

Future goals/activities

We will continue to monitor threats to various afrothere habitats, especially those of tenrecs in Madagascar, forested areas in central and eastern Africa that support giant sengis, and some areas in southern Africa that include golden moles with restricted distributions. Once we have completed all of the Red List assessments, we will use this information to assemble specific conservation plans for each group of afrotheres that we focus on. We will also continue with taxonomic assessments of all afrotheres, but especially hyraxes as well as the Aardvark, which may include more than the currently recognized species.

Acknowledgements

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Etendeka Round-eared Sengi (*Macroscelides micus*), Least Concern. © G.B. Rathbun, California Academy of Sciences

Anteater, Sloth and Armadillo Specialist Group

Chair: Mariella Superina
Deputy Chair: Flávia Miranda
Red List Authority Coordinator: Agustín M. Abba
Location/affiliation: The Chair is based in Mendoza, Argentina and works with armadillos. Her current affiliation is with IMBECU, CCT CONICET Mendoza, Argentina.
Number of members: 21

Mariella Superina

Mission statement

The mission of our Specialist Group is to promote the long-term conservation of the 31 extant species of xenarthrans (anteaters, sloths and armadillos) and their habitats. Our active group of committed specialists currently consists of 21 members from eight countries.

Summary of main activities in 2014

In 2014 we concluded the re-assessment of all 31 species of Xenarthra for the 2015 Global Mammal Re-assessment. Most species remained in the same threat category. However, *Dasypus pilosus* was re-categorized from Vulnerable to Data Deficient, and *Dasypus sabanicola* was moved from Least Concern to Near Threatened based on new field data. We also participated in the assessment of xenarthrans for the Brazilian Red List.

Our Specialist Group was actively involved in several initiatives to save the Brazilian Three-banded Armadillo (*Tolypeutes tricinctus*) from extinction. This Vulnerable species was the official mascot of the 2014 FIFA World Cup. In spite of our intense efforts, which even included a letter from the IUCN Director General to FIFA, the latter did not financially support conservation efforts for *T. tricinctus*. Nevertheless, the fact that the Brazilian Three-banded Armadillo was the official mascot of this major sport event spurred several activities to increase conservation efforts for this charismatic species. Our Specialist Group participated in the development of the Brazilian action plan for this species, set up an education program to increase awareness for the conservation problems of Three-banded Armadillos, coordinated research efforts, and assisted in the development of a research station in the habitat of this Brazilian endemic.

An extensive literature review of armadillos allowed us to define research priorities in terms of species, countries, and research topics. We hope to perform similar analyses for anteaters and sloths in the future.

We have continued raising public awareness for xenarthrans and the challenges presented to their conservation through our Facebook page, which has over 2,100 followers, and our website http://www.xenarthrans.org. The site is available in English, Spanish and Portuguese. Parallel to this, we have intensified our collaborations with *ex situ* conservation experts. For instance, we have teamed up with the Pangolin, Aardvark and Xenarthra Taxon Advisory Group of the Association of Zoos and Aquariums to support their campaign to reduce the use of tamanduas as pets. The fourth International Day of the Sloth, and the first International Tamandua Day, were organized by members of our Specialist Group. Many institutions all over the world participated in these events to raise awareness for xenarthrans.

In December we published another issue of our peer-reviewed Newsletter *Edentata*. The publication is an important means of disseminating conservation-relevant data on xenarthrans. Our Specialist Group has also provided scientific advice to conservationists, governments, and other interested groups. This form of technical outreach has helped develop an action plan for armadillos in the llanos of Colombia. We have also helped other Specialist Groups with their Red List assessments. Finally, we organized two symposia on xenarthrans, one at the annual meeting of the American Society of Mammalogy and another at the Colombian Zoology Congress. These events allowed us to promote research on xenarthrans. We hope this motivates students to undertake studies on xenarthrans.

Northern Long-nosed Armadillo (*Dasypus sabanicola*), Near Threatened. © Fernando Trujillo

Future goals/activities

One of our goals for the near future is to secure funding for our Xenarthra Conservation Fund, which supports field research on the most threatened or Data Deficient species. Of course, we will continue doing our best to promote the research and conservation of these fascinating animals!

Acknowledgements

We wish to thank the San Antonio Zoological Society for their generous financial support.

Antelope Specialist Group

Co-Chairs: Philippe Chardonnet and David Mallon
Red List Authority Coordinator: David Mallon
Programme Officer: Tania Gilbert
Project Officer: Robert Cooke
Location/affiliation: We are based in Paris, France, and Manchester, UK. We are affiliated with Marwell Wildlife, Winchester, UK, where the ASG Programme Office is now based. The *Gnusletter* editorial office is based at White Oak Conservation, USA.
Number of members: 73


Philippe Chardonnet


David Mallon

Mission statement

The mission of the Antelope Specialist Group (ASG) is to conserve the world's antelope diversity.

Summary of main activities in 2014

(1) We established the Antelope Specialist Group Programme Office at Marwell Wildlife, Winchester, UK
(2) We founded the African Buffalo Interest Group (AfBIG)
(3) We coorganized/participated in the following events (facilitating and undertaking action):

1st Symposium on the African Buffalo, Paris, France, 5–6 November 2014;

14th annual meeting of the Sahelo-Saharan Interest Group (SSIG), Porto, Portugal, 30 April–2 May, 2014;

We responded to CITES for Standing Committee and CMS COP;

We produced two issues of our *Gnusletter*: Volume 31 Number 2, February 2014 and Volume 32 Number 1, October 2014;

We elaborated and edited in partnership the Conservation Review of the Dama Gazelle (*Nanger dama*) following the roundtable workshop for Dama Gazelle conservation held at the Royal Zoological Society of Scotland, Edinburgh, 19–21 November 2013;

We contributed to the chapter on the African Buffalo in the book by Melleti, M. and J. Burton (eds), 2014. *Evolution and Behavior of Wild Cattle.* University of Cambridge.

Future goals/activities

(1) Revise and update all antelope Red List assessments; (2) Establish an ASG Taxonomic Working Group to review changes in antelope taxonomy; (3) Develop an ASG strategy; (4) Update the ASG website, make archives available on line, and develop new sections; and (5) Prepare the 2nd Symposium on the African Buffalo.

Acknowledgements

We extend our gratitude to Marwell Wildlife for providing financial and technical support, including hosting the newly established ASGPO.

African Buffalo (*Syncerus caffer*), Least Concern. © Mathieu Bourgarel/CIRAD

Asian Elephant Specialist Group

Co-Chairs: Ajay Desai and Simon Hedges
Red List Authority Coordinator: Simon Hedges
Location/affiliation: We are based in India (Desai) and the UK/Kenya (Hedges) and both work throughout Asia. Desai is an independent consultant but works frequently with WWF; Hedges works for the US-based Wildlife Conservation Society (WCS).
Number of members: 94


Ajay Desai


Simon Hedges

Mission statement

The mission of the Asian Elephant Specialist Group (AsESG) is to promote and facilitate the long-term conservation of the Asian Elephant across its range. Group members work with governments, NGOs, civil society, and other partners to address the primary threats to Asian Elephants, which are habitat loss, fragmentation, and degradation; the consequences of human–elephant conflict; illegal killing; and the genetic and demographic problems faced by small isolated populations.

Summary of main activities in 2014

The illegal trade in ivory and elephants again figured large in 2014 and the AsESG contributed to the joint AsESG/AfESG/CITES/MIKE/ETIS/WCMC report to the 65th Meeting of the CITES Standing Committee, *Status Of Elephant Populations, Levels Of Illegal Killing And The Trade In Ivory*. The AsESG also played a significant role at the Standing Committee Meeting itself in Geneva in July 2014 by, amongst other things, helping to get the issue of the illegal trade in live elephants firmly on to the CITES agenda. In addition, AsESG members helped (sometimes behind the scenes) with the preparation of a number of National Ivory Action Plans (NIAPs) required of certain countries by CITES as well as by giving advice on sampling of the ivory held in government stockpiles and the conduct of inventories of such stockpiles (now an annual requirement under CITES). We will continue to push for action on live trade as well as the increasing threat posed to Asian Elephants by the illegal ivory trade at the 66th Meeting of the CITES Standing Committee in Geneva in January 2016 and at the 17th Conference of Parties (CITES CoP17) in South Africa in October 2016.

Asian Elephant (*Elephas maximus*), Endangered. © S. Hedges

The AsESG also helped with preparations for the London Conference on Illegal Wildlife Trade (IWT), which was held in February 2014, and with the follow-up Conference on IWT, which will be held in Botswana in March 2015. AsESG members contributed to the early stages of implementation (in 2014 and ongoing) of the new 10-year National Elephant Conservation Action Plan (NECAP) for Peninsular Malaysia, which was launched by the Government of Malaysia in late 2013 as well as helping with the development of a new five-year Myanmar Elephant Conservation Action Plan (MECAP). Group members participated in or advised elephant population surveys across Asia and provided advice on human–elephant conflict to governments as well as several NGO projects. Significant time was also spent compiling data for the IUCN Elephant Database. As in previous years, we continued to publish the AsESG's journal, *Gajah*, which is available both in hard copy form and in PDF format (both as whole issues and individual articles) from the AsESG website; production and dissemination of *Gajah* is facilitated by the sterling work of our volunteer Editor, Editorial Board, and Webmaster.

Future goals/activities

In 2015, we plan to launch a major new high-profile, multi-event campaign to really put Asian Elephants 'on the map': raising awareness of the plight of Asia's elephants, driving action for them, and raising very significant funds for their conservation. We also hope to complete a *Conservation Strategy for Asian Elephants* and hire a full-time Program Officer; continue to facilitate and promote the inclusion of range and population data in the IUCN Elephant Database; and to continue working with the CITES Monitoring the Illegal Killing of Elephants (MIKE) program and the Elephant Trade Information System (ETIS).

Acknowledgements

The AsESG would like to acknowledge support from Elephant Family and the International Elephant Foundation.

Asian Rhino Specialist Group

Chair: Bibhab Kumar Talukdar
Red List Authority Coordinator: Susie Ellis
Location/affiliation: The Chair is based in Guwahati, Assam, India for about eight–nine months a year working with Aaranyak (www.aaranyak.org) and the other three–four months in Indonesia working with the International Rhino Foundation (www.rhinos.org)
Number of members: 63

Bibhab Kumar Talukdar

Mission statement

The mission of the Asian Rhino Specialist Group (AsRSG) is to secure the future of all the three species of Asian Rhinos in the wild.

The key objectives of AsRSG include periodic dialogue with Asian Rhino Range states conservation agencies to bring rhino conservation challenges to the notice of respective governments to initiate follow up conservation measures, update the status of all three Asian rhino species on the IUCN Red List, provide expertise to Asian Rhino Range countries to conserve rhino populations effectively, working closely with AfRSG and TRAFFIC to prepare and submit reports on international trade on rhino horns at the CITES CoPs.

Summary of main activities in 2014

In 2014, AsRSG organized a Greater One-Horned Rhino Population Modeling workshop at Guwahati on 4–5 November 2014 in association with IUCN/CBSG, International Rhino Foundation, WWF and Assam Forest Department. The purpose of the workshop was to review progress with Indian Rhino Vision (IRV) 2020 translocations to-date, discuss and determine the real numbers needed for the long-term success of the IRV 2020, taking into account our experience in Manas with poaching losses, model predicted population growth rates and the numbers of rhinos needed to make translocations a success; and discuss ways to ameliorate unforeseen events.

Greater One-horned Rhino (*Rhinoceros unicornis*), Vulnerable. © Bibhab Talukdar

The Chair of AsRSG participated at the 2nd Rhino Security and Monitoring Workshop held in Kruger Narional Park, South Africa from 29 March to 1 April 2014.

Future goals/activities

The immediate future goal is to work with the Indonesian Authorities to put in place Javan and Sumatran Rhino recovery and conservation actions that include shifting some populations of Javan Rhinos from existing Ujung Kulon National Park to other suitable areas within Indonesia and bring isolated Sumatran Rhino populations to existing Sumatran Rhino habitats where protection and monitoring system are in place.

In February 2015, AsRSG in association with IUCN/CBSG, International Rhino Foundation, WWF, Indonesian Ministry of Environment and Forestry and other conservation agencies shall hold one Population and Habitat Viability Assessment Workshop for Javan Rhino in Indonesia and one Population Viability Analysis Workshop for Sumatran Rhino in Indonesia which will assist Indonesian Government to take future conservation steps to secure the future of Javan and Sumatran Rhinos in Indonesia.

A meeting of AsRSG members from Southeast Asia is being planned in early May 2015 in Indonesia to take stock of the current state of Javan and Sumatran Rhinos in Southeast Asia. It is worth mentioning that currently the Javan rhino is only found in Ujung Kulon NP of West Java, Indonesia.

In October a meeting of AsRSG for Greater One-horned Rhino shall be held either in Nepal or in India to take stock of the current conservation status of GOH Rhinos in India and Nepal.

Acknowledgements

AsRSG is grateful to WWF-AREAS Programme, International Rhino Foundation, Aaranyak and Yayasan Badak Indonesia.

Asian Wild Cattle Specialist Group

Chair: James Burton
Red List Authority Coordinator: James Burton
Location/affiliation: The Chair is based in Muscat, Oman, and also Oxford, UK. He is affiliated with Earthwatch Institute.
Number of members: 74

James Burton

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. This is supported by the following objectives: To compile and synthesize information on the conservation status of all Asian wild cattle species across their range; To develop or update conservation strategies working with governments and other partners; To act as the IUCN Red List Authority; To build capacity through the exchange of information and technical expertise both within and outside the group.

Summary of main activities in 2014

The AWCSG has led discussions to set up a collaboration between *in situ* and *ex situ* conservation partners to support the implementation of the Indonesian Action Plans for Anoa and Banteng. This collaboration is between AWCSG, IUCN SSC, Wild Pig SG, European Association of Zoos and Aquaria, Association of Zoos and Aquariums (North American) and the Indonesian Zoo Association. This has been overseen by the Indonesian Ministry of Forestry. This follows on from work of the Conservation Planning Working Group facilitating workshops to produce National Action Plans for Anoa and Banteng in 2009. The approach being used to link *in situ* and *ex situ* activities is the Global Species Management Plan, developed by the World Association of Zoos and Aquaria. A planning meeting will be held in the next six months to agree priority projects, following which field projects will begin.

The Saola Working Group made progress across its five programmatic themes to advance Saola conservation. These are: protection, *in situ* research, mentoring, conservation breeding, building partnerships and raising awareness. In the area of protection, more than 33,500 snares were collected and destroyed in 2014 at the five sites for this activity. The total number of such snares destroyed at these five sites since these initiatives began in 2011 is now over 90,000. While poachers continue to reset snares, we have evidence that patrol efforts are working, and the density of snares has declined. This has been achieved by SWG working with partners such as WWF and WCS as well as the management and protection authorities. Rapid field surveys allowed assessment at three sites of both the frequency of encounters with threats (e.g. snares, poachers' camps) and ungulate signs (as a proxy indicator of likely Saola status). The conclusion for three areas surveyed is that significant progress in protection has been made, but Saola is probably not yet secure in any of the sites. This was supported by a grant from the Critical Ecosystem Partnership Fund (CEPF) in partnership with WWF. The aim is to achieve progress toward the zero threats goal at four sites. Mentoring of four Lao and Vietnamese conservation scientists is underway with them registered for MSc or PhD studies part-funded by SWG and partners. In the area of Conservation Breeding, an advanced draft of a Saola Conservation Breeding Action Plan (including a design for the center) has been completed, by the SWG and the Intensive Management of Saola Advisory Group (IMSAG) of the European Association of Zoos and Aquaria (EAZA).

A project on the Tamaraw, its habitat and working with local community has concluded most of its research in 2014, led by Emmanuel Schutz, Tamaraw Coordinator for AWCSG. Results show that the Tamaraw is progressively vanishing from all areas where it was still reported less than 20 years ago. Three hundred and eighty-two individuals have been observed during the last population count conducted by the Park's management in April 2014. More than 95% of Tamaraw are confined within the "core zone", which cover only 16% of Mts Iglit-Baco National Park and benefits from regular patrols.

Wild Yak (*Bos mutus*), Vulnerable. © Paul Buzzard

Mammals

Many AWCSG members have contributed to a book titled 'Ecology, Evolution and Behaviour of Wild Cattle: Implications for Conservation' which was published in 2014. It is hoped that this important book will increase the interest and understanding of wild cattle more widely. Special thanks to Mario Melletti who worked so hard to make this book possible.

There has been further strengthening of links to the *ex situ* community with the Conservation Breeding Working Group supporting the SG in a number of areas, including Saola and Indonesian species, led by Terry Hornsey, Chair of Cattle and Camelid Taxon Advisory Group of EAZA. Research on Wild Yak mating systems and other topics conducted in previous years has been published by the Wild Yak Coordinator, Paul Buzzard.

Future goals/activities

2015 will be a busy year with the Indonesia collaboration completing the printing of the Action Plans for the Anoa, as well as holding the Global Species Management Planning meetings. The Saola Working Group will hold their 4th meeting in Vietnam and also complete prioritization of Saola sites for new investment. We also aim to review progress made against the SE Asian Wild Cattle Regional Plan 2011–2020.

Acknowledgements

Thanks to Earthwatch Institute, Africa Alive, Banham Zoo for continued support for the Chair. Also thanks to many institutions for supporting the Saola Working Group and the following institutions for contributing to Indonesian Conservation Strategy: Centre for Conservation of Tropical Ungulates, Chester Zoo, Zoo Opel, Utah Hogle Zoo.

Australasian Marsupial and Monotreme Specialist Group

Chair: Chris Johnson
Red List Authority Coordinator: Clare Hawkins
Location/affiliation: We are based in Hobart, Tasmania, Australia. Chris Johnson is affiliated with the University of Tasmania (School of Biological Sciences); Clare Hawkins is affiliated with the Department of Primary Industries, Parks, Water and Environment, Tasmanian Government.
Number of members: 40

Chris Johnson

Mission statement

The mission of this Australasian Marsupial and Monotreme (AMM) SG is to provide advice and evaluations on the conservation status of and threats to the marsupials and monotremes of Australia, New Guinea and nearby West Pacific Islands.

Summary of main activities in 2014

The main achievement of 2014 was the production of The Action Plan for Australian Mammals 2012 [CSIRO Publications, 2014], by two members of this Specialist Group, John Woinarski and Andrew Burbidge (with Peter Harrison, a marine mammal expert). This is a landmark publication that deals with all Australian mammals, and therefore provides a comprehensive appraisal of all of the Australian marsupials and monotremes, drawing on the expertise of members of the AMM SG as well as other taxon specialists from outside the group. The Action Plan runs to 1,038 pages and includes a taxonomic updating of all species and subspecies; a re-evaluation of the threat status according to IUCN criteria for all recognized species and subspecies; taxon profiles for all taxa evaluated as Extinct, Threatened, Near Threatened or Data Deficient; and a synthesis on trends in conservation status and threats for the mammal fauna as a whole.

Our other activity during 2014 has been the updating of Red List status for all species of Australasian Marsupials and Monotremes, as our contribution to the Global Mammal Reassessment scheduled for completion in 2015. This is a large task, given the number of species in this group. For Australian species, we have been using the Action Plan assessments as a basis for Red List updates. Updating taxa from New Guinea and nearby islands is more challenging because of generally poor survey and uncertain knowledge for many species. For this we have sought input from an expanded network of 20 regional and taxon specialists to incorporate into revised evaluations.

Future goals/activities

Our main goal is to complete re-evaluations for the Global Mammal Reassessment early in 2015.

Mountain Pygmy Possum (*Burramys parvus*), Critically Endangered. © Linda Broome

Bat Specialist Group

Co-Chairs: Tigga Kingston and Rodrigo A. Medellin
Red List Authority Coordinators: Daniel Hargreaves and Sergio Solari
Location/affiliation: Tigga is affiliated with Texas Tech University, Lubbock, Texas, USA, and Rodrigo is affiliated with Universidad Nacional Autónoma de México, México City, México.
Number of members: 190 members from 111 countries


Tigga Kingston


Rodrigo A. Medellin

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; and
(3) To ensure that other bat species remain at a favourable conservation status.

Summary of main activities in 2014

The Seychelles Government has finally provided full legal protection for the Seychelles Sheath-tailed Bat (*Coleura seychellensis*) 17 years after it was first requested. At a recent count there were 73 individuals on two islands in the archipelago – Mahé and Silhouette, which is a slight increase over previous counts.

Paul Racey attended the annual Advisory Committee meeting of UNEP-EUROBATS held in Crete in April 2013, where he convened the Intersessional Working Group (IWG) on Communication, Bat Conservation and Public Health. The main task of this IWG is to keep up-to-date on the role of bats in the transmission of zoonoses in order to advise conservation NGOs in range states how to counter adverse and exaggerated publicity about bats, particularly at the present time, in relation to ebola virus. He was also involved in strengthening the EUROBATS resolution on mitigating the effects of wind turbines on bats which was adopted at the four-yearly Meeting of the Parties to the EUROBATS Agreement held in Brussels in September 2015, which he also attended.

Greater Long-nosed Bat (*Leptonycteris nivalis*), Endangered. © R.A. Medellin

The SEABCRU held two capacity-building workshops as part of its "Network Gap" series. The first targeted existing bat researchers in Myanmar (University of Mandalay, Mandalay, 16–20 August) and focused on developing capacity to: build a national bat collection, initiate a national survey of *Pteropus* colonies, monitor bats acoustically, publish research, and organize and store biodiversity data in international formats. Forty participants were drawn from 18 universities and the workshop was implemented by 16 SEABCRU members including Paul Racey and Tigga Kingston. In December the SEABCRU held a second workshop in Southern Vietnam (Institute of Tropical Biology, Ho Chi Minh City, 3–8 December) to train local biodiversity practitioners with no prior bat research experience in the skills to design and implement surveys of the diversity and abundance of bats in caves and forests. There were 18 participants for hands-on training with Tigga Kingston and 11 SEABCRU members.

Five bat conservation and biology courses were held across Latin America by RELCOM/BSG members:
(1) Control and management of vampire bats and wildlife rabies. Luis Aguirre, Monica Diaz, Isabel Moya, Aleida Nina. Universidad Mayor de San Andrés, La Paz, Bolivia. 10–13 Nov, 2014
(2) II International Bat Course: Systematics, Ecology, and Conservation. B. Lim., L. Aguirre, M. Tschapka, P. Velazco, R.A. Medellin, V. Tavares. Los Amigos Biological Station, Madre de Dios, Peru, Jan 27–Feb 6, 2014
(3) First Central American Bat Acoustic Monitoring Workshop. Bernal Rodriguez, Luis Viquez. Masaya, Nicaragua, 30 Nov–4 Dec, 2014.
(4) Education and communication for the conservation of bats. Laura Navarro. Quito, Ecuador, 4–5 August 2014.
(5) Biology, behavior, management, and conservation of blood-eating bats. Wilson Uieda. Quito, Ecuador, 4–5 August 2014.

The First Latin American Congress on Bats (organized by RELCOM) was celebrated in Quito, Ecuador, with 231 participants of 23 countries, 6–10 August, 2014.

The initiative to create the North American Bat Conservation Alliance (NABCA) was presented by R. Medellin to the three Federal Governments of Canada, the US, and Mexico during the XIX meeting of the Trilateral Committee for Wildlife and Ecosystem Conservation and Management in Queretaro, Mexico, 26–30 May, 2014. He was requested to prepare a Letter of Intent to collaborate towards bat conservation, to be signed in April, 2015.

After a very impressive almost three decades as Chair (and then Co-Chair of the Bat Specialist Group), Professor Paul Racey has retired from this role to be replaced by Dr Tigga Kingston. We thank Paul deeply for all of his hard work, enthusiasm and committment both to the Bat SG and to bat conservation initiatives worldwide.

Future goals/activities

Achieve the signing of the Letter of Intent to protect bats across North America and launch NABCA; finalise the assessment of all bat species for the new IUCN Red List version; completion of updated OW Fruit Bat Action Plan; successful implementation of the 3rd International Southeast Asian Bat Conference (SEABCRU with University of Malaysia Sarawak) in 2015.

Acknowledgements

Bat Conservation International, the Whitley Fund for Nature

Bear Specialist Group

Co-Chairs: Dave Garshelis and Rob Steinmetz
Red List Authority Coordinator: Bruce McLellan
Location/affiliation: Dave is based in Grand Rapids, Minnesota, USA, Rob is in Bangkok, Thailand, and Bruce is in Darcy, British Columbia, Canada. Dave is affiliated with the Minnesota Department of Natural Resources, Rob is with WWF-Thailand, Bruce is with the British Columbia Ministry of Forests, Lands and Natural Resource Operations.
Number of members: 190

Bear Specialist Group

Dave Garshelis and Rob Steinmetz

Mission statement
We strive to promote the conservation of bears living in their natural habitats across their worldwide distribution.

Summary of main activities in 2014
We have been carefully assessing the status of the seven species of terrestrial bears for the new Red-Listing. We presented tentative Red List assessments at an international bear conference in Thessaloniki, Greece, in October 2014.

In addition to global species assessments, we have initiated population level assessments, starting with the Brown Bear. Although this species is Least Concern globally, many small, isolated populations along the southern fringe of this species' range are threatened.

Documenting rates of population change for each of the bear species has proven to be difficult. We have looked into changes in geographic range, as an index to population change, but this is only reasonably well documented in North America and Europe (where bears are generally expanding). In South America and Asia we have been working to better document ranges, and even range countries. For example, we have surprising new evidence of a small number of Brown Bears in Syria, Andean Bears in Argentina and Sun Bears in Bangladesh, but we lack evidence of Sloth Bears in Bhutan (where we thought they existed).

We have examined rates of forest loss and fragmentation as a gauge to population loss in Asia and South America. To do so requires knowing what levels of habitat conversion, degradation, and patch size can still sustain bears; to better understand this, we have been collecting presence points of bears across their ranges.

We have also been looking into effects of climate change on future bear distribution. The largest effects may be for Giant Pandas, which are dependent on the distribution of bamboo; this distribution is expected to change radically, shrinking the potential distribution of pandas.

Human-bear conflicts may significantly affect small, isolated bear populations, but such population level effects have been exceedingly difficult to quantify. Increasing human-bear conflicts have been observed in many areas, which may be a sign of increasing bear numbers or diminished bear habitat, as well as possibly increased reporting rates due to enhanced research efforts. Many of our members have been working to alleviate conflicts, and improve human-bear coexistence.

One of the biggest threats for Asian bears is the trade in bear parts. This year we started a collaboration with TRAFFIC to better monitor this trade. Specifically, this partnership will involve channeling trade-related data into TRAFFIC's global wildlife crime database. In return, TRAFFIC will provide the Bear SG with access to this database.

Sun Bear (*Helarctos malayanus*), Vulnerable.
© Free the Bears

We are also continuing work to better understand the effects of bear farming on wild bear populations in China and neighboring countries. We are working with the Chinese Government, as well as members of other Specialist Groups, to try to answer what turns out to be a very complex question: Does marketing for legal and plentiful farmed bear bile reduce or encourage use of illegal bile from poached bears? This situation analysis is directed by an IUCN Recommendation that we helped formulate at the World Conservation Congress in Jeju, Korea, in 2012.

In December 2014 the Bear SG helped organize the III International Symposium on Andean Bear Conservation and Management: "Land of bears, land of people, land of all". Participants reviewed the current status of the species, highlighting information gaps about population size and patchiness, and current knowledge of the species' natural history, including new information on natal denning.

Administratively, we have added a new "Steering Committee" within the Bear SG, patterned after the SSC. The main role of this 10-member Steering Committee is to provide greater assistance to both the Bear SG Co-Chairs and the Bear SG "Expert Team" Co-Chairs. We have retained a structure of 12 Expert Teams (focused on particular species or topics), each with a Chair or Co-Chair.

Future goals/activities
We will finish our Red Listing accounts in 2015, including updates of species range maps; we plan to revamp our website in 2015; we are working to initiate a survey of bears in Vietnam, where present evidence indicates extreme population declines due to poaching; we will present interim results of the bear farming situation analysis at the World Conservation Congress in 2016.

Bison Specialist Group

Co-Chairs: Keith Aune (North America) and Wanda Olech (Europe)
Vice-Chair: Dennis Jorgenson (North America)
Red List Authority Coordinator: Cormack Gates
Location/affiliation: Keith is based in Bozeman, Montana, and is affiliated with the Wildlife Conservation Society. Wanda is affiliated with the Warsaw University of Life Sciences.
Number of members: 104

IUCN SSC BISON SPECIALIST GROUP


Keith Aune


Wanda Olech

Mission statement

The Bison Specialist Group consists of two units, one for European Bison and another for North American Bison. The purpose of the North American Bison Specialist Group (NABSG) is to contribute to the development of comprehensive and viable strategies and management actions to improve conservation and achieve ecological restoration of plains bison and wood bison where feasible throughout the original range of each subspecies.

Summary of main activities in 2014

During 2014 we have been actively gathering important biological and critical geo-spatial data from all conservation herds identified in the 2010 IUCN bison status report. These data will be used to assess the status and viability of wild bison populations in North America. The results will inform the ongoing Red List assessment process that is quietly underway.

The NABSG Co-Chair has commented on several important environmental impact assessments, legislation and bison plans including the National Bison Legacy Act, Montana bison bills, National Park EIS for Grand Canyon, NPS and USFWS plans in Colorado, bison reintroduction plans in Alaska, and the Yellowstone bison quarantine assessment. These important decision processes greatly impact the future of bison conservation and restoration in North America.

The European Bison Conservation Center (EBCC) – a network of European bison breeders and holders – passed the next step of implementation. It now connects institutions from 12 European countries. The main task of this international network is the coordination of restitution, reintroduction, and monitoring of captive and free-ranging herds, and most of all, preservation of the gene pool, and genetic management of particular herds. The detailed rules for cooperation and responsibilities of every network member were prepared last year. Another current activity of the EBCC is the edition of the main European language versions of the "Guidelines for the management of captive and free living Wisent herds". The English version will be the first to appear.

The Wisent Gene Bank has been established in the Department of Animal Genetics at Warsaw Agricultural University. This bank stores frozen tissue and DNA samples of more than 2,500 individuals. The material is collected from various populations, and is used for extended genetic analysis. Frozen sperm obtained post mortem is also stored in this bank.

A review of key activities regarding Wisents in Europe and main current problems were discussed during the annual international conference, held at Wałcz, Poland, on 4–5 September. The 2015 conference will be held in Pszczyna, Poland, to celebrate the 150th anniversary of Wisent breeding in this region.

During the conference held in Bad Berleburg (Germany), we summarized experiences with reintroduction of European Bison in conditions of densely populated areas. Those first results proved that such release is possible and feasible. Currently, WWF Germany is analyzing possibilities of Wisent reintroduction in other sites within the country.

Future goals/activities

The IUCN Bison Specialist Group from North America will continue advancing the Red List assessment process for plains and wood bison. A Population Viability Analysis workshop is scheduled for spring 2015. We anticipate a final assessment by July 2015.

The fifth biennial American Bison Society Conference is proposed for the spring of 2016 in Canada and the IUCN BSG will convene in conjunction with that conference. The PVA results and assessment report will be presented at that conference.

Acknowledgements

Thanks to the Wildlife Conservation Society who funded and enabled the IUCN Bison Specialist Group to operate in 2014.

European Bison (*Bison bonasus*), Vulnerable. © Mieczysław Hławiczka

Canid Specialist Group

Chair: Claudio Sillero-Zubiri
Red List Authority Coordinator: Mike Hoffmann
Programme Officer: Jed Murdoch
Location/affiliation: The Chair is based in Oxford, UK, and is affiliated with WildCRU (Wildlife Conservation Research Unit), Zoology Department, University of Oxford.
Number of members: 94 members from 40 countries

Claudio Sillero-Zubiri

Mission statement

The mission of the Canid Specialist Group (CSG) is to promote the long-term conservation of all wild Canidae species throughout their ranges.

Our objectives: (1) to compile, synthesize 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 technical information on all matters concerning wild canids to relevant conventions, range states and NGOs; (3) to promote and catalyse conservation activities benefitting wild canids, to be carried out by the above, prioritizing 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; and (6) to build capacity through the exchange of ideas, information, and technical expertise among the members of the Group.

Summary of main activities in 2014

The most prolific role of our Specialist Group is networking people with similar interests in canid biology and conservation and disseminating relevant data and information. Our main activities include the compilation, synthesis and dissemination of canid-related information through strategic planning and resulting Action Plans. Occasionally, we get involved through our membership supporting a specific campaign or piece of legislation, and make representations on a particular policy that may affect wild canids.

Our main dissemination channels include *Canid Biology and Conservation*, an electronic, peer-reviewed journal, and *Canids-L*, a mailing list exclusively devoted to canid biology and conservation with 900+ current members.

In 2014 we launched a new website, which includes a database of current canid research and conservation projects. And we started https://www.facebook.com/Canidconservation, which has proven immensely popular and counts with 2,600 likes to date.

Many of our activities are decentralized and carried out by several Working Groups. These are: Disease and Epidemiology, Taxonomy and Nomenclature, African Wild Dog,

Dholes (*Cuon alpinus*), Endangered. © Krupakar Senani

Amazonian Canids, Arctic Fox, Dhole, Ethiopian Wolf, Island, Kit and Swift Foxes, Maned Wolf, Southern Cone Foxes, and Wolf. The CSG also has Contact Persons for Pathology, Canid Genetics, Conservation Breeding, and Reintroductions and Translocations.

Ten of the 35 extant canid taxa are threatened: Two are listed as Critically Endangered (Darwin's Fox and Red Wolf), three as Endangered (Ethiopian Wolf, African Wild Dog and Dhole), and five as Near Threatened (Bush Dog, Maned Wolf, Sechura Fox, Short-eared Dog and Island Fox). A few others are rare and even declining, while many wild canids are too common for their own good, and thus are involved in major wildlife management issues (such as disease transmission, predation on livestock, sport hunting, fur trade).

During 2014 we reassessed several canid species for the IUCN Red List of Threatened Species, and plan to complete all remaining species in 2015. To facilitate the process for a number of the reassessments, we piloted an online forum prepared by the SSC, onto which the draft reassessments were posted. We completed assessments on Arctic Foxes, Dholes, Maned Wolves and all the South American foxes, with the view to reassess the remaining species in 2015. The main change from this process was the downlisting of Island Foxes from Critically Endangered to Near Threatened, due to their recovery from catastrophic population declines in the mid-1990s, thanks to recovery actions which included captive breeding and reintroduction, relocation of Golden Eagles, and vaccination against canine diseases. Several South American species are listed as Near Threatened, reflecting in part the rapid rate at which forest biomes are being converted to large-scale agriculture.

The Taxonomy and Nomenclature Working Group has been reviewing the status of several taxa, particularly ancient wolf lineages such as the Himalayan Wolf, Indian Wolf, African Wolf and Eastern Timber Wolf, to ascertain their distinctiveness and enable the CSG to take a stand on their conservation status and needs. Depending on these deliberations we may see the number of taxa under our remit increase substantially in the near future!

The CSG is closely involved in many field conservation and research projects that focus on threatened canid species. For example, during 2014 we provided guidance and support for vaccination interventions in Ethiopian Wolves and African Wild Dogs, and in understanding the conservation needs of several little known species in the Amazon and Sahara-Sahel.

In Ethiopia the CSG is overseeing the implementation of a conservation strategy for Ethiopian Wolves spearheaded by the Ethiopian Wolf Conservation Programme – EWCP was established in 1995 by CSG in partnership with the Ethiopian Government, University of Oxford and Born Free Foundation, to protect the rarest of all wild canids; EWCP is the main implementing body of this strategy.

For several years the CSG, in partnership with the Cat Specialist Group, the Zoological Society of London and the Wildlife Conservation Society, have been developing regional conservation strategies for African Wild Dogs and Cheetahs, based on the premise that these two species have similar ecological requirements and face similar threats. Under each regional strategy we have supported range countries preparing their own national action plans, ably assisted by regional coordinators.

In October 2013 the long-serving Wolf Specialist Group merged into the CSG. We have structured a new Wolf Working Group with three regional coordinators, and adopted the long-standing Wolf Manifesto of the Wolf SG. The North America chapter has been particularly active calling on Alberta, Canada, to eliminate the archaic and outdated wolf bounty payments.

Future goals/activities

Many wild canids antagonize with human interests, often resulting in persecution. Our challenge is to increase tolerance and mitigate conflict to enable rare, threatened species to survive. Our top priority is fine-tuning of our global network of canid experts using a working group approach, and promoting the implementation of Canid Action Plan projects and actions. We would like to see more bottom-up initiatives and dynamism amongst the CSG membership, and improve our ability to raise financial resources to support key projects.

Acknowledgements
We are grateful to the Born Free Foundation for funding the Chair's position at WildCRU. We thank the Forestry Bureau of the Council of Agriculture, Republic of China (Taiwan), for several small grants to support CSG activities.

Caprinae Specialist Group

Chair: Marco Festa-Bianchet
Red List Authority Coordinator: Rich Harris
Location/affiliation: The Chair is based at the Université de Sherbrooke in Canada, where he is Professor of Ecology. The RLA Coordinator is based in Olympia, Washington, where he is the section supervisor in the Wildlife Program of the Washington Department of Fish and Wildlife, in charge of management and research for bighorn sheep and mountain goats.
Number of members: 33

Marco Festa-Bianchet

Mission statement

Our key objective is to maintain functioning ecosystems in mountain areas by fostering the conservation of mountain ungulates, including research, education and management. We developed a statement on when and how trophy hunting can be part of a conservation program, which eventually lead to the IUCN SSC Guiding Principles on Trophy Hunting as a Tool for Creating Conservation Incentives.

Summary of main activities in 2014

In 2014, members of the group continued their research and management activities, focusing on habitat protection, evolutionarily and ecologically sustainable sport hunting for conservation of mountain ungulates and their habitat, the transmission of disease from livestock to wild mountain ungulates, taxonomy and population dynamics. We are particularly concerned with Central Asia, and continued to assist in the development of hunting programs for species like Argali and Markhor that have the potential to attract substantial amounts of conservation funding.

We also continued to underline that currently, most trophy hunting programs have limited positive impact on conservation. The reassessment of Markhor for the Red List pointed out that major improvement to the conservation status of this species are possible, partly through evidence-based consumptive management. Our group continued to support the highly successful conservation program of Markhor and its habitat in the Torghar region of Pakistan, for example by assisting the USFWS in reaching a decision to allow import of trophies harvested in this area.

An additional human-caused problem to the conservation of mountain ungulates is the creation of "new" species based on little evidence, which confuses governments and affects the ability of species-based conservation legislation to effectively protect biodiversity. Members of our group were active in arguing that data-based, verifiable taxonomy is essential for conservation.

Several of our members continued to be involved with attempts to prevent or limit the spread of domestic livestock diseases to mountain ungulates. In particular, members provided advice and expert opinion on a very delicate situation related to an outbreak of brucellosis in Alpine Ibex in the French Alps, with very serious potential consequences not just for conservation but also for the local economy, blending issues of human health and politics, that attracted much media attention.

We also supported and participated in an international meeting on the highly successful program of re-introduction of the Appennine Chamois to several areas in central Italy where it had been extirpated over a century ago. Thanks to this program, the global population has increased from a few hundreds to a few thousands and now reoccupies nearly all of its known historical range.

Many of our members are highly engaged in efforts to reduce the risk of spillover disease transmission from domestic livestock to wild Bighorn Sheep in North America.

Finally, we welcomed the publication of the CIC *Caprinae Atlas of the World*, the results of many years of work of several highly dedicated people and piloted by two members of our Specialist Group. This book highlights the characteristics and distribution of all mountain ungulates and provides an updated presentation of many challenges and successes in Caprinae conservation.

Future goals/activities

Our goals for 2015 remain the same as our core objectives, but we are also looking to recruit new and younger members of the group, ideally with a range of expertises and from a variety of geographical regions. Support of conservation decisions based on scientific evidence remains our highest priority.

Alpine Ibex (*Capra ibex*), Least Concern. © Marco Festa-Bianchet

Cat Specialist Group

Co-Chairs: Christine Breitenmoser-Würsten and Urs Breitenmoser
Red List Authority Coordinator: Kristin Nowell
Assistants to the Chair: Tabea Lanz, Manuela von Arx
Location/affiliation: We are based in Muri b. Bern, Switzerland, and are affiliated with KORA, a Swiss-based NGO working in carnivore ecology and wildlife management.
Number of members: 201 members from 57 countries

Christine Breitenmoser-Würsten and Urs Breitenmoser

Mission statement

(1) To assess the conservation status of and threats to all felids in their entire range.
(2) To adapt IUCN policy and guidelines into cat-specific advice to partners.
(3) To facilitate Conservation Strategies and National Action Plans for cats working with GOs, IGOs, Conventions (CITES, CBD, CMS) and NGOs.
(4) To promote and catalyse conservation activities for cats implemented by our partners.
(5) To develop capacity within and outside the Cat SG.
(6) To share information on cat conservation through the Digital Cat Library, the Cat SG website (www.catsg.org), Cat News and Facebook (https://www.facebook.com/pages/IUCN-SSC-Cat-Specialist-Group/1478766355730648)

Summary of main activities in 2014

With the update of the Global Mammal Assessment in 2015 all 38 cat species had to be reassessed, considering the latest Red List guidelines published in February 2014. The Cat SG concentrated on the species level, but will look at subspecies in a next step, once the new felid taxonomy is published. Many Cat SG members were involved in the reassessments of the cats led by the Cat SG's RL Coordinator Kristin Nowell. As Co-Chairs, we were part of the team reviewing all assessments.

In 2012, we initiated the Cat Classification Task Force, mandated to review the taxonomy of the Felidae. Part of the TF met in January 2014 in Switzerland to review the progress and identify problems and gaps, and to set the agenda for the remaining tasks.

Leopard (*Panthera pardus*), Near Threatened. © C .P. Meier

In the first half of 2014 the missing assessments were done. All species proposals went out for review to experts in August.

Many of our activities in 2014 focused on leopards as we are preparing a global leopard initiative to boost conservation of this largely neglected species. Following a workshop in Oman in December 2013, where we facilitated a strategic planning workshop, we drafted the National Action Plan for the Conservation of the Arabian Leopard in Oman and submitted it to the National Task Force for review and translation into Arabic.

In May 2015, we attended the Caucasus Cat Summit in Baku, Azerbaijan. The conference invited cat experts and researchers to discuss preservation of big iconic animals, share their knowledge and experience. The Summit gave the opportunity to talk to many colleagues from the region and to plan future activities in the Caucasus eco-region for leopard and wildlife conservation.

We were invited by the Zoological Society of London to participate in a feasibility study on the conservation of the leopard in Azerbaijan. This country should play a significant role in the recovery of a viable leopard population in the Caucasus. The objectives of the study were: (1) to review the history and the present situation of the Leopard in the Caucasus and in neighbouring regions (the international and inter-regional challenges for leopard conservation in the Caucasus are of crucial importance); (2) to explore scenarios for the recovery of a viable leopard metapopulation in the Lesser and Greater Caucasus and the specific role of Azerbaijan in this process; (3) to review the framework for the conservation of the leopard in Azerbaijan and to disclose enabling conditions and possible shortcomings; and (4) to recommend short-, mid- and long-term activities for a comprehensive and lasting leopard conservation programme in Azerbaijan.

In October 2014 we coorganized together with the WWF-Caucasus Programme, and with support from the Council of Europe/Berne Convention, a workshop in Tbilisi, Georgia, to reassess the status of the Leopard in the Caucasus eco-region, eight years after the last review of the status. The

Regional Strategy for the Conservation of the Leopard in the Caucasus Eco-region needs to be revised, as a lot of new information became available. The wildlife situation in Georgia, Armenia and Azerbaijan improved, whereas in Iran it worsened. In Russia, the conservation breeding programme for the recovery of the Leopard in the Greater Caucasus made considerable progress with the support from EAZA and the Cat SG.

We carried out several training courses for young colleagues from Kosovo and Montenegro in the frame of the Balkan Lynx Recovering Programme as well as from Slovakia, where we try to help establishing a monitoring programme, including health and genetics, for the Carpathian Lynx.

Reports on legal and illegal trade in Cheetahs and on Asian Big Cats were delivered to the SC65 CITES meeting. We also participated in a meeting on illegal trade in Africa in Harvard. We completely renewed the Cat SG website, it went online in fall 2014. With the help of many Cat SG members we updated the cat profiles, supported by many excellent wildlife photographers for illustration. The Cat SG is now also present on Facebook. We have published two regular issues of Cat News with 38 peer-reviewed articles and a Special Issue on non-*Panthera* cats in Southeast Asia. The Digital Cat Library grew by several hundred papers and reached 9,516 publications and reports relevant to cat conservation by December 2014.

Future goals/activities

The revised felid taxonomy and the status of cats in Iran will be published as special issues of Cat News. In 2015 two regional strategies will be revised with our help: the Regional Conservation Strategy for Leopards in the Caucasus eco-region, and the Regional Conservation Strategy for Cheetah and African Wild Dog in southern Africa. We will facilitate the development of the National Action Plan for the conservation of the Persian Leopard in Iran and will launch a global Leopard initiative. All cat species reassessments for GMA 2015 will have to be finished.

Acknowledgements

Big thanks to the Friends of the Cat Group, Panthera, MAVA Foundation, the Mohamed bin Zayed Species Conservation Fund, Zoo Leipzig, Forestry Bureau of the Taiwan Council of Agriculture, Parrotia Stiftung, Erlenmeyer Stiftung, Council of Europe/Bern Convention, Innflow AG, Stämpfli AG, Patrick Meier, Peter Stämpfli, and Jean-Claude and Annemarie Tschumper.

Cetacean Specialist Group

Chair: Randall Reeves
Deputy Chair: Giuseppe Notarbartolo di Sciara
Red List Authority Coordinator: Barbara Taylor
Location/affiliation: The Chair is based in Hudson, Quebec, Canada, and is affiliated with Okapi Wildlife Associates.
Number of members: 111

Randall Reeves

Mission statement

The Cetacean Specialist Group (CSG) promotes and facilitates the conservation of cetaceans worldwide. It functions as a catalyst, clearinghouse, 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 recognize the importance of maintaining the full diversity of the Cetacea (whales, dolphins and porpoises), which includes about 90 species, with many subspecies and populations.

Summary of main activities in 2014

The CSG currently has 111 members from many countries and all continents (other than Antarctica). In addition to the Chairman (Reeves) and Deputy Chairman (Notarbartolo di Sciara), the group has five regional coordinators – Brian Smith (Asia), Enrique Crespo (Latin America), Nick Gales (Oceania) and Tim Collins (Africa). The emphasis of our work has always been on regions that are short of capacity and where conservation problems for cetaceans are less likely to be recognized, characterized and addressed. It is implicitly assumed (not always justifiably) that problems in North America, Europe, Australia and New Zealand are receiving more expert attention than is the case elsewhere in the world.

There has also been a tendency for the CSG to focus more on the small and medium-sized cetaceans (porpoises, dolphins and toothed cetaceans smaller than sperm whales) than on the baleen whales and sperm whale because these latter are within the agreed remit of the International Whaling Commission (IWC) and its Scientific Committee (SC). Many CSG members participate in the IWC SC. In recent years, that body as well as the IWC Conservation Committee have become increasingly involved in generating both scientific and management advice on the conservation of cetaceans, large and small.

The CSG also collaborates closely with the Conservation Committee of the Society for Marine Mammalogy (SMM), which among other things prepares letters from the Society's president to decision-makers concerning critical issues in marine mammal conservation. Often, letters regarding a given issue in cetacean conservation are sent from both the SMM president and either the CSG Chair, the SSC Chair or the IUCN Director General. The CSG is also well represented in the Taxonomy Committee of the SMM, which has come to be viewed as the global taxonomic authority for cetaceans. Several new species of cetaceans were formally recognized in 2013–14: Deraniyagala's Beaked Whale (*Mesoplodon hotaula*) in the tropical Indo-Pacific and two new species in the genus *Sousa* (humpback dolphins) in addition to the long-recognized Atlantic and Indo-Pacific pair. Also, the Bolivian Dolphin (*Inia boliviensis*), which had been recognized since 2008 as a separate species of South American river dolphin, was reconsidered and removed from the list of species in 2014. Such changes in taxonomy bring a certain amount of instability to the Red List, creating an immediate challenge for the CSG to keep pace. Indeed, even without that, our efforts to reassess most of the other cetacean species and to assess all of the subspecies and subpopulations that would benefit from listing are well behind schedule.

In addition to direct links with the Global Species Programme and SSC, the CSG has interacted closely over the last several years with IUCN's Global Marine and Polar Programme and the Business and Biodiversity Programme, which have administered scientific panels on western Gray Whales, and to the World Commission on Protected Areas (WCPA) for the Joint SSC/WCPA Marine Mammal Protected Area Task Force

Irrawaddy Dolphin (*Orcaella brevirostris*), Vulnerable. © Budiono/RASI

led by CSG members Erich Hoyt and Giuseppe Notarbartolo di Sciara. This task force is playing an important role in the development of "Important Marine Mammal Areas" (IMMA) and in ensuring that cetaceans (and other marine mammals) are well represented in large-scale marine spatial planning processes, e.g. the Convention on Biological Diversity's Ecologically or Biologically Significant Areas (EBSA) and IUCN's Key Biodiversity Areas (KBA), and it has helped strengthen the CSG's links to the Convention on Migratory Species.

In recent years, the prospects of some cetaceans in some areas have improved. For example, after decades of protection from commercial whaling, Blue Whales in the eastern North Pacific, Right Whales in parts of the Southern Ocean, Bowhead Whales in the Western and Eastern Arctic and Humpback Whales in most of their cosmopolitan range, have made good progress towards recovery. Right Whales in the western North Atlantic and Gray Whales in the western North Pacific have managed to gain ground slowly in spite of serious ongoing risks from entanglement in fishing gear, ship strikes and offshore development. Right Whales remain absent from the eastern North Atlantic and are barely extant in the eastern North Pacific and eastern South Pacific – with no signs of improvement.

The world's only non-migratory population of Humpback Whales, isolated in the Arabian Sea, may number fewer than 100 animals. Freshwater dolphin and porpoise populations continue to be among the most threatened cetaceans, although Indus River Dolphins in Pakistan and Mahakam River Dolphins (*Orcaella brevirostris*) in Borneo appear to be holding their own. The very small populations of dolphins (<100 individuals) in the Ayeyarwady River of Myanmar and the Mekong River of Laos and Cambodia, as well as the unique freshwater population of finless porpoises in China's Yangtze River system, are all Critically Endangered and their trends are in the wrong direction. Amazon Dolphins, which only a decade ago were considered secure, have declined because they are killed to supply bait for a fishery which was finally outlawed in Brazil at the beginning of this year. The Critically Endangered Vaquita, a tiny porpoise endemic to Mexico's upper Gulf of California, has declined precipitously over the last few years largely because of accidental mortality in gillnets set illegally to catch large croakers whose swim bladders are smuggled into China for use as an ingredient in soup. Finally, off the North Island of New Zealand, the population of Maui Dolphins, an endemic subspecies of Hector's Dolphin, has dwindled to only a few tens of animals, also due to accidental entanglement in gillnets – the scourge of small cetaceans globally.

Extinction of the Baiji (China's Yangtze River Dolphin) during the first decade of the present century haunts all of us involved in cetacean conservation. As Bill Perrin, former CSG Chair, stated in his foreword to our 2003 Action Plan, "Cetacean diversity, like all biodiversity worldwide, is crumbling; we are losing it at a rapid and increasing rate. So we must redouble our efforts." We have done that, and I'm humbled by the way colleagues in the CSG, along with many other scientists and activists all over the world, have responded to Bill's call to action. The crumbling hasn't ceased, and we're bound to experience more bitter losses, but at least we've limited some of the damage and made a few hard-won gains, which provides hope and keeps us from giving up the battle.

Future goals/activities

In coming years, CSG members will continue efforts to identify, clarify and draw attention to threats facing cetaceans, update and improve Red List assessments, promote the recognition and protection of IMMAs, and do everything they can to make the world's oceans, seas and rivers quieter, less polluted, more productive and otherwise safer for cetaceans (e.g. fewer gillnets, slower ships).

Acknowledgements

Among the many sources of major support for our work are various WWF offices, the IWC, US Marine Mammal Commission, SOS–Save Our Species, Ocean Park Conservation Foundation, Whale and Dolphin Conservation and Wildlife Conservation Society.

Deer Specialist Group

Co-Chairs: Susana González and William J. McShea
Red List Authority Coordinators: Eveline Zanetti (New World species) and Sarah Brook (Old World species)
Location/affiliation: Susana is affiliated with the Departamento de Biodiversidad y Genética, Instituto de Investigaciones Biológicas Clemente Estable, Montevideo, Uruguay, and William is affiliated with the Conservation Ecology Center, Smithsonian Conservation Biology Institute, Front Royal, VA, USA.
Number of members: 104 members from 39 countries


Susana González


William J. McShea

Mission statement

The mission of the Deer Specialist Group (DSG) is to contribute to biodiversity conservation through the 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.

Summary of main activities in 2014

The main activities of the DSG include the compilation, and synthesis of deer biology and management information and the dissemination of relevant data. As a part of the Species Survival Commission one of our main tasks for this period is the Global Mammal Assessment. In consultation with our RLAs and SSC staff, we shortened the Red List Assessment process to 71 DSG-recognized deer species. We did not reassess species whose status has not changed significantly in the past five years or for which we have no new information. We are reassessing species who meet the following criteria: a) species that DSG members believe have shown dramatic changes in distribution and numbers over the past five years; b) species where increased knowledge of their populations and distributions might lead to changes in IUCN Red List status; or c) new species as a result of revised taxonomy.

We maintain a webpage with a database of current deer research and conservation articles. Our main dissemination channels include our Deer Specialist Group Newsletter, an electronic, peer-reviewed journal, and our list server exclusively devoted to deer biology and conservation. We have appointed Dr Patricia Black de Decima as the Scientific Editor of the DSG Newsletter. Since 2014, we have obtained the international recorded Newsletter ISSN. We have also updated the author guidelines to assure the uniformity and quality of the articles published. Our annual newsletter contains articles, abstracts from regional workshops, and news submitted by our members, and is available here: (http://www.icneotropical.org/newsletters.htm).

In December 2014 we organized a Deer Symposium during the "*Congreso de Zoología del Uruguay*". We had participants from Argentina, Brazil and Uruguay. The main symposium topic was devoted to *ex situ* conservation measures that we identified that need to improve because few advances have occurred in Uruguay and the region. It is important that zoos and breeding institutions share the information, standardize management criteria and achievement. Another important issue is to record the genealogies based on an effective identification of individuals. For species like the Pampas Deer, it is important to continue with the studbook. This symposium addressed: (i) identification of the species found in zoos of Uruguay and the region, (ii) standardize guidelines for stock management of, and (ii) how they can contribute knowledge to local, regional and national level to achieve proper management and conservation of species of Neotropical deer. All the abstracts and selected short communications will be published in the next annual Newsletter issue.

In 2014 we assisted the Myanmar Government in creating a Conservation Plan for Elds Deer. The first steps of the plan are a national survey to locate remaining populations and increased support and training for the two reserves known to contain the species.

Also in 2014, we formed a sub-committee to assist the Iranian Government with conservation of Mesopotamian Deer, but no activity has resulted to date.

Future goals/activities

Our future goals will be to obtain the knowledge for completing the Red List Assessment for both New World and Old World species. This process has reinforced the knowledge that many Old World species are not being actively monitored or studied. The DSG needs to expand its membership by locating additional experts on the smaller deer species, and encourage field research and monitoring on these species through increased funding opportunities.

Acknowledgements

Conservation Force (http://www.conservationforce.org/) for providing funding for Eld's Deer ecology and conservation projects in Southeast Asia, and Comisión Sectorial de Investigación Cientifica (CSIC-UdelaR) for funding the Neotropical Deer Project. We thank the past RLAs Dr Will Duckworth and Dr Patricia Black for their years of service for the DSG.

Pampas Deer (*Ozotoceros bezoarticus*), Near Threatened. © Susana González

Equid Specialist Group

Chair: Patricia D. Moehlman
Red List Authority Coordinator: Sarah R.B. King
Location/affiliation: The Chair is based in Arusha, Tanzania and is affiliated with EcoHealth Alliance.
Number of members: 68 members from 23 countries

IUCN/SSC EQUID SPECIALIST GROUP

Patricia D. Moehlman

Mission statement

The mission of the IUCN SSC Equid Specialist Group is to conserve biological diversity by developing and implementing programs 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.

Summary of main activities in 2014

Sarah King as RLA Coordinator has led the assessment process for all seven species of wild equids. The Asiatic Wild Ass has been downlisted from Endangered (EN) to Vulnerable (VU). The Przewalski's Horse was downlisted from CR to EN and the Mountain Zebra was downlisted from EN to VU.

A critical aspect of conserving wild equids and their ecosystems is capacity building in range states. Fanuel Kebede completed his PhD on the "Ecology and Community-based Conservation of the African Wild Ass and the Grevy's Zebra in the Afar Region, Ethiopia" and is now the Technical Advisor to the Director General of the Ethiopian Wildlife Conservation Authority. Dr Kebede has employed and trained scouts as part of his programme for the protection and conservation of African Wild Ass in the Danakil Desert. Almaz Tadesse after completing her PhD is now Deputy Director of the Social and Ecological Partnership Programme at the Horn of Africa Regional Environment Centre and Network at the University of Addis Ababa. In cooperation with the Hamelmalo College of Agriculture, Eritrea, an MSc programme has been developed that will provide training and expertise that is needed in wildlife ecology and management. Mr Futsum Hagos is completing his fieldwork on the Population Dynamics and Genetics of African Wild Ass in the Denkelia Desert. As part of this program a protected area for African Wild Ass is under discussion.

Work is underway for organizing, reviewing, and producing guidelines on reintroduction and translocation of wild equids. A global review of all equid diseases is a challenging and fundamental aspect of this endeavor. The occurrence of Equine Herpes Virus type 1 (EHV-1) in European zoos and the recent documentation of the fatal 'jumping' of this virus to non-equids, i.e. Indian Rhinos and Polar Bears, illustrates the potential for reintroductions and translocations to have very negative repercussions.

The edited volume (Ransom and Kaczensky) on wild equids is nearly completed for publication.

Future goals/activities

In Ethiopia, Dr Fanuel Kebede is advising on a management plan for upgrading the status of the Alledeghi Wildlife Reserve. This is the critical reserve for conserving Grevy's Zebra. In addition, he will lead a workshop for developing a National Action Plan for Ethiopia's Wild Equids (African Wild Ass, Grevy's Zebra and Plains Zebra). He is also working on the development of an Ethiopia/Djibouti cross-boundary conservation programme for African Wild Ass.

In Eritrea, additional personnel will be identified for post-graduate training. Mr Futsum Hagos is initiating discussions on establishing a protected area for African Wild Ass in the Denkelia Desert.

African Wild Ass (*Equus africanus*), Critically Endangered. © fabcom CC BY-NC 2.0

Acknowledgements

PDM is very grateful to the donors that have supported so much training, research and conservation for wild equids: EcoHealth Alliance, Thye Foundation, Model Foundation, Basel Zoo, Liberec Zoo, Saint Louis Zoo Conservation Program, Whitley Awards, Plock Zoo, SeaWorld Busch Gardens Conservation Fund, and the Gilman International Conservation Fund.

Giraffe and Okapi Specialist Group

Co-Chairs: Julian Fennessy (giraffe) and Noëlle Kümpel (okapi)
Red List Authority Coordinator: David Mallon
Location/affiliation: Julian Fennessy is based in Windhoek, Namibia, and is affiliated with the Giraffe Conservation Foundation (GCF). Noëlle Kümpel is based in London, UK, and is affiliated with the Zoological Society of London (ZSL).
Number of members: 46 total, 24 of which are Giraffe subgroup and 22 Okapi subgroup members

Julian Fennessy and Noëlle Kümpel

Mission statement
The IUCN SSC Giraffe and Okapi Specialist Group (GOSG) seeks to understand and provide technical support to conservation issues facing giraffe and okapi worldwide.

Summary of main activities in 2014
After an exciting first year of the GOSG the fundamentals of coordinating technical experts in the conservation and management of giraffe and okapi has been rewarding. The interest in both species has risen dramatically in 2014 and the support of the Giraffe Conservation Foundation (GCF) and Zoological Society of London (ZSL) as hosting institutions for the two subgroups has been invaluable. The two Co-Chairs of the GOSG met in London during 2014 and discussed all aspects of operations to plan out the next year of the quadrennium – this was invaluable. The ongoing development of the GOSG website has almost culminated in a final version which will go online in 2015! We hope that together with partner websites it will provide a valuable resource tool for the conservation, management and information sharing regarding these two species. The website will include a publicly-accessible bibliographic database of giraffid literature, starting with okapi, for which more than 650 references have now been compiled and shortly followed by even more giraffe references. Discussions continue regarding the exact structure and accessibility of a survey database for the GOSG, with the compilation of the okapi side almost complete and the giraffe database currently housed by GCF.
In 2014 the Giraffe subgroup initiated the first-ever detailed Red List assessment of giraffe and its subspecies which is planned to be completed by the end of 2015. This has been a long process due to the range of giraffe across the continent in a combination of public, private and communal managed land. The preliminary results are exciting and will definitely change the way we see and hopefully manage the dwindling giraffe population in Africa.

ZSL hosted an evening of public talks on giraffe conservation in London in July to highlight the decline and conservation research efforts of arguably Africa's most iconic species. The joint 'Giraffid' newsletter of GOSG which is collated by GCF and launched in late 2013, continued in 2014 and aids in the dissemination of valuable information from giraffe and okapi conservation efforts in the wild and managed world. The readership is growing and is recognized by many as a valuable conservation tool.

GOSG member David Stanton, joint student of Cardiff University and ZSL's Institute of Zoology, successfully defended his PhD thesis on okapi genetics. He has led on two papers published this year, demonstrating the okapi's ancient evolutionary history and high genetic variation and using non-invasive genetic identification to confirm the presence of okapi south-west of the Congo River. Given the paucity and relatively low quality of current okapi survey data as highlighted during the 2013 Red Listing process, a small ad hoc workshop involving GOSG members was held at ZSL looking at how to adapt standard wildlife survey methods being used in DRC to better monitor okapi, and work on this important topic is ongoing through a joint SOS grant to WCS and ZSL.

GOSG members Kerryn Carter and Megan Strauss both successfully defended their PhDs on the ecology of the Angolan and Masai giraffe respectively. Kerryn, a student of the University of Queensland, recently published two papers on the social dynamics and genetic structure of a giraffe sub-population in Etosha National Park, Namibia while Megan, a student at the University of Minnesota, published a paper on the impact of lion predation on giraffe. Many others in the GOSG also published papers throughout the year including Fred Bercovitch, Doug Bolger, Julian Fennessy, Derek Lee, Zoe Muller and Anne Innis Dagg – who updated her book on giraffe and its biology.

The situation for okapi on the ground in DRC has improved in some areas, with GOSG members involved in new surveys being completed in the Maiko-

Rothschild's Giraffe (*Giraffa camelopardalis* ssp. *rothschildi*), Endangered. © Shankar S. CC BY 2.0

Usala region and SMART (http://smartconservationtools.org) being implemented in Virunga National Park and the Okapi Wildlife Reserve. In the latter, *Institut Congolais pour la Conservation de la Nature* (ICCN) rangers have closed down a large number of illegal gold mines and targeted poachers. They now have 50% of the Reserve back under their control, are working hard to expand patrol coverage and report seeing okapi on patrol and observing sign of okapi, elephants and many primate species on a regular basis.

Future goals/activities

2015 is set to be an important year for GOSG as it seeks to finalise the first-ever detailed Red List assessment of giraffe and its subspecies by the end of 2015 which will ultimately change the way we look at their conservation status and management in the wild. Additionally, in August it will host giraffe Indaba III in South Africa, the bi-annual conference of the Specialist Group in collaboration with the GCF. The first-ever National Giraffe Conservation Strategy in Niger is planned to be reviewed in May, and to date still remains the only one of its type on the continent, and the GOSG-led okapi conservation strategy will be formally published in English and French.

Acknowledgements

We would like to thank IUCN's Simon Stuart, Mike Hoffmann and Rachel Roberts in their support to the SG. The SG activities and administration were generously funded by a host of organizations, and to all we are grateful.

Hippo Specialist Group

Co-Chairs: Rebecca Lewison and Chris Ransom
Red List Authority Coordinator: Chris Ransom
Location/affiliation: Our Group personnel are based at and affiliated with San Diego State University (San Diego, CA, US) and Zoological Society of London (London, England)
Number of members: 17

Rebecca Lewison

Mission statement

The mission of the Hippo Specialist Group promotes scientifically-based action for the conservation of Common and Pygmy Hippos. We work to develop and execute programmes that study, save, restore and manage hippo populations and their habitats.

Summary of main activities in 2014

The past year saw the distribution and development of two important documents for the Hippo Group. The first is the distribution of a National Plan of Action for Liberia for Pygmy Hippos, an effort coorganized by Fauna & Flora International and the Forestry Development Authority of Liberia, and funded by the Flagship Species Fund and BHP Billiton. The NPOA provides an up-to-date assessment of the conservation status of the Pygmy Hippo and its habitat in Liberia, outlines current threats and identifies critical activities needed to address them. It also identifies the bodies and organizations central to ensuring these activities are implemented effectively. Liberia's National Plan serves as a strong model for the three other countries (Côte d'Ivoire, Guinea and Sierra Leone) where Pygmy Hippos can still be found.

The second key document is the completion of an updated Red List assessment for Pygmy Hippos. In an effort led by Chris Ransom, a comprehensive species profile has been completed for this species. The assessment identifies the need for continued and intensified conservation actions to protect this species, as habitat loss and hunting continue to present a substantial challenge to the Pygmy Hippo population viability. The completed Red List assessment will be released later this year.

Future goals/activities

On the heels of the updated Red List assessment for Pygmy Hippos, the Common Hippos subgroup is working on an updated Red List assessment. Aiming for a Spring 2015 completion date, the subgroup is working to update population and distribution data, current status and relevant legislative frameworks that support Common Hippo conservation from the approximately 28 countries in which Common Hippos are extant.

Common Hippopotamus (*Hippopotamus amphibius*), Vulnerable. © A. Goldberg

Hyaena Specialist Group

Chair: Kay E. Holekamp
Red List Authority Coordinator: Stephanie M. Dloniak
Location/affiliation: We are based in Michigan, USA, and Kenya. We are affiliated with Michigan State University.
Number of members: 30

Kay E. Holekamp

Mission statement

The Hyaena Specialist Group has two major goals: (1) to promote the conservation of hyaenas worldwide through integrated research in order to develop sound conservation strategies; and (2) through education, to change people's attitudes towards these much maligned animals that are so often persecuted unnecessarily.

Summary of main activities in 2014

In 2014, we coordinated the reassessment of the Hyaenidae for the 2015 Global Mammal Assessment. We also created the first Facebook page and Instagram accounts dedicated to hyaena research and conservation, maintained by graduate students and research assistants of The Mara Hyaena Project. In just six months on Facebook, we have garnered almost 900 "likes" of our page. We currently have almost 50 followers on Instagram. We answered hundreds of questions posed by lay people, print media, and film producers about members of the hyaena family. We discovered and reported to local management authorities multiple mass poisoning events of Spotted Hyaenas in Kenyan national parks. We also removed wire snares from multiple hyaenas in Kenyan national parks. We published multiple research papers on all four extant hyaenids in professional journals, and gave oral presentations on them to myriad lay audiences.

Future goals/activities

In 2015, we will complete the reassessment of the Hyaenidae and it will be published. We also plan to redo our website and include feeds from social media accounts of various research projects as well as other news updates.

Striped Hyaena (*Hyaena hyaena*), Near Threatened. © Howard Saunders

Lagomorph Specialist Group

Chair: Andrew Smith
Deputy Chair: Neil Reid
Red List Authority Coordinator: Patrick Kelly
Location/affiliation: Andrew Smith is affiliated with the School of Life Sciences and the Center for Biodiversity Outcomes, Arizona State University, Tempe, Arizona, USA. Neil Reid is affiliated with the School of Biological Sciences and Institute for Global Food Security (IGFS), Queen's University, Belfast, Northern Ireland, United Kingdom.
Number of members: 65 members representing 21 countries

Andrew Smith

Mission statement

To promote the conservation and effective sustainable management of all species of lagomorph through science, education and advocacy.

Summary of main activities in 2014

The Lagomorph Specialist Group (LSG) is as widely distributed as our ~90 species of interest. Below we highlight some of the major thrusts of our work during 2014.

We continue to make progress on our book: "Lagomorphs: Rabbits, Hares and Pikas of the World" – under contract with John's Hopkins University Press, [editors: LSG members Andrew Smith, Paulo Alves, Klaus Hackländer].

Several LSG members, Andrew Smith, Paulo Alves and Neil Reid, have participated actively in LaGomiCs (the Lagomorph Genomic Consortium), an international collaboration initiative designed to sequence the genome of all lagomorph species; a major workshop was held in Zagreb, Croatia, May 2014. Our LSG member in Washington State, Penny Becker, continues to spearhead the successful reintroduction efforts of the Pygmy Rabbit (*Brachylagus idahoensis*) into the Columbia Basin (USFWS Endangered Distinct Population Segment). In an ongoing effort, techniques have been developed for breeding wild and captive Pygmy Rabbits, and reintroductions have had a higher success than anticipated. Released Pygmy Rabbits are closely monitored to collect data on breeding, habitat use, mortalities and other factors to modify reintroduction techniques and adaptively manage the newly-formed population.

Plateau Pika (*Ochotona curzoniae*), Least Concern. © Andrew Smith

The Amami Rabbit (*Pentalagus furnessi*) occurs only on two small islands in an archipelago in southern Japan. The primary conservation issue of this Endangered (EN) species is invasive carnivores, namely mongoose and feral cats. As reported by LSG member Fumio Yamada, the mongoose population has been successfully reduced – from 10,000 in 2005 to 130 in 2013. But efforts to capture feral cats have been disrupted by animal rights activists. Yamada, working with NGOs, local authorities and government agencies, is attempting to breakthrough this impasse so that feral cat capture operations can be resumed.

Also in Japan, the Pika Fan Club, led by LSG member Toshimi Ichikawa, has grown to be one of the largest green groups in Japan; its primary focus is the Hokkaido Island endemic subspecies of the Northern Pika (*Ochotona hyperborea yesoensis*) (listed locally as Near Threatened and declining by the Ministry of Environment). Recently several road construction, resort, and forestry projects that would have severely compromized habitat occupied by the Northern Pika on Hokkaido have been stopped due to the activities of the Pika Fan Club.

The Drylands Conservation Programme, an arm of the Endangered Wildlife Trust in South Africa, is led by LSG member Christy Bragg. This programme works to ensure the survival of the Critically Endangered Riverine Rabbit (*Bunolagus monticularis*) and other species in this threatened ecosystem. They collect baseline population data, engaging in long-term monitoring of the species; this effort is newly supported by the placement of 31 camera traps. They have established a nursery to provide indigenous plants for restoration of the region, and have partnered with the Department of Agriculture (LandCare) to construct erosion barriers. A critical part of the programme is working with local farmers with the establishment of Riverine Rabbit Conservancies. Education and outreach are also an integral part of the DCP conservation efforts.

Andrew Smith (with graduate student Maxwell Wilson) published an overarching eco-hydrology paper (Ambio 44:16–22) showing that the Plateau Pika (*Ochotona curzoniae*) is an ecosystem engineer on the Tibetan-Qinghai plateau, an analysis that should prove integral to the cessation of the mass poisoning of this species and the concomitant loss of biodiversity on the plateau where the pika has been eliminated by poisoning campaigns.

Future goals/activities

We aim to complete our Lagomorph book and to continue engaging world-wide in the promotion of locally-based scientific efforts to monitor and manage the world's lagomorph species, and to provide context and education on the importance of lagomorphs as ecosystem engineers, important components of local sustainability projects, etc. LSG members have proposed lagomorph symposia at two major important international mammal conferences: the VIIth European Congress of Mammalogy in Sweden and the Vth International Wildlife Management Congress in Japan. Plans are underway for our next World Lagomorph Conference, to be held in California in July 2016.

New World Marsupial Specialist Group

Chair: Gabriel M. Martin

Location/affiliation: The Chair is based in Esquel/Chubut Province, Argentina. He is affiliated with CONICET and the Universidad Nacional de la Patagonia "San Juan Bosco".

Number of members: 20

New World Marsupials Specialist Group

Gabriel M. Martin

Mission statement

The mission or key objective of our Specialist Group is to agree on a framework that will aid in the conservation of American marsupials, and evaluate the different aspects threatening them.

Summary of main activities in 2014

Our SG activities in 2014 have focused on creating a unified taxonomic list, which has settled the number of species in 108, grouped in 22 genera within three orders, exclusive to the Americas; Didelphimorphia (opossums), Microbiotheria (the monotypic *monito del monte*) and Paucituberculata (shrew opossums). We have recently incorporated two new species to this list, but ongoing studies will probably increase this number. In this context, we have been gathering ecological and distributional information that will allow us to identify the hotspots of New World marsupial richness at different categories (i.e. Species, Genera, Subfamily, Order) and try to identify the main threats to their conservation. A significant amount of information is being published yearly on several aspects of New World marsupial ecology. We have been working on the integration of the critical data to evaluate the conservation status of all species of marsupials found throughout the New World under the IUCN Red List Criteria. We are in the process of re-assessing the conservation status of all New World marsupial species.

Future goals/activities

Future goals are oriented towards identifying areas of special interest in the conservation of New World marsupials, from a taxonomic to an environmental approach. This implies dealing with richness at different taxonomic levels (i.e. Order, Family, Subfamily, Genera and Species), and combining this information with biomes and other environmental categories (e.g. ecoregions), to maximize the conservation of singular biologic units and their habitat.

Silky Shrew Opossum (*Caenolestes fuliginosus*), Least Concern. © Baltazar González Chávez

Otter Specialist Group

Chair: Nicole Duplaix
Deputy Chairs: Arno Gutleb and Lesley Wright
Red List Authority Coordinator: Sayed A. Hussain
Location/affiliation: The Chair is affiliated with the Department of Fisheries and Wildlife, Oregon State University, Corvallis, Oregon 97331, USA. Arno Gutleb is located in Luxembourg, Lesley Wright in the UK and Sayed A. Hussain in India.
Number of members: 228

Nicole Duplaix

Mission statement

The mission of the Otter Specialist Group (OSG) is to (1) provide leadership for the conservation of all 13 otter species; (2) determine and review, on a continuing basis, the status and needs of otters worldwide; (3) promote the wise management of otters in the wild and in captivity; (4) plan and promote the necessary research, conservation and management programs; (5) train a new generation of Asian otter researchers to develop and implement otter recovery programs (four training workshops were held in Vietnam (2008), Cambodia (2009), Indonesia (2012) and India (2013) and trained 92 new otter field biologists); and (6) curb the illegal trade in otters in Southeast Asia, an urgent concern and high priority.

Summary of main activities in 2014

We are proud to be an active Specialist Group since 1974!

The Annual Otter Specialist Group Management Team meeting took place in Luxembourg (21–23 March) to review and plan OSG activities. We continue to focus and develop strategies for the Southeast Asia Otter Recovery Initiative, our highest regional priority since 2007.

Our review of the 13 otter species in the Red List is an ongoing task. It seems that as soon as we complete the review, we launch a new one.

The OSG now has its own non-profit in the United States: The Four Corners Institute based in Santa Fe, New Mexico.
The 12th International Otter Congress at the University of Rio de Janeiro, Brazil (11–15 August) was attended by 104 otter researchers and students from 22 countries, 66 of them from South America. This triennial event is held on different continents to provide the opportunity for local and overseas OSG members to present their findings, meet with their colleagues, and attract new student members. This is also our opportunity to review the Red List updates with our continental and regional otter specialists.

The Giant Otter Global Zoo Population Management Meeting was held in Rio de Janeiro (9 August) hosted by the OSG, Columbia Zoo, Philadelphia Zoo and Zoo Dortmund. Topics included: global captive species management plan, population status, *ex situ* conservation, reproductive management, studbook status, and genetic overview.

We regularly publish online the *IUCN OSG Bulletin*, a refereed journal listed in *Scopus*. We published two issues of the Bulletin (15 articles) in 2014.

Our OSG Zoo Group continues to develop husbandry manuals and studbooks for otters in captivity. Husbandry and veterinary care guidelines exist for the Eurasian Otter, North American Otter, Short-clawed Otter, Giant Otter, African Spot-necked Otter, and Neotropical Otter. Manuals have been translated into Vietnamese, Bahasa, Spanish, Italian and Portuguese, as needed. In 2014, we developed a short version of the husbandry guidelines for Giant Otters in captivity.

Future goals/activities

(1) Planning meetings with TRAFFIC Southeast Asia and with government agencies and NGOs in Malaysia, Thailand and Lao PDR to finalize otter recovery strategies in key areas and target strategic community involvement programs (March 12–26, 2015); (2) the OSG European Otter Workshop, to be held at the Swedish Museum of Natural History, Stockholm, Sweden, 8–11 June, 2015; and (3) 13th International Otter Congress to be held at the National University of Singapore, July 2016 (planning meetings 8–11 March, 2015).

Acknowledgements

We acknowledge the following major donors in 2014:
13th International Otter Congress: CAPES; Instituto Araguai; Projeto Lontra – Instituto Ekko Brasil – Petrobrás; Instituto de Biologia – Universidade Federal do Rio de Janeiro; Sociedade Brasileira de Mastozoologia; Naturatins; Fórum de Ciência e Cultura; Universidade Federal do Rio de Janeiro; Instituto Federal do Rio de Janeiro
Southeast Asia Otter Recovery Initiative: Columbus Zoo and Aquarium Conservation Fund
OSG support: Jonathan and Kathleen Altman Foundation.

Giant Otter (*Pteronura brasiliensis*), Endangered. © Nicole Duplaix

Pangolin Specialist Group

Co-Chairs: Jonathan E.M. Baillie and Daniel W.S. Challender
Red List Authority Coordinator: Carly Waterman
Location/affiliation: Jonathan E. M. Baillie is based in London, UK, and affiliated with the Zoological Society of London. Daniel W.S. Challender is based in Cambridge, UK, and affiliated with the IUCN Global Species Programme. Carly Waterman is based in London, UK, and affiliated with the Zoological Society of London.
Number of members: 76 (from 25 countries)

IUCN SSC PANGOLIN SPECIALIST GROUP


Jonathan Baillie


Dan Challender

Mission statement

Our mission is to be a global voice for pangolins by working to advance worldwide knowledge and understanding of pangolins, their conservation, natural history and ecology and to catalyse action to meet these needs.

Summary of main activities in 2014

In 2014, we worked towards our mission through a range of initiatives. These included launching the first ever global conservation action plan for pangolins, 'Scaling up Pangolin Conservation', which emanated from the 1st IUCN SSC Pangolin Specialist Group Conservation Conference held in Singapore in 2013. The action plan presents the measures considered critical by the group to ensure the conservation of pangolins, and which urgently require implementation. These include conducting research on how to monitor pangolin populations, conservation breeding, genetics, and pangolin behaviour and ecology; the identification of pangolin strongholds; working at the policy level to review and improve protection and enforcement nationally and internationally; and critically, raising awareness of pangolins and changing consumer behaviour to reduce demand for pangolin products.

Sunda Pangolin (*Manis javanica*), Critically Endangered. © Dan Challender, Save Vietnam's Wildlife

Revised IUCN Red List assessments for each species of pangolin, which were undertaken by the group at the above conference, were also published in 2014. Based on suspected and predicted population declines, each species of pangolin is now considered threatened with extinction. The Chinese and Sunda Pangolins are listed as Critically Endangered, the Indian and Philippine Pangolins as Endangered, and each species of African pangolin is now listed as Vulnerable, highlighting the importance of the group's conservation action plan.

In 2014, we also attended the 65th meeting of the CITES Standing Committee in July and made an intervention on the extent of illicit international trade in pangolins and their derivatives. As a result of decisions taken at this meeting, a CITES inter-sessional working group on pangolins was established, which includes Pangolin Specialist Group members, and who have worked with the CITES Secretariat to assist Parties to provide information on the conservation of and trade in Asian and African pangolins.

We also raised awareness of pangolins and the plight they face through various initiatives. These included integration of pangolins into the United for Wildlife initiative, helping to develop an Angry Birds video game featuring pangolins, work to use pangolins as the symbol of extinction for the Serpentine extinction marathon, attendance and talks at Europe's largest animal and nature photography festival in Montier-en-Der, France, celebrating World Pangolin Day, and regular engagement with the media, including a cover story in the Daily Telegraph magazine.

The Pangolin Specialist Group and its members also contributed to knowledge of pangolins and the threats they face, with which to inform conservation interventions, through a range of publications, including in peer-reviewed journals. These included, but were not limited to the following:

Boakye, M.K. Pietersen, D.W., Kotze, A., Dalton, D.L., Jansen, R. (2014). Ethnomedicinal use of African pangolins by traditional medical practitioners in Sierra Leone. *Journal of Ethnobiology and Ethnomedicine*, **10**:76.

Challender, D.W.S., Waterman, C., Baillie, J.E.M. (2014). Scaling up pangolin conservation. IUCN SSC Pangolin Specialist Group Conservation Action Plan. Zoological Society of London, London, UK.

Mohapatra, R.J., Panda, S. (2014). Behavioural Descriptions of Indian Pangolins (*Manis crassicaudata*) in Captivity. *International Journal of Zoology*, 2014, 1–7.

Pietersen, D.W., McKechnie, A.E., Jansen, R. (2014). Home range, habitat selection and activity patterns of an arid-zone population of Temminck's ground pangolins, *Smutsia temminckii*. *African Zoology*, **49**(2), 265–276.

Future goals/activities

To continue to work towards our mission and scale up pangolin conservation through implementation of our action plan.

Acknowledgements

We extend our thanks to Wildlife Reserves Singapore Conservation Fund, the Zoological Society of London, Ocean Park Conservation Foundation Hong Kong, San Antonio Zoo, the Houston Zoo and TRAFFIC for financial support and sponsorship of the 1st IUCN SSC Pangolin Specialist Group Conservation Conference from which the group's action plan emanated and at which revised status assessments for the IUCN Red List were conducted. We also thank all those who have kindly made donations to the Pangolin Specialist Group in 2014.

Peccary Specialist Group

Co-Chairs: Harald Beck and Mariana Altrichter
Red List Authority Coordinator: Arnaud Desbiez
Location/affiliation: Harald Beck is based in Towson, Maryland, USA, and is affiliated with the Department of Biological Sciences, Towson University, 8000 York Road, MD 2125. Mariana Altrichter is based in Prescott, Arizona, and is affiliated with Prescott College, 220 Grove Ave, Prescott, AZ 86301.
Number of members: 42


Harald Beck


Mariana Altrichter

Mission statement

The overall aim of the Peccary Specialist Groups 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: a) Contribute to peccary conservation through management and research; b) Consolidate the group of researchers and other people interested in the biology, conservation, and management of peccaries; and c) Foster communication, coordination, collaboration, and exchange of information.

Summary of main activities in 2014

Members of the Peccary Specialist Group have been engaged in diverse activities including research, conservation projects, and education across the Neotropics. For example, our members published over 10 peer-reviewed publications and gave presentations at national and international meetings. A team of eight peccary experts from four countries wrote an ecological review paper compiling information from across one of our species' range. We started to advise and actively participate in two peccary re-introduction programs in Argentina. During the last year we updated the Red List assessments for two of the three peccary species. In addition, we were engaged in outreach programs and collaborated with local communities and policy makers. For example, our members in Brazil developed an innovative way to help protect the peccaries and educate rural communities about their importance. They enlisted the voluntary help of artists to raise awareness of the White-lipped Peccary (*Tayassu pecari*), which is increasingly threatened by habitat loss and hunting. The creativity and generosity of the artists resulted in over 38 artworks showcasing a wide range of artistic styles, and capturing the peccary's social behavior, environment, and charm: (http://iucn.org/about/work/programmes/species/?18492/Artists-unite-for-threatened-species).

Our members in Brazil were also able to list the White-lipped Peccary as Vulnerable in the Brazilian Red List of Threatened Species. In the endangered Cerrado biome, they classified it as Endangered, and for the Atlantic forest Biome it was the only ungulate that received a Critically Endangered classification (Keuroghlian *et al.* 2012). This regional assessment was a great step considering that the species was not even included in the previous official Brazilian list of threatened fauna.

Some of our research was also highlighted by the National Geographic Society (http://news.nationalgeographic.com/news/2014/09/140927-peccary-wallow-amazon-rainforest-camera-trap-biodiversity-science/).

Our Facebook site is constantly being updated with new research, camera trap pictures and videos form the wild, news, etc. and it has an increasing number of international visitors (https://www.facebook.com/pages/IUCN-Peccary-Specialist-Group/589402117754288).

White-lipped Peccary (*Tayassu pecari*), Vulnerable. © Mauricio Godoi

Future goals/activities

We plan to continue our fundraising efforts to hold a workshop with the goal of developing a conservation plan for the Endangered Chacoan Peccary (*Catagonus wagneri*). This workshop would bring together species experts, NGOs and policy makers from the three countries where the species occurs.

Another goal is to develop a comprehensive IUCN peccary re-introduction protocol, which could be applied across the entire geographic region. We want to further develop and foster partnerships with the media, governmental agencies, NGOs, and private foundations to secure sufficient resources and develop realistic conservation strategies.

Pinniped Specialist Group

Chair: Kit Kovacs
Red List Authority Coordinator: Lloyd Lowry
Location/affiliation: The Pinniped Specialist Group (PSG) operates out of Tromsø, Norway where the Chair (Dr Kit M. Kovacs) works as the Biodiversity Research Section Leader for the Norwegian Polar Institute.
Number of members: 17

Kit Kovacs

Mission statement

Critically Endangered species and populations remain a focal point for the group, but members of the PSG are also heavily engaged with local threats to pinniped populations presented by fisheries operations, industrial development and in some cases, unsustainable harvesting of the pinnipeds themselves.

Summary of main activities in 2014

The activities of the Pinniped Specialist Group in 2014 included: (1) extensive interface with, and participation in, the Climate Change Specialist Group – including two species features and a case study exploring population viability analyses (PVA) of two ice-associated seals (Ringed Seals and Bearded Seals) along with their principle natural predator (Polar Bears); (2) serving as a contact point for the IUCN Marine and Polar Programme, various regional offices and the SSC/CEESP Sustainable Use and Livelihoods Specialist Group on seal-related issues and serving as advisors/editors for a special project entitled "Seal Range State Policy and Management Review", and our primary work as a group in 2014; and (3) the undertaking of re-assessments for all species and subspecies of pinniped on the IUCN Red List. This latter activity is on-going into 2015.

A large campaign to provide enough snow for snow-lair breeding Saimaa Seals (a Ringed Seal subspecies endemic to Lake Saimaa in Finland) was one of the joyful highlights of the year for the PSG. The huge volunteer effort, involving hundreds of people with shovels – literally making snow piles on the surface of the lake – made it a record year for pup production, instead of an absolute failure for this Critically Endangered seal.

Ringed Seal (*Pusa hispida*), Least Concern. © Kingfisher CC BY-SA 3.0

Polar Bear Specialist Group

Chair: Dag Vongraven
Red List Authority Coordinator: Oystein Wiig
Location/affiliation: Dag Vongraven is a Senior Adviser at the Norwegian Polar Institute in Tromsø, Norway, where he focuses on wildlife management and monitoring in the Norwegian Arctic, with a special focus on marine species, including Polar Bears. He is presently working on his Ph.D. on circumpolar Polar Bear management. Oystein Wiig is based in Oslo, Norway, where he is a Professor at the Natural History Museum, University of Oslo. He works on the ecology and evolution of Arctic marine mammals, in particular Polar Bears, Walruses and Bowhead Whales.
Number of members: 28

Dag Vongraven

Mission statement

The mission of the Polar Bear Specialist Group (PBSG) is to compile, synthesize and distribute scientific information necessary for the long-term viability of Polar Bears and their habitats. This is done through developing, coordinating and communicating inter-jurisdictional research, monitoring, and management of Polar Bears and their habitats. An example is identifying anthropogenic threats to Polar Bears and possible solutions. The group provides scientific advice on policies and actions concerning Polar Bears. The PBSG is mandated to act as the independent scientific adviser to the five Polar Bear Range States, or Parties to the 1973 Agreement on the Conservation of Polar Bears: Canada, Greenland, Norway, Russia and the USA.

Summary of main activities in 2014

In 2014, the PBSG undertook a number of activities to support Polar Bear conservation. The group held its 17th meeting of PBSG members in June in Fort Collins, Colorado, USA, where decisions were taken regarding the future operation and activities of the Specialist Group. This included discussion of new Polar Bear research results and research methodologies, new climate change data and models, the re-assessment of the Polar Bear on the IUCN Red List of Threatened Species as well as an update of the status of the 19 sub-populations of Polar Bears, Polar Bears in the Convention on International Trade in Endangered Species (CITES) and the Convention on Migratory Species (CMS), advice to the Range States of Polar Bears related to the 1973 Agreement on the Conservation of Polar Bears, and the activities and future capacity of the PBSG to provide independent, science-based advice on Polar Bears to various audiences.

Polar Bear (*Ursus maritimus*), Vulnerable.
© Andrew E. Derocher

For CITES, the PBSG made scientific information available relating to the consideration of Polar Bears for the Review of Significant Trade process – which Polar Bears were subsequently added to. For CMS, the PBSG undertook, upon request from the CMS Secretariat, an independent and science-based review of the technical details regarding a proposal to place Polar Bears on CMS Appendix II, which would require increased international cooperation and agreements for their conservation and management. The proposal was adopted, so the Polar Bear is currently listed on CMS Appendix II.

Various members of the PBSG were involved in the writing of a number of journal articles that were published in 2014, including: "Projected Polar Bear Sea Ice Habitat in the Canadian Arctic Archipelago" published in PLOS ONE, "Polar Bear population dynamics in the southern Beaufort Sea during a period of sea ice decline" published in Ecological Applications and "Demography and Population Status of Polar Bears in Western Hudson Bay, Canada" published as an Environment Canada Research Report.

The PBSG also worked on the re-assessment of the Polar Bear on the IUCN Red List of Threatened Species. Dr Oystein Wiig, Red List Authority for the group, has been working with other members of the PBSG, IUCN's Red List Unit and statistician to collect and analyse relevant data for this task. The Polar Bear was last assessed on the Red List in 2008. The update of the assessment is due to be completed in 2015.

Communications were also a priority of the PBSG in 2014. The group has been working to update its existing website and develop a new and more modern one to address the challenge presented by increased demands for outreach and communication.

Future goals/activities

In 2015 the PBSG will focus on completing the re-assessment of the Polar Bear for the IUCN Red List, furthering the update of the PBSG website as well as continuing with new research and analysis on Polar Bears. The PBSG will also participate in the next Meeting of the Parties to the 1973 Agreement on the Conservation of Polar Bears which is planned for the fall of 2015 in Ilulissat, Greenland. Prior to the meeting, the PBSG will be reviewing the draft Polar Bear Circumpolar Action Plan, developed by the Parties.

Acknowledgements

The PBSG would like to extend its sincere thanks to both the Ouwehands Zoo Foundation and Artis Royal Zoo in the Netherlands for supporting the PBSG in its work to update its website, as a part of a broader strategy to further improve its communication with external audiences.

Primate Specialist Group

Chair: Russell A. Mittermeier
Deputy Chair: Anthony B. Rylands
Red List Authority Coordinators: Sanjay Molur and Christoph Schwitzer; Liz Williamson (great apes)
Location/affiliation: The IUCN SSC Primate Specialist Group is based in Virginia, USA. The Chair and Deputy Chair are affiliated with Conservation International, Arlington, VA, USA.
Number of members: 585


Russell A. Mittermeier

Mission statement

Maintain the full diversity of the order Primates, ensuring the survival of threatened taxa, and protecting primates in areas of high primate diversity and abundance. Role: minimize the loss of primates by: (1) monitoring the conservation status of primates worldwide; (2) promoting research and conservation measures for threatened primates; (3) maintaining protected area integrity and enforcing protective legislation; (4) creating new protected areas; (5) determining ways for human and non-human primates to coexist in multiple-use areas; (6) ending illegal and destructive traffic in primates; and (7) promoting public awareness of the need for primate conservation, especially through primate tourism.

Summary of main activities in 2014

There are currently 504 species and 699 taxa of primates. Six species were described in 2014 – five sakis (*Pithecia*) and a titi (*Callicebus*). The taxonomy was registered with the Integrated Taxonomic Information System (ITIS). In December, the Red List indicated nearly 50% of primates were threatened; 58% of the prosimians, 41% of the monkeys, and 92% of the apes. The PSG collaborated with the Brazilian Government in reassessing the Brazilian primates: 35 (23%) of Brazil's 149 primates were assessed as threatened. The results were published by the Government in December 2014.

The Section on Great Apes (SGA: 140 members) drew up a position statement of an issue that is causing major concern for great apes in Africa – the rapid expansion of the oil palm sector in endangered African ape habitat: "Industrial oil palm expansion in great ape habitat in Africa" (www.primate-sg.org/position-statements). The SGA was strongly involved in the development and publication of an action plan for the Cross River Gorilla, *Revised Regional Action Plan for the Conservation of the Cross River Gorilla 2014–2019* (www.primate-sg.org/CRG2014.pdf), and one for the apes of Western Equatorial

Red-fronted Brown Lemur (*Eulemur rufifrons*), Near Threatened. © Russell A. Mittermeier, Conservation International

Africa, *Regional Action Plan for the Conservation of Western Lowland Gorillas and Central Chimpanzees 2015–2025* (www.primate-sg.org/WEA2014.pdf) in English and French.

The Section on Small Apes (SSA; 62 members) investigated opportunities to develop action plans for the most threatened gibbons. It provided support for the development of an action plan for the Critically Endangered Hainan Gibbon, which will be completed in 2015. The SSA began planning for a transboundary action plan for the Critically Endangered Cao-vit Gibbon as well as Kloss's Gibbon. The SSA set up a series of "Best Practice Guidelines" equivalent to that for great ape conservation (www.primate-sg.org/best_practices). The preparation and publication of one was set up in a meeting in Cambodia in January 2014, "Best Practice Guidelines on Gibbon Rehabilitation, Reintroduction and Translocation", and a meeting and symposium held during the XXV Congress of the International Primatological Society (IPS), Hanoi, Vietnam, August 2014, set the wheels in motion for "Best Practice Guidelines for Gibbon Surveys and Monitoring".

Also at the 2014 IPS Congress, the PSG drew up a new listing of the World's 25 Most Endangered Primates (2014–2016). Eight taxa were new to the list, four – the recently described Lavasoa Dwarf Lemur, the Philippine Tarsier, the Chamba Sacred Langur and Preuss's Red Colobus – for the first time.

In South Asia, attention was given to conservation action for the Chamba Sacred Langur (surveys, education outreach) and the Lion-tailed Macaque (surveys, PHVA). Important initiatives for Vietnam's primates included the set-up of a multi-stakeholder Technical Working Group for the Cat Ba Langur, a model which the Government will expand to all Vietnamese primates, and completion of a PVA to guide population management. The Neotropical Vice-Chairs held a field course "Methods in Field Primatology – Primate Ecology, Conservation and Health" at the University of Brasília, and continued the capture programme of Golden-headed Lion Tamarins introduced in the state of Rio de Janeiro that are threatening the integrity of the Golden Lion Tamarin populations (over 500 captured). In Madagascar, the first World Lemur Festival was held in October, culminating in World Lemur Day (WLD) on 31 October. The celebrations, organized by Jonah Ratsimbazafy and the Malagasy primate group GERP, took place all over the country, aiming to highlight the critical situation of lemurs to the Malagasy people and the world. WLD will be proposed to the Malagasy Government as an annual event. Efforts to finance the three-year Lemur Action Plan 2013–2016 are ongoing.

Besides those mentioned above, publications included *Lemur News* (18:81pp.); *Neotropical Primates* (21(1):163pp.) – a major revision of the taxonomy of the South American sakis (*Pithecia*) by Laura Marsh; *Asian Primates Journal* (4(1):40pp.) – a review of taxonomy and distributions of Asian primates; *African Primates* (9:80pp.); *Primate Conservation* (28:166pp.); and *Primates in Peril: The World's 25 Most Endangered Primates 2012–2014* (91pp.). Also published, in collaboration with the «Muséum d'Histoire naturelle», Paris, was a French version of PSG's lemur field guide – *Lémuriens de Madagascar* (841pp.).

The Andrew Sabin Family Foundation set up The Sabin Primate Conservation Prize. The first was awarded to Fanny Cornejo for her work on the Andean Night Monkey and the Yellow-tailed Woolly Monkey.

Future goals/activities

Red List workshops for Neotropical, African and Asian primates; the SGA will review the Western Chimpanzee regional action plan; the SSA will begin transboundary action planning for the Cao-vit Gibbon and complete an action plan for the Hainan Gibbon. 2015 is the Year of the Gibbon, which will be used to leverage support for gibbon conservation e.g. with a Year of the Gibbon website. *Publications*: Guide to Peruvian primates; field guide to Neotropical primates; Best Practice Guidelines for gibbon rehabilitation and translocation, and for surveys and monitoring. We will launch the Lemur Conservation Network, a meta-website bringing together organizations active in lemur conservation with funders.

Acknowledgements

Conservation International, Andrew Sabin Family Foundation, Arcus Foundation, Virgin Unite, Bristol Zoo Gardens, Houston Zoo, and Fauna and Flora International. The Margot Marsh Biodiversity Foundation (MMBF), the Mohamed bin Zayed Species Conservation Fund and Conservation International's Primate Action Fund (MMBF funds), provided significant funding for primate field research and conservation.

Sirenia Specialist Group

Co-Chairs: Helene March and Benjamín Morales-Vela
Red List Authority Coordinator: to be reappointed
Location/affiliation: Helene Marsh is affiliated with James Cook University, Townsville 4810, Australia. Benjamín Morales-Vela is affiliated with El Colegio de la Frontera Sur/CONACYT, Chetumal, Quintana Roo State, Mexico.
Number of members: 106 experts from 90 countries

Helene March

Mission statement

The objective of the Sirenia SG is to promote the conservation of Sirenians (dugongs and manatees) by: (1) providing expert scientific advice to IUCN including listing advice at a global scale; and (2) supporting the implementation of evidence-based regional conservation actions.

Summary of main activities in 2014

After attending the meeting of the IUCN Specialist Group Chairs in Abu Dhabi in February 2012, we decided that it would be appropriate to trial a new model for the Sirenia Specialist Group (SSG) based on Regional Groupings. The new structure and membership of the Sirenia Specialist Group has been implemented.

In November 2014, Miriam Marmontel and Nataly Castelblanco, the South American Regional Vice-Chairs, organized the first meeting of the Sur America Regional Group with the participation of expert members from Colombia, Peru, Venezuela, and Brazil. Benjamín Morales (Co-Chair) and John Reynolds (Invited Expert member) also attended. The meeting prioritized gaps in research and conservation and the best operational strategies of the Group.

A Sirenia Workshop was also held in association with the 20th Biennial Meeting of the Society for Marine Mammalogy in Dunedin, New Zealand, in December 2013. A similar workshop is planned for the upcoming 21st Biennial in San Francisco in December 2015.

Sirenews has been the official newsletter of the IUCN SSC Sirenia Specialist Group for the past 31 years. *Sirenews* (ISSN 1017-3439) appears twice a year in April and October and is edited by Cynthia R. Taylor and James A. Powell, Sea to Shore Alliance. *Sirenews* is supported by the US Marine Mammal Commission and archived online by Sirenian International.

In 2014, the African regional group updated the status of the West African Manatee (*Trichechus senegalensi*), to include West and Central African manatee populations. This status reassessment has not yet been accepted by IUCN.

Members of the Sirenia Specialist Group have provided advice to an unprecedented international initiative which is dedicated to the conservation of threatened seagrass ecosystems and Dugong populations in the Indian and Pacific Oceans. The project, entitled, 'Enhancing The Conservation Effectiveness of Seagrass Ecosystems Supporting Globally Significant Populations of Dugongs Across the Indian and Pacific Ocean Basins' is funded by the Global Environment Facility (GEF) and is a collaboration between eight countries: Indonesia, Madagascar, Malaysia, Mozambique, Sri Lanka, Solomon Islands, Timor Leste and Vanuatu.

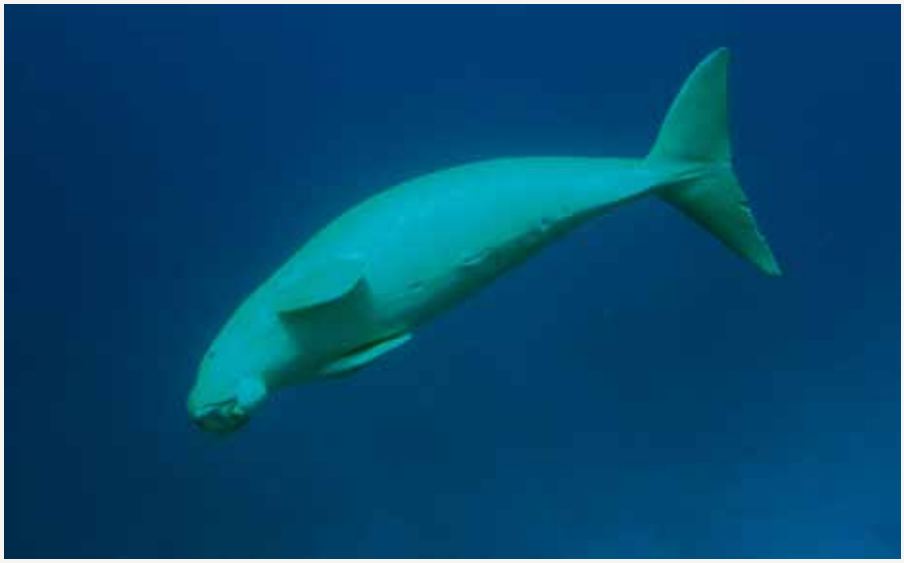
Future goals/activities

The Sirenia SG will: (1) promote a meeting of all regional groups to identify local priorities and to give continuity to the goals of the different regional groups; and (2) update the status of Caribbean manatees (Antillean and Florida), the Amazonian Manatee and the Dugong (the last to include regional as well as global assessments).

Acknowledgements

US Marine Mammal Commission, Sirenia International, the Mohamed bin Zayed Species Conservation Fund, Sea to Shore Alliance.

Dugong (*Dugong dugon*), Vulnerable. © K. Wiillshaw



Small Carnivore Specialist Group

Co-Chairs: Jan Schipper and José F. González-Maya
Red List Authority Coordinator: William Duckworth
Location/affiliation: Jan, based in Phoenix, Arizona (USA), is a Conservation Research Postdoctoral Fellow in a partnership between Arizona State University and the Phoenix Zoo/ Arizona Center for Nature Conservation. José, who is based in Mexico, Costa Rica and Colombia, is a researcher with Universidad Nacional Autónoma de México (UNAM) and Director for ProCAT Colombia. William is freelance, based in the United Kingdom/SE Asia and works with various development and conservation agencies on numerous projects.
Number of members: 55


Jan Schipper


José F. González-Maya

Mission statement

The overarching goals of the Small Carnivore Specialist Group (SCSG) are: (1) provide leadership for the conservation of all small carnivore species; (2) determine and review on a continuing basis the status and needs of small carnivores, and support effective research, conservation, and management programmes; and (3) make known the status and conservation needs of small carnivores, and promote their wise management.

Summary of main activities in 2014

In 2014 the SCSG has been very active on three main fronts.

(1) Updating the IUCN Red List of Threatened Species.
Small carnivores represent over half of all species in the order Carnivora.

White-nosed Coati (*Nasua narica*), Least Concern.
© José F. Moreira-Ramírez, ECOSUR

This diverse group includes over 150 species in nine families (Ailuridae, Eupleridae, Herpestidae, Mephitidae, Mustelidae, Nandiniidae, Prionodontidae, Procyonidae, and Viverridae) – and has received a lot of attention in recent years as the taxonomic relationship of many poorly known species are pieced together. In early 2015 the RLA will submit a complete reassessment of all species to the Global Mammal Assessment for inclusion in the next Red List update.

(2) With financial support from the Houston Zoo, Greenville Zoo and Mississippi State University, the SCSG produced two issues of the journal *Small Carnivore Conservation (SCC)* (issues 50 and 51). This year we especially want to thank some very dedicated members for their years of volunteer service in managing the journal: Will Duckworth and Jerrold Belant for their leadership on the journal's editorial board, and Divya Mudappa who managed the production and distribution – ensuring every issue was of excellent content and quality. The journal is currently in the process of transition to an online-based media with a very limited print circulation, to both reduce costs and also reduce necessary volunteer time, and moving towards ensuring better reach and dissemination of high quality small carnivore research.

(3) Also, SCSG has received numerous letters of interest and we have been monitoring scientific and conservation literature in order to identify potential new members; the Co-Chairs have been designing a new regional coordination scheme in order to improve communications and activities within the SG. Also, we are proud to announce we reached 3,000 followers on our Facebook page, a great number of people interested in small carnivores and actively sharing information, photos and experiences.

Among the highlights of 2014 was the symposium on small carnivores hosted by SCSG members and ProCAT Colombia, 1–5 December in Cartagena, Colombia. This symposium was the follow-up of the 1st symposium held in Medellin, Colombia, in 2010, and the results were greater than expected. We were able to triple the number of participants (speakers) and quadrupled the attendance. SCSG work in Colombia has significantly encouraged small carnivore research in the country, filling many gaps identified in the last meeting. We expect to continue with these efforts, expanding them to many other countries. In fact, several SCSG members, lead by José, will be organizing a Latin American symposium in the coming Latin American Mammalogy Congress in late 2015.

Future goals/activities

In 2015 we look forward to moving the SCC Journal online and getting some new members involved in the overall management of the SCSG. Among the goals is to develop an internal management structure which decentralizes the main objectives of the group while ensuring that there is sufficient regional representation. To accomplish this we hope to enlist regional coordinators within the group to ensure all threatened species and geographic regions are adequately represented by local expertise.

Acknowledgements

The SCSG would also like to recognize additional organizations that have contributed to its success in 2014: we are indebted to the Nature Conservation Foundation for maintaining the group and journal website. To Houston Zoo, Greenville Zoo and Mississippi State University for contributing to SCC production. To all active members that have contributed significantly to the group, both in its general activities and the on-going Red List assessment. Special thanks to Andy Jennings, Emmanuel Do Linh San, Will Duckworth, Divya Muddappa, Jerrold Belant, Geraldine Veron, among many others.

Small Mammal Specialist Group

Co-Chairs: Richard Young and Thomas E. Lacher, Jr.
Red List Authority Coordinator: Giovanni Amori
Location/affiliation: Richard Young is based at the Durrell Wildlife Conservation Trust in Bath, UK. Thomas Lacher is Based at Texas A&M University, College Station, Texas, USA. The RLA Coordinator, Giovanni Amori is with the Consiglio Nazionale delle Ricerche in Rome, Italy.
Number of members: 50


Richard Young


Tom Lacher

Mission statement

Our mission 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". This includes increasing our strengths in five major areas to enhance our ability to conserve the approximately 2,800 species of mammals in the Orders Rodentia, Eulipotyphla and Scandentia: Knowledge, Capacity, Conservation, Awareness and Operational Effectiveness.

The Small Mammal Specialist Group (SMSG) has five guiding objectives. These are: (1) to strengthen the taxonomic and ecological knowledge-base for the small mammals and to identify their conservation status and needs through the IUCN Red List process; (2) to equip scientists and conservationists with the skills, tools and knowledge they need to conduct field research on high priority small mammals, and to plan and deliver conservation actions; (3) to promote field conservation actions for the most threatened and evolutionary distinct small mammal species and in sites which support globally important assemblages of small mammals; (4) to raise the profile of the small mammals in the conservation community to ensure they are appropriately represented in high-level conservation processes and strategies; and (5) to develop responsible governance and effective coordination of the SMSG and to grow the SMSG leadership and membership to ensure it is geographically, thematically and taxonomically representative.

Long-eared Jerboa (*Euchoreutes naso*), Least Concern. © Jonathan Baillie, ZSL

Summary of main activities in 2014

To meet these objectives we have created a regional structure for the assessment of the three Orders under the SMSG. The structure consists of eight geographical regions (Australasia and Oceania; Europe, West Asia and North Africa; Mainland Southeast Asia; North, Central America and the Caribbean; South America; South Asia and Iran; Sub-Saharan Africa) each with a designated Regional Chair. A Regional Chair has been appointed for three of these regions and we are completing the remaining assignments. In addition, we have a team of regional Red List Authorities who report to the RLA Coordinator Dr Giovanni Amori. We have all of the six Regional Red List Authorities appointed.

We are developing a Taxonomic Advisory Group to support Dr Kristofer Helgen, our Taxonomy Coordinator, and a specialized group of advisors for species, regions, and sites of conservation concern to assist and support Dr Samuel Turvey, our Conservation Coordinator. Examples include species like the Jamaica Hutia, Hispaniolan Solenodon, Ethiopian Water Mouse, and Malagasy Jumping Rat and regional focal areas like the Bale Mountains of Ethiopia, the Cameroonian Highlands, and the Bahia de Loreto National Park in Mexico. These species and site coordinators guarantee a special focus on conservation action where it is most needed.

With the Global Mammal Assessment Team of Rome's Sapienza University, we continued the programme of work to assess and reassess small mammals for the IUCN Red List. The first phase of work targets Globally Threatened and 'high priority' Least Concern and Data Deficient species. To date around 250 species from SE Asia and China have been reassessed and 50 newly described species have been assessed for the first time. Currently 30 species from the Philippines are posted on the Global Mammal Forum and are awaiting comment.

We have continued with improving our main communication platforms, focusing on adding content to the SMSG website and building the group's network through Facebook (currently at 1,500 likes).

Future goals/activities

The main short-term goal is to raise funds to appoint a Programme Officer to lead Red List assessments, coordinate member recruitment and communications. We have several opportunities to strengthen our investment of time and resources in the coming year. SMSG Co-Chair Tom Lacher will be on leave from Texas A&M for the last six months of 2015 to devote nearly full time effort to the reassessment of small mammals for the Global Mammal Assessment. We will be continuing fundraising activities, with several very promising contacts, and hope to have a SMSG workshop in late 2015.

Acknowledgements

We wish to thank all of the institutions with which we are affiliated (Durrell Wildlife Conservation Trust, Smithsonian Institution, Texas A&M, Zoological Society of London) for logistical and matching support.

South American Camelid Specialist Group

Chair: Gabriela Lichtenstein
Red List Authority Coordinator: Benito Gonzalez
Location/affiliation: Gabriela Lichtenstein is based in Buenos Aires, Argentina and holds a research position at the National Research Council (CONICET). Benito Gonzalez is based in Santiago, Chile and is Assistant Professor at the University of Chile.
Number of members: 33

Gabriela Lichtenstein

Mission statement

The aim of the South American Camelid Specialist Group (GECS) is to promote the conservation and sustainable use of (wild) South American camelids in their area of geographic distribution.
The key objectives are: (1) to compile, synthesize, and provide up-to-date information on the conservation status of Vicuña and Guanaco populations; (2) to identify threats to the conservation of Guanacos and Vicuñas and promote activities to reduce these; (3) to contribute to the development and implementation of management plans that will ensure implementation of animal welfare protocols, conservation of wild populations, and benefits to local people; (4) to promote research, and provide recommendations based on scientific data and biology of the species' as well as inter-disciplinary research to national and international policy makers in governments and non-governmental organizations; and (5) to play an active role with regard to the Vicuña Convention.

Summary of main activities in 2014

Our Specialist Group facilitates the study of Vicuñas and Guanacos with a focus on population ecology, animal welfare, behavioural ecology, genetics, environmental education and rural livelihoods of local communities. Research also includes issues relating to animal welfare and socio-economic impacts on beneficiary communities.

During 2014, we continued our work developing and implementing strategies for the sustainable use of Guanacos and Vicuñas. Our members continued their research projects investigating the impacts of use on individuals and populations, and their work with local communities. Local communities were trained in the implementation of the GECS Protocols for handling and shearing Guanacos and Vicuñas in Mendoza and Jujuy provinces (Argentina). Wild management activities as well as shearing under high animal welfare standards were carried out under the leadership of our members in both provinces. The International Organization for Vicuña Managers received technical support at their meetings in Bolivia.

We provided scientific and technical advice to the National Fauna Bureau in Argentina and also to provincial authorities from Mendoza, Santa Cruz, Chubut and Jujuy. We participated in a number of meetings aiming to discuss and design the methodology to estimate Guanaco and Vicuña populations in the whole of Argentina and participated in a national meeting to discuss challenges for sustainable management.

Given the animosity towards Guanacos in Patagonia because of competition with sheep, we were involved in radio and newspaper interviews in order to explain the importance of conservation and sustainable use initiatives.

The Red List Authority and RL Committee gathered regional information in order to update the classification of Guanacos and Vicuñas at the regional level and discussed present threats to both species.

We attended the XXVII Technical Meeting of the Vicuña Convention in La Paz, as well as the Ordinary Meeting and contributed towards the design of resolutions. The increase in Vicuña poaching in Andean countries, which was the theme of the Technical Meeting, is of great concern to the GECS. We prepared the document *"Poaching of vicuña and illegal commercialization of its fiber: a persisting problem"*, and generated a strategy for its dissemination together with the SSC and IUCN Sur. The document has recommendations related to the Cooperation between Andean countries and between exporting and importing countries as well as at the National level.

During 2014 many of our members wrote articles for the GECS News to be published in March 2015 and we updated our web page. We contributed with scientific and technical information to a number of requests by institutions, researchers and students.

Future goals/activities

The main future activities are: (1) to finish the work for the classification of Guanacos and Vicuñas at the regional level, and assess the conservation status of *Lama guanicoe cacsilensis*; *L. guanicoe guanicoe*; *Vicugna vicugna mensalis* and *V. vicugna vicugna* at the subspecies level; (2) to contribute to the development and implementation of conservation and management plans according to the conservation status at the subspecies level; (3) to collaborate with the Vicuña Convention Focal Points and CITES authorities towards the creation of a strategic plan to tackle Vicuña poaching; to participate at the XXVIII Technical Meeting of the Vicuña Convention and provide technical advice; and (4) to work on the dissemination of the GECS Animal Welfare Protocols.

Acknowledgements

We would like to thank Bengt Holt and the Copenhagen Zoo for their financial support to attend the Vicuña Convention and Simon Stuart, Dena Cator, SSC staff, and IUCN Sur for continuous support.

Guanaco (*Lama guanicoe*), Least Concern.
© G. Lichtenstein

Tapir Specialist Group

Chair: Patrícia Medici

Location/affiliation: The Chair is based in Campo Grande, Mato Grosso do Sul State, Brazil. She is affiliated with IPÊ – Instituto de Pesquisas Ecológicas (Institute for Ecological Research), www.ipe.org.br

Number of members: 125 members in 28 countries

Patrícia Medici

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.

Summary of main activities in 2014

The TSG held the Sixth International Tapir Symposium in Campo Grande, Mato Grosso do Sul, Brazil, from 16–20 November, 2014. The main partners on the organization of the conference were AZA Tapir TAG, Copenhagen Zoo in Denmark, EAZA Tapir TAG, Grupo LS Turismo and Eventos (Brazil), and the Houston Zoo in the US. The Sixth Symposium was another very successful meeting of the TSG. We had a total of 100 participants, including tapir conservationists from 25 countries worldwide (Argentina, Australia, Belize, Brazil, Canada, Colombia, Costa Rica, Denmark, Ecuador, France, French Guiana, Germany, Guatemala, Indonesia, Japan, Malaysia, Mexico, Netherlands, Nicaragua, Panama, Peru, Poland, Switzerland, United Kingdom, and USA).

Lowland Tapir (*Tapirus terrestris*), Vulnerable.
© J. Woolgar

During the Sixth Symposium in Brazil, participants developed a new three-year TSG Strategic Plan (2015–2017). The new plan includes 30 goals and 88 action steps that the TSG will work to implement during the next three years before the Seventh International Tapir Symposium to be held in Colombia in 2017.

The TSG continued to make steady progress in developing National Action Plans for Tapirs in each tapir range country in South and Central America and Southeast Asia. TSG Country Coordinators and Regional Committees are working tirelessly towards implementing the priority actions and goals developed for each plan.

The TSG published the 2nd Edition of its most important publication, the TSG Veterinary Manual. The new manual is available online from the TSG website and it was also made available as an APP that can be downloaded from the iBook Store.

Tapirs continued to have a significant exposure in the media and the tapir conservation cause has received a lot of attention from the general public, particularly in Brazil. Social media vehicles including Facebook, Twitter and YouTube have been important tools for the dissemination of the cause. The TSG Facebook Fan Page has recruited over 3,700 fans from around the world, a large number of people who are now receiving regular information about tapirs and their conservation issues.

Future goals/activities

Some of the goals included in the TSG Strategic Plan 2015–2017 include: (1) double TSG funding budget for grant programs (TSG Conservation Fund, annual funding cycles), operational costs and TSG activities; 2) have active TSG Country Coordinators in all tapir range countries in South and Central America and Southeast Asia and increase TSG representation in all range countries; 3) full implementation of Species Action Plans and National Action Plans for Tapir Conservation; 4) further implementation of the One Plan Approach fully integrating the TSG *in situ* and *ex situ* activities; 5) increase tapir awareness opportunities; 6) have the conservation status of *Tapirus kabomani* defined and the need for Red Listing and Action Planning evaluated

Acknowledgements

The major supporters of the TSG are the AZA Tapir TAG, Copenhagen Zoo, EAZA Tapir TAG, and the Houston Zoo. Over the years, the TSG has received support from a large number of organizations including 150 zoological institutions (68 in the USA; 45 in Europe; 33 in tapir range countries; three in Japan; one in Australia), 19 international NGOs, 40 NGOs in tapir range countries, 46 governmental agencies, 57 universities, and many others including other IUCN groups, corporations, private donors, etc.

Wild Pig Specialist Group

Chair: Erik Meijaard
Deputy Chair: Kristin Leus
Red List Authority Coordinator: Kristin Leus
Location/affiliation: From August 2015 onward, Erik Meijaard will be based in Bandar Seri Begawan, Brunei Darussalam, where he will work as a Professor at the University of Brunei Darussalam. He is affiliated as an Honorary Associated Professor with the University of Queensland, and as a Senior Research Fellow with the Australian National University. Kristin Leus is based in Antwerp, Belgium. She is affiliated with Copenhagen Zoo.
Number of members: 68

Erik Meijaard

Mission statement

The Wild Pig Specialist Group (WPSG) is concerned with the survival in the wild of all 17 presently recognized species as well as threatened subspecies of wild pig. Wild pigs play important ecological as well as socio-economic and cultural roles in many countries in Asia and Africa. Some taxa are highly threatened though, with especially those in Indonesia, the Philippines and India being of conservation concern.

The WPSG uses a combination of strategies to try to reduce population declines. The key objectives of our SG are to (1) protect viable wild pig populations of all wild pig taxa; by (2) managing and reducing threats to wild populations and managing their habitats; (3) strengthen depleted wild population through targeted breeding; and (4) resolve conflicts between wild pigs and people, by generally making people more aware of the social, ecological and economic importance of maintaining healthy wild pig populations.

Summary of main activities in 2014

2014 started on a sad note with the passing of the WPSG (and formerly PPHSG) founder and Chair for nearly three decades, Dr William Oliver. Many tributes to William were published including one in the widely read magazine *The Economist*. William was the brain and motivator behind key wild pig conservation programs, including the Pygmy Hog Conservation Program and the various conservation projects for threatened Philippine pig species. His passing meant a major loss of knowledge and insight to the group, a gap we are still trying to fill. William's last major contribution to pig conservation was at the WPSG "Think Pig" workshop in Indonesia in November 2013. This was the first WPSG workshop in 20 years and the start of a new and hopefully more strategic approach to wild pig conservation.

One of the decisions coming out of the Think Pig workshop was to strengthen the group's communication. The WPSG has a social media officer now, who has also joined the editorial board of Suiform Soundings, the newsletter of WPSG, Peccary SG and Hippo SG. In addition to the newsletter, a Facebook Group (Friends of IUCN SSC Wild Pig Specialist Group) was established to support the communication among interested people in wild pigs and promote the work of WPSG. Furthermore, the WPSG's website has an up-to-date news section now.

In terms of species protection, most focus from the group is presently going to four taxa: the Pygmy Hog *Porcula salvania*, Javan Warty Pig *Sus verrucosus*, Visayan Warty Pig *S. cebifrons*, and Bawean Pig *S. (v.) blouchi*. The Pygmy Hog program is the most advanced with effective captive breeding and release programs. Visayan and Javan Warty Pigs are mostly focused on ensuring safe and genetically pure captive bred populations, for which we are now exploring release sites. The Bawean Pig from a small island in the Java Sea is being studied for the first time, with initial studies indicating that the population is small but probably relatively stable. Three months of camera trapping have revealed a total population size of 230 to 460 Bawean Warty Pigs.

Another species on which we are working is the Bearded Pig (*S. barbatus*) for which we received funding to create an updated distribution map of *S. b. oi* in Sumatra, with specific attention to the spatio-temporal distribution of nomadic populations. Preliminary results from new camera trapping suggest that *S b. oi* no longer inhabits the southern reaches of its historic range, but we recorded large breeding populations further north in Sumatra.

The Mindoro Pig (*S. oliveri*), (named after William Oliver) is the least known pig species in our group. According to recent surveys, the Mindoro Pig still exists in central Mindoro Island. It seems relatively frequent in areas occupied by indigenous communities practicing traditional land-use (slash and burn agriculture). The species is thought to suffer heavily from hunting and poaching. In addition, it is likely that hybridization with domestic pigs occurs in some areas, reducing the actual extension of the pure strain.

On the island of Sulawesi, the Sulawesi Ungulate Project has gathered morphometric and genetic information from ~1,500 Babirusa and Sulawesi Warty Pigs to enable specific and detailed taxonomic and other analyses to be carried out. In addition, the

Javan Warty Pig (*Sus verrucosus*), Endangered.
© F. Richter

Indonesian and International Zoo associations and SSC are jointly developing Global Species Management Plans for Babirusa, Anoa and Banteng, to establish global *ex situ* activities and populations that effectively contribute to the *in situ* conservation of these taxa and their habitats, taking account of the Indonesian National Action Plans.

The African pigs are less of a conservation concern compared to the Asian pigs, but the WPSG is coordinating several studies relevant to their conservation. This includes a taxonomy revision of the Giant Forest Hog *Hylochoerus meinertzhageni*, ecological studies of the warthog *Phacochoerus* spp., and studies on the distribution range of Bushpig and Red River Hog *Potamochoerus* spp.

Future goals/activities

We are presently applying for funding to organize a second WPSG workshop towards the end of 2015 or early 2016. The main objectives are to: (1) make better use of the WPSG resources, especially its members, to develop a more coordinated approach to effective pig conservation; and (2) identify the most urgent needs for conservation action, funding, or other inputs into pig conservation, and find ways to address these needs.

Our work remains strongly based on scientific research, specifically addressing basic issues of taxonomy and phylogenetic relationships to ensure that our units of conservation are appropriate.

Acknowledgements

Many organizations have provided financial and other support to the functioning of the WPSG, but those that stand out for their long-term financial commitment include Los Angeles Zoo, San Diego Zoo, ZGAP, Durrell Wildlife Conservation Trust, and the Disney Wildlife Conservation Fund. We are most grateful to all these organizations and others who have supported us.

Arctic Plant Specialist Group

Chair: Kristine Bakke Westergaard
Red List Authority Coordinator: Mora Aronsson
Location/affiliation: The Chair is based in Trondheim, Norway with the Norwegian Institute for Nature Research (NINA, www.nina.no) with members located throughout the Arctic Region including eight Arctic States. We are affiliated with the Conservation of Arctic Flora and Fauna (CAFF) Program (www.caff.is) within the Arctic Council and serve a dual role within the IUCN SG.
Number of members: 13

Kristine Bakke Westergaard

Mission statement

With botanical expertise drawn from CAFF member countries the mission of the Arctic Plant SG is to promote, encourage and coordinate internationally the conservation of biodiversity of arctic flora and vegetation, habitats and research activities in these fields; and to enhance the exchange of information relating to arctic flora and vegetation and factors affecting them.

Summary of main activities in 2014

We convened an international Conservation of Arctic Flora and Fauna (CAFF)/Arctic Plant SG workshop on rare Arctic plants and participated in the Arctic Biodiversity Congress (ABA) in Trondheim, Norway during the period 2–6 December 2014.

Our main activity was prioritizing rare Arctic vascular plants for Red Listing: (1) a second draft list of candidate species was prepared that reduced the list of rare plants for possible listing to 126 species; (2) written draft assessments were prepared for 25 of these species; and (3) assistance from Russian colleagues was requested for many of the candidate species occurring in Russia (>90) where the local knowledge of Russian floristic botanists is essential for acquiring the data. At the Trondheim workshop we invited three Russian colleagues to participate to add their knowledge of rare Russian plants; they included Natalia Koroleva (Polar-Alpine Botanical garden, Kirovsk) with knowledge of the Kola Peninsula area, Svetlana Ektova (Institute of plant and animal ecology, Ekaterinburg, Russia) with knowledge of the Taimyr; and Vladimir Razzhivin (Komarov Botanical Institute, St Petersburg) with wide knowledge of the Russian Arctic plants. Craig Hilton-Taylor, Head of the IUCN Red List Unit, kindly joined our workshop by Skype; he gave a powerful presentation covering some of the basics about the Red List process from raw data to Red List. Afterwards, we discussed some of the challenges faced when dealing with the Arctic flora, for example, distributional data might be all the data we have for many of the rare species.

Saxifraga nathorstii, Not Evaluated. © K.B. Westergaard

Our plans to establish a Plant Portal for a web-based display vascular plant species present within the Arctic with their own page containing transnational, standardized information have been modified. Some test pages for a few species were prepared, but it became clear that the amount of work required and production of regular updates was a large task for >2,200 species. This necessitates downsizing the portal to a manageable size. We are assembling relevant www-links for Arctic vascular plants, which will be presented on the CAFF website. In addition, rare plant distribution maps based on the Panarctic flora (PAF) checklist will be produced for each species.

The Arctic Vegetation Archive (AVA) is a coordinated effort to accelerate the preservation of Arctic vegetation plot data and harmonize them for use in a panarctic vegetation classification and as a resource for climate-change and biodiversity research. The initiative has been endorsed by the International Arctic Science Committee and the Conservation of Arctic Flora and Fauna. We have held two AVA international workshops in Roskilde, Denmark in 2012, and one at the Arctic Science Summit Week 2013 in Krakow, Poland (www.geobotany.uaf.edu/ava/index). At a workshop in Boulder, Colorado, we focused on the Alaska and Canada portions of the Arctic. The AVA recently received funding from NASA to assemble plot and map data from Alaska. The major goals of the Boulder meeting were to review the status of relevé and map data from Arctic Alaska and begin the task of assembling these data into a Turboveg database with consistent format and metadata.

Future goals/activities

Given the effect of rapid climate change in the Arctic, we will urge the IUCN SSC Plant Conservation Sub-Committee (PCSC) to include Arctic plants as a high priority plant group for Red List assessment in the PCSC and Red List Strategic Plans.

The Arctic Plant SG will prioritize the Red Listing of candidate species with the goal of having 50 species ready for IUCN consideration for listing in 2015.

New data will be contributed, particularly from Alaska, Norway and Russia on rare plant occurrences for the species assessments toward Red Listing of Arctic plants.

We will continue the study on the local floras of the Canadian Arctic Archipelago (CAA) to: (1) establish a floristic database of vascular plant species recorded from well-botanized sites; and (2) assess plant rarity within the CAA.

Brazil Plant Red List Authority

Red List Authority Coordinator: Gustavo Martinelli
Programme Officer: Tainan Messina
Location/affiliation: We are based in Rio de Janeiro, Brazil. We work under the infrastructure of the Rio de Janeiro Botanic Garden Research Institute – JBRJ.
Number of members: 20

Gustavo Martinelli

Mission statement

Our mission is to organize and manage data for Brazilian plant species; assess the conservation status of flora species; guarantee data quality and proper application of IUCN criteria and categories to all assessments of Brazilian plants; publish all results in order to make it available to decision-makers, society and researchers; provide information on threatened species to support decision-making and conservation action planning; and support the update of the Brazilian Official List of Threatened Species of Flora published by the Brazilian Government.

Summary of main activities in 2014

In 2014 we assessed 578 plant species, previously indicated as rare (Giulietti et al. 2009) and with occurrence at the Brazilian Cerrado biome. From this total, 366 (63%) species of 137 botanical genera representing 52 families of angiosperms were categorized as threatened. These species were assessed into different categories. Of this total, 61 (10%) species were categorized as Critically Endangered (CR); 231 (40%) as Endangered (EN) and 74 (13%) as Vulnerable (VU). In the categories of non-threatened species, 31 (5%) were assessed as Least Concern (LC) and 33 (6%) Near Threatened (NT). In addition, 148 (26%) species were considered Data Deficient (DD) for risk assessments.

The second Red Book of Flora – Rare Plants from Cerrado (Martinelli et al. 2014) was published and is available for download at: http://cncflora.jbrj.gov.br/arquivos/arquivos/pdfs/LivroVermelhoPlantasRarasCerrado.pdf

In order to make the 2014 assessments happen we built a network with 109 plant specialists that validated all data inserted in the information system by CNCFlora's team.

We enhanced our data bases and our system SISFlora. Some evolution was needed in order to allow the scale up of our work, since we are dealing with a megadiverse flora.

The Brazilian government has accepted the result of our assessment published in the first Red Book of Flora (Martinelli and Moraes, 2013) as the Official Red List of Brazil, available at: http://sintse.tse.jus.br/documentos/2014/Dez/18/portaria-no-443-de-17-de-dezembro-de-2014

Passiflora mucugeana, Not Evaluated. © Maurizio Vecchia

Plants

We have been supporting specialists interested in assessing plant species, helping with the appropriate use of the IUCN system, data cleaning, gathering and mapping.

We have published the book about priority areas for threatened flora conservation (*Areas prioritárias para conservação e uso sustentável de espécies ameaçadas de extinção da Flora do Brasil*). This book enables conservation actions direction and gives support to decision on public policies and threatened plant management.

Regarding action planning for threatened flora species, CNCFlora has reached important steps, e.g. the publication of the "*Plano de Ação Nacional para a conservação do Faveiro-de-wilson*", with the aim of conserving an endemic CR species from Minas Gerais State, highly threatened by several threats. This action plan also benefits 28 other flora species and 13 NT, with occurrence at Faveiro-de-Wilson's area. The plan was elaborated together with Fundação Zoobotânica de Belo Horizonte and is the result of a network of 12 institutions and 31 people.

Future goals/activities

In 2015 we are going to asses all endemic species of Rio de Janeiro state. Therefore we expect to have finished ca. 1,000 species by the end of the year. For the species categorized as threatened and Near Threatened we expect to plan actions for their conservation. Also, we are planning to continue with the publication of Red Books, so the expectation is to publish the third one by early 2016, with the assessments of the Rio de Janeiro threatened endemic species.

Publication of the Field Guide: *Critically Endangered flora species from Minas Gerais' Cerrado*. The guide aims to allow local stakeholders, such as students, protected areas staff, fire fighters and the community to help look for and monitor species in the guide. It will have data on around 97 threatened species considered data deficient. The action plans for the Espinhaço Meridonal, Grão Mogol/Francisco Sá ans Alto Tocantins areas, at the Cerrado Biome in Brazil, will be finalized in 2015, and they will contribute to data gathering and compiling from the areas and its flora species. Spatial analyses on threats are decisive to action planning in a precise and realistic manner, avoiding environmental conflicts in the area. The plans will contemplate 409 threatened species from those areas.

CNCFlora is also finalizing a National strategy for *ex situ* conservation of threatened flora species in Brazil. The document aims to propose guidelines with practices and orientation of *ex situ* conservation efforts in the country, in order to promote effective threatened species conservation.

Acknowledgements

We would like to thank the Ministry of Environment for all the support given to us, the Global Environmental Facility – GEF for the necessary means for our work and the Rio de Janeiro´s Botanic Garden Research Institute for providing the infrastructure for our work.

Bryophyte Specialist Group

Co-Chairs: Tomas Hallingbäck and Irene Bisang
Red List Authority Coordinator: Ariel Bergamini
Location/affiliation: Tomas is based in Uppsala, Sweden and is affiliated with the Swedish University of Agricultural Sciences (SLU), Species Information Centre. Irene is based in Stockholm, Sweden and is affiliated with the Swedish Museum of Natural History (NRM), Directorate of Research Division.
Number of members: 28 members representing 22 countries


Tomas Hallingbäck


Irene Bisang

Mission statement

The mission of the Bryophyte Specialist Group (BSG) is to highlight the importance of recognizing bryophytes in all areas of nature conservation, and through that to contribute towards the vision of the SSC "A just world that values and conserves nature through positive action to reduce the loss of diversity of life on earth". This is a challenge since bryophytes (mosses, liverworts and hornworts), as generally unspectacular and small organisms, are often neglected. For the current quadrennium, we focus on two priorities: (1) to be an active SG that works concertedly for bryophyte conservation and promotes bryological diversity at global and regional scales; and (2) to add to the Global Red List of Threatened Bryophytes.

Summary of main activities in 2014

Many of the BSG members have been actively engaged in conservation related activities during 2014. We can touch on some highlights only here, referring to different aspects of bryophyte conservation.

Echinodium renauldii, Vulnerable. © Lars Hedenäs

Aiming at surveying understudied bryophyte hotspots in tropical countries, M. Suleiman participated in a 'Heart of Borneo' scientific expedition in Sungai Imbak Forest Reserve, a virgin Jungle Reserve in the centre of Sabah. During this expedition, a new moss species was discovered and was recently described as *Bryobrothera tambuyukonensis*. The bryologists were invited by the government to participate in this expedition, which shows that the bryophytes are recognized as a crucial component of tropical ecosystems. Rich bryofloras were intensively explored also on Madagascar and the neighbouring islands by C. Ah Peng and collaborators. One result soon to come is a flora of the liverworts and hornworts of the Mascarene Islands.

The BSG is delighted to have R. Lansdown, Chair of the Freshwater Plant SG, among its members. He reported of successful re-introductions of two species (*Atrichum angustatum, Ceratodon conicum*) in SW England that were believed to be extinct in the UK. Re-introduction was conducted following habitat restoration and in-vitro cultivation and amplification of the plant material by M. Ramsey at the Royal Botanic Gardens, Kew. On the other hand, M. Ramsey communicated that the future of *ex situ* conservation of bryophytes at Kew is very uncertain, while cryopreservation will be maintained, after restructuring of science at Kew.

Progress in redlisting bryophytes, using the IUCN Red List Assessment System, was made in many places. Updated national Bryophyte Red Lists were finalized in Portugal, Sweden and Venezuela. Both South Africa and Australia embarked on projects for threat assessments of bryophytes. D. Meagher already reported one species (*Riella spiculata*) as Extinct in Australia, and thus globally. A major effort was made by European BSG members to compile an application for LIFE funding (i.e, the European Commission's financial instrument to support environmental, nature conservation and climate action) and to secure the necessary co-funding. The project was initiated and led by the Biodiversity Conservation Officer of IUCN's Global Species Programme. The European conservation community is fortunate to have a dedicated European Committee for the Conservation of Bryophytes, (ECCB; http://eccbbryo.nhmus.hu/), who is adequately represented in the BSG. The proposal partly built on the recent "Checklist and country status of European bryophytes", accomplished by ECCB, and ECCB members and their network will constitute the working force in the project.

Effective bryophyte conservation relies on education and outreach activities. Training in tropical bryology was delivered with the support of European Commission funding on La Réunion, involving the University of Cape Town. One of the doctoral students in these programs recently received the Green Talents Award from the German Federal Ministry of Education and Research (http://greentalents.de/awardees.php). Other initiatives include books on rare bryophytes and guides to bryophytes (e.g. Oregon, Panama); richly illustrated floras (e.g. Sweden; http://www.nationalnyckeln.se/en/Published-books/); collaboration with national authorities on environmental education (e.g. Portugal; http://www.abae.pt/programa/ECOXXI/inicio.php); or web platforms (e.g. Venezuela http://musgos.cecalc.ula.ve and Switzerland http://www.swissbryophytes.ch).

Future goals/activities

For the close future, we will concentrate on ten candidate bryophyte species from each continent that are most strongly in need of protection. We will assess or re-assess their conservation status according to the IUCN Red List of Threatened Species™ system and procedures. This will be a step towards the goal of an updated and possibly expanded global Bryophyte Red List. We also hope to initiate the work on the European IUCN Red List of Bryophytes provided our LIFE proposal is approved, and thus pursuing the second key priority of the IUCN Species Strategic Plan to prepare regional Red List assessments.

Cactus and Succulent Plant Specialist Group

Chair: Héctor M. Hernández
Red List Authority Coordinator: Bárbara Goettsch
Location/affiliation: The Chair is based in Mexico City and is affiliated with the Instituto de Biología, National Autonomous University of Mexico
Number of members: 41

Héctor M. Hernández

Mission statement

The goals of the SSC Cactus and Succulent Plant Specialist Group (CSSG) are: (1) to support scientific research in order to understand the biology and conservation status of succulent plants; (2) to encourage conservation planning in order to maximize protection for succulent plant species; (3) to support *in situ* and *ex situ* protection of critically endangered species; (4) to support national legislation and effective trade controls for all wild succulent plant species threatened by exploitation for international commerce; and (5) to promote education on the value of succulent plants, and the need for their conservation and sustainable use.

Summary of main activities in 2014

Over the last few years, most of the activities of the CSSG turned around the Global Cactus Assessment, a major project aimed at evaluating all 1,500 species belonging to the cactus family under the IUCN Red List criteria. Members of the CSSG, along with a large contingent of regional experts, including professional botanist, ecologists, conservation biologists and plant amateurs, assessed the totality of species in the family, and the project was successfully concluded. The totality of assessments, which reflect the highly endangered conservation status of the cactus family, are already published in the Red List website.

Future goals/activities

In view of the completion of the Global Cactus Assessment, a strategy aimed at developing a conservation plan for key members of the cactus family, especially those under a category of threat, should be a top priority for our SG. The analysis of the data contained in the Red List assessments represents an invaluable body of information to undertake a species conservation plan, under the guidelines of the SSC Species Conservation Planning Sub-Committee.

Echinocactus platyacanthus, Near Threatened. © H.M. Hernández

Carnivorous Plant Specialist Group

Chair: Robert Cantley
Red List Authority Coordinator: Charles Clarke
Patron: Sir David Attenborough
Location/affiliation: We are based in Colombo, Sri Lanka and are not currently affiliated with any institution, company or organization.
Number of members: General membership of 112 with seven actively engaged Specialist Members

Robert Cantley

Mission statement

"To help ensure that that the conservation status of all carnivorous plants are adequately and accurately documented and assist in raising of public awareness and encourage initiation of appropriate conservation measures."

Key objectives: To ensure that the IUCN Red List for all carnivorous plants is updated as quickly as possible, commencing with those taxa that are currently Data Deficient and which have been identified by experts within the Carnivorous Plant Specialist Group (CPSG) as being most likely in need of conservation initiatives.

Summary of main activities in 2014

1. Recruitment of membership and online presence

The website at www.iucn-cpsg.org went live in August 2014, in time for presentations given by Robert Cantley at the International Carnivorous Plant Society (ICPS) conference in Cairns, Australia and at the European Carnivorous Plant Exhibition (EEE) in Padua, Italy. Both these fora contained many of the world's top experts, covering all genera of carnivorous plants. The focus of the presentations was to explain the current function and future goals of the CPSG and to build up to an appeal for expert volunteers to assist in many aspects of the CPSG. These range from further website development to instigation and maintenance of social media and in particular to recruitment of specialists for each genus of carnivorous plant. The primary role of these specialists is to collect and collate pre-assessment data from other volunteers before passing these data to our Red List Authority Coordinator to prepare the assessments. In some cases, the specialist will assist with future conservation measures that may be undertaken.

We were successful in recruiting the required number of specialist volunteers and have already appointed, or are in the process of appointing, specialists for each genus.

2. Completion of Red List assessments of 60 taxa of the genus Nepenthes

There are approximately 150 validly described species of *Nepenthes* of which 28 were assessed by the CPSG in 2013. Thanks to essential and generous external funding from the Environment Agency Abu Dhabi, in 2013 and 2014 detailed field surveys were carried out by volunteer specialists, many in very remote or nearly inaccessible locations. This enabled a further 60 *Nepenthes* species to be reliably assessed in 2014, reviewed and made ready for publication in the IUCN Red List. Thus, the total of *Nepenthes* species assessed by the CPSG since 2012 is now 88. In addition, a further eight newly described *Nepenthes* species were assessed as Data Deficient. These species were originally described only on the basis of a small number of herbarium specimens and have yet to be surveyed in habitat. Of the 60 newly assessed species, only one was considered to be Critically Endangered (*N. talangensis*), six were considered to be Endangered, eight were assessed as Vulnerable, while the remainder (45 species) were assessed as Least Concern.

3. Commencement of Red List assessments for genera of carnivorous plants other than Nepenthes

The genus *Drosera* (common name: Sundews) is one of the largest groups of carnivorous plants, yet no species have been formally assessed for the IUCN Red List in the past. As we have now made steady progress in our primary task – the assessment of *Nepenthes* species – we were able to turn our attention to the assessments of *Drosera* species. To this end in 2014, Dr Adam Cross has drafted assessments for a number of *Drosera* species from Southwest Australia (the centre of diversity for this genus).

Future goals/activities

(1) Continue to increase membership and public awareness through social media; (2) initiate a periodic newsletter; (3) seek affiliation with appropriate institution(s) to instigate *ex situ* conservation measures to help prevent extinction of species assessed as Critically Endangered and where *in situ* conservation efforts are judged likely to be unsuccessful; (4) encourage and assist in ongoing conservation work currently undertaken by other organizations or individuals; (5) prepare Red List Assessments on a minimum of another 20 *Nepenthes* species; (6) prepare Red List Assessments on a minimum of 30 *Drosera* species; and (7) commence Red List Assessments on all remaining genera of carnivorous plants.

Acknowledgements

IUCN Red List assessments of most carnivorous plant species requires either field surveys, or considerable administrative effort in order to collate sufficient detailed information from disparate sources. Our achievements in 2014 were only possible thanks to the generosity of the Environment Agency Abu Dhabi, to whom we are extremely grateful.

Nepenthes talangensis, Critically Endangered.

Caucasus Plant Red List Authority

Red List Authority Coordinator: George Nakhutsrishvili
Programme Officer: Ketevan Batsatsashvili
Location/affiliation: We are based in Tbilisi, Georgia. We are affiliated with Ilia State University, Tbilisi, Georgia.
Number of members: 46

George Nakhutsrishvili

Mission statement

The mission of the Caucasus Plant RLA is to undertake IUCN Red List assessments of the endemic and non-endemic plants occurring in the Caucasus region, practice/support plant conservation works in the Caucasus countries, raise public awareness in this field and otherwise implement tasks posed by the Caucasus Plant Initiative: The Regional Plant Conservation Strategy to reach its objectives.

Summary of main activities in 2014

The major achievement of the RLA in 2014 was publication of the *Red List of the Endemic Plants of the Caucasus: Armenia, Azerbaijan, Georgia, Iran, Russian and Turkey* (Solomon, J., Shulkina, T. and Schatz, G.E., Eds.) by the Missouri Botanical Garden Press, Saint Louis, USA, as a part of the series Monographs in Systematic Botany (MSB) 125.

With over 2,700 endemic plant taxa, including relict species, such as the Near Threatened *Pinus eldarica*, the Caucasus region is one of the world's most beautiful and important biodiversity hotspots. The *Red List of the Endemic Plants of the Caucasus* provides the first floristic and conservation analysis of the plants of the region, with assessments for over 60% of the endemic taxa, including top priorities for conservation action. This book was made possible by an unprecedented collaboration between botanists from Armenia, Azerbaijan, Georgia, Iran, the Russian Federation, and Turkey. Following IUCN categories and criteria, several participating botanists worked together to compile the Red List data, enumerating 1,752 taxa. The book includes an overview of the Caucasus region and its flora, with information on species numbers, *ex situ* conservation, protected areas, and invasives; profiles of the six countries, identifying important national plants and their threats; maps, line art, and numerous photographs; and the 127-page Red List table. This work will serve as an integral tool for botanists, ecologists, and researchers worldwide, working to study and protect the biodiversity heritage of this important region. Additionally, about 400 of the assessed species were published on The IUCN Red List of Threatened Species.

Future goals/activities

The major future goal is to continue publication of the Caucasus species assessments on The IUCN Red List of Threatened Species; strengthen species *ex situ* conservation activities in the field of seed banking in cooperation with Millennium Seed Bank Project, RBG, Kew, and the BGCI at the regional scale; continue close many-sided cooperation with the Berlin Botanical Garden and Botanical Museum, Germany, with support from Volkswagen Foundation, mainly focused on work with promising young botanists from the region in the field of research and conservation of the plant model groups; continue cooperation with Missouri Botanical Garden in the field of ethnobotany.

Acknowledgements

We thank Dr Peter Raven for his continuous support of the development of plant sciences and conservation in the Caucasus, one of the important results being the Red List mentioned – above. We also thank all our partners and donors for the valuable support they provide for research and conservation work with the Caucasus plants.

Rhododendron caucasicum, Not Evaluated. © Ketevan Batsatsashvili

Chinese Plant Specialist Group

Chair: QIN Hai-Ning
Location/affiliation: The Chair is based in Beijing, China. He is affiliated with the Institute of Botany, Chinese Academy of Sciences
Number of members: 50

QIN Hai-Ning

Mission statement

The key objectives of Chinese Plant Specialist Group (CPSG) are to develop effective mechanisms for the sharing of China plant information, in order to understand the diversity and conservation status of the plants in China. We provide advice, expertise and access to decision-makers and stakeholders, in order to improve the effectiveness of conservation actions and the sustainable use of Chinese plants. We promote education on the importance of wild plants and the need for conservation and sustainable use, and improving the communication of conservation information within national and international networks.

Summary of main activities in 2014

In 2014, we continued to digitize plant specimens. 300,000 sheets from 18 herbaria are newly digitized and their information is accessible on the *Chinese Virtual Herbarium* (http://www.cvh.org.cn). We initiated the *Species Catalogue of China Plants* volume project in late 2013. So far, one issue, Bryophytes is published, two issues of seed plant are completed and being published. The plant volume is planned to be published in 12 issues and will cover all China higher plant species (ca. 34,000 spp.). The data is based on *Species 2000 China Node* (http://www.sp2000.cn/joaen/) and revised by recognized experts.

Articles on China plant biodiversity and conservation contributed to key works, including “Chapter 5 China Plants and Their Threatened Status” in *The Principles of Conservation Biology* (Jiang and Ma 2014), and “Chapter 3 The Present Status of China’s Biodiversity and Threats to it--Plants” in *China’s biodiversity: A Country Study* (2nd edition).

Future goals/activities

The main goal in 2015 is to complete the publication of the Red List of China Higher Plants. The list has already been officially launched online in 2013 by the Ministry of Environmental Protection.

Manglietiastrum sinicum, Not Evaluated. © JIANG Hong

Conifer Specialist Group

Chair: Aljos Farjon
Red List Authority Coordinator: Philip Thomas
Location/affiliation: The Chair is based at the Royal Botanic Gardens, Kew; the RLA Coordinator is at the Royal Botanic Garden, Edinburgh.
Number of members: 40

Aljos Farjon

Mission statement

A comprehensive and up-to-date Red List of Conifers has been a major objective of the CSG. This was achieved with publication of the second version complete with all metadata in 2014. The results show that 1/3 of all conifers are threatened with extinction. Conservation planning is now envisaged as the key objective for the future.

Summary of main activities in 2014

Besides the publication of the new Red List of Conifers a major achievement has been the construction of a large georeferenced specimen-based database of the conifers, available online on http://herbaria.plants.ox.ac.uk/bol/conifers with 37,000 herbarium records. This work has resulted in *An Atlas of the World's Conifers* (A. Farjon and D. Filer) published by Brill in 2014. Both the online database and the book are invaluable tools in conservation planning.

The taxonomy followed is that of the two-volume *A Handbook of the World's Conifers* (A. Farjon) published by Brill in 2010. This taxonomy is also the basis for Conifers in the Catalogue of Life as well as the IUCN Red List and is followed by other organizations.

Future goals/activities

The Conifer Specialist Group is one of the few SSC Specialist Groups to have assessed all taxa of conifers (species and infraspecific taxa) for the IUCN Red List, with an interval of 10–13 years. The most recent Red List of the conifers was released in July 2013. This fact enables the CSG to calculate the Conifer Red List Index to establish genuine changes in conservation status of species between the two assessment periods. This work will be done in the first half of 2015 so that the Conifer Red List Index can be published in this year.

Saharan Cypress (*Cupressus dupreziana*), Endangered. © Aljos Farjon

After my leadership of the CSG for 20 years (I took over from Chris Page in 1995) it is time to hand over and I am delighted to report that Martin Gardner has accepted the role of Chair of the CSG. Martin is Co-Chair as of March 2015 and we hope to hand over at the SSC Specialist Groups Chairs Meeting in Abu Dhabi in September.

In collaboration with the Conifer Conservation Programme of RBGE and partnerships in host countries where conifers occur, the CSG will be involved in conservation planning for Critically Endangered conifers on the IUCN Red List. Particularly those species for which the Conifer Red List Index will show genuine decline over the past 10–15 years will be targeted for specific conservation planning.

Acknowledgements

The Chair wishes to express thanks to the Royal Botanic Gardens, Kew for support in kind given to the activities mentioned herein to the CSG.

Crop Wild Relative Specialist Group

Co-Chairs: Ehsan Dulloo and Nigel Maxted
Red List Authority Coordinator: Ehsan Dulloo
Programme Officer: Joana Magos Brehm
Location/affiliation: We are based and affiliated with the University of Birmingham (United Kingdom) and Bioversity International (Rome, Italy).
Number of members: 83


Ehsan Dulloo


Nigel Maxted

Mission statement

The mission of the Crop Wild Relative Specialist Group (CWRSG) is to help ensure that crop wild relatives (CWR) are adequately conserved and sustainably utilized, to enhance global food security and aid poverty alleviation.

The key objectives are to: (1) develop effective strategies for gathering, documenting and disseminating baseline information on CWR; (2) promote the conservation and use of CWR; (3) provide advice, expertise and access to appropriate contacts to enhance the actions of individuals or organizations working on CWR conservation and use; and (4) increase awareness of the importance of CWR diversity to agriculture and the environment among governments, institutions, decision-makers and the general public.

Summary of main activities in 2014

The project '*PGR Secure – Novel characterization of crop wild relative and landrace resources as a basis for improved crop breeding*' (www.pgrsecure.org) project concluded successfully in 2014. Its aims were to research novel characterization techniques and conservation strategies for European CWR and landrace diversity, and further to enhance crop improvement by breeders, as a means of underpinning European food security in the face of climate change. This project has driven the development of CWR conservation strategies in several European countries including Albania, Belarus, Bulgaria, Cyprus, Czech Republic, Finland (Fitzgerald 2013), Greece, Italy (Landucci et al. 2014, Panella et al. 2014), Norway, Spain (Rubio Teso et al. 2014), Sweden, Turkey and the United Kingdom. Members of the CWRSG have been involved in: (1) the screening of accessions of CWR (and landraces) of cabbage to identify material resistant to whitefly and cabbage aphid (Vosman et al. 2015); (2) the development of predictive characterization approaches to search for target traits in CWR and landraces (Thormann et al. 2014, 2015); (3) the development of the Plant Genetic Resources Diversity Gateway (Dias 2015, http://pgrdiversity.bioversityinternational.org/) that facilitates the use of CWR and landraces in breeding and crop improvement; and (4) a study that identifies constraints to the use of plant genetic resources in Europe and presents an analysis of the current situation regarding the EU Plant Germplasm System, a vision for the future and a way to attain this vision (Frese et al. 2014, 2015). The project final international conference '*Enhanced Genepool Utilization* –

Beta patula, Critically Endangered. © ISOPlexis SeedBank, Madeira University

Capturing wild relative and landrace diversity for crop improvement' (www.pgrsecure.org/conference) was jointly organized by Bioversity International, the University of Birmingham, NIAB Innovation Farm and the European Association for Research on Plant Breeding (EUCARPIA), and took place in Cambridge (United Kingdom), 16–20 June 2014. More than 30 papers related to CWR were given by members of the CWRSG.

Members of the group have also been leading and engaging in the activities of the '*Adapting agriculture to climate change: collecting, protecting and preparing crop wild relatives*' project supported by the Government of Norway. The project is managed by the Global Crop Diversity Trust with the Millennium Seed Bank of the Royal Botanic Gardens, Kew, in partnership with national and international genebanks and plant breeding institutes around the world (Dempewolf et al. 2014, http://www.cwrdiversity.org/). It intends to fill the gaps in the collection of CWR diversity for 29 crops and conserve these in *ex situ*, before preparing them for use in plant breeding programmes in order to develop new crop varieties adapted to new climates. The project has completed a three year research phase which comprised compilation of an inventory of CWR, production of an extensive CWR occurrence dataset of 5.4 million records and a gap analysis. It is currently supporting national partners to collect CWR and duplicate them at the Millennium Seed Bank for long term storage and for distribution to pre-breeders. In total it will support 20 countries to carry out collecting activities. Partners in Azerbaijan, Cyprus, Georgia, Italy, Kenya, Portugal and Vietnam are already in the field. In addition it is already supporting CWR pre-breeding programmes. Several publications have come out over the past year on genepool specific analyses (e.g. Castaneda et al. 2014 for potato, Khoury et al. 2014 for Cajanus, and Sosa et al. 2014 for Helianthus), on global food security (Khoury et al. 2014) and other topics (see Achicanoy et al. 2014, Arnaud et al. 2014, Cobben et al. 2014, Khoury and Jarvis 2014). A spin-off project is also looking at the ideal sites to establish genetic reserves around the globe to conserve *in situ* priority CWR taxa as an aid to conservation action prioritization.

The project '*In situ conservation and use of crop wild relatives in three ACP countries of the SADC*' (SADC Crop Wild Relatives, www.cropwildrelatives.org/sadc-cwr-project/) started in 2014 involving members of the CWRSG. It aims at enhancing the link between conservation and use of CWR in the SADC region as a means of underpinning regional food security and mitigating the predicted adverse impact of climate change. The specific objectives are to enhance the scientific capacities within the partner countries to conserve CWR and identify useful potential traits for use to adapt to climate change, as well as to develop exemplar National Strategic Action Plans (NASPs) for the conservation and use of CWR. The project takes place in Mauritius, South Africa, and Zambia, is coordinated by Bioversity International, and involves the University of Mauritius, the Department of Agriculture, Forestry and Fisheries of South Africa, the Zambian Agricultural Research Institute, and the University of Birmingham.

Collaboration among the members of the CWRSG has been fruitful in the writing of grant proposals in Jordan, Uganda, Rwanda and Zambia for the *Third Call for Proposals of the Benefit-sharing Fund of the International Treaty for Plant Genetic Resources for Food and Agriculture* (ITPGRFA).

Between 2013 and 2014, a concept for *in situ* conservation of CWR in Europe was prepared to guide EU and national policy development and to provide a blueprint to drive concerted actions throughout the region. The Concept was developed by seven members of the CWRSG as well as members of the In Situ Conservation of Crop Wild Relatives in Europe Task Force which was established under the guidance of members of the ECPGR In Situ and On-farm Conservation Working Group and the ECPGR Secretariat in response to a mandate provided by the ECPGR Steering Committee. The document has undergone a process of review by the ECPGR Steering Committee and members of the Wild Species Conservation in Genetic Reserves Working Group and a revised document prepared (Maxted et al. 2015). In addition, a strategy for the conservation of Europe's CWR diversity, detailing regional priority taxa and populations is under preparation (Kell et al. 2015).

Members of the group are also active in several areas of research involving CWR, e.g. in the genetic variation root characteristics of three CWR, the diploid ancestors of bread wheat (Bektas et al. 2014), in the biomorphology of seedlings of *Vavilovia formosa* (Stev.) Fed. in Armenia, a priority wild relative of legumes (Akopian et al. 2014), and in the 'next-generation sequencing' of 13 ecogeographically diverse accessions of *Medicago truncatula*, an alfalfa wild relative, to demonstrate its use in targeting collection (Fielder et al. 2015).

The CWRSG Programme Officer participated in the IUCN Red List Trainer Workshop at UNEP-WCMC in Cambridge, 23–25 June 2014. The CWRSG continues its Red Listing activities, namely in the revision of assessments carried out by other Specialist Groups and in the preparation of global Red List assessments of 300–400 priority CWR of crops of high global importance for food security, including wheat, rice, potato, cassava, yam, millet, soybean, sorghum, rye, sweet potato, cotton oil, ground nut, beans and brassicas.

Future goals/activities

(1) Development of NSAPs for the conservation and utilization of CWR in Mauritius, South Africa and Zambia, as well as an online toolkit that helps other SADC countries to develop their NSAPs, as part of the '*SADC Crop Wild Relatives*' project; (2) global collection and *ex situ* conservation led by national plant genetic resource programmes as part of the '*Adapting agriculture to climate change*' project; (3) identification of the ideal sites to establish a network of genetic reserves to conserve priority CWR using the data sets gathered in the '*Adapting agriculture to climate change*' project; and (4) completion of Red List assessments for all priority CWR of crops of high global importance for food security.

Acknowledgements

'PGR Secure' was funded under the EU Seventh Framework Programme, the '*SADC Crop Wild Relatives*' project is co-funded by the European Union and implemented through the ACP-EU Cooperation Programme in Science and Technology (SandT II) by the African, Caribbean and Pacific (ACP) Group of States, and the project '*Adapting agriculture to climate change*' is supported by the Government of Norway.

Cuban Plant Specialist Group

Chair: Luis R. Gonzalez Torres
Location/affiliation: Cuban Botanical Society, Havana, Cuba & Planta! – the PlantLife Conservation Society, Vancouver, Canada.
Number of members: 31

Luis R. Gonzalez Torres

Mission statement

The mission of the Cuban Plant SG is the promotion and long-term conservation of Cuban plant species and their habitats by means of assessing the conservation situation of the native plants, information-sharing, identification of conservation priorities and delivery of these priority actions to decision-makers, stakeholders and the public in order to improve the effectiveness of conservation actions and the sustainable use of Cuban plants.

Summary of main activities in 2014

On 6–7 March 2014, the Cuban Plant SG came together for its 2014 Annual Meeting held in the National Botanic Garden, University of Havana, Cuba. The group evaluated the fulfilment of the Cuban National Strategy for Plant Conservation (2011–2020) for contributing to the 5th report to the Conference of the Parties (COP) to the Convention on Biological Diversity. The representative of the Cuban Plant SG in the production of the COP report was Dr Daysi Vilamajo. In addition, the group conducted the reassessment of the conservation situation of 230 taxa first evaluated in 2003. Dr Lisbet Gonzalez, member of the Cuban Plant SG, is leading the edition of the data sheets of these taxa.

In November, the group published the conservation assessment and supporting data sheets for 299 taxa, 174 were first assessments and 125 were reassessments of taxa first evaluated in 2003. This publication reports 170 taxa Critically Endangered (CR), 80 Endangered (EN), 37 Vulnerable (VU), two Near Threatened (NT) and four of Less Concern (LC). In addition, five taxa were confirmed Extinct (EX) and one Regional Extinct (RE).

Purdiaea velutina, Not Evaluated. © Luis R. Gonzalez Torres

Also in November, the Cuban Plant SG presented the *Top 50 Cuban threatened plants*, an important publication that delivers scientific information to the public. It will serve to call the attention of Cubans to the conservation situation of one of the richest insular floras of the world with a remarkable degree of endemism. The provision of 50 carefully selected examples will stimulate local conservation initiatives for these flagship species or umbrella species for ecosystem preservation.

During 2014, BSc Jose L. Gomez has been leading the assessment of the conservation situation of plant taxa occurring in the north-eastern mountains. This is the region supporting the highest diversity and endemism of Cuba and the Caribbean. Also, during this year Dr Ledis Regalado and Dr Carlos Sanchez have been producing the assessment of Cuban endemic ferns. All these assessments are being prepared to be validated by the Cuban Plant SG in the 2015 Annual Meeting. Another ongoing task started in 2014 is the revision of the National List of Invasive Plant Species lead by Dr Ramona Oviedo, Dr Lisbet Gonzalez and Dr Ledis Regalado due to publish by June 2015. Dr Lisbet Gonzalez was also leading a team to assess the impact of invasive species on the conservation situation of endemic plants from Sierra del Rosario.

MSc Alejandro Palmarola and BSc Duniel Barrios with collaboration of Dr Luis R. Gonzalez Torres continue editing the quarterly newsletter *Bissea* which has become the official publication of the Cuban Plant Specialist Group. Four regular and one special issue were published during 2014 covering the work of our group and all the efforts for preserving the Cuban flora.

On 30 October, Nora Hernandez Monterrey, new Director of the Cuban National Botanic Garden, renewed the commitment of this leading institution to continue being the headquarters for the Cuban Plant SG and host of the Annual Meetings.

We note with pleasure that one member of our group, Dr Ramona Oviedo was made Officer of the Order 'Carlos Juan Finlay' – highest honour granted by the Cuban government on sciences – for their distinguished lifelong service to the study and conservation of plant life in Cuba. The Botanical Society of Cuba also recognized the outstanding contributions to the plant sciences in Cuba of two members of the SG by granting its highest distinction – the Award Julian Acuña – to Dr Rene Capote and Manuel. G. Caluff. The Whitley Fund for Nature granted the Whitley Award – International Prize in Nature Conservation to Dr Luis R. Gonzalez Torres for his work in the conservation of Cuban plant life.

Future goals/activities

In April, BSc Duniel Barrios and Dr Luis R. Gonzalez Torres will be leading a workshop on Cuban Cactus Conservation, and Dr Lisbet Gonzalez will be running a training workshop on Red Listing. The Annual Meeting of the SG will be mainly focus on the production of a new edition of the Red List lead by Dr Luis R. Gonzalez Torres and MSc Alejandro Palmarola and scheduled for publication this September. The SG will publish the data sheet of recent assessments and advising the production of the book TOP50 Protected Areas of Cuba.

Acknowledgements

We wish to acknowledge and thank the National Botanic Garden, the National Centre for Protected Areas, the Whitley Fund for Nature, the William Brake Charitable Trust, the MBZ Species Conservation Fund, the Rufford Foundation, the Ministry for Science, Technology and Environment, and members of the project 'Flora of the Cuban Republic'.

Cycad Specialist Group

Co-Chairs: John Donaldson and M. Patrick Griffith
Vice-Chairs: Michael Calonje and Cristina Lopez-Gallego
Red List Authority Coordinator: De Wet Bösenberg
Location/affiliation: We are based in Cape Town (South Africa), Medellin (Colombia), and Miami (USA), and affiliated with Kistenbosch National Botanical Garden, Universidad de Antioquia, and Montgomery Botanical Center.
Number of members: 32


John Donaldson


Patrick Griffith

Mission statement

The Cycad SG exists to bring together the world's cycad conservation expertise, and disseminate this expertise to organizations and agencies which can use this guidance to advance cycad conservation. Foremost objectives of the Cycad SG include developing a network of established *ex situ* genebanks for *ex situ* cycad conservation, maintaining an up-to-date consensus taxonomy for this group, promoting sustainable practices in trade and utilization of cycads, and advancing our understanding of these highly imperiled plant species.

Summary of main activities in 2014

In 2014 we are excited to announce major upgrades to our taxonomic authority website, The World List of Cycads (http://cycadlist.org/). The site, launched in 2013 following the 2011 Cycad SG meeting, now integrates responsive design and optimization for mobile devices, therefore increasing accessibility of critical taxonomic data to enforcement, advisory and management personnel in the field. Another major step forward for site users is the addition of image galleries for individual cycad species. This provides images of diagnostic characters that can be used by customs or enforcement personnel to verify identity of specimens in question. The site now also supports extensive bibliographic information for the recognized species, allowing scientific users to find the supporting information to advance their understanding. Site-use statistics show sustained and increasing use of this online resource; by making it available, the Cycad SG directly meets its primary mission – getting cycad expertise into the hands of those who can use it.

A new cycad SOS-Save Our Species project was begun last year, focused on two cycad species in Mexico – *Ceratozamia mirandae* and *Zamia soconuscensis* This follows successful previous cycad SOS projects initiated in 2012 and 2013 in Belize, Colombia, and South Africa. One outcome highlighted on the SOS and IUCN websites was the publication of an in-depth genetic study on *ex situ* cycad collections – an outcome which directly advances Cycad SG objectives for *ex situ* genebanks.

Zamia pyrophylla, Not Evaluated. © Michael Calonje

Future goals/activities

Detailed planning for our most important gathering – Cycad 2015 in Medellin, Colombia – is robustly underway; please see http://www.cycad2015.org/. The Cycad SG leadership has secured generous sponsorships which will allow broad student participation in the conference, helping to develop the next generation of cycad conservation expertise. The worldwide meeting of the Cycad SG will occur at this conference, and we have secured funds to support a major Red Listing workshop to take advantage of the gathered expertise.

Acknowledgements

We are deeply grateful to the Mohamed bin Zayed Species Conservation Fund for supporting our upcoming Red Listing Workshop, and The Cycad Society and Cycad Society of South Africa for sponsoring student registration and travel for Cycad 2015. We also thank our host institutions for logistic and financial support.

Eastern African Plant Red List Authority

Red List Authority Coordinator: Quentin Luke
Location/affiliation: The RLA Coordinator is based in the National Museums of Kenya, Nairobi and works throughout Tropical Africa. He is an Honorary Research Associate of the Royal Botanic Gardens, Kew.
Number of members: 20

Quentin Luke

Summary of main activities in 2014
We held the 8th Red Listing workshop in January 2014 at which 217 taxa of the family Acanthaceae were assessed. These assessments were entered into SIS by Dr Iain Darbyshire and are expected to be uploaded to the IUCN website in June 2015 alongside other outstanding assessments from previous workshops. The 9th workshop was held in November 2014 at which the balance of Acanthaceae taxa that had been shortlisted for assessment were completed and several other families visited. The total taxa examined at this meeting was 169 for the four-day workshop and a team from EA under the guidance of Roy Gereau are expected to complete entry into SIS.

The CEPF Project Proposal for work in South Sudan, submitted and approved in 2013, was inaugurated with a road trip to Juba, South Sudan to meet botanists in Juba University and invite a representative to attend the EAPRLA 9th workshop in Nairobi. A brief visit was made to the KBA – the Imatong Mountains during which several plant taxa were added to the recent Plant Checklist of the Sudans (Dr Iain Darbyshire et al, RBGKew) and a new species of Aloe collected.

Our Project Proposal for work in the Lake Victoria Basin re-submitted to the MacArthur Foundation was finally accepted. Funds were not available until the following year (2015).

Future goals/activities
Our aims are to expand the group, to find secure funding both for workshops and field activities, to improve the Red List system so as to minimize the delay between assessments and listing, to increase awareness in the region on threatened plants, and to ensure that this leads to action and policy changes within member countries, e.g. the inclusion of All threatened species on the schedules of the new Kenyan Wildlife Act.

Anisotes spectabilis, Endangered. © Quentin Luke

Freshwater Plant Specialist Group

Chair: Richard Lansdown
Red List Authority Coordinator: Melanie Bilz
Location/affiliation: The Chair is based in Stroud in Gloucestershire, UK. The Freshwater Plant Specialist Group (FPSG) was formally established in 2012 with the support of the Fondation Tour du Valat and Plantlife and is hosted by the Wildfowl and Wetlands Trust, Slimbridge, Gloucestershire, UK.
Number of members: 128 in 60 countries

Richard Lansdown

Mission statement

The FPSG exists to promote and further the conservation of wetland-dependent plants and the habitats upon which they depend. To do this we need to identify which species, estimated to be at least 20,000 worldwide, are truly dependent upon wetlands, review their status against the IUCN Red List Criteria and then address their conservation needs.

Four sub-groups have been established within the FPSG:
Charophytes – organized by Nick Stewart. Charophytes represent a large group within aquatic plants and the best known algae with a large following. The subgroup is preparing Red List assessments for the taxa which they know to be of conservation concern as their first priority.

Isoetes – organized by Angelo Troia. It has become increasingly clear that Isoetes is a genus of which many taxa are extremely threatened, often through restricted distribution but also in many cases due to direct threats and particularly through climate change. The Isoetes sub-group (with Angelo as coordinator of the Isoetes Research Group (http://isoetes.myspecies.info/) is currently working to publish a global list of recognized taxa which will then be subject to comprehensive re-listing and preparation of a global conservation action plan.

Non-marine halophytes – organized by Hossein Akhani. This sub-group has been established partly because of Hossein's depth of knowledge of the group and partly as it fits alongside the main focus of the FPSG. The FPSG will provide support, information and anything else that may help for the work carried out by the sub-group.

Podostemaceae (plus Hydrostachyaceae) – organized by Tom Philbrick (philbrickt@WCSU.EDU). It has become abundantly clear that the Podostemaceae are among the most highly threatened wetland-dependent plants throughout the tropics, again mainly through a combination of restricted range, direct threats and climate change. The Podostemaceae sub-group is currently working to publish a global list of recognized taxa which will then be subject to comprehensive re-listing and preparation of a global conservation action plan.

Based on the 64 spreadsheets of the names, distribution and Red List status of wetland-dependent plants which were produced through BioFresh funding, Nur Ritter has very kindly converted these into an online relational database with approximately 25,000 entries of which approximately one third are "accepted", one third synonyms and one third "unresolved". We are now seeking funding for ongoing maintenance of this database before we can formally launch it. Once launched, FPSG members will be able to edit individual species accounts so that it can become a powerful tool for all those working on wetland conservation.

Summary of main activities in 2014

Working with IUCN FBU, we produced another 500 Red List Assessments for wetland-dependent plants in 2014.

Achievements by FPSG members include the publication of a note on alien water plants in Hungary by Kiraly Gergely and colleagues, the preparation of taxonomic and descriptive accounts of Cyperaceae and Juncaceae for the Flora of the Arabian Peninsula and Socotra by Lorna MacKinnon, the contribution of an account for the Plantaginaceae for the "Catálogo de las Plantas vasculares de Bolivia" by Blanca León, the publication of a guide to water plants and swimming ponds by Klaus van de Weyer and colleagues, and the contribution of accounts for Ceratophyllaceae, Cymodoceaceae, Podostemaceae, Pontederiaceae and Potamogetonaceae to the Red Book of the Brazilian Flora, as well as contribution of details of

Starfruit (*Damasonium alisma*), Vulnerable. © R.V. Lansdown

the Cabombaceae, Ceratophyllaceae, Hydrocharitaceae, Juncaginaceae, Nymphaeaceae, Pontederiaceae and Potamogetonaceae to the official record of the Red List of the flora of Rio Grande do Sul State by Claudia Bove and her team who also presented the conservation status of the aquatic flora from Rio de Janeiro State (Brazil) in the 11th Congreso Latinoamericano de Botánica, Salvador in October 2014. Additionally, Simonetta Bagella and her colleagues have produced an Interactive Guide to the Flora of Mediterranean Temporary Ponds of Sardinia. Núria Flor-Arnau defended her PhD thesis "Diversity, ecology and uses in bioindication of charophyte algae and macrophytes in the Iberian Peninsula, a group of FPSG members collaborated to produce a chapter on invasive freshwater plants of the Balkans for an ESENIAS book, Jean-Paul Ghogue and colleagues have establish the project "Identification of suitable sites for translocation of endemic Podostemaceae threatened by dams in the Sanaga River (Cameroon)", the Conservatoire Botanique National de Brest have established a PhD and other actions toward implementation of the conservation action plan for *Eryngium viviparum*, research was undertaken into the ecology of *Damasonium alisma* contributing to a global conservation action plan, Mateja Germ and colleagues carried out the first survey of aquatic plants in man-made lagoons in south-west Slovenia and Patrick Grillas has carried out research into the ecology of *Tolypella salina, Riella helicophylla* and *Althenia filiformis* at a Camargue site where they are threatened.

Future goals/activities

Our main aspirations for 2015 are to produce global conservation action plans for the Podostemaceae and Isoetes and to obtain funding for maintenance of the online database, so that we can continue to develop it as a major conservation resource. We also hope to begin to initiate and support more conservation initiatives on the ground, including work on the ecology and conservation of *Lythrum thesioides* in the Nîmes area. Work has also begun on a book on the charophytes of Mediterranean France led by Jean-Baptiste Mouronval, with contributions by Patrick Grillas.

Galapagos Plant Specialist Group

Chair: Alan Tye
Red List Authority Coordinator: Alan Tye
Location/affiliation: The Chair is based near Nicosia, Cyprus, and affiliated with the Charles Darwin Foundation for the Galapagos Islands.
Number of members: 13

Alan Tye

Mission statement

The Galapagos Plant Specialist Group (GPSG) promotes the conservation of all Galapagos native plants and plant-like organisms (including algae, fungi, lichens and similar taxa).

Summary of main activities in 2014

The GPSG is a discussion group for people interested in the conservation of the Galapagos flora. The group includes the world's experts in the field of Galapagos plant conservation, and acts in an advisory role, formulating views on conservation policy and on the practical conservation of the islands' flora. The group develops conservation priorities for Galapagos plants, including those for applied research, survey and management, and communicates these priorities in the form of advice to the relevant research and conservation institutions on the islands. Research is carried out by GPSG members employed in Galapagos and by others as visiting scientists. GPSG members employed at academic institutions also encourage their research students to undertake Galapagos projects.

Acantholichen galapagoensis, Not Evaluated. © Frank Bungartz

The IUCN Red List assessments of all of the endemic vascular plants of the Galapagos, completed some years ago, are now in the process of being incorporated onto the Red List. The marine algae are already on the Red List. Plans for Red List assessments of the lichens have been made and funding for this work is being sought. Plans are also being made for a re-evaluation of the endemic vascular flora.

Future goals/activities

Secure funding for lichen Red Listing, secure resources for vascular plant re-evaluation, and explore possibilities for a plant conservation planning workshop in Galapagos.

Global Tree Specialist Group

Co-Chairs: Sara Oldfield and Adrian Newton
Secretary: Malin Rivers
Location/affiliation: The Co-Chairs are based in the UK and are affiliated with the Botanic Gardens Conservation International (Sara Oldfield) and Bournemouth University (Adrian Newton). The Secretariat of the IUCN SSC Global Tree Specialist Group (GTSG) is hosted by Botanic Gardens Conservation International (BGCI), a member of the IUCN Red List Partnership.
Number of members: 73


Sara Oldfield


Adrian Newton

Mission statement

The aims of the IUCN SSC Global Tree Specialist Group are to promote and implement global Red Listing for trees and to act in advisory capacity to the Global Trees Campaign, guiding activities and contributing knowledge and expertize on tree conservation.

A key goal is a complete assessment of trees by 2020 – Global Tree Conservation Assessment – as a contribution to the IUCN Red List and to support *ex situ* and *in situ* conservation of forest biodiversity.

Summary of main activities in 2014

In 2014, the report of *The Red List of Betulaceae* was published. The report includes 239 Red List assessments, of which only 17 are threatened, but one third of taxa were considered Data Deficient. The majority of assessments have also been made available on the IUCN Red List in 2014.

Megrelian Birch (*Betula megrelica*), Endangered. © Bartlett, P. Stone Lane Gardens

The report for *The Red List of Montane Tree Species of the Tropical Andes* was also finalized and published in 2014. This report is the works of Natalia Tejedor, a PhD student at Bournemouth University, co-supervised by BGCI, and encompass 127 species, and showed that over half species in the montane Andes are thought to be threatened.

A Working List of Commercial Timber Tree Species has been finalized and published jointly by Jennifer Mark, a second PhD student at Bournemouth University, and BGCI. Her thesis aims to analyse the extinction risk of the world's timber tree species. Distribution data for all the 1,500 timber species listed have been recorded in SIS and mapping and prioritization work is now under way.

In 2014, BGCI continued updating and revizing the Magnoliaceae assessments included in the 2007 BGCI publication, *The Red List of Magnoliaceae*. Over 180 updated and extended conservation assessments of Magnoliaceae have now been submitted and made available on the IUCN Red List.

George Schatz from Missouri Botanical Garden (MBG) continues his work on the Red List of Ebenaceae. He recently updated the assessments of the Mascarene ebonies and carried out Red List training and assessment workshops. Next, the focus is updating and assessing Malagasy, African and New World ebonies, as well as beginning the *ex situ* survey of ebonies in cultivation in botanical gardens with BGCI.

A core activity to support the Global Tree Conservation Assessment has been the development of a complete working list of all tree species. Building on work began in 2012 we now have a database which lists nearly 165,000 tree taxa, of which we estimate 65,000 to be taxonomically accepted names. There are 22,350 taxa with a global conservation assessment derived from various sources including national red lists and other publications not necessarily fully equivalent with the IUCN Red List system. Of the Red Listed trees, 13,607 (60%) are threatened and more specifically 5,370 (24%) are Critically Endangered or Endangered.

During 2014, communication with GTSG members was enhanced through the publication of an e-bulletin circulated every two months. A map sharing tool has been developed for the GTSG website to facilitate sharing species distribution data within the group. This is designed to enable the production of accurate, up-to-date and expert-reviewed species distribution maps to accompany IUCN Red List conservation assessments. The map-sharing tool was launched in December and currently has maps of neotropical Magnolia, Camellia and selected timber species.

Future goals/activities

In 2015 we will continue to work towards a complete assessment of trees – The Global Tree Conservation Assessment. Our Red Listing efforts will be focused on: Theaceae – BGCI aims to have the Red List of Theaceae completed by the end of 2015; Sapotaceae – BGCI is collaborating with Royal Botanic Gardens Edinburgh on the Red List of Sapotaceae; Fagaceae – The Morton Arboretum is coordinating the update the *Red List of Oaks*; Juglandaceae – BGCI work with USDA Forest Service on the Red List of Juglandaceae; Fruit Trees (*Malus*, *Pyrus, Prunus*) – A collaborative project between University of Birmingham and BGCI.

In October 2015, The Global Tree Specialist Group will meet at the Morton Arboretum, Chicago.

Acknowledgements

We are grateful for the generous support from botanic gardens and Fondation Franklinia for our tree Red Listing work. We also thank the USDA Forest Service for supporting the publication of the Red List of Betulaceae.

Hawaiian Plant Specialist Group

Chair: Marie M. Bruegmann
Red List Authority Coordinator: Marie M. Bruegmann
Location/affiliation: The Chair is affiliated with the US Fish and Wildlife Service and is based in Honolulu, Hawaii.
Number of members: over 100 members from over 60 different agencies and organizations

Marie M. Bruegmann

Mission statement

The Hawaiian Plant Specialist Group's (HPSG) mission 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. Locally, the group is referred to as the Hawaii Rare Plant Restoration Group, which later became the HPSG.

Summary of main activities in 2014

HPSG continues to work on the actions needed for *ex situ* collections identified in last year's report: identify stored seeds at high risk of decreased viability; identify seeds that need to come out of storage as soon as possible because they are losing viability; identify taxa with seeds difficult to store, and establish a single entity coordinating collections and storage for each taxon of concern. Volunteer committees were established in 2013 for each topic. In 2014, there has been progress in developing a Hawaiian seed bank network on several of the main Hawaiian Islands. This year and last the network has focused on collecting and storing species that currently cannot be conventionally stored and sending these to the National Center for Genetic Resources Preservation (NCGRP) at Fort Collins, Colorado, for testing alternative storage methods.

A meeting of the mid-elevation rare plant facilities was held this year to review the goals of the facilities. The highest priority is the propagation for outplanting and living storage of the most rare plants, especially federally listed threatened and endangered species, with common species being propagated largely only if additional funding is provided.

HPSG also convened 18 species experts on the island of Oahu to review the current status, threats, management actions, and additional needs for the species on Oahu. This meeting covered 71 species, and will require at least one or two additional meetings to review the entire flora of the island. Additional meetings are scheduled for other islands in the future.

Several members of the HPSG organized the first Hawaii Botanical Forum, attended by 142 people. The format was a day of invited speakers and a day of working groups discussing issues addressed by the same speakers. Speaker/discussion issues were identified via a poll sent to conservation organizations across the state. A small amount of funding remains to support the next forum, most likely to be held in the spring of 2017, six months after the IUCN Congress. Feedback from the exit survey was very supportive and useful and the coordinating committee will incorporate suggestions at the next forum.

In 2014, the Plant Extinction Prevention (PEP) program, initiated by HPSG, implemented recovery actions for a total of 170 PEP species (50 individuals or less remaining in the wild). These actions include population surveys and monitoring; propagule (seeds, cuttings, air-layers) collections; *in situ* management, and reintroductions within protected natural habitats. The PEP program focused on propagule collections for species with no *ex situ* representation over the past 12 months. The PEP program is currently comprised of 14 staff (including program management staff), based on Kauai, Oahu, Maui, Molokai, and Hawaii Island.

Stenogyne kaalae ssp. *sherffii*, Not Evaluated. © Susan Ching

Korean Plant Specialist Group

Chair: Yong-Shik KIM
Red List Authority Coordinator: Chin-Sung CHANG
Location/affiliation: The Chair is based in Gyeongsan City, south-east of Seoul, Republic of Korea. He is affiliated with the Department of Forest Resources and Landscape Architecture, College of Natural Resources, Yeungnam University, Gyeongsan, Republic of Korea.
Number of members: 34


Yong-Shik KIM


Chin-Sung CHANG

Mission statement

The mission of the Korean Plant Specialist Group is to support conservation of Korean plant diversity, for present and future generations, through interdisciplinary collaboration, applied conservation biology and professional development. Membership includes governmental bodies, private botanical gardens and arboreta, relevant research institutes and academic institutions.

Summary of main activities in 2014

Calls for reforming the Korean Plant Specialist Group have demanded for the last couple of years to make the group more efficient and transparent. All active members agreed on the need to downsize the Korean Plant Specialist Group and to make meaningful progress in pursuing the Mission statement. Over the couple of years, the double-edged approaching for Red Listing in Korea has been seriously entangled between relevant governmental institutions. It is one of the tasks and challenges of the Korean Plant Specialist Group to work under the IUCN Red List Assessment Guideline. Meanwhile, Professor Chin-Sung CHANG, Red List Authority Coordinator of the Korean Plant Specialist Group, with colleagues published the *Checklist of Vascular Plants in Korea*, which is our first publication in the Korean peninsula. This document has provided baseline information regarding species information and their status. The Korea National Arboretum of the Korea Forest Service, in collaboration with the Korean Plant Specialist Group, distributed a brochure introducing the Red List assessment of 40 threatened Korean plants with colour photos during the 12th CBD Congress in PyeongChang, Korea in October 2014.

Korean Ladyslipper (*Cypripedium japonicum*), Endangered. © Sung-Won SON (Korea National Arboretum)

Future goals/activities

So far, two different lists outlining threatened plant species and habitats in the Republic of Korea have previously been compiled by the Korea National Arboretum of the Korea Forest Service and National Institute of Biological Resources of the Ministry of Environment. The overall background information and the assessment procedure, which is conducted by both the Korea National Arboretum and National Institute of Biological Resources was almost entirely left out of the report. In 2014, the Korean Plant Specialist Group took upon itself to compile and evaluate the more detailed Red List of endemic species in Korean peninsula using the IUCN Red List Categories and Criteria for threatened species. Our research and assessment focused on thirty species. The output from this research will be available on the website and published as a book before the end of 2015. Although the two relevant national conservation institutions are engaged in monitoring data on the populations and trends of threatened plant species, these are fragmentary and not properly documented so far. Our efforts should be extended to set up national monitoring programmes and establish well organized activities in the near future. To ensue and strengthen the role of the Korean Plant Specialist Group, we will be focusing on three key priority roles; to assess the IUCN Red List of Korean plants both at a global level and national level, to prepare the plant conservation action plan for threatened plant species, and to prepare the NBSAP for Korean threatened plants. Under this schedule, the Korean Plant Specialist Group plans to provide updated Red List assessments of 30 threatened species and provide support to prepare provisional single species recovery plans.

Acknowledgements

The Korean Plant Specialist Group acknowledges the kind support from the Korea National Arboretum for plant conservation projects.

Macaronesian Island Plant Specialist Group

Chair: Ángel Bañares Baudet
Red List Authority Coordinator: Manuel V. Marrero Gómez
Location/affiliation: We are based in Santa Cruz de Tenerife, Canary Islands, Spain. We are affiliated with Direction General for Protection of Nature (Canary Islands Government), Spain.
Number of members: Nine

Ángel Bañares Baudet

Mission statement

As one of the agreements included in the Convention for Biological Diversity, our main objective is to promote the long-term monitoring of biological diversity. Our experience is that many plants from Macaronesia have been identified as threatened by using an absolute threshold (since no other information is available), such as chorology and census data, producing, in many cases, no significant results. Promoting rare plants in demographic studies through several years provides the most important tool to correctly identify the real conservation status of their populations. In this way, data on the tendency of plant populations not only supply information for the application of the most prescriptive IUCN criteria (mainly A and E), but also identify critical stages of plants that are needed to correctly promote them in recovery plans.

Summary of main activities in 2014

At the end of 2013 some members of the group obtained an agreement with the Central Government of Spain in order to compile data obtained from a long term monitoring program realized in the Canary Islands in order to be included in a monographic series entitled *Monitoring of the Spanish Vascular Flora* as part of the Spanish Inventory of the Wild Heritage and Biodiversity. It is going to be published by the middle 2015, as the first issue of this initiative, and will provide detailed data of five species largely monitored in the National Parks: *Bencomia exstipulata, Cistus chinamadensis, Sambucus palmensis, Silene nocteolens* and *Laphangium teydeum*. This will provide detailed data on population size, distribution and tendency, reproductive parameters as well as past and future management measures for the habitat and the species.

Other activity initiated in 2014 is related to our contribution with several colleagues from mainland Spain to produce an analysis of the conservation status of the policy species from the Canary Islands listed in EU Directives (Habitats Directive and Bern Convention). The aim is to provide a comparative analysis among several European countries and provide a useful framework to develop strategies for conservation. Initially, countries promoted in this initiative are Italy, Portugal, France, Croatia, Greece, Malta, Cyprus, Bulgaria and Spain. The work consisted in characterizing every species by their category and criteria (http://www.iucnredlist.org/technical-documents/categories-and-criteria) as well as by their threat, habitat, conservation action, and research needed, following the classification scheme provided by IUCN to ensure global uniformity (http://www.iucnredlist.org/technical-documents/classification-schemes). The results are planned to be published in short.

Future goals/activities

As for the previous years, our future goal is to increase knowledge on the conservation biology of endangered plants in the Macaronesian archipelago. By now, our main goal is related with the acquired engagements with central governments concerning our 2014 activities.

Acknowledgements

We thank the Sociedad Española de Biología de la Conservación de Plantas (SEBICOP) for their support.

Borriza del Teide (*Laphangium teydeum*), Not Evaluated. © Ángel Bañares Baudet

Madagascar Plant Specialist Group

Chair: Vololoniaina Jeannoda
Red List Authority Coordinator: Bakolimalala Rakouth
Location/affiliation: We are based in Antananarivo, Madagascar, and are affiliated with the Department of Plant Biology and Ecology, Faculté des Sciences, University of Antananarivo
Number of members: 70

Vololoniaina Jeannoda

Mission statement

The mission of the Madagascar Plant Specialist Group (MPSG) is to assess and/or validate plants status according to Red List or/and CITES criteria; assess the state of conservation of plant diversity; identify species and habitats conservation priorities; give specific recommendations for species survival; reinforce private initiatives for the conservation of plant diversity; do the census of all crop wild relatives for the conservation of phytogenetic resources.

Our objectives are the same as those of IUCN: to guarantee plant diversity conservation as an essential foundation for the future; to guarantee the rational use of natural resources in a fair and sustainable way; to orientate the development of human communities in harmony with the other elements of the biosphere.

Summary of main activities in 2014

Master degree students and PhD students in the Plant Biology and Ecology department are asked, whenever possible, to assess the status of the plants on which they are working (taxonomy, ethnobotany, ecology). They are all trained in the utilization of the IUCN Red List criteria. Those data are dispersed in their thesis, so the MPSG decided to do the compilation of all data related to plant conservation status for the 2008 to 2014 period and gather them in one report (in total 68 species were assessed). They will be integrated to SIS and validated by MPSG.

Assessments of CITES plants statuses are still ongoing and done by the CITES scientific authority for Flora whose members are also MPSG members: those plants are mainly precious wood and succulent species.

The Chair and the RLA and a few members of the MPSG participated in the elaboration of the National Report on Biodiversity which was sent to the CBD during 2014.

The Chair has also taken a very active part in the elaboration of the National Biodiversity Strategy and Action Plan and is acting as a member of its steering committee.

Euphorbia primulifolia var. *begardii*, Endangered. © Aro Vonjy Ramarosandratana

A two-year project funded by Agence Française de Développement and called "Integration of knowledge products by IUCN for supporting land-use planning and policy in Madagascar" was launched in June 2014 in Antananarivo. This project, managed by the IUCN Global Species Programme in Cambridge, will contribute to the implementation of the IUCN Programme 2013–2016 and support a number of Recommendations and Resolutions from the 2012 IUCN World Conservation Congress. This new project seeks to work with stakeholders in Madagascar to determine how the knowledge Products mobilized through IUCN can best support national decision-making.

The MPSG will be responsible in the reviewing of the conservation status of an additional list of 1,000 threatened useful species and its publication in the IUCN Red List of Threatened species. At several meetings, the manager of the Global Unit Programme explained the different issues of the project to the potential stakeholders. The MPSG was represented in all the meetings, and at two, was given an introduction to SIS and to the Red List of Ecosystems training.

In September 2014, the Chair of MPSG attended the Plant Conservation Sub-Committee meeting in Paris.

Future goals/activities

Review by the beginning March of the conservation statuses of 34 species of yams that were assessed by Kew Royal Botanical Garden

A one-week workshop was organized in March by the IUCN Global Species Programme for some MPSG members on SIS and review of a first list of 500 threatened species.

Launching of the "Madagascan Plants threats assessment project" managed by The Royal Botanic Garden, Kew: 20 staff from Kew in Madagascar and MPSG will be trained on full Red List methodologies incorporating the latest web tools and technologies including the use of smart-phones for observation recording. The assessment of at least 100 key target species will also be facilitated as part of a global monitoring scheme helping to achieve global biodiversity targets, aiming for a wider goal of 500 species.

Mangrove Specialist Group

Co-Chairs: Jurgenne Primavera and Joe Lee
Red List Authority Coordinator: Jean Yong
Location/affiliation: Jurgenne Primavera is located in the Philippines and affiliated with the Zoological Society of London. Joe Lee is located in Australia and affiliated with the Griffith University. The secretariat is based in London, United Kingdom and hosted by the Zoological Society of London (ZSL).
Number of members: 52

Mangrove Specialist Group


Jurgenne Primavera


Joe Lee

Mission statement

The IUCN Mangrove Specialist Group (MSG) is one of over 120 IUCN SSC Specialist Groups, Red List Authorities and task forces working towards achieving the SSC's vision of "a world that values and conserves present levels of biodiversity." The group is made up of a combination of experts from around the world that lead efforts to study and manage the threats facing mangroves (both as species and habitat) as well as devise and promote conservation options to ensure the long-term survival of mangroves around the world. The MSG was conceived during the July 2012 MMM3 meeting on Mangrove Ecology, Functioning and Management in Sri Lanka and established in 2012. Our mission is to promote and achieve worldwide conservation of mangrove ecosystems and their habitats.

Specific objectives are to: (1) assess the conservation status of mangroves; (2) identify, quantify and prioritize threats; (3) facilitate and lobby for the development of management plans, specialized legislation and policies to conserve species and habitats that are most threatened; 4) raise funds and support conservation projects; consistent with MSG goal; and (5) communicate and promote best practices and guidelines.

Summary of main activities in 2014

The MSG successfully accomplished the following activities in line with its mission during 2014:

The MSG organized an international symposium titled 'Turning the tide on mangrove loss' hosted by ZSL and attended by attended by >120 participants from 16 countries.

Sonneratia alba, Least Concern. © Jon Altamirano

It also held a MSG workshop in London.

The MSG developed and presented a position statement at the 2014 World Parks Congress entitled, 'Mangroves: Protect, restore and expand' at the 2014 World Parks Congress in Sydney, Australia (http://goo.gl/wpn9jt), enlisted a Red List Authority, and named two Co-Coordinators (Dr Jean Yong, of Australian National University and Prof. Norman Duke of James Cook University, Australia).

The MSG raised funds to support MSG secretariat activities and employ a Programme Officer.

MSG has set up a Twitter page (@IUCN_Mangrove) and held a webpage (http://goo.gl/qDxg14), where a regular output of news articles, papers and professional opportunities are circulated to group members.

Group members either collectively or independently are leading in the development of important global policy documents that will contribute to sustain mangrove ecosystems.

The MSG established a work plan for 2015.

Future goals/activities

The MSG is planning the following activities in the short term: (1) Formation and institutionalization of sub working groups; (2) third annual meeting to be held in Xiamen, China, with a focus on Southeast Asian mangroves; (3) refine "IUCN's mangrove species range maps" and develop a methodology for identifying key biodiversity areas (KBAs) for mangroves; (4) identify and develop criteria for classification mangrove health status; (5) develop and facilitate the implementation of a global mangrove conservation strategy; (6) establishment of an MSG website; (7) development of a global mangrove conservation strategy.

Acknowledgements

MSG is grateful to the Waterloo Foundation, for supporting the 'Turning the Tide on Mangrove Loss' symposium and MSG workshop held from the 6–9 November 2014 and to ZSL for hosting its secretariat since the creation of the group. We are also grateful to the Xiamen University for accepting to host and partly fund our next meeting.

Mascarene Islands Plant Specialist Group

Co-Chairs: Vikash Tatayah (Mauritius and Rodrigues) and Stéphane Baret (Reunion, France)
Red List Authority Coordinators: Kersley Pynee (Mauritius) and Joel Dupont (Reunion, France)
Location/affiliation: The Chairs are based at Vacoas, Mauritius and St Denis, Reunion. They are affiliated with the Mauritian Wildlife Foundation and Reunion National Park, respectively
Number of members: 30 (Mauritius and Rodrigues) and five (Reunion)


Vikash Tatayah


Stéphane Baret

Mission statement
We currently do not have a formal mission or key objective. However, we strive to save and restore plants and their habitats in the Mascarenes.

Summary of main activities in 2014
Mauritius and Rodrigues
Red-list training, with focus on plants, held on Mauritius in October 2014, followed by plant assessments in Mauritius and in Rodrigues (continuing in 2015). Project supported by Missouri Botanical Garden.

Several MIPSG members expressed concern that plants of one of the two sub-populations of *Elaeocarpus bojeri* had been cut. Miraculously, these plants are re-sprouting. The site has now been fenced.

Members called for the revitalization of the National Threatened Plant Committee and encouraged Mauritius to sign up to the Intergovernmental Platform on Biodiversity and Ecosystem Services.

Several members contributed to management plans (e.g. Black River Gorges National Park, Bras d'Eau National Park).

We participated in a regional training workshop on *in situ* conservation of crop wild relatives and diversity assessment techniques organized by the University of Mauritius, University of Birmingham (UK) and Bioversity International, as part of the SADC-Crop Wild Relatives project, in collaboration with the Crop Wild Relative Specialist Group.

We participated in an IUCN-funded project, Western Indian Ocean-Invasive Alien Species (WIO-IAS).

We provided recommendations against the setting up of a bamboo garden through the introduction of species not recorded on Mauritius, and the cultivation of *Arundo donax* as a biofuel.

UNDP GEF supported the Protected Area Network project on state-owned lands (National Parks and Nature Reserves), achieving over 200 ha of forest weeded of invasive plants. Over 15,000 plants were planted. Memoranda of Understanding were also signed with

Hernandia mascarenensis, Not Evaluated. © Stéphane Baret

several private sector owners to conduct weeding on private lands.

A botanical survey at Mare d'Australia (east Mauritius) resulted in the discovery of a rare fern *Actinostachys confusa*, first collected on Mauritius in 2007. Another fern, *Pellea dura*, believed extinct and re-located in 2012, was located at La Fenetre, making the second known site for the species.

Species previously assigned to the genus *Chionanthus* in the Western Indian Ocean Islands in fact belong to genus Noronhia. A taxonomic update and conservation status was done. All three Noronhia that occur in Mauritius are threatened with extinction (Hong-Wa, C. et al. 2014. Taxonomy and conservation of the genus *Noronhia Thouars* (Oleaceae) in Mauritius. Candollea 69 (2)).

Research collaboration with the University of Amsterdam, Netherlands is revealing the Mauritian coastal vegetation changes during the last 8,000 years. Using pollen preserved in a lake of the east coast, it was possible to determine pristine floral composition and change in response to natural climate and sea level variations (de Boer, E.J et al. 2014. Climate variability in the SW Indian Ocean from a 8,000-yr long multi-proxy record in the Mauritian lowlands shows a middle to late Holocene shift from negative IOD-state to ENSO-state. *Quaternary Science Reviews*: 86.).

On Rodrigues, a draft management plan for the creation of the Mourouk Botanical Gardens was produced by Botanical Gardens Conservation International and discussions for its implementation have taken place between the Rodrigues Regional Assembly and the Mauritian Wildlife Foundation.

Reunion Island

The Mascarenes data base, set up by the national botanical garden (CBNM) recorded all the observations (new station or monitoring of population already known) made by specific experts working on the conservation of plants in La Réunion. This data base informs us that during 2014, 125 (46% of the threatened flora) threatened taxa (CR, EN, VU) have been observed on the field. The majority (66,7%) of these observation were made within the natural heritage site and concerned 114 taxa.

"RHUM" project

This project consists of reinforcing some populations of rare plants species. This work is coordinated by the CBNM (national botanical garden) and conducted in collaboration with the national park and the forestry service (ONF). Since two years ago, 13 rare plants species have been collected within the different populations targeted. In 2014, 202 individuals (~27% of all the individuals planned) of six species have already been planted in 7 different localities.

"COREXERUN" project (http://www.reunion-parcnational.fr/life/?p=1524): COREXERUN means "Conservation, restoration and reconstitution of semi-xerophilous forest on the Reunion Island". This project is the first programme in the French overseas departments to receive a LIFE+ funding from the European Commission and has been executed in collaboration with the national park, the Conservatoire du littoral, the Regional and Departmental councils and the municipalities of Saint Denis and La Possession. With a view to assuring the ecological viability of the semi-xerophilous habitats of La Reunion, the program foresees to restore 30 ha and to reconstitute artificially with its functions 9 ha of this unique forest. This project has been finalized at the end of 2014 after six years of work and 100,000 individuals of 48 (13 protected) indigenous species have been planted.

"PEI Run semencier" project

This project set up by the national park consists of setting up arboretum (including rare plant species) at the watershed/municipalities level in order to favour proximity *ex situ* conservation and thus better include population awareness but also in order to limit ecotype loss. This project is initiated in four different sites around the island.

"Macdonald relevés" project

As in the initial transect survey on Réunion in 1989 (Macdonald et al. 1991; Macdonald 2010), the researchers visited Rodrigues (IAW Macdonald team, ePRPV funds) and Mauritius (S. Buckland team, FED/FEDER funds) islands with the intention of establishing some rapid survey transects to assess the alien plant invasions occurring. The transects employed the same standardized data collection protocols that have been developed by IAW Macdonald on the island of Réunion. The researchers attempted to structure the survey so as to obtain samples of the alien plant flora, firstly, in untransformed areas and then, secondly, in a matched area subject to human disturbance. Setting up homogenous relevés at Indian Ocean island scale are one of the main objectives of this project, in order to better compare and identify the real threat to the native habitats and indigenous species of these islands.

Future goals/activities

(1) Complete the Red Listing of plants of Mauritius and Rodrigues; (2) closer collaboration with international institutions (Missouri Botanical Garden (US), Chester Zoo (UK), Conservatoire Botanique de Brest (France), and regional conservation agencies, to improve plant conservation strategies; and (3) increase the acreage of restored areas, e.g. through the Protected Area Network project on Mauritius, nature reserve restoration on Rodrigues, and initiatives on Reunion.

Acknowledgements

Missouri Botanical Garden, European Union, Government of Mauritius, Chester Zoo.

Medicinal Plant Specialist Group

Co-Chairs: Danna J. Leaman and Anastasiya Timoshyna
Location/affiliation: Danna Leaman is based in Ottawa, Canada, affiliated with the Canadian Museum of Nature as a Research Associate. Nastya Timoshyna is based in Cambridge, UK, where she leads TRAFFIC's Medicinal Plants Programme.
Number of members:: 100


Danna J. Leaman


Anastasiya Timoshyna

Mission statement

The Medicinal Plant Specialist Group is a global network of specialists in the use, trade, and biology of medicinal and other useful plants, contributing within our own institutions and in our own regions, as well as world-wide, to the conservation and sustainable use of these species. The MPSG was founded in 1994 to increase global awareness of conservation threats to medicinal plants, and to promote sustainable use and conservation action.

Summary of main activities in 2014

In 2014, members of the Medicinal Plant Specialist Group contributed to the final round of IUCN Red List assessments of 400 European medicinal plant species (funded by the European Union), and to Red List assessments of medicinal plants endemic to India (in collaboration with the Institute of Trans-Disciplinary Health Sciences and Technology). We continued to enlarge our Global Checklist of Medicinal Plants (more than 30,000 taxa), and persevered in our efforts to support the contributions of the MPSG and other relevant Specialist Groups to the IUCN Plants for People project, partially funded by the MAVA Foundation (http://www.iucn.org/about/work/programmes/species/our_work/plants/plants_projects_initiatives/plants_for_people_/).

Group members provided risk analyses of wild-harvested plant species and populations for private sector companies as a service to the FairWild Foundation (http://www.fairwild.org) and other support to implementation of the FairWild Standard for sustainable wild collection. Members of the MPSG serve as members of the FairWild Foundation's Board of Trustees and as members of the Foundation's technical, license, and communications committees.

Our risk analysis methodology has also been included as one of nine steps in new guidance for Parties to CITES, undertaking non-detriment findings for perennial plants listed on Appendix II. Version 1.0 of this guidance, produced through a TRAFFIC/WWF Germany project funded by the German Federal Agency for Nature Conservation (BfN), was published in 2014 (http://www.bfn.de/fileadmin/MDB/documents/service/skript358.pdf).

The MPSG collaborates with TRAFFIC, the Wildlife Trade Monitoring Network (a joint programme of IUCN and WWF) in the development and delivery of its Medicinal and Aromatic Plants Trade Programme (http://www.traffic.org/medicinal-plants/). Key activities include the ongoing revision of the WHO/IUCN/WWF/TRAFFIC *Guidelines on Conservation of Medicinal Plants*, and contributions to other global policy and tools, such as the CBD joint work programme on biodiversity and health (http://www.cbd.int/en/health/stateofknowledge).

Future goals/activities

To support expanding the scope of the FairWild Standard beyond terrestrial plants, we have begun to adapt our risk analysis methodology for fungi, lichens, and invasive species in discussion with the relevant SSC Specialist Groups. Developing initiatives to implement key conservation actions for medicinal plants in Europe identified in the recently completed regional Red List assessment is a priority, as are renewed efforts to secure funding for MPSG's contributions to the Plants for People initiative.

Liquorice (*Glycyrrhiza glabra*) in Herat Province, Afghanistan, ICARDA/Oxfam-Novib Project.
© Klaus Dürbeck

Mediterranean Plant Specialist Group

Chair: Bertrand de Montmollin
Red List Authority Coordinator: Errol Vela
Location/affiliation: Bertrand de Montmollin is based in Neuchâtel, Switzerland, and Errol Vela is based in Montpellier, France.
Number of members: 56, representing 21 countries

Bertrand de Montmollin

Mission statement
(1) Implementation of field conservation projects for Critically Endangered Mediterranean plants with authorities and local populations; (2) identification of Important Plant Areas in Mediterranean countries; (3) raising plant conservation profile in the Mediterranean; (4) networking with botanists and conservationists; (5) sharing best practices in plant conservation; and (6) education and raising awareness of public and stakeholders at regional, national and local levels.

Summary of main activities in 2014
Launch of the project: Conserving wild plants and habitats for people in the South and East Mediterranean (IPA-Med 2014–2017).

Partners: Mediterranean Plant Specialist group/IUCN Center for Mediterranean Cooperation and Plantlife International
Countries involved: Morocco, Algeria, Tunisia, Libya, Egypt, Palestine, Lebanon
Main activities: The project will focus on Important Plant Areas (IPAs); sites of international importance for plants – a sub-set of Key Biodiversity Areas. IUCN and Plantlife will work together with in-country partner organizations, to help and encourage public citizens, management authorities, local and national governments, experts and NGOs to conserve Important Plant Areas across the region with special focus on 14 IPAs.

What will the project achieve?
Across North Africa and the Middle East, knowledge of the distribution, status and threats to Important Plant Areas (species and habitats) will be improved through field work, with a focus on Site Restricted Endemics. This information will be included within a database that is publicly available and can be used by decision-makers and managers.

Cretan Ebony (*Ebenus cretica*), Not Evaluated. © B. de Montmollin

In selected IPAs in Morocco, Algeria and Lebanon, IUCN will work with local stakeholders to develop and implement positive actions to save wild plants on specific IPAs. These actions will help safeguard these sites for the future and site managers and local communities will learn how to better protect plant resources. If additional funds are available, these conservation activities will be extended to Palestine, Libya, Tunisia and Egypt.

At the end of the project, these sites will be better protected from damaging influences, their resources will be safeguarded and their status as Important Plant Areas secured for the long term. We intend to showcase the plant conservation projects undertaken on IPAs across the region and encourage others to undertake similar initiatives.

Main Funder: MAVA Foundation

Future goals/activities
(1) Updating the *Top 50 Mediterranean Island Plants*, 10 years after its release, monitoring the implementation of the conservation measures taken and assessing the new status of the threatened taxa; (2) preparing a *Top "NN" for the Mediterranean Plants*, covering threatened plant species in every Mediterranean country, in order to draw the attention of both the public and politicians to the vulnerability of Mediterranean flora and call for conservation measures; (3) preparing a project for better coordination between *ex situ* and *in situ* conservation with a network of Mediterranean Botanical Gardens; and (4) contributing to the implementation of the five objectives and the 16 targets of the Global Strategy for Plant Conservation, with focus on Target 5 (at least 75% of the most important areas for plant diversity protected and managed) and Target 7 (at least 75% of threatened plant species conserved *in situ*).

New Caledonia Plant Red List Authority

Red List Authority Coordinator: Vincent Tanguy
Location/affiliation: We are based in New-Caledonia and are affiliated with the NGO Endemia.
Number of members: 35

Vincent Tanguy

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 (Morat et al., 2012). This exceptional floristic diversity is threatened by accelerating development. The Red Listing activities will bring a valuable tool for local institutions in charge of setting conservation priorities and allow knowledge improvement by identifying data deficient species.

Summary of main activities in 2014

Year 2014 has been the starting year for the New Caledonia plants RLA by: (1) federating local stakeholders interested in Red Listing activities in New Caledonia; (2) setting-up the RLA and getting approved by the IUCN SSC in December; (3) organizing a Red List training workshop (39 participants) on four days; and (4) beginning Red List assessments on endemic species of three genera: Plerandra, Podonephelium and Cyrtandra.

Future goals/activities

The year 2015 should be the time where our activities will get enforced: (1) recruitment of the support team (two persons); (2) ensuring financial support; (3) planning Red List assessments (already planned: *Psychotria* (85 spp.), *Pittosporum* (45 spp.), *Orchidaceae* (40 spp.), *Ebenaceae* (32 spp.), *Dilleniaceae* (24 spp.); and (4) setting-up the necessary tools to support our Red Listing activities: IT support for sharing and archiving local data; and establishing a memorandum on the characteristics of the main threats in order to assess them consistently.

Acknowledgements

Setting up the RLA was possible thanks to the financial support from the Province Nord and Province Sud of New Caledonia. The Missouri Botanical Garden kindly brought support during the Red List training with George Schatz and Pete Lowry in attendance.

Plerandra mackeei, Not Evaluated. © Yolaine Bouteiller

North American Plant Red List Authority

Red List Authority Coordinator: Bruce E. Young
Location/affiliation: The Chair is based in Arlington, VA, USA, and is affiliated with NatureServe.
Number of members: Five

Bruce Young

Mission statement

The mission of the North American Plant Red List Authority is to facilitate the increasing coverage by the Red List of North American Plants. The RLA also works to coordinate the use of NatureServe information on plant conservation status to inform Red List assessments.

Summary of main activities in 2014

Global Cactus Assessment
After providing data and helping fund and facilitate cactus Red List workshops in previous years, we assisted in the final stage of the Global Cactus Assessment by providing comments on the manuscript published to describe the research findings of the assessment.

Goldenseal Assessment
We completed a draft Red List assessment of Goldenseal (*Hydrastis canadensis*), a North American native plant that is increasingly being used in the herbal products industry, and sent it for review.

Orchid Assessment
In collaboration with Texas Tech University, the Orchid Specialist Group, the North American Region Orchid Specialist Group, and the IUCN Red List, we contributed to draft Red List assessments of 28 rare and threatened orchid species. We also completed NatureServe global rank assessments, the status ranks used by US and Canadian government agencies, for these species. Several of these species are listed on the US Endangered Species List, so up-to-date assessments will contribute to their conservation under that legal framework.

Plants for People
In collaboration with the IUCN Biodiversity Assessment Unit, we contributed to an LOI sent to a private foundation to request funding for a workshop to assess the Red List categories of North American crop wild relative plants.

Global Strategy for Plant Conservation
Acting on a request from Royal Botanic Gardens, Kew, we provided a database of the NatureServe global rank assessments of virtually all North American plant species and varieties (27,481 taxa) in support of their efforts to track progress toward Target 2 (a global assessment of all plants) of the Global Strategy for Plant Conservation.

Future goals/activities

In the future, we look forward to: (1) publishing the orchid assessments on the IUCN Red List of Threatened Species; (2) contributing North American assessments to the Plants for People program; and (3) facilitating more conversion of NatureServe global ranks for plants to Red List assessments.

Acknowledgements

We thank the National Fish and Wildlife Foundation, the US Bureau of Land Management, and NatureServe for funding.

Red Maple (*Acer rubrum*), Not Evaluated. © Amanda Treher

Orchid Specialist Group

Chair: Michael F. Fay
Deputy Chair: Kingsley W. Dixon
Red List Authority Coordinator: Hassan Rankou
Location/affiliation: We are based in Kew, UK. We are affiliated with the Royal Botanic Gardens, Kew.
Number of members: 150

Michael Fay

Mission statement

The Orchid Specialist Group (OSG) is a global network of experts working together to build a scientific and practical foundation for the conservation of orchids (Orchidaceae).

Summary of main activities in 2014

OSG was well represented at the 21st World Orchid Congress in Johannesburg, and meetings of the OSG and of the Early Career Group were held during the Congress. Hassan Rankou, the OSG Redlist Focal Point, ran Red-Listing workshops in Hong Kong and China in 2014. We hope that this will lead to an increase in the number of species of orchids assessed for the Global Red List.

Red List assessments of all *Cypripedium* species (led by Hassan Rankou) were released in the update to the Global Red List in mid 2014, and assessments of all species of *Paphiopedilum* were submitted to IUCN in late 2014. These were the next part of a project to Red-List all slipper orchids, which we expect to be complete by the end of 2015. Two issues of the OSG Newsletter (edited by Marilyn Light) were published during the year.

Tibetan Cypripedium (*Cypripedium tibeticum*), Least Concern. © M.J.M. Christenhusz

Future goals/activities

Following the successful Fifth International Orchid Conservation Congress (IOCC5) in 2013, on La Réunion, organization for IOCC6 in 2016 (to be held in Hong Kong) has started.

Acknowledgements

We acknowledge support from the Framework Grant from the Environment Agency Abu Dhabi to the IUCN Species Survival Commission for the Red Listing of slipper orchids.

Palm Specialist Group

Chair: William J. Baker
Red List Authority Coordinator: William J. Baker
Location/affiliation: The Chair is based at the Royal Botanic Gardens, Kew in London, United Kingdom.
Number of members: 43

William Baker

Mission statement

The IUCN SSC Palm Specialist Group is a network of experts on the diversity and conservation of palms worldwide. The group aims to be a forum for conservation research on palms, delivering critical expertise to IUCN and the SSC network, and the conservation community in general.

Summary of main activities in 2014

In the past year, IUCN SSC Palm Specialist Group members have made significant steps towards practical conservation of threatened palms. It has been an especially productive time for palm experts in Latin America. A workshop held in Mexico, facilitated by Barbara Goettsch, resulted in the completion of over 80 assessments of Mexican palms, which are currently under review. Mónica Moraes contributed palm species to *A Regional Red List of Montane Tree Species of the Tropical Andes* and contributed the palm chapter to the Bolivian Checklist, underscoring the importance of fundamental taxonomic work as an essential step in conserving species.

During 2014, Palm Specialists Group members Gloria Galeano and Rodrigo Bernal produced, on behalf of the Colombian Ministry of the Environment, two vital instruments for conservation of Colombian palms – *A Plan for the Conservation, Management and Sustainable Use of Colombian Palms and A Plan for Conservation, Management and Sustainable Use of the Quindío Wax Palm (*Ceroxylon quindiuense*)*, Colombia's National Tree. These two documents define the road map for the coming ten years of conservation action for the 252 palm species presently know in Colombia. The document for the whole family is the first plan of conservation, management and sustainable use made in Colombia for a whole family of plants. Because palms are such an iconic and useful group in Colombia, application of this plan will impact those to be made in the future for other groups.

The conservation and management plan for the Quindío Wax Palm (*Ceroxylon quindiuense*) includes detailed information on the state of populations of this species in Colombia, particularly the Central Cordillera, where the largest palm stands occur. The conservation plan proposes the creation of a protected area for the Quindío Wax Palm at the basin of Río Toche, in the department of Tolima. This area covers ca. 8,500 ha and includes the largest population surviving in Colombia, with an estimated 600,000 adult palms. The proposed protected area is traversed by the National Trail, the mule path that connected Bogotá and Quito for almost 300 years. Thus, the area would cover not only an important element of Colombia's flora, but also an important piece of its national history.

In the frame of Master projects dealing with the inventory and uses of native palms in Ivory Coast and Benin, students Simona da Giau and Loic Michon, supervised by Fred Stauffer at the Conservatory and Botanical Garden of Geneva and the University of Geneva undertook preliminary observations on the main threats faced by some of the most economically important palm taxa. Rattan palms (in particular *Calamus, Eremospatha* and *Laccosperma*) are heavily endangered by loss or forests fragmentation whereas Raphia swamps (dominated by *R. hookeri*) are systematically drained for cultivation of rice and corn. The natural habitats of *Hyphaene guineensis* and *H. thebaica* are being replaced by uncontrolled urban activities and the establishment of manioc and yam fields. The conservation status assessment of these species (at the country level) will be performed in the near future.

Pritchardia remota, Endangered. © David Eickhoff CC BY 2.0

An in depth analysis of recently published assessments led by Mijoro Rakotoarinivo (PLoS One 9: e103684 [2014) highlighted the exceptional level of extinction risk faced by Madagascar's palms, 83% of which are threatened compared to the global estimate for threatened plant species of ca. 20%. The paper identified that the number of threatened species had substantially increased, compared to an assessment published in 1995, due to the discovery of 28 new species since that time, most of which were rare and threatened. While noting the positive impacts of the recent expansion of the protected area network in Madagascar, the authors also note that 28 threatened or Data Deficient species do not occur within protected areas, and that even species within protected areas continue to face significant levels of threat.

In Indonesia, three new palm genera, *Manjekia, Jailoloa* and *Wallaceodoxa*, were described by Charlie Heatubun and William Baker from Halmahera and islands at the western end of New Guinea. Two of these genera are Critically Endangered and the third (*Manjekia*) Endangered and now require urgent attention to avert high risk of extinction as a result of habitat loss to agriculture, logging, urban expansion and mineral extraction.

Future goals/activities

A complete, global conservation assessment of all ca. 2600 palm species remains a high priority for the Palm Specialist Group. Targeted species conservation work informed by conservation assessments, such as that which is taking place in Colombia, is also a primary goal. For example, prioritized conservation plans for Madagascar's endemic palms are in preparation at the Royal Botanic Gardens, Kew's Madagascar Conservation Centre, led by Dr Mijoro Rakotoarinivo with conservation biologist Dr Lauren Gardiner.

Acknowledgements

Sincere thanks to the Royal Botanic Gardens, Kew, for ongoing support in the hosting of the IUCN SSC Palm Specialist Group.

Seagrass Specialist Group

Chair: Frederick T. Short

Location/affiliation: The Chair is based in Durham, New Hampshire, USA, and is affiliated with the University of New Hampshire as a Research Professor.

Number of members: 51

Frederick Short

Mission statement

The mission of the Seagrass Species Specialist Group is to contribute to seagrass science and conservation, to protect seagrass species biodiversity, and to conserve seagrass habitat to protect other threatened species that depend on seagrasses for survival.

Summary of main activities in 2014

The Seagrass Species Specialist Group met in China during the International Seagrass Biology Workshop 11 (ISBW) held in Sanya, China in November 2014. The group compiled information on the status of seagrasses in the six seagrass bioregions globally. The group put out a press release about seagrass status worldwide and the threats to seagrass habitat. Seagrasses continue to decline rapidly in all bioregions, losing about 7% of their area per year, making seagrasses the fastest declining marine habitat. Seagrass species of concern were discussed as well as some seagrass species in need of reevaluation as to status and taxonomy. The group named itself "S3G" and created a Regional Seagrass Expert Group representing for each bioregion to facilitate information exchange.

Seagrasses as underwater flowering plants require light to penetrate through the water and reach them as they are rooted to the sea floor. The S3G discussed the primary stressors to seagrasses in different parts of the world and concluded that decreased water clarity from pollution, eutrophication, deforestation causing runoff and sedimentation, and suspended sediments are the major threats affecting seagrasses. Also, we discussed climate change and the associated issues for seagrasses of elevated seawater temperature, increased storm activity, and increased UV radiation.

Enhalus acoroides, Least Concern. © Frederick T. Short

Several bioregions reported invasive seagrass species which in one case is impacting a native species and in other cases are growing compatibly with natives. Bivalve transport for aquaculture and ship-associated transport cause most seagrass species invasions. The other side of species invasions were reports of animal and algal species detrimental to native seagrasses, for instance the European Green Crab (*Carcinus maenas*) in northeastern USA and Canada which extensively uproots and destroys eelgrass (*Zostera marina*), and the seaweed *Ulva lactuca* overgrowing and smothering seagrass beds in many parts of the world.

Future goals/activities

(1) Review status of the only seagrass in Chile, *Zostera chilensis*; (2) create MPAs that actually protect seagrass in their mandate; (3) establish MPAs for dugong feeding areas and for seahorse protection; (4) promote mangrove protection to stop the loss of vulnerable associated seagrass species, *Halophila beccarii*; (5) meet again at ISBW 12 in Wales, UK; (6) call attention to the dramatic losses of seagrasses around the world by putting out status updates regularly; and (7) utilize existing discussion fora to communicate between S3G members.

Acknowledgements

The S3G thank Dr Xiaoping Huang and the South China Sea Institute of Oceanology for hosting the S3G meeting in Sanya, China and the World Seagrass Association.

Southern African Plant Specialist Group

Chair: Domitilla Raimondo

Location/affiliation: The Southern African Plant Specialist group is based in Southern Africa and includes members from South Africa, Lesotho, Swaziland, Mozambique, Zimbabwe, Zambia and Namibia. The group has representation from many government institutions as well as independent botanists. The South African National Biodiversity Institute leads the activities of this group and due to the current focus on Red List and conservation work in Mozambique has active involvement from the Agrarian Research Institute of Mozambique (IIAM), University Eduardo Mondlane in Maputo, KEW, the Buffelskloof Private Herbarium, and Mpumalanga Parks Board.

Number of members: 20

Domitilla Raimondo

Mission statement

The Southern African Plant Specialist group aims to conduct assessments of the endemic plant species to Southern Africa and to ensure that accurate spatial information on the occurrence of populations of these plant species of conservation concern are taken into consideration for protected area expansion and during land-use decision-making processes.

Summary of main activities in 2014

Within Southern Africa, Mozambique is the country with the highest level of threat to endemic plant species. This Specialist Group is therefore focusing attention on assessing the conservation status of plant species and prioritizing areas for conservation in Mozambique. A workshop was held in July 2014 with botanists from Mozambique, Zimbabwe, South Africa and East Africa to Red List species from Northern Mozambique. Thirty highly endemic plant species to the Rovuma Centre from Northern Mozambique were assessed. These were priority species assessments that needed to be conducted in order to influence the decision of where a new planned highway through Northern Mozambique would run. The 30 species have been included on the IUCN Red List and their assessment has changed the orientation of the highway to ensure that critical populations of these species are not destroyed. This workshop was the first in a series of workshops that will take place over the next three years in which we aim to assess all the endemic plants of Mozambique.

Capacity development of Mozambicans is also taking place during 2014. This involved training conservation officials to Red List and manage data on species of conservation concern. One member of this group, Hermenegildo Matimele is in the process of conducting an MSc in conservation biology and will be assessing the conservation status of the plants endemic to the Maputo-Pondoland centre of plant endemism as part of his study.

South Africa continues to work on keeping the Red List status of all 20,500 plants up to date. During 2014, 412 plant assessments were completed and 327 of these were for new species described since 2010.

Acknowledgements

Red Listing work on plant species in Southern Africa is currently funded by the Norwegian Ministry of Foreign Affairs.

Bastard Quiver Tree (*Aloe pillansii*), Critically Endangered. © Lize von Staden

Temperate South American Plant Specialist Group

Chair: Pablo Demaio
Red List Authority Coordinator: Ana Villalobos
Location/affiliation: The Chair is based in Córdoba, Argentina, affiliated with The Multidisciplinary Institute of Vegetal Biology of the Córdoba National University (IMBIV).
Number of members: 28

Pablo Demaio

Mission statement

With more than 19,800 species of plants under the scope of the Temperate South American Plant Specialist Group, and considering that the strategic plan for SSC indicates that the assessment of plants needs to be substantially enlarged to represent adequately the diversity of life, we are focusing our efforts on endemic species, with the objective of assessing at least 1,000 endemic species in the period 2013–2016. Our key strategy is to involve local provincial governments in financing assessment workshops; such meetings provide excellent opportunities to interact with officials of local administrations in charge of conservation policies.

Summary of main activities in 2014

During 2014 we held a workshop in July, in the province of San Luis, Argentina, assessing 28 endemic species with the participation of local experts and the counselling of Dr Mariella Superina, Chair of the IUCN SSC Anteater, Sloth and Armadillo Specialist Group, to whom we are very thankful.

Future goals/activities

We are organizing another workshop for July 2015 in the Province of Santiago del Estero, involving local environmental authorities.

As a result of our interaction with botanist of the Botanical Museum of Córdoba (Herbarium acronym CORD), we will develop several workshops during 2015, to evaluate 269 endemic species distributed in the Provinces of Córdoba, Santiago del Estero and La Pampa.

Acknowledgements

We would like to thank the government of the Province of San Luis for their generous financial support.

Prosopis caldenia, Data Deficient. © Pablo Demaio

Access and Benefit-sharing Specialist Group

Chair: Tomme R. Young
Co-Vice-Chairs: Lily Rodriguez and Evanson Chege Kamau
Location/affiliation: The Chair is based in Atascadero, California, USA and is affiliated with the International Research Institute for Sustainability
Number of members: 33

Tomme Young

Mission statement

The SSC/WCEL Access and Benefit-sharing Specialist Group (ABS) views its primary mandates as follows: to provide a useful forum for international discussion of the ABS challenges; to create a platform through which particular interests of scientists, conservationists and researchers can be specially considered, in conjunction with the complex legal issues that plague the concept; to make a contribution to ABS's ability to support the conservation and sustainable development objectives of IUCN, national governments, international instruments and other stakeholders; and to enable all IUCN commissions and programmes with an interest in ABS to coordinate and develop an understanding of their various ABS-related priorities.

Summary of main activities in 2014

2014 was the inaugural year for the ABS, and as such its activities focused on formative matters, including: (1) soliciting members and developing a membership database; (2) meeting with the Councils of both sponsoring commissions and receiving from them some direction regarding future activities; (3) drafting proposals for project activities; and (4) preliminarily organizing the members into the following: Fundraising, Electronic tool development; International forums; Electronic discussion; Stakeholder outreach; National, subnational and international capacity-building; Intra-IUCN Coordination; "Ombudsman" and/or Capacity-building; and Assistance to IUCN (including input into policy recommendations and other activities).

Future goals/activities

The ABS is developing activities based on concerns of its members, and the goal of supporting the needs of research, conservation, sustainability and equity in the ABS frameworks that are currently under development around the world. Activities in planning include: An 'information channel' or 'ombudsman service' that governments, companies, NGOs and individuals can obtain expert advice from and/or identify individual persons whose ABS expertise can help them; Proposed Guidelines on ABS in Protected Areas; Proposed Guidelines on ABS as Applied to Threatened or Endangered Species; and an Electronic Information Tool for sharing and disseminating professional and political developments and training materials.

Acknowledgements

The ABS has not developed relationships with donors as yet, but thanks the SSC Council for its advice and assistance with the challenging work to date.

Anax guttatus, Least Concern. © Ashish

Climate Change Specialist Group

Co-Chairs: James Watson and Wendy Foden

Location/affiliation: James is based in Brisbane, Australia, and is the Director of the Wildlife Conservation Society's Science and Knowledge Initiative and Climate Change Programme. Wendy is currently based in Johannesburg, South Africa, and is an Honorary Senior Research Fellow at the Global Change and Sustainability Research Institute (University of the Witwatersrand).

Number of members: 20 in steering committee

James Watson

Wendy Foden

Mission statement

The IUCN SSC Climate Change Specialist Group (CCSG) aims to provide guidance and information to promote sound conservation decision-making and action under climate change. We also strive to help promote and coordinate climate change responses by SSC Specialist Groups and IUCN's partner organizations and Program Areas, and to ensure that biodiversity concerns are appropriately represented.

Summary of main activities in 2014

During 2014, the group followed a strategic plan developed in 2013 and focused on developing *IUCN SSC Guidelines for Selecting and Using Approaches for Assessing Vulnerability of Species to Climate Change*. Having resolved the content of the guidelines at a 2013 workshop in Cambridge UK, group members proceeded to write and compile its component sections. A section summarizing current approaches for assessing species' vulnerability to climate change was also prepared as a scientific paper which has subsequently been accepted for publication in *Nature Climate Change* (Pacifici et al.). The SSC guidelines are in final development and are intended to be released in September 2015. Our Specialist Group has developed a questionnaire which will be sent to other SSC Specialist Groups to find out about their climate change related activities and needs. Using the information we receive, we plan to review our strategy and direct our activities and planned products according to the groups' needs.

CCSG members have endeavoured to ensure adequate consideration of climate change in various IUCN-related initiatives. James Watson co-edited an IUCN World Commission on Protected Areas effort: 'Responding to Climate Change: Guidance for Protected Area Managers and Planners" (http://worldparkscongress.org/drupal/sites/default/files/documents/docs/CC_BPG_screen_TOC.pdf). Group members were involved in exploring the role of the IUCN Red List in predicting species' vulnerability to climate change (Akçakaya et al., 2014; Pearson et al., 2014; Stanton et al., 2015), as well as in development of criteria for the identification of Key Biodiversity Areas. Mark Stanley-Price continues to ensure that climate change considerations are represented in activities of the Species Conservation Planning Sub-Committee, while Resit Akçakaya represents such considerations on the SSC's Standards and Petitions Sub-Committee. The group as a whole has also served to advise the IUCN Global Species Programme's Climate Change Unit as needed.

The CCSG provided input into the IUCN Climate Change Policy team's position paper for the United Nations Framework Convention on Climate Change's COP 21 in Lima. We continue to engage with them, as well as with ongoing maintenance and development of the Red List Guidelines, Key Biodiversity Area protocols and the Red List of Ecosystems. Other ongoing work themes include horizon scanning to identify emerging issues and priorities for addressing biodiversity conservation under climate change, as well as to exploring the role of Ecosystem-based Adaptation in helping to achieve species conservation objectives.

In 2015 we plan to complete the *IUCN SSC Guidelines for Selecting and Using Approaches for Assessing Vulnerability of Species to Climate Change*, which will be launched at the SSC Chairs meeting in September. Our climate change survey of other Specialist Groups will be distributed in early 2015 and the results will be available by mid-year. Other planned products include to the Red List Training program dedicated to climate change issues and a new tool for using climate change projections and other information to estimate extinction risk under Red List Criterion E for species that do not meet other criteria. In collaboration with the Red List Standards and Petitions Subcommittee, we also plan updates to Red List Guidelines, based on recent advances and developments related to climate change and extinction risk. In addition, we aim to play a role in revising the next version of the Species Conservation Planning Sub-committee's guidance on species planning, which will incorporate consideration of climate change.

Emperor Penguin (*Aptenodytes forsteri*), Near Threatened. © Colin Harris

Acknowledgements

We are extremely grateful to James Cook University (JCU) for hosting our website. We also acknowledge Andrea Vanderval and Yvette Williams from JCU for their administrative support.

Conservation Breeding Specialist Group

Chair: Onnie Byers
Location/affiliation: We are based in Minnesota, USA and generously hosted by the Minnesota Zoo.
Number of members: 385 members in 54 countries


Onnie Byers

Mission statement
CBSG's mission is to save threatened species by increasing the effectiveness of conservation planning 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 organizations.

Summary of main activities in 2014
CBSG was involved in 23 species conservation planning workshops in eight countries, including: Greater Sage Grouse in Canada PHVA; Risk Assessment for the Conservation Translocation of African Penguins; Hainan Gibbon Conservation Planning Workshop in China; Colorado Pikeminnow population viability analysis; Regent Honeyeater Disease Risk Analysis Workshop in Australia; National Red Listing for Costa Rica's amphibians and reptiles.

CBSG amplified our implementation of the One Plan approach to species conservation planning, explicitly integrating intensively managed populations with their wild counterparts. This resulted in integrated conservation plans for the Panamanian Golden Frog, and Takahë in New Zealand and Greater Sage Grouse in Canada. In addition, we were invited to present the One Plan concept at several national and international meetings including the conferences of both the Tapir and Flamingo Specialist Groups.

In our effort to increase the capacity for effective conservation planning, we conducted two conservation facilitation courses in collaboration with Durrell Conservation Academy, a *Vortex* population modeling course, and *ex situ* population management training for the Chinese Association of Zoological Gardens.

Greater Sage Grouse (*Centrocercus urophasianus*), Near Threatened. © Calgary Zoo

After three years of research, drafting, and thorough commission-wide review, we received SSC approval for publication of the *IUCN SSC Guidelines on the Use of Ex situ Management for Species Conservation*.

In collaboration with the Wildlife Health, Reintroduction, and Invasive Species Specialist Groups and the World Organisation for Animal Health (OIE), we published the *IUCN Guidelines for Wildlife Disease Risk Analysis and the IUCN Manual of Procedures for Wildlife Disease Risk Analysis*.

We produced six conservation plans from CBSG workshops, and we published seven peer-reviewed papers, three book chapters, two conference proceedings papers, and two articles in zoo association periodicals. We also published our 10th Annual Report and five electronic updates in the three official IUCN languages.

CBSG was featured in nine news articles and blog posts highlighting our work with Hainan Gibbons, Brown Howler Monkeys, fossil fuel divestment, and the "Show the Wild Face of Climate Change" event.

Communities from 25 countries, spanning all seven continents, participated in Zoos and Aquariums for 350's "Show the Wild Face of Climate Change": the largest single-day global zoo event in history shining a spotlight on the risk to biodiversity posed by climate change.

We also collaborated with six other SSC Specialist Groups: Primate, Reintroduction, Galliformes, Tapir, Flamingo, and Wildlife Health.

We are especially proud of the progress made on the creation of our online Species Conservation Planning Tools Library. The beta version is now being tested with the final release expected by mid 2015.

We obtained support for phase one of a new initiative to ensure the continued innovation, maintenance, and training of species conservation planning tools. The Species Conservation Toolkit Initiative is a partnership to ensure that innovations

needed for species risk assessment, evaluating conservation actions, and managing populations are developed quickly and used effectively. The SCTI partnership has been formed to ensure that the innovative tools needed to meet the challenges of species conservation and management will be globally and freely available to the IUCN, governments, zoos and aquariums, NGOs, researchers, and students.

We continued efforts in meta-modeling climate change effects on the Arctic ecosystem to examine the inter-dependencies of Ringed Seals, Bearded Seals, and Polar Bears in the Barents Sea, and to project the impacts of changing ice on this part of the arctic faunal community. Plans are now underway for a meeting to explore the application of this threat evaluation and conservation planning approach in the Himalayan region.

One year after stating our goal to divest from fossil fuel companies, we proudly announced that we reduced our portfolio's fossil fuel exposure by 70%. Even more importantly, several of our members, and donor institutions, have begun their own divestment processes.

CBSG Senior Program Officer Kathy Traylor-Holzer and Strategic Committee member Jonathan Ballou (Smithsonian Conservation Biology Institute) received the 2014 Lifetime Achievement Award of the Giant Panda Zoo Awards. For over a decade they have provided their expertise in conservation genetics, population management and species conservation planning to Chinese colleagues. This award recognizes their contribution to the development of the successful giant panda captive breeding program in support of wild panda conservation.

Future goals/activities

We will further promote the One Plan approach to the broader conservation biology and wildlife management communities.

We will produce, after every workshop, a species conservation plan summary outlining what needs to be done to conserve the species and providing links to the workshop report and a contact person who can provide addition detail. These summaries will be widely distributed to Specialist Groups, zoos, zoo associations, government agencies, NGOs and others to increase recommendation implementation and conservation impact.

We will continue to lead by example in terms of climate change, including minimizing our carbon footprint, divesting 100% from fossil fuels and integrating climate data into all our conservation planning activities.

We will compile a collection of stories highlighting CBSG's catalytic impact on species conservation.

Acknowledgements

We want to acknowledge with admiration and gratitude the essential contribution to CBSG's conservation impact of our ten regional offices. Nothing we do would be possible without the 35 years of sustained intellectual and financial contributions of our members and our 145 generous donors, primarily zoos, aquariums, and zoo and aquarium associations.

Conservation Genetics Specialist Group

Co-Chairs: Michael W. Bruford and Gernot Segelbacher
Location/affiliation: Michael is based in the UK, affiliated with Cardiff University and Gernot is based in Germany, affiliated with University of Freiburg.
Number of members: 27, of which five act as members of an advisory board

CONSERVATION GENETICS
SPECIALIST GROUP


Mike Bruford


Gernot Segelbacher

Mission statement

The Conservation Genetics Specialist Group (CGSG) acts as focal point for the conservation genetics community and provides advice on genetic policy and management for the IUCN and expert knowledge and assistance to IUCN Specialist Groups (especially those lacking genetic expertise). CGSG will also seek to establish guidance for pressing genetic policy and management issues, including the Convention on Biological Diversity's Aichi Target 13. CGSG will facilitate a fuller appreciation, evaluation and conservation of genetic diversity at all levels providing a forum for all stakeholders to explore this crucial element of Planet Earth's lifesystems.

Summary of main activities in 2014

CGSG was established in September 2014 and during this short time has established a core group of members. A first, online meeting of members took place in January 2015 during which a series of activities was discussed and priorities were identified. The first priority activity identified was to produce a position paper on the role of hybrids and the relevance of hybrid rescue in IUCN threat classification. To this end another meeting, of interested CGSG members was held a week later (at a conservation genetics conference in Zurich) to establish the remit of the position paper and to allocate tasks. This work is now ongoing.

Additional ongoing tasks include applying for funding to advance work on genetic indicators for the CBD 2020 targets, establishing a website and organizing a roundtable discussion at the European Congress for Conservation Biology held in Montpellier, August 2015.

Future goals/activities

CGSG will present its platform at the meeting of the SSC chairs in Abu Dhabi in September 2015. CGSG members will also organize a workshop at the ICCB meeting in Montpellier in August 2015. CGSG will also consider strategies for increasing membership of the group during 2016.

Cheetah (*Acinonyx jubatus*), Vulnerable. ©RayMorris1 CC BY-NC-ND 2.0

Invasive Species Specialist Group

Chair: Piero Genovesi
Programme Officers: Shyama Pagad and Riccardo Scalera
Location/affiliation: The Chair is based in Rome, Italy. He is affiliated with ISPRA- Institute for Environmental Protection and Research.
Number of members: 202

Piero Genovesi

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.

Summary of main activities 2014

ISSG achieved good progress in both core areas of work: policy support, technical advice and advocacy, and information dissemination and networking during 2014.

Policy support, technical advice and advocacy

Through 2014 ISSG has continued mainstreaming invasive alien species issues at the international level, working in synergy with the IUCN Secretariat, global Conventions, Regional bodies (particularly key European Union institutions and agencies, and the Council of Europe) National governments and NGOs to support the development of science based policies on this issue.

The ISSG Chair and other members played a key role in the development of the recently adopted EU Regulation on invasive alien species, and are collaborating to a number of initiatives aimed at the sound implementation of this legislation, i.e. supporting the development of the list of species of EU concern, of horizon scanning and risk analysis methodologies, of pathways management analysis of the EASIN catalogue, etc.

Following the Agreement signed by the IUCN and ISSG with the Secretariat of the Convention on Biological Diversity (CBD) in November 2011, to support and assist the implementation of the Article 8(h) and Aichi Target 9 of the Strategic Plan on Biodiversity 2011–2020, ISSG has continued to work closely with the SCBD taking a lead in the activities of the Global Invasive Species Information Partnership (GIASI Partnership). ISSG developed information documents related to 'classification and prioritizing of pathways of introduction of invasive

Red Swamp Crayfish (*Procambarus clarkii*), Least Concern. © Piero Genovesi

species' for the 18th meeting of the Subsidiary Body on Scientific, Technical and Technological Advice (SBSTTA) and the 12th Conference of the Parties (COP12).

A review on the impact of invasive alien species on migratory species under the CMS (prepared by the ISSG under contract by CMS) were key documents, used in the development of the CMS COP Resolution 11.28 '*Future CMS Activities Related to Invasive Alien Species*' that was adopted during the CMS COP 11 late 2014.

ISSG is leading the development of Invasive Species Indicators as part of the Biodiversity Indicators Partnership (BIP). ISSG worked with partners on indicators that measured trends in the numbers of introduced and invasive species and trends in invasive alien species vertebrate eradications on islands. Results of these indicators were major contributions to the GBO4 report. ISSG proposed the development of an IUCN Blacklisting approach, aimed at ranking invasive species by the magnitute of their impacts. The proposal was welcomed by the Steering Committee of SSC, and in a decision by the CBD COP 12.

The Chair and several members of the ISSG participated in the World Parks Congress (WPC) in Sydney. ISSG co-hosted (with the CBD) a three-hour session on the threat of biological invasions in protected areas. ISSG presented a preliminary outline of the proposed *Guidelines of Invasive Species Management in Protected Areas*.

Information dissemination and networking

Global Invasive Species Database (GISD): The ISSG has completed the redesign of its flagship knowledge product. The prototype of the redesigned database has been circulated among key IUCN experts for a review. The redesigned GISD presents vastly improved search and enhanced data and information for e.g. links with the IUCN Red List of Threatened Species.

Island Biodiversity and Invasive Species Database (IBIS): ISSG is working with the Joint Research Centre (JRC) of the European Commission (within the framework of the Biodiversity and Protected Area Management Programme (BIOPAMA)) in the development of IBIS that will form the core repository of data and information related to invasive species impacts on native species and natural areas on islands in the ACP countries.

Global Register of Introduced and Invasive Species (GRIIS): ISSG is leading the development of GRIIS (this is an activity of the CBD mandated GISAIPartnership). GRIIS comprises of annotated, verified and validated country inventories of introduced and invasive species.

World Register of Introduced Marine Species (WRIMS): The ISSG is working with the Flanders Marine Institute in the development of the World Register of Introduced Marine Species (WRIMS) that will form a sub-dataset in the World Register of Marine Species (WoRMS). A launch of this resource is planned in early 2015.

Aliens-L List service: The ISSG continues with managing and maintaining the Aliens-L list service which is an active and dynamic list service with over 1,320 members.

Other: ISSG has proactively participated in regional networks such as i.e. the COST actions ALIEN Challenge, ParrotNet, Pacific Invasives Partnership (PIP), Caribbean IAS Network, and Western Indian Ocean IAS Network.

Future goals/activities

Goal A: support the CBD, CMS and Ramsar Convention implement Article 8(h) of the CBDand Aichi Target 9;
Goal B: optimize integration of ISSG's key knowledge product GISD with IUCN knowledge products IUCN Red List and World Database of Protected Areas (WDPA).

Acknowledgements

ISSG would like to thank its major donor, the European Commission (EC), for supporting the development of knowledge products related to protected areas and the threat of invasive alien species (BIOPAMA project) and the development of the Global Register of Introduced and Invasive Species (GRIIS). The GISD over the past two years and has been redesigned with support from the Abu Dhabi Environment Agency, the Italian Ministry of Environment and ISPRA – the Institute for Environmental Protection and Research, Italy.

Large Carnivore Initiative for Europe

Chair: Luigi Boitani
Location/affiliation: The Chair is based in Rome, Italy. He is professor at the Department of Biology and Biotechnologies, Sapienza University of Rome.
Number of members: 40

Luigi Boitani

Mission statement

The mission of the Large Carnivore Initiative for Europe (LCIE) is to maintain and restore, in coexistence with people, viable populations of large carnivores as an integral part of ecosystems and landscapes across Europe.

Summary of main activities in 2014

Our main achievements during 2014 have been linked to our association with a contract with the European Commission that supports their efforts to promote coexistence between large carnivores and humans by developing best practices and engaging with stakeholders.

The products of this association include participation in a stakeholder dialogue platform launched by the European Commissioner for Environment in June 2014. IUCN is represented by the IUCN-Europe Office in Brussels and the LCIE and we sit on the platform together with representatives for nature conservation, hunting, landowner and reindeer herding interests.

We also developed a set of key actions that are needed to promote large carnivore conservation in Europe. The actions were grouped by species and population, as well as including a set of actions that are broadly important for all four species.

A set of four pilot actions that promote best practice and stakeholder engagement was produced. These included two on traditional livestock husbandry techniques that protect livestock from carnivores, one on procedures for problem bear management, and a final action to apply fecal DNA methods to census wolves in Slovakia in order to resolve conflicts over the population size.

A total of 76 large carnivore experts from across Europe, including most LCIE members, co-authored an article in the journal *Science* (Chapron et al. 2014) that summarises large carnivore status in Europe and discusses it within the context of land-sharing vs land-sparing strategies.

In connection with the *Science* article and other activities, we have logged over 500 media mentions of our activities. While most of this has been in European media, the Science article attracted considerable attention outside Europe, including the Americas and Asia.

The *Carnivore Damage Prevention News* newsletter has been relaunched.

In separate activities, our members have organized a workshop on the conservation implications of wolf-dog hybridization. This workshop was also associated with the formulation and acceptance of a resolution by the Bern Convention to clarify the legal status of wolf-dog hybrids to close legal loopholes that could threaten wolf conservation.

Our members also successfully applied for conservation funding from the European Union's LIFE program. These projects focus on Eurasian lynx, brown bears and wolves in Portugal, Spain, Italy, Slovenia, Croatia and Romania. LIFE projects fund direct actions to promote large carnivore conservation and reduce conflicts with human interests.

Reference: Chapron, G. et al. (2014) Recovery of large carnivores in Europe's modern human-dominated landscapes. *Science* 346 (6216):1517-1519. Doi:10.1126/science.1257553
Products are available on http://ec.europa.eu/environment/nature/conservation/species/carnivores/ and http://www.lcie.org

Future goals/activities

During 2015 and 2016 our work will continue to focus on supporting European level policy development that favours large carnivore-human coexistence.

This will include working actively within the European Commission's stakeholder platform and trying to ensure the implementation of the key actions that have been identified.

Following the interest in the publication of the *Science* article, we see a need to further communicate the European experience on large carnivore conservation in human-dominated landscapes to a wider global audience, to promote experience transfer and place our work into a wider context.

We also need to explore ways to connect the members of the LCIE with the wider community of researchers and practitioners that are engaged in large carnivore conservation across the continent.

Acknowledgements

Most of our activity in 2014 was funded via a policy support contract between the European Commission and the Instituto Ecologica Applicata (Rome).

Gray Wolves (*Canis lupus*), Least Concern.
© Erik Zimen

Re-introduction Specialist Group

Chair: Axel Moehrenschlager
Programme Officer: Pritpal S. Soorae
Location/affiliation: The Chair is based at the Calgary Zoological Society as Director of Conservation and Science. The Programme Officer is Unit Head, Terrestrial Assessment and Monitoring, Environment Agency-ABU DHABI.
Number of members: 150

Axel Moehrenschlager

Mission statement

The Reintroduction Specialist Group (RSG) is a network of specialists whose aim is to combat the ongoing and massive loss of biodiversity by using reintroductions and other conservation translocations as responsible tools for the management and restoration of biodiversity. It does this by actively developing and promoting sound inter-disciplinary scientific information, policy, and practice to establish viable wild populations in their suitable habitats.

Summary of main activities in 2014

Organizational: (1) Dr Axel Moehrenschlager was selected as RSG's new Chair after Dr Frederic Launay stepped down after many years of serving this role; (2) RSG status, activities, and opportunities were presented to SSC Steering Committee for constructive feedback in Estonia; (3) conceptual exchange and species-specific workshop collaborations with CBSG and the SSC Planning Sub-Committee, respectively, have begun to explore potential synergies for the future.

Policy guidelines: (1) The IUCN Guidelines for Re-introduction and other Conservation Translocations, published in 2013, were translated into various languages such as Korean, Spanish, Arabic and Portuguese; (2) RSG worked closely with the Primate Specialist Group to revise drafts for imminent IUCN Policy Guidelines on Gibbon Rehabilitation and Translocation; and (3) there has been much work in policy-related issues. Examples are drafting safe-harbour agreements for endangered fish in the USA for the USFWS; working with Advisory Boards of Northern Bald Ibis LIFE Project in Austria/Germany; as Chair of the SSC De-extinction Task Force; developing the Scottish Code for Conservation Translocations.

Species restoration: (1) RSG members have been involved in many activities involving re-introduction projects involving a wide array of species worldwide such as mosses, bats, vultures, American Alligators, Burrowing Bettongs, Stick-nest Rats, Houbara Bustards, gazelles, Bali Mynah, Kiwi birds; (2) RSG members have provided advice regarding potential or actual translocations on numerous species; one issue is that of potential increased tiger reintroductions in multiple Asian locations; (3) RSG members are also involved in coordinating research on species re-introduction for MSc and PhD students; and (4) members have also worked on developing software that can be used by re-introduction managers.

RSG publications: (1) The IUCN Guidelines for Re-introduction and other Conservation Translocations; (2) To date, RSG has produced four issues of the *Global Re-introduction Perspectives* series; and (3) RSG members have continued to publish prolifically in the primary or grey literature on species/project-specific conservation translocations, as well as on overarching thematic topics.

Pygmy Loris (*Nycticebus pygmaeus*), Vulnerable. © Josh More CC BY-NC-ND 2.0

Future goals/activities

(1) The RSG Chair will shortly re-organize RSG's organizational structure to ensure the group is set to face challenging current issues and tackle new opportunities strategically; (2) achieve a broader global and thematic representation in RSG membership; (3) five-year strategic goals will be developed for RSG; (4) additional synergies will be explored/developed with other IUCN Commissions and/or SSC SGs; (5) additional translations of IUCN Guidelines for Re-introduction and other Conservation Translocations; (6) a 5th issue of the Global Re-introduction Perspectives is set to be published in 2015; (7) a new book on Re-introductions by Oceania RSG members should be published in May 2015; and (8) developing Translocation for Conservation course for wildlife managers in Brazil; and (9) a facilitation module and online resources will begin to be developed by RSG leaders to workshop, communicate, and implement the 2013 IUCN Guidelines for Reintroduction and Conservation Translocation effectively on a global scale over future years.

Acknowledgements

We would like to thank the following organizations for their long-term support to the RSG: Calgary Zoological Society, Calgary, Canada; Environment Agency-ABU DHABI, UAE; and the Denver Zoological Foundation, Colorado, USA.

Sustainable Use and Livelihoods Specialist Group

Chair: Rosie Cooney
Programme Officer: Dan Challender
Location/affiliation: Rosie is based in the Blue Mountains, NSW, Australia, and is affiliated with the Institute of Environmental Studies, University of New South Wales.
Number of members: 278

Rosie Cooney

Mission statement

The mission of the CEESP/SSC Sustainable Use and Livelihoods Specialist Group (SULi) is to promote both conservation and livelihoods through enhancing equitable and sustainable use of wild species and their associated ecosystems.

Objectives: Improve understanding and guidance on management of use of wild resources; improve equitable and effective policy and governance of use; and better understand trade and markets for wild products and their implications for conservation and livelihoods.

Summary of main activities in 2014

We pursue these objectives through work across several thematic areas:

Wildlife trade, wildlife crime, conservation and local livelihoods

SULi's work on global responses to illegal wildlife trade (IWT) is focused on seeking to highlight and examine issues around the role of indigenous peoples and local communities in policy responses. Key areas of activity included:

(1) Providing advice and technical inputs in connection with the London Conference on Illegal Wildlife Trade and the United for Wildlife symposium on International Wildlife Trafficking (Feb 2014), and the European Parliament Resolution on Wildlife Crime (Jan 2014).

(2) Working with IIED colleagues to produce an IIED briefing paper "The Elephant in the Room: sustainable use in the illegal wildlife trade debate" (online at http://pubs.iied.org/17205IIED.html), for the London Conference.

(3) Running a workshop (with IIED) at World Parks Congress, Sydney, in November, exploring whether strengthened community rights to and benefits from wild resources could reduce wildlife crime, in preparation for the major international symposium on communities and wildlife crime planned for 2015 (see below).

SULi's work on wildlife trade aims to further positive contributions of well-managed, sustainable and legal trade to conservation and local livelihoods. Key areas of activity include: (4) working in partnership with the International Trade Centre developing an *Analytic Framework on Wildlife Trade, Conservation and Local Livelihoods* (authors Rosie Cooney, Dilys Roe, Simon Milledge, Michael t'Sas-Rolfes from SULi, Katarina Nossal and Alexander Kasterine from ITC, and Douglas Macmillan from the Durrell Institute for Conservation and Ecology at the University of Canterbury). This framework aims to assist and guide researchers and decision-makers in examining wildlife trade chains and assessing their potential to contribute positively to conservation and local livelihoods, and is due out in early 2015.

White Rhinoceros (*Ceratotherium simum*), Near Threatened. © Keryn Adcock

(5) Contributing to an ITC scoping paper *The proposed legal trade in the horn of Africa's white rhinoceros: current knowledge and uncertainties,* due out early 2015.

SULi is also participating in a process led by the State Forestry Administration of China and IUCN to examine the impact of bear farming on poaching of bears for the bear bile trade, following up on a Resolution from WCC in Jeju, including through co-chairing a Working Group.

Sustainable wildlife management
SULi's work on sustainable wildlife (terrestrial vertebrate) management (SWM) aims at ensuring use of wildlife populations is sustainable in ecological terms while enabling a sustained flow of human benefits. Areas of work include:

(1) Contributing to the work of the Saker Falcon Task Force established under the Convention on Migratory Species. SULi's involvement includes leading on development of the new Stakeholder (Trust-building) Portal; several SULi members sitting on the Steering Committee; engagement with drafting of the draft Saker Falcon Global Action Plan; and provision of analysis on current saker falcon populations, trends in trapping, and advice on how the Task Force can best engage with trappers to improve monitoring of populations and sustainability of harvest and trade.

(2) Leading for IUCN in the Collaborative Partnership for Wildlife, a body established under the Convention on Biological Diversity, including through participation in planning meetings and drafting of CPW factsheets on SWM and biodiversity and SWM and food security, launched at the CBD CoP and the WPC respectively;

(3) Contributing to development of an FAO-led CPW GEF project on *Criteria and Indicators for sustainable wildlife management*;

(4) Initiating a global study of seal management and policy, working with the Pinniped Specialist Group. The study is commissioned by the International Fur Trade Federation, and its primary objective of the study is to survey range state policy and management responses to growing and/or abundant seal populations;

(5) Drafting a letter (from the CEESP and SSC Chairs) to the Secretariat of the Appellate Body of the World Trade Organisation in response to their decision upholding the European Union's ban on the import of seal products; and

(6) Increasing awareness of the *SSC Guidelines on Trophy Hunting as Tool to Create Conservation Incentives* and of the indigenous/local livelihoods impacts of trophy hunting, including through development of letters regarding trophy hunting and trophy import measures to the Dallas Safari Club (from SULi), the European Commission and the Australian Government (from the SSC Chair).

Fisheries
SULi's work on fisheries focuses on small-scale fisheries, and specifically on three priorities: how to achieve sustainable use; the integration of traditional/local knowledge into management; and fisheries governance. Activities include providing technical input into the finalization of the FAO's new *Guidelines on Small Scale Fisheries*. SULi is now working closely with FAO and the IUCN Commission on Ecosystem Management's Fisheries Expert Group developing plans for implementation of the guidelines.

World Parks Congress
The World Parks Congress (November 2014) was a major focus of SULi's work over 2014 to further the above areas of work. Many SULi members are authors of, or provided input to, the chapter on "Resource Use in Protected Areas" in a key WPC output the WCPA *Protected Area Governance and Management* book. SULi and its members organized many workshops and several side-events at the Parks Congress with various partners, as well as providing extensive input into the *Promise of Sydney*. Key event topics are: *Governance, sustainable use of wild resources, and combating wildlife crime* (in partnership with IIED); *Community-based Natural Resource Management and food security;* and *Marine Protected Areas and small-scale fisheries* (in partnership with FAO and the Commission on Ecosystem Management's Fisheries Expert Group). SULi partnered with CIC to organize two field trips: on indigenous sustainable use and livelihoods, and on recreational fisheries and marine protected areas.

Future goals/activities
A key activity for early 2015 is convening of an international symposium called "Beyond Enforcement: Communities, Governance, Incentives and Sustainable Use in Combating Wildlife Crime" in February 2015, with partners IIED, TRAFFIC, the Austrian Ministry of the Environment, and the ARC Centre for Excellence in Environmental Decisions at the University of Queensland. The symposium is being held in Muldersdrift, South Africa, kindly supported by USAID, GIZ, and the Austrian Ministry of the Environment, and is aimed at informing and influencing discussions at the high-level Conference on Illegal Wildlife Trade in Kasane, Botswana, March 2015, as well as other policy arenas.

Acknowledgements
Our sincere thanks go to the Environment Agency of Abu Dhabi, who provide critical core funding to SULi's work, which is greatly appreciated.

Wildlife Health Specialist Group

Co-Chairs: William B. Karesh and Richard Kock
Programme Officers: Catherine Machalaba and Lisa Starr
Location/affiliation: We are based in New York City, New York, USA, and London, UK. We are affiliated with EcoHealth Alliance and Royal Veterinary College.
Number of members: 306


William Karesh


Richard Kock

Mission statement
To serve as a first response for wildlife health concerns across the world.

Summary of main activities in 2014
In collaboration with the Conservation Breeding, Reintroduction, and Invasive Species SGs, we developed the *IUCN-OIE Guidelines for Wildlife Disease Risk Analysis*. The Guidelines are oriented to policy-makers and decision-makers faced with the social, political and technical complexities involved in wildlife-disease-associated scenarios. It provides an overview of the science-based processes and tools available for wildlife disease risk analysis and their application to a broad range of contemporary issues, including human-wildlife interactions, domestic animal-wildlife interactions and the impacts of massive ecological change on biodiversity conservation. This is a companion volume to the *Manual of Procedures for Wildlife Disease Risk Analysis*.

In coordination with AU-IBAR, we managed *Wild HealthNet*, an FAO and USAID-supported capacity-building online discussion and resource sharing platform for 130+ members from African nations. We organized a workshop on wildlife disease risk analysis at the 2014 IUCN World Parks Congress in close coordination with colleagues from the Australian region. The workshop was part of the WPC's "Improving Health and Wellbeing: *Healthy Parks Healthy People*" stream and highlighted the importance of a 'One Health' approach to help more proactively and effectively address disease priorities noted by the WHSG and park management communities.

We coordinated a letter with IUCN raising alarm to the European Commission's approval of the use of Diclofenac in veterinary medicine. The WHSG helped assemble scientific resources showing threats to the region's vultures from the drug, which has been linked to major declines in vulture species in South Asia. WHSG members also published a policy article on the issue in *Science.*

We provided guidance to IUCN regarding the relevance of Ebola outbreaks to the conservation and public health community, including in policy making and information dissemination activities at the UN Convention on Biological Diversity Conference of the Parties and the IUCN Blog.

Through collaboration with animal health organizations, we issued guidance on the possible role of wild birds in recent avian influenza outbreaks and proposed science-based response and control practices. The culling of wild birds has been proposed by some authorities in response to outbreaks of highly pathogenic avian influenza, but the practice is typically highly inappropriate and may actually worsen disease transmission and spread risks.

We also continued to strengthen our global expert network and provided rapid expertise to IUCN and its partners to inform effective response to situations posing threats to wildlife health.

Egyptian Vulture (*Neophron percnopterus*), Endangered. © P.S. Anand

Future goals/activities
The WHSG endeavors to increase recognition of the importance of wildlife health to conservation of biodiversity, as well as to the health of humans and domestic animals to form synergies in early detection and mitigation of disease risks.

Acknowledgements
We thank the generous support of the USAID Emerging Pandemic Threats PREDICT program, EcoHealth Alliance, and the Royal Veterinary College.

Marine Mammal Protected Areas Task Force

Co-Chairs: Erich Hoyt and Giuseppe Notarbartolo di Sciara
Location/affiliation: Erich Hoyt is based in Bridport, UK, and is affiliated with Whale and Dolphin Conservation. Giuseppe Notarbartolo di Sciara is based in Milano, Italy, and is affiliated with the Tethys Research Institute.
Number of members: 22


Erich Hoyt


Giuseppe Notarbartolo di Sciara

Mission statement
Acknowledging that marine mammal protected areas (MMPAs) form some of the more iconic MPAs, that marine mammals have high resonance with people, and that a large portion of oceanic areas are used by marine mammals yet remain unprotected, the MMPAs Task Force acts to bridge gaps and build networks among social and natural scientists, planners and practitioners, data holders and data users. In this way, the Task Force serves the growing global community of practice, bolstering capacity within the MMPA community by exposing it to state-of-the-art tools from the MPA, marine spatial planning (MSP) and wider place-based conservation world.

Summary of main activities in 2014
Our current multi-year project – the development of Important Marine Mammal Areas (IMMAs) as a much needed habitat conservation tool – progressed substantially in 2014.

What are Important Marine Mammal Areas? IMMAs are discrete portions of habitat, important for one or more marine mammal species that have the potential to be delineated and managed for conservation. IMMAs consist of areas that may deserve some type of space-based protection and that function as a "marine mammal layer" for consideration by governments, intergovernmental organizations, conservation groups, industry, and the general public. Following the successful example of the Important Bird Areas (IBAs) process as a template, IMMAs are a classification scheme currently being developed by the MMPAs Task Force.

What are IMMAs needed for? IMMAs represent a cost-effective approach to conservation. For example, by linking IMMAs to the wider world of the Convention on Biological Diversity's Ecologically or Biologically Significant Areas (CBD EBSAs), IUCN Key Biodiversity Areas (KBAs), and Convention on Migratory Species (CMS) work, the process of habitat protection for marine mammals and the ecosystems that support them will be accelerated. The IMMA classification will also be useful for: (a) the design and management of marine mammal protected areas (MMPAs) and regional MMPA networks; (b) addressing marine mammal conservation concerns in

Baird's Beaked Whale (*Berardius bairdii*), Data Deficient. © Russian Cetacean Habitat Project, WDC-Whale and Dolphin Conservation

marine spatial planning (MSP) exercises; (c) negotiations towards new legally building instruments under UNCLOS regarding Areas Beyond National Jurisdiction; (d) identifying areas where guidelines or regulations may need to be implemented, e.g. in reference to the risk of oil spills, ship strikes (particularly for large whales) or to mitigate effects of underwater noise pollution; and (e) prioritizing areas identified as important for monitoring the effect of climate change on marine mammal habitats.

Over the next few years, the world's nations are committed to adopt marine spatial planning (MSP) as a public process for analysing and allocating the spatial and temporal distribution of human activities in marine areas to achieve ecological, economic, and social objectives that usually have been specified through a political process. MSP is a practical way to establish a more rational use of marine space and the interactions between its uses and users, to balance demands for development with the need to protect the environment, and to achieve social and economic objectives in an open and planned way. The selection of IMMAs will help facilitate the inclusion of marine mammal habitats in the MSP process.

When was the IMMA concept first proposed, and what has been done up till now? IMMAs were first proposed in October 2013 in Marseille, during the 3rd International Marine Protected Areas Congress (IMPAC3), where the Task Force was established and where a workshop to develop the IMMA criteria was held (to access the report: http://bit.ly/1A7snN6). In order to push the IMMA agenda forward, another important step was testing the system for applying the criteria in a region containing sufficient information and local expertise on marine mammal ecology. This was achieved on 8 November 2014 in Adelaide, Australia, within the framework of the 3rd International Conference on Marine Mammal Protected Areas (ICMMPA3). The test region was a portion of the South Pacific Ocean east of the Australian continent. Finally, a second workshop held at ICMMPA3 was dedicated to brainstorming on an IMMA strategic planning effort.

Future goals/activities

At ICMMPA3, consensus emerged that the phase of IMMA selection and mapping should be preceded by strategic planning and networking, whereby IMMAs become recognized by the scientific, conservation, and management communities, and ultimately accepted at the institutional level as a useful tool in the international ocean conservation process. In 2015–16, efforts will focus on the planning process including policy, science, and organizational aspects. Beginning in 2016, subject to availability of funding, IMMAs will be selected through an expert-led process of collation, assessment and review of available evidence deemed best for the purposes of meeting robust criteria for the identification of specific geographic areas and times.

Acknowledgements

We are grateful to the Eulabor Institute, and in particular to its president Vienna Eleuteri, for providing substantive support to the MMPAs Task Force work on IMMAs. Our sponsors include Animal Welfare Institute, Marine Mammal Commission, Pacific Life Foundation, The Ocean Foundation, Whale and Dolphin Conservation, and Tethys Research Institute.

SSC and CEM joint Task Force on Systemic Pesticides

Chair: Maarten Bijleveld van Lexmond
Deputy Chair: Jean-Marc Bonmatin
Location/affiliation: Neuchâtel, Switzerland

Maarten Bijleveld van Lexmond

Mission statement

The Task Force on Systemic Pesticides (TFSP) is an independent group of scientists from all over the globe, who came together to work on the Worldwide Integrated Assessment of the Impact of Systemic Pesticides on Biodiversity and Ecosystems. Its mandate has been "to carry out a comprehensive, objective, scientific review and assessment of the impact of systemic pesticides on biodiversity, and on the basis of the results of this review to make any recommendations that might be needed with regard to risk management procedures, governmental approval of new pesticides, and any other relevant issues that should be brought to the attention of decision-makers, policy developers and society in general".

Summary of main activities in 2014

The Task Force has adopted a science-based approach and aims to promote better informed, evidence-based decision-making. The method followed is Integrated Assessment (IA) which aims to provide policy-relevant but not policy-prescriptive information on key aspects of the issue at hand. To this end a highly multidisciplinary team of 30 scientists from all over the globe jointly made a synthesis of 1,121 published peer-reviewed studies spanning the last five years, including industry-sponsored ones.

Key findings of the Task Force, entitled "Worldwide Integrated Assessment of the Impacts of Systemic Pesticides on Biodiversity and Ecosystems" (W.I.A.) were laid down in eight scientific papers. The WIA was launched in Manila, Brussels, Ottawa and Tokyo in the last week of June 2014, and appeared as a special issue of the peer reviewed Springer journal "Environmental Science and Pollution Research" later that year (www.tfsp.info).

The TFSP's scientific assessment indicates that the current large-scale prophylactic use of systemic insecticides is having significant unintended negative ecological consequences. The evidence indicates that levels of systemic pesticides that have been documented in the environment are sufficient to cause adverse impacts on a wide range of non-target organisms in terrestrial, aquatic, wetland, marine and benthic habitats. There is also a growing body of evidence that these effects pose risks to ecosystem functioning, resilience and services such as pollination and nutrient cycling.

Future goals/activities

In the coming years TFSP will endeavour to close knowledge gaps as identified by the WIA, to help investigate alternatives to the use of systemic pesticides, such as Integrated Pest Management (IPM) and organic farming. It will also study the impact of neonicotinoids on humans.

Buff-tailed Bumblebee (*Bombus terrestris*), Not Evaluated. © Quintin T. Davis

SSC and WCPA joint Task Force on Biodiversity and Protected Areas

Co-Chairs: Stephen Woodley and Penny Langhammer
Location/affiliation: Stephen is based in Portland, Oregon, USA, and is affiliated with the Species Survival Commission, World Commission on Protected Areas, Arizona State University and Terra Consilium. Penny is based in Ottawa, Canada and is affiliated with the World Commission on Protected Areas, Species Survival Commission, and Woodley and Associates.
Number of members: Task Force committee: 19, Task Force: approx. 300


Stephen Woodley


Penny Langhammer

Mission statement

Objective 1
To determine the best predictors of success for protected areas in conserving biodiversity and to establish mechanisms to maintain such analysis into the future.

Objective 2
To consolidate a standard for the identification of sites contributing significantly to the global persistence of biodiversity, or Key Biodiversity Areas (KBAs).

Summary of main activities in 2014

Objective 1
Objective 1 aims to understand the drivers of successful biodiversity outcomes in protected areas. The Task Force has completed a terrestrial analysis for the globe, for Africa, for Europe, for mammals and for birds. These models use the slope of species population time series as the dependent variable. There are 20 predictor variables representing six categories of PA management, ecology and socio-economic context. This study is complete and submitted for publication. In addition, we have conducted a global terrestrial study on the standardized Management Effectiveness Tracking Tool (METT), using METT scores as the dependent variable and the same set of predictor variables. This analysis was just completed and will be submitted for publication very soon.

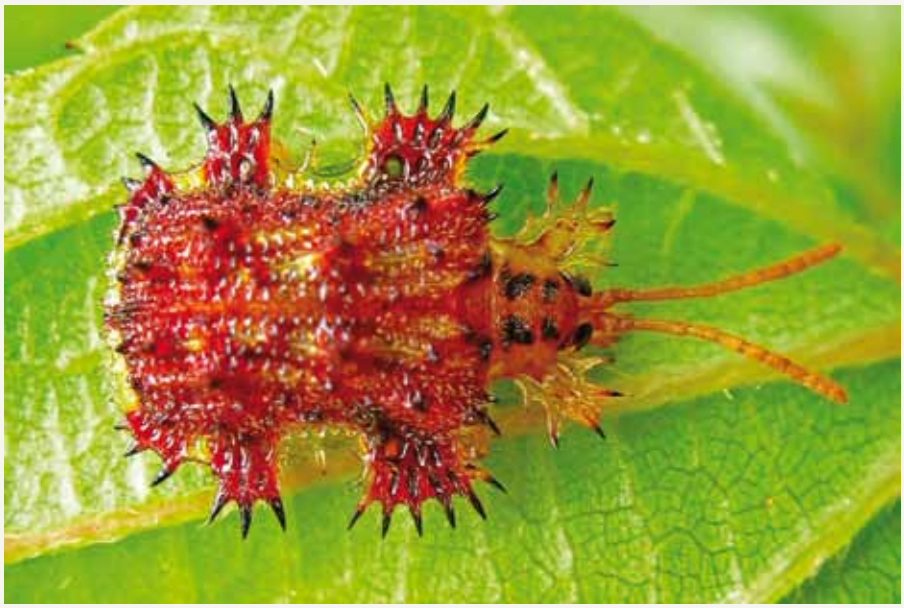
The Task Force works with a consortium of partners under the US National Socio-Environmental Synthesis Center (University of Maryland) to look at ecological outcomes in marine protected areas. We have assembled five datasets to look at ecological outcomes inside and outside protected areas (e.g. biomass, species richness, percent cover). They have been standardized into response ratios to allow for analysis. These responses are being modeled against a range of contextual and governance variables. The final modelling workshop for this "Solving the mystery of Marine Protected Area Performance" project will be held in Annapolis, USA on March 23–25. In addition to a global model for marine protected area effectiveness, we will also develop regional models (e.g. Caribbean).

The Global Environment Facility (GEF) of the World Bank, working with a set of implementing agencies such as the UNDP, has been the most important funding source to protected areas in developing countries. The Task Force has been assisting the Independent Evaluation Offices of the GEF and the UNDP with an evaluation of the impacts of GEF project support on biodiversity outcomes in protected areas. We carried out a quantitative impact assessment of GEF support to protected areas using three different conservation-relevant measures: management effectiveness scores, rates of forest loss and changes in abundance of wildlife populations. Results of these analyses will be published in the peer reviewed literature after they have gone through the GEF and UNDP evaluation processes.

Objective 2
The effort to develop a KBA standard responds to a World Conservation Congress resolution (WCC 3.013) calling on IUCN "to convene a worldwide consultative process to agree a methodology to enable countries to identify Key Biodiversity Areas (KBAs)". In 2013, the Joint Task Force convened numerous technical workshops and consultations to address specific components of the KBA standard, including on criteria and delineation, thresholds of significance, rules and procedures for identifying KBAs, and end use applications of KBA data.

Taking the outputs of these technical workshops and more than 400 comments received on the workshop reports, we produced a "*Consultation Document on an IUCN Standard for the Identification of Key Biodiversity Areas*". This document (95 pages) was essentially a draft of the KBA standard, presenting in detail the relationship between KBAs and existing approaches, the proposed criteria, thresholds, delineation guidelines, minimum standard documentation, and proposed

Platypriya echidna, Not Evaluated. © Shriraj



process for the proposal, review, and endorsement of sites as KBAs.

The draft KBA standard was informed by extensive testing of the proposed KBA thresholds on existing sites of global importance for biodiversity, an effort led by BirdLife International using data on more than 7,500 IBAs with support of the Task Force. Testing of the thresholds for the identification of new sites was conducted by the SSC Invertebrate Conservation Sub-Committee using data on European invertebrates.

The Consultation Document was submitted for wide public consultation in October 2104 through the Union Portal and a mirror public site (www.kbaconsultation.org). More than 1,170 comments on specific aspects of the document were received from more than 160 individuals and institutions. We are working now to address these comments and finalize the KBA Standard.

The Task Force's work under Objective 2 was featured prominently at the 2014 IUCN World Parks Congress in Sydney. A dedicated session on the KBA Standard allowed working groups to provide detailed feedback. Other sessions included a panel of End-Users of KBA data, case studies of KBA identification and conservation, and a side-event to recognize the individuals and donors that have supported development of the KBA standard.

Future goals/activities

The results of Objective 1 projects were also profiled at the World Parks Congress in Sydney. The Task Force is nearing the end of its assigned tasks in this area. We are preparing a public summary of the literature on protected area effectiveness in conserving biodiversity. The next steps for the Task Force will be discussed at the steering committees of the WCPA (Vilm, Germany in April 2015) and the SSC (Abu Dhabi, September 2015).

Under Objective 2, the Task Force will convene a final technical workshop to resolve concerns on the thresholds under criterion B (geographically restricted biodiversity) and conduct subsequent testing. We will then finalize the KBA Standard and circulate it for final public consultation along with responses to all comments received in 2014. The KBA Standard will be submitted to IUCN Council for approval later in 2015. In parallel, we will support the establishment of the governance mechanism for implementation of the KBA Standard, including the KBA Committee, Advisory Group, and Partnership.

Acknowledgements

The WCPA/SSC Joint Task Force on Biodiversity and Protected Areas would like to thank Agence Française de Développement, Cambridge Conservation Initiative's Collaborative Fund for Conservation, Environment Agency Abu Dhabi, George Wright Society, Global Environment Facility, Shell, the 10th European Development Fund through the BIOPAMA Programme, United Nations Development Program and US National Socio-Environmental Synthesis Center (SESYNC).

Report of the IUCN SSC Sub-Committees

Freshwater Conservation Sub-Committee

Chair: Topiltzin Contreras MacBeath
Location/affiliation: The Chair is based in the city of Cuernavaca, capital of the State of Morelos in Central Mexico. He is a full-time professor at the Autonomous University of the State of Morelos, but is currently the State's Minister for Sustainable Development.
Number of members: 12 global members, and our Mesoamerican Sub-Group has 15 members.

Topiltzin Contreras MacBeath

Mission statement
To raise the profile of freshwater biodiversity.

Key objectives
(1) coordination of freshwater species conservation activities through SSC; (2) create recommendations based on this coordination; (3) represent the SSC in matters related to freshwater; (4) help the SSC in its involvement in Global Forums related to freshwater; (5) be a link between the SCC and Specialist Groups related to aquatic species; (6) generate and communicate information that contributes to the conservation of freshwater biodiversity; and (7) promote the creation of regional groups that develop specific projects associated with the conservation of freshwater biodiversity.

Summary of main activities in 2014
Our main activity in 2014 was having our annual meeting 8–9 December in Cuernavaca, Morelos, Mexico, where we reviewed our strategic plan, set our new goals in alignment with the SSC's strategic plan, and decided upon four global projects: (1) to develop a communication strategy to accomplish our vision of raising the freshwater biodiversity profile, among decision-takers (governments), users of freshwater resources (companies associated with freshwaters) and civil society in general; (2) to work in collaboration with other organizations that are dealing with issue of dams and biodiversity; (3) to produce a list of the 25 most threatened freshwater species of the world, and another of the 25 most amazing freshwater species; and (4) to develop a proposal to create the "Census of freshwater life".

Among our main achievements are the production of a book related to the macroinvertebrates of the Mesoamerican region (to be published shortly), the launching of our Twitter account (@FW_conservation) which is now live, as well as the translation to English of our strategic plan, that will be published once reviewed.

Pseudothelphusa dugesi, Not Evaluated. © Topiltzin Contreras MacBeath

Future goals/activities
In 2015 we will have a global meeting to work on the "Census of freshwater life" proposal. We will strengthen our working relationship with Ramsar in order to try to identify gaps and opportunities for the conservation of threatened freshwater species. We will review and publish our strategic plan. We will also publish the Mesoamerican Macroinvertebrates book and our 25 most threatened freshwater species of the world, and 25 most amazing freshwater species documents.

Acknowledgements
We wish to thank the Government of the State of Morelos for providing partial funding for our annual meeting.

Invertebrate Conservation Sub-Committee

Chair: Axel Hochkirch
Deputy Chair: Scott Hoffman Black
Location/affiliation: Axel Hochkirch is based in Trier (Germany) at Trier University.
Number of members: 15 members from 17 countries

Axel Hochkirch

Mission statement
Our aim is to tackle the enormous challenge of how to manage conservation action for the most species-rich taxonomic groups on Earth.

Summary of main activities in 2014
The meeting of the Invertebrate Conservation Sub-Committee (ICSC) took place on 10 and 11 April 2014 in Cambridge (UK). The full minutes can be downloaded on the ICSC website.

The new Spider and Scorpion SG, chaired by Pedro Cardoso (University of Helsinki, Finland), has been approved by the IUCN SSC Steering Committee in October 2014. The formation of a "Mid-Atlantic Islands Invertebrate SG" has been instigated by Vicky Kindemba (Buglife, UK) and Paolo Borges (University of the Azores, Portugal).

A total of 1,669 invertebrate species have been assessed or re-assessed in 2014, including 725 insect species, 460 mollusc species, 264 coral species, and 174 spider species (and relatives). The number of invertebrate species on the IUCN Red List has now reached 17,218 species in total, the majority being molluscs (7,217 species), crustaceans (2,999 species) and dragonflies (2,791 species). To broaden the taxonomic scope of the Red List, several persons have been contacted in the last year.

Currently, new assessments for krill (by Steve Nicoll), Malagasy millipedes (Thomas Wesener), mayflies of the Western Ghats and butterflies of South Asia are underway. Three members of the ICSC have successfully participated in a Red List Trainer Workshop in Cambridge (23–25 June 2014) to support future Red List assessments for invertebrates.

Strategic conservation planning has been applied to the Critically Endangered Singapore Crab (with a workshop in Singapore in March 2014 that included a number of conservation organizations and the Freshwater Crustacean SG) as well as the Critically Endangered Crau Grasshopper (with a workshop in Saint-Martin-de-la-Crau, France in June 2014). New conservation planning projects for invertebrates have been instigated, including the Las Desertas Tarantula, the Ceres Streamjack and endemic invertebrates from St Helena.

Furthermore, Scott Hoffman Black assists in developing a Monarch butterfly conservation plan for Mexico, Canada and the US.

Two members of the ICSC (Tony Whitten and Axel Hochkirch) participated at the IUCN World Parks Congress 2014

Prionotropis hystrix rhodanica, Not Evaluated. © A. Hochkirch

in Sydney. Tony Whitten presented a talk on the importance of small areas for conservation in the session by the "Alliance for Zero Extinction". Axel Hochkirch organized the public screening of the film "Sticky" on the recovery of the Lord Howe Island Stick Insect, which was attended by the director (Jilli Rose) and also included a display of the insects. A leaflet on the work of the ICSC was distributed.

Viola Clausnitzer and Mary Seddon have participated in a working group to identify Key Biodiversity Areas (KBA) in the Mediterranean region based upon data from freshwater invertebrates (dragonflies and molluscs). The new criteria to identify Key Biodiversity Areas (KBA) were tested with a data set on endemic Orthoptera from Greece. The test showed that criterion B1 works very well to identify centres of endemism without exaggerating the number of sites.

We regularly post stories on invertebrate conservation on our Facebook site, which was launched on 31 December 2013. The site has currently (16 February 2015) 1,359 followers ("likes").

Some members of the ICSC, with Justin Gerlach as the lead author, have published a paper titled "Prioritizing non-marine invertebrate taxa for Red Listing" in the *Journal of Insect Conservation*.

Axel Hochkirch, Philip McGowan and Jeroen van der Sluijs have published a correspondence in *Nature*, asking for a more transparent process of author nominations and acceptance by the Intergovernmental Platform on Biodiversity and Ecosystem Services (IPBES), particularly for a clear Conflicts of Interests Policy. IPBES has responded immediately on its website and later also by a response letter to Nature.

Future goals/activities

Our major goal for the coming years is to broaden the taxonomic scope of the IUCN Red List by identifying suitable persons to lead new Red List initiatives or Specialist Groups. We plan to raise funds for a "Charismatic Mega-Invertebrate Initiative" to assess the status of charismatic taxa such as tarantulas or mantises. We plan to submit proposals for the inclusion of Alliance for Zero Extinction (AZE) sites based upon threatened invertebrates. We will also write IUCN Guidelines for invertebrate conservation in protected areas and a publication on the need for species inventories and monitoring for Red List assessments.

Acknowledgements

We thank the Mohamed bin Zayed Species Conservation Fund for constant support of our Specialist Groups' projects.

Marine Conservation Sub-Committee

Co-Chairs: Yvonne Sadovy de Mitcheson and Claudio Campagna
Location/affiliation: Claudio and Yvonne are based in Argentina and the USA, associated with the Wildlife Conservation Society, and in Hong Kong at the University of Hong Kong, respectively.
Number of members: 10


Yvonne Sadovy de Mitcheson


Claudio Campagna

Mission statement

The core purpose of the Marine Conservation Sub-Committee (MCSC) is to develop connections and to facilitate on marine and ocean matters across IUCN; including regional offices, marine species focal points and with IUCN partners. We continue to focus on advancing our core areas in communication, bycatch, trade, wildlife spectacles, positive change for threatened marine species and support towards increasing the number of Red List assessments for marine species.

Summary of main activities in 2014

In 2014, the work of the SC continued to build on its cross-species bycatch initiative which has become a major focus. Based on two earlier MCSC commissioned bycatch reviews and following a broad discussion at the SSC Steering Committee meeting in Estonia August 2014, a framework for a situation analysis was established to conduct a major study on global bycatch to highlight this complex and important issue of much relevance not only to many species but also for ecosystems and a range of socio-economic issues. An article on bycatch was produced for *Marine News #11* of the IUCN Global Marine and Polar Programme (Bycatch: unseen waste and hidden threat to biodiversity).

At the Estonia SSC Steering Committee meeting we highlighted a crisis of bycatch relevant to three Critically Endangered species: a new threat to the world's most seriously threatened cetacean, the Vaquita, *Phocoena sinus*, an endemic to the Gulf of California. This little porpoise is taken as gill net bycatch in a fishery targeting a croaker, the Totoaba, *Totoaba macdonaldi*, also endemic to the Gulf and listed on CITES Appendix I, for the market in high value maw (swim bladder) in China. Focus on Totoaba increased after the collapse of a sister species, endemic to southern China, *Bahaba taipingensis.* In the latter part of 2014, we assisted Mexican scientists and other specialists, together with IUCN leadership, to produce a letter directed to the Chinese government in relation to this critical situation. The Marine Conservation SC also supported other aspects of IUCN policy work in 2014 by convening expert knowledge from the SSC marine SGs to identify species related issues that needed representation in fisheries forums and other Multilateral Environmental Agreements (e.g. CITES, FAO, Regional Fishery Management Organizations).

In other work, we continue to lend support to the Global Marine Species Assessment (GMSA). Funding for a bycatch Red List assessment workshop was obtained from Ocean Park Conservation Foundation (OPCF). In 2014, the GMSA held four workshops; Qatar, Belgium, USA and Gabon. Global assessments for about 450 species were completed with another 1,000 regional assessments. We also participated in a meeting organized by the GMSA, in Vancouver, to discuss modifications to the Red List Guidelines specifically for exploited marine species, including in relation to species that aggregate to spawn (form 'wildlife spectacles').

Bycatch. © Sarah Foster

Future goals/activities

For 2015 we will be focusing on the Bycatch Situation Analysis and will also be working with the GMSA on the SE Asia Bycatch Red Listing Workshop in Hong Kong. We will also organize marine forums during the 3rd SSC SG Chairs meeting in September in Abu Dhabi.

Acknowledgements

We are most grateful to the IUCN Species Programme and Olivier Hasinger for invaluable support for our work. We would like also to acknowledge the OPCF in Hong Kong which funded a bycatch species Red List assessment in Southeast Asia.

Plant Conservation Sub-Committee

Chair: John Donaldson
Location/affiliation: The Chair is based at the Kirstenbosch Research Centre in Cape Town, South Africa, where he works for the South African National Biodiversity Institute.
Number of members: 13

John Donaldson

Mission statement

Our key objectives are to: (1) Promote plant conservation issues within IUCN SSC and advise on priorities for plants; (2) Improve representation of plant groups on the IUCN Red List; and (3) Foster engagement of the IUCN SSC network in the implementation of the CBD Global Strategy for Plant Conservation.

Summary of main activities in 2014

Meetings

The Plant Conservation Sub-Committee (PCSC) met in Paris from 20–21 September 2014. The meeting also benefited from the participation of Simon Stuart (SSC), Vololoniaina Jeannoda (SSC, Madagascar), Steven Bachman (Kew, UK) and Gustavo Martinelli (Brazil), as well as key IUCN staff (Craig Hilton-Taylor, Olivier Hasinger and Annabelle Cuttelod). The meeting was scheduled to coincide with a UNESCO conference on Botanists of the 21st Century (22–25 September). Several PCSC members contributed papers to the conference and the PCSC organized a half day workshop on plant conservation assessments.

Cycas platyphylla, Endangered. © Tanetahi CC BY 2.0

Improving representation of priority plant groups on the IUCN Red List

This has been a major focus of the PCSC for the past year. The PCSC submitted a discussion document to the Red List Committee highlighting issues that are impeding the publication of plant Red List assessments, such as the need for batch data imports into SIS from external databases; minimum documentation views; ability to download relevant plant data for conservation action; allowing assessments in other languages; and improving processes to deal with the backlog of plant assessments.

Responses to these issues were discussed at the PCSC meeting in September 2014. The Red List Unit agreed to timeframes for sorting out the batch importer, providing a view option for minimum documentation and dealing with the backlog of plant assessments, especially those for Madagascar and East African plants. The Red List Committee is also investigating the issue of publishing assessments in all IUCN languages.

In addition, the PCSC has been developing a document on the priorities for plant Red Listing, acknowledging different needs for assessments at global, regional and national scales. This was the subject of the symposium at the Botanists of the 21st Century Conference. One of the main focus areas for global Red List assessments is the plant Sampled Red List Index (SLRI) and the Plants for People project. One of the challenges with the plant SLRI is to get sufficient data on the sampled species and a decision was taken to approach the Convention on Biodiversity to encourage Parties to contribute to the assessment of these species. Another priority project is the Plants for People initiative that aims to assess groups with high relevance to people such as crop wild relatives. This project has been part-funded by the MAVA Foundation, enabling some initial activities. The challenge has been to find additional support for the full set of project objectives.

Promoting plant work within the IUCN SSC

The PCSC continued to participate in IUCN SSC activities to ensure that they are relevant for plants and to facilitate participation by plant experts. One of the main inputs over the past year has been in the consultation relating to Key Biodiversity Areas. During the KBA process, the PCSC facilitated inputs from plant experts and this continued in 2014 with comments on the final outcomes of the KBA process. The PCSC has also noted the need for greater involvement of plant Specialist Groups in IUCN structures such as the Sustainable Use and Livelihoods Specialist Group (SULi) and programmes to develop species management plans under the guidance of the Species Conservation Planning Subcommittee. In the latter case, there have been initial steps to involve the PCSC in management plans for crop wild relatives in Mauritius, Zambia and South Africa. The PCSC has also recommended the development of management plans for palms and mangroves and the possibility of supporting management plans for Brazilian plants now that the first stage of the Brazilian plant Red List has been completed by CNCFlora in Brazil.

In 2012, the PCSC initiated the David Given award for plant conservation to recognise exceptional contributions from young plant conservationists who have contributed to SSC priorities. The next award will take place in 2015 and the PCSC started the process so that nominations can be received in the first half of 2015.

Future goals/activities

A PCSC meeting linked to the Chairs' meeting in Abu Dhabi in 2015; Monitoring of progress with plant Red List assessments; Promoting SSC Specialist Group activities that support the Global Strategy for Plant Conservation; Collating information on plant Specialist Group activities.

Acknowledgements

The PCSC is grateful for the support of the IUCN Global Species and Key Biodiversity Areas Programme and Red List Unit; the IUCN SSC staff; the home institutions of PCSC members for in kind and financial support.

Policy Sub-Committee

Co-Chairs: Sue Lieberman and Phil McGowan
Location/affiliation: Sue Lieberman works for the Wildlife Conservation Society in Washington, DC, and New York, NY, USA (as Vice-President, International Policy). Phil McGowan works for Newcastle University, Newcastle upon Tyne, UK (as Senior Lecturer in Biodiversity and Conservation).
Number of members: 15


Sue Lieberman


Phil McGowan

Mission statement

The Policy Sub-Committee (PSC) was established to enhance the engagement of SSC members (both Specialist Group members and SSC SC members) in policy – both to provide species-related input to IUCN policy development and activities, and to enhance the engagement of the SSC with policy fora. To date, engagement has been strongest in fora with a clear species focus (e.g. CITES), rather than those with broader focus but in which species are still important (e.g. CBD, IPBES). There are many IUCN policies and guidelines and the SSC mandated the Sub-Committee to help guide and engage with these IUCN processes. IUCN SSC has an established profile in species-centric policies and many SSC members are involved in this. There are also opportunities to promote species perspectives, knowledge and expertise to other fora (i.e. not biodiversity-focused conventions, dialogues or platforms), such as free trade agreements, environmental safeguards and the Trans-Pacific Trade partnership.

Summary of main activities in 2014

The PSC has held conference calls, and one in-person meeting in October 2014, graciously hosted by Newcastle University, with funding support for travel from the IUCN Species Survival Commission. The Sub-Committee agreed on several key policy areas of focus, and identified individuals who will lead on each for the PSC. Full details of the meeting, action points, etc. are available on request. The areas of focus are: CITES, Ramsar Convention, Convention on Migratory Species, CBD, IPBES, World Heritage Convention, Regional Fisheries Management Organizations (RFMOs), FAO Committee on Fisheries (COFI), International Whaling Commission, EU Habitats and Birds Directives, Synthetic Biology, Wild relatives, and the UN Sustainable Development Goals. A listserv is being established by IUCN headquarters to assist the PSC members. The PSC hopes to be even more active in the coming months and years, and to even more effectively provide input to various IUCN policy interventions, from an SSC/species perspective, across multiple fora.

The members of the PSC that have agreed to be focal points on various issues and fora are as follows (with support from various IUCN Secretariat and SSC staff):

Treaties, IGOs
CITES: Sue Lieberman
CMS: Phil McGowan (with Will Darwall, Chair, IUCN Freshwater Conservation Subcommittee)
Ramsar: Will Darwall, Chair, IUCN Freshwater Conservation Subcommittee
CBD: Phil McGowan
IPBES: Phil McGowan
World Heritage Convention (and Committee): Sue Lieberman as focal point for the PSC; Fred Launay as liaison to the World Heritage Committee and IUCN World Heritage Programme
IWC: Justin Cooke (IUCN Cetacean Specialist Group and Scientific Consultant, CEMS).

Issues
Cetacean issues generally: Liz Slooten, IUCN Cetacean Specialist Group and Professor, University of Otago, New Zealand;
Invasive Species: Piero Genovesi, Chair, IUCN SSC Invasive Species Specialist Group and Head of Wildlife Service, ISPRA Institute for Environmental Protection and Research;
RFMOs, and bycatch: Sue Lieberman and Marydele Donnelly (Director of International Policy, Sea Turtle Conservancy); to liaise with Yvonne Sadovy and Claudio Campagna, Co-Chairs of the Marine Conservation Subcommittee;
Synthetic Biology: individual to be confirmed; the Co-Chairs will track it;
Wild relatives: Phil McGowan;
Wildlife Health issues: Catherine Machalaba, Health and Policy Program Coordinator, EcoHealth Alliance;
Review of the EU Habitats and Birds Directives: Mary Seddon, Chair, IUCN Mollusc Specialist Group.

Western Capercaillie (*Tetrao urogallus*), Least Concern. © David Palmer CC BY 2.0

IUCN Red List Committee

Chair: Michael Hoffmann
Location/affiliation: The Chair is Senior Scientist to the IUCN Species Survival Commission and is based in Cambridge, United Kingdom.
Number of members: 26

Mike Hoffman

Mission statement

The IUCN Red List Committee is the key decision-making body that provides oversight and guidance for The IUCN Red List of Threatened Species™. The Red List Committee sets the standards of scientific quality for the Union's work on biodiversity assessments, develops guidelines on the application of these standards, develops a strategy for effectively expanding taxonomic and geographic coverage, advises and assists uptake of IUCN Red List data in decision-making, and builds collaboration with other organizations working on biodiversity assessments.

The Red List Committee meets in-person once per year; inter-sessionally, much of the work is conducted via email, virtual meetings, or in separate meetings of its working groups.

Composition and structure

The IUCN Red List Committee is designed to include representatives of the three pillars of IUCN: the IUCN Species Survival Commission, the IUCN Secretariat (especially the Global Species Programme), and the IUCN Red List Partnership (many of whom are also IUCN Members). Current Red List Partners are: BirdLife International; Botanic Gardens Conservation International; Conservation International; NatureServe; Microsoft; Royal Botanic Gardens, Kew; Sapienza University of Rome; Texas A&M University; Wildscreen; and Zoological Society of London. The Red List Committee continues to seek expressions of interest from new Partners, and has held ongoing discussions with prospective Partners during 2014.

Much of the active work of the Red List Committee is conducted within its working groups. The Red List Technical Working Group (RLTWG) is the key technical body that strives to ensure consistency and rigour in the assessment process. The Red List Informatics Working Group (IWG) works to facilitate better coordination among Red List Partners and others on overcoming major technological stumbling blocks. The National Red List Working Group (NRLWG) works to build linkages between the global IUCN Red List and assessments done at the national level. The role of the NRLWG is de facto served by the Coordinating Body of the National Red List Alliance.

Western Swamp Tortoise (*Pseudemydura umbrina*), Critically Endangered. © Gerald Kuchling

As a reminder, following the adoption of IUCN Congress Resolution 5.018, a number of IUCN Members came together to propose the establishment of a partnership of organizations convened around promoting national Red Listing. This National Red List Alliance is governed by an overarching Memorandum of Understanding, and strategic oversight of the Alliance is provided by the Coordinating Body.

Since Stuart Butchart completed his term as Chair of the Red List Technical Working Group in 2013, a replacement Chair has yet to be found for this critical position. There also remains one vacant coopted slot.

Further details on membership, structure and the Terms of Reference governing both the RLC and its individual Working Groups may be found here: www.iucn.org/redlistcommittee.

Summary of main activities in 2014

The 20th meeting of the Red List Committee
The IUCN Red List Committee had its 20th meeting from 12–14 May 2014 in Cambridge, UK (and subsequently met virtually 4 December 2014). This was, in many ways, a ground-breaking meeting of the RLC, with a number of substantial decisions. Key among these were that the RLC agreed:

(1) To accept the revised guidance put forward by the Standards and Petitions sub-committee (supported by in-depth discussions with the RLTWG and a mapping workshop held in 2012), for calculation of Extent of Occurrence for the purposes of extinction risk assessment. A peer-reviewed paper is in the advanced stages of preparation investigating the impact of different metrics for measuring EOO on existing assessments.
(2) To develop and implement mechanisms to accept assessments in all three official IUCN languages (English, French, and Spanish). The introduction of accepting non-English language assessments will initially be through a pilot phase for these assessments over the coming years and if successful could then be extended to include other languages.
(3) A general procedure and protocol for the allocation of income arising from the licensing of Red List data for commercial use. This includes: US$120k for central infrastructure needs; US$60k for assessment projects (specifically to cover the cost of developing and implementing the batch importer, estimated at ~50k); and US$60k for reassessment projects.

Red List Technical Working Group
The Red List Technical Working Group has not met in-person since December 2013, with part of the meeting jointly held with the Standards and Petitions Sub-committee. However, in October 2014, a marine-focused meeting, essentially meeting under the joint auspices of the RLTWG and the Standards and Petitions Sub-committee, took place at the University of British Columbia in Vancouver. This meeting resulted in a number of recommendations to refine the IUCN Red List Guidelines to foster improved application of the criteria to exploited marine species. A report of this workshop is forthcoming.

Informatics Working Group
The Informatics Working Group (IWG), chaired by Lucas Joppa, had its first full operational year in 2014 which was taken up with securing members and several introductory meetings. The meetings provided an opportunity for the Red List Unit to present the architectural details behind SIS, the Red List website, and other technology undertakings of the RLU. The group identified major technology impediments to delivering the RLU's mission, and brought in outside experts (e.g. Doug Verduzco from the International Species Information System) to learn from how others have tackled similar computational architectures.

National Red List Working Group
The National Red List Working Group (NRLWG), chaired by Katherine Secoy, continued to promote the uptake of National Red Listing (NRL) through the National Red List Alliance – a group committed to supporting the development and implementation of NRL's, who's remit was strengthened following the adoption of text, in the UN Convention on Biological Diversity recommendations related to the implementation of the Strategic Plan for Biodiversity, that highlighted the importance of national Red Listing in conservation action planning and land use planning. These efforts were then significantly boosted in May following a call from the CBD Executive Secretary who requested Parties and Partners to provide updated information on national and subnational red lists. This has greatly enhanced the coverage of NRLs on the dedicated platform www.nationalredlist.org. The group also continues to respond to NRL capacity building requests, with last year seeing training workshops in Bangladesh and Russia.

Other
In addition to the above, the Red List Committee has been advizing on, among others: implementing a mechanism for making all Red List species accounts permanently archived, searchable and traceable via making all available as downloadable PDFs with attached DOIs; a process headed by the Sustainable Use and Livelihoods SG to explain how indigenous knowledge can be better integrated into Red List assessments; and supporting Red List @50 celebration plans. The RLC also organized a 90-minute session on the value of IUCN's Red Lists in protected area planning and monitoring at the World Parks Congress in Sydney, Australia in November 2014.

Future goals/activities
The Red List Committee will meet in April 2015 in the offices of Conservation International, in Arlington, VA. Key agenda items include, among others: discussing progress against the 2013–2020 Red List Strategic Plan and initiating revizing the 2016–2020 targets; income distribution for 2015; the need for a formal taxonomic policy (e.g. a protocol or criteria or some such that groups are encouraged or compelled to apply to ensure some critical appraisal of proposed splits, mergers new species designations and so forth) and a Conflict of Interest protocol; and the relationship between the Red List and Aichi Biodiversity Target 12.

Species Conservation Planning Sub-Committee

Chair: Mark R. Stanley Price
Location/affiliation: The Chair is based in Oxford, UK, where he is a Senior Research Fellow at the University of Oxford's Wildlife Conservation Research Unit (WildCRU).
Number of members: 15

Mark Stanley Price

Mission statement
Our Mission is to encourage and assist those involved with species in need of conservation support to adopt tested methods of planning known to yield conservation strategies that are realistic and likely to be implemented.

Summary of main activities in 2014
1. Species Conservation Strategies
Members were involved in developing Species Conservation Strategies for the following species and sites: Crau Plain Grasshopper (France), Arabian Leopard (Oman), Leopard (Iran), Leopard (Caucasus ecoregion), Arabian Tahr in UAE (Abu Dhabi), sea turtles in Arabia (Sharjah), Barbary Sheep (Tunisia), Argali (Central Asia), Sand Cat in Arabia (Abu Dhabi), Hainan Gibbon (China, with CBSG), White-bellied Heron (Eastern Himalayas), Singapore Freshwater Crab (Singapore), Greater Sage Grouse (Canada; led by CBSG), Javan Rhinoceros (Indonesia; led by CBSG),

Species Conservation Planning Sub-Committee (SCPSC) roles in these strategies varied from involvement in concept definition, process and workshop design, status review preparation, facilitation, reporting and drafting of conservation strategies.

2. Broader conservation strategies
SCPSC members were also involved in, with use of the SSC planning approach: Planning and establishment of UK's first crop wild relative genetic reserve; National plant agrobiodiversity conservation strategy (Oman); Conservation planning for genetic diversity of *Patellifolia* species (Spain); Revision of Snow Leopard Survival Strategy; Planning and facilitating a CMS-FFI workshop on transboundary conservation of Snow Leopard in Central Asia.

3. Planning process
Analysis of species conservation strategies in hand for their essential/common features, to contribute to the community of practice guidance; A short research project examined the idea of minimum critical specifications for species conservation planning – the findings will feed into development of the next generation of SSC guidance (see below); SCPSC members in CBSG completed the Abruzzi tables, which offer a series of tools that can be used under a wide range of situations encountered in species planning, to be beta-tested in early 2015.

4. Information gathering
SCPSC is assembling a library of species conservation plans focusing on marine and estuarine species that include marine fishes, mammals, reptiles, and invertebrates from diverse countries and management systems, with an interest in how management plans for harvested species differ from strictly conservation plans. SCPSC is also beginning to compare and contrast terrestrial and marine species conservation planning documents in terms of multi-species planning, use of protected areas in conservation planning, and climate change implications for planning, given the latter's cross-cutting implications for parks, multi-species assemblages, and ecosystem-scale management.

5. Advisory roles
An SCPSC member advises the Convention of Migratory Species' Central Asia Mammal Initiative, which covers 15 species in 14 countries, and facilitates its meetings.

6. Training
SCPSC members were involved in the following: Facilitation of a training workshop with IUCN-Mediterranean office, using the Barbary Sheep as a model (Tunisia); Development of and participation in training on planning and establishment of crop wild relative conservation in four southern African countries (Mauritius); Training in species conservation planning, using Open Standards, for the St Louis Zoo WildCare institute, using the Armenian Viper, Humboldt Penguin and American Box Turtle (USA); Exploration of a teaching module on strategic conservation planning as part of a Master's degree in Wildlife Management at Newcastle University (UK).

7. Support
As well as provision of direct and indirect resources to these activities, SCPSC provided financial support to a conservation planning meeting for the Yangtze Giant Soft-shelled Turtle (Vietnam).

Prionotropis hystrix rhodanica, Not Evaluated. © MR Stanley Price

8. Cross-cutting links within SSC
The SCPSC Chair is on the steering committee of the Climate Change SG, whose signal product under development through 2014 will be a document on assessing species' vulnerability to climate change.

The SCPSC Chair co-facilitates a working group of the Amphibian SG on Species Conservation Strategies; during 2014, membership of the working group was developed, with articulation of priority tasks to promote implementation of the Amphibian Conservation Action Plan.

Future goals/activities
Species Conservation Strategies
The following are scheduled for 2015: National Action Plan for Cheetah and African Wild Dog in Chad; Revision of the Regional Strategy for Cheetah and African Wild Dog in southern Africa; Revision of the Regional Conservation Strategy for the Leopard in the Caucasus eco-region; Development of a National Action Plan for the Leopard in Iran (based on the revised Caucasus Regional Conservation Strategy); Conservation Strategy for West African Giraffe (Niger); Cuvier's Gazelle strategy workshop, with IUCN-Mediterranean Office; Revision and updating the CMS Action Plan for Sahelo-Saharan Antelopes; National Tahr Strategy (Oman); Strategic Priorities for Global Antelope Conservation; Follow-up planning meeting for the Humphead Wrasse strategy (Indonesia); Conservation planning for the Chinese White Dolphin (China; led by CBSG); Whooping Crane Recovery Plan revision (USA and Canada; led by CBSG); Conservation planning workshops for Greater Bilby, Plains Wanderer, Mala (Australia; led by CBSG); Scoping mission around multi-species planning in the context of climate change (Nepal, led by CBSG); Further species strategies are anticipated focusing on taxa that have been Red List assessed at global or national levels, with an emphasis on plants, invertebrates and aquatic species.

Training
A module on Strategic Conservation Planning will be developed as part of an international module in a master's course on Wildlife Management at Newcastle University, UK; Training workshop on Species Conservation Planning (Iran); It is the intention that every planning event should be accompanied by a short training session to develop local capacity.

Awareness and access to resources
By the end of Quarter 1 2015, SCPSC will have greater web-based profile and resources to explain, demystify and help anyone contemplating planning for species conservation.

Process
Based on planning experiences since publication of the '*Strategic Planning for Species Conservation: A Handbook*', v1.0 of 2008, there is need to revise this; we aim to have v2.0 in draft by the end of 2015; the intention is to cover the diversity of species planning needs and circumstances through less prescriptive guidance; significantly, it is expected that this guidance will be reviewed and updated annually as experience accumulates.

Acknowledgements
Many volunteer members of SCPSC are supported by their institutions. Support for SCPSC activities and the Chair is provided by the Environmental Agency, Abu Dhabi, through the SSC Chair's Office, and by Synchronicity Earth. We are most grateful to all.

Standards and Petitions Sub-Committee

Chair: H. Resit Akçakaya
Location/affiliation: The Chair is affiliated with Stony Brook University, New York, USA
Number of members: Six

H. Resit Akçakaya

Mission statement
Ensuring the quality and standards of the IUCN Red List, 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.

Summary of main activities in 2014
Guidelines: The Standards and Petitions Sub-Committee (SPSC) released version 11 of the Red List Guidelines in February 2014. The main changes involved managed and introduced populations (conditions under which subpopulations that are managed or those resulting from conservation translocations can be included in a Red List assessment); attitude settings (appropriate default settings for risk tolerance and dispute tolerance for assessments based on uncertain data); proper use of habitat models for estimating AOO and EOO; dealing with discontinuities in species distributions when estimating EOO; clarification of the use of the "severe fragmentation" for insular species; and the use of pre-disturbance generation length for exploited populations.

The SPSC has started working on the next set of changes to the guidelines by attending a workshop on "Exploited Marine Species" in Vancouver in October 2014. The recommendations that came out of this workshop for refining the Red List Guidelines will be reviewed and implemented by the SPSC during 2015.

Consultations: SPSC provided comments on various issues, including those related to polar bears, marine species, use of habitat maps, calculating EOO and the concept of risk-spreading, insular species, hybrids, and de-extinction.

Climate change: SPSC is involved in ongoing work for quantifying the impact of climate change on species extinction risks, and is contributing to activities of the Climate Change Specialist Group. In 2014, four papers related to Red List and climate change were published by SPSC members and others. These papers showed that although climate change is a new threat, the Red List Categories and Criteria are expected to function well under this new threat in identifying species vulnerable to extinction because of climate change. These papers also point to research that would further improve the application of the criteria.

Future goals/activities
Guidelines: SPSC will continue improving the Red List Guidelines; the immediate goal is to improve guidance on Red List assessments of exploited marine species, by incorporating the recommendations coming out of the Vancouver workshop.

Misconceptions: SPSC is contributing to a general paper on common misconceptions about the Red List criteria, categories, and process.

Uncertainty: SPSC is coordinating a review of methods for calculating uncertainties for parameters used in Red List assessments.

Whooper Swan (*Cygnus cygnus*), Least Concern. © Juha Soininen-WWT

SAVE OUR SPECIES

SOS saving one fish at a time. © Gustav Klotz and John Lucas

2014 YEAR IN REVIEW

Another exciting year for SOS – Save Our Species has flown by. This past year, SOS has mobilized more resources, directed more funds to the frontline of conservation and reached more people worldwide, with some great results.

Feedback from our grantees and our colleagues highlights a wealth of positive results from 2014 in terms of threatened species conservation and improved livelihoods for local community members. An independent evaluation in 2014 produced interesting and valuable insights about the benefit and impact of SOS for grantees. Among other findings, this independent review highlighted the quality of the SOS grant management process, the commitment to supporting grantees through communications and the capacity-building effect on grantees from working closely with the SOS Secretariat throughout the lifecycle of a grant.

As IUCN prepares to mainstream SOS into its programme for 2017–2020, it is encouraging to see that SOS is now ideally placed as the ready-to-use mechanism, channelling the right amount of resources to where they are most needed and efficiently spent while supporting civil society organizations and communities in protecting our natural heritage across the world.

As we continue to grow the partnership, secure new sources of funding and support more species conservation projects, 2015 promises to bring new opportunities which will contribute significantly to tackling what is ultimately a universal cause: saving the magnificent diversity of life on Earth.

>> SOS GRANTEE SUCCESS STORIES: 2014 HIGHLIGHTS

While the Secretariat continues to monitor and analyse the impact of the overall portfolio, the following selection of news from 2014 highlights the variety of conservation success stories from just a few SOS grantees:

1. Fundación CBD-Habitat reported that 2014 was the best breeding season yet for a Critically Endangered Mediterranean Monk Seal colony in Mauritania counting 67 seal births in one season.
2. In February, Montgomery Botanical Centre reported the discovery of a third major population of Critically Endangered Sinkhole Cycad in a remote site following an expedition to the Maya Mountains in Southern Belize.
3. In March, Wildlife Conservation Society's Laos PDR Programme reported the removal of more than 7,800 wire snares from Phou Sithone Endangered Species Conservation Area (ESCA) since October 2012 – encouraging news for the Critically Endangered Saola. Later in the year, 24 more Saola rangers graduated from the Forestry and Wildlife Enforcement Training Course.
4. In May, the Wildfowl and Wetlands Trust reported the first of a hand-reared group of Critically Endangered Spoon-billed Sandpipers had been spotted migrating back towards where they were released by conservationists two years previously.
5. Also in May, the Charles Darwin Foundation reported on a world first by releasing into the wild head-started Critically Endangered Mangrove Finches on Isabela Island.
6. Midway through the year, FUNDAECO reported that the Guatemalan Congress declared the Sierra Caral mountain chain, an internationally recognized Alliance for Zero Extinction (AZE) Site, as a National Protected Area.
7. In October, the Endangered Wildlife Trust confirmed 2014 was a good year for the Vulnerable Dugongs of

Mozambique's Bazaruto Archipelago with zero animal mortalities reported.

8. On a separate project, EWT also completed the second ever translocation of a highly threatened indigenous fish species for conservation purposes in South Africa, successfully translocating 338 juvenile Endangered Sandfish from the lower reaches of the Biedouw river to a pristine stretch higher up in the river.
9. In November, Fauna and Flora International reported the discovery of more Critically Endangered Ziyuan Firs in Yinzhulaoshan Provincial Nature Reserve, in North Guangxi Autonomous Region, China, increasing the known global population from 50 to 71 individuals.
10. Late in 2014, the Zoological Society of London reported on a major ivory haul seized in Cameroon made by ecoguards from the Dja Biosphere Reserve. Meanwhile, Conservation Justice frequently shared news of arrests and interceptions made in Gabon throughout the year.
11. In Cambodia, Fauna & Flora International reported on the release of 20 young Critically Endangered Siamese Crocodiles back into the wild – a significant step for the species.
12. In India, Ecosystems India reported the release of 11 Critically Endangered Pygmy Hogs in Orang National Park, Assam, bringing the total number of captive-bred animals released by the end of the project to 50.

>> NEW DIRECTIONS AND DIMENSIONS FOR THE SOS PORTFOLIO

By the end of 2014, SOS had increased the portfolio from 59 to 85 projects by adding 26 Threatened Species Grants as a result of the Secretariat's third call for proposals in 2013. This portfolio was implemented by more than 60 NGOs in more than 50 countries. Furthermore, by the end of 2014, more than two-thirds of SOS grantees were IUCN Members of various sizes.

Scratching below the surface of those numbers however, the growth in the portfolio represented both an expansion and a deepening of conservation actions following the last call's three strategic directions informed by the IUCN Red List of Threatened Species™. Those funding priorities included *Cycads and Conifers*, *Central and West African Vertebrates* and finally, *Sharks and Rays*.

>> DEEPER ROOTS IN PLANTS

In the plant kingdom, SOS added five conservation projects to its extant portfolio. With two additional cycad and three conifer projects, the total SOS plant portfolio grew to nine projects. This development means that SOS now funds plant conservation work in Africa, Asia, Oceania and the Americas.

Deeper Roots visit the community Yuanbaoshan Fir nursery near Yuanbaoshan NR. © Hu Xinhua

Monitors in Little Bassa during workshop. © George Free

>> CENTRAL AND WEST AFRICA

Across West Africa, SOS funding supported vertebrate species projects in 13 countries including amphibian, bird, reptile and mammal species. In particular, conservation awareness and illegal wildlife trade were recurring themes across a range of species projects including those working with Timneh Parrots, marine turtles and Forest Elephants, to name just a few.

An interesting development for SOS in this respect was the opportunity to work with an increasing number of smaller scale locally-based grantees, generating new opportunities to communicate about SOS in French internationally and at a localised level.

>> SOS IN THE MARINE

The decision to fund marine projects acknowledged the importance to conservation of the 2013 CITES announcements listing several species of shark and ray on Appendix II. A quarter of the world's sharks and rays are threatened with extinction according to the Red List, with only 23% categorized as Least Concern.

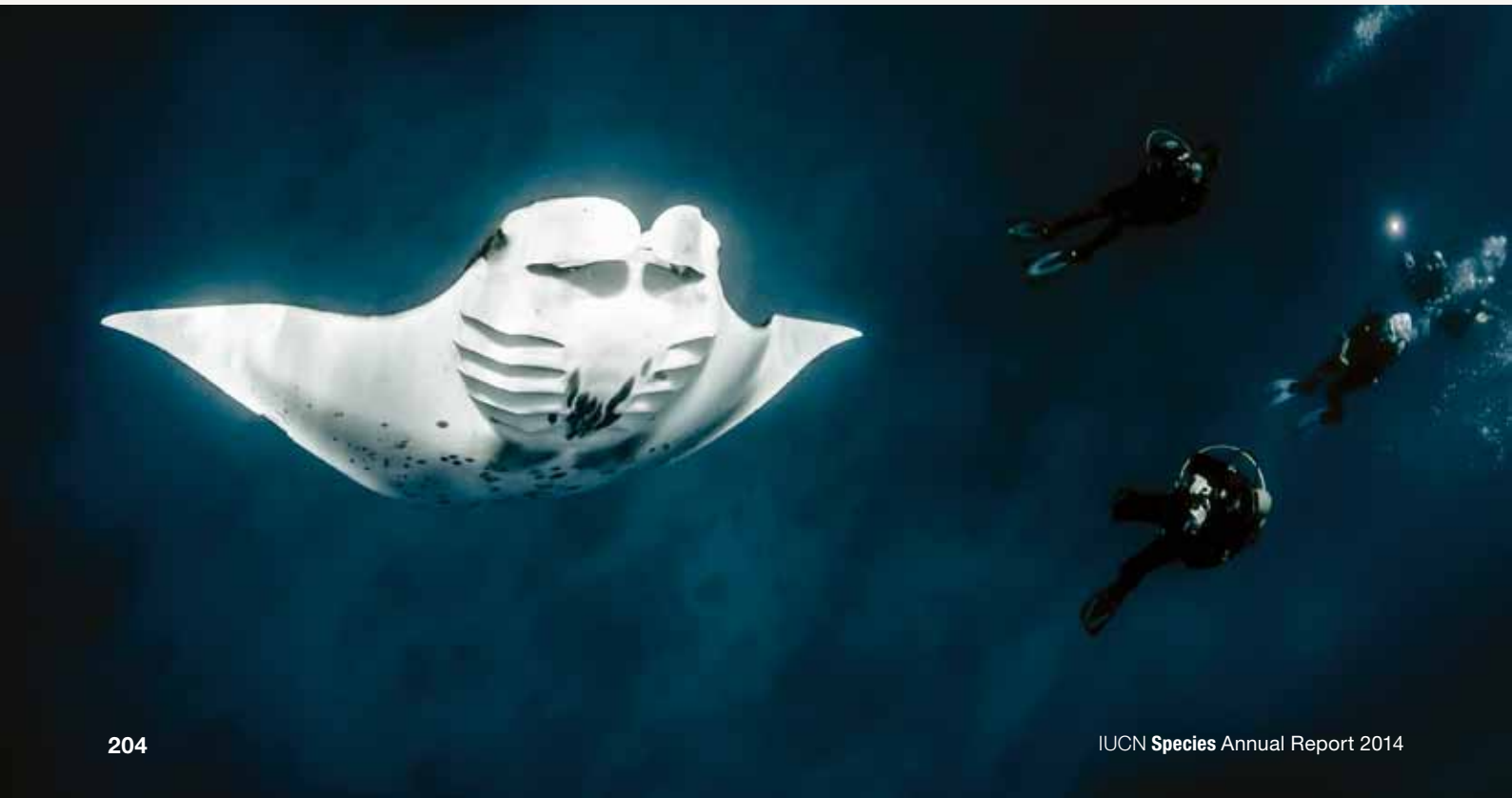
In total, SOS disbursed funding to seven elasmobranch projects including two working with hammerhead shark species, two on manta and mobulid rays, one on sawfishes, one on Shortfin Mako Sharks and one on various shark species around Cape Verde. Geographically, this strategic direction included projects taking place in waters off South America's Pacific coast, the Mesoamerican barrier reef system of Belize, Western Africa and various parts of the Indian Ocean.

Meanwhile, all the projects included work to raise awareness locally and internationally about the ecological roles, value and status of threatened shark and ray species. Because of the international nature of many fisheries markets, legal or illegal, projects addressing unsustainable wildlife trade and by-catch often featured implementation in several countries all at once, especially those working on demand reduction for manta and mobula ray body parts. The capacity of the SOS project management processes to cater to this international dimension testifies to the robustness of the model.

Until the third call for proposals, SOS had funded one freshwater fish and several marine mammal projects so a focus on marine fish species represented an exciting extension of the conservation action model SOS was designed to perform.

In the process of funding 26 projects through this third call, SOS has helped leverage USD $2.2 million in additional funding to scale-up conservation activities. This brought the total value of funds dispersed to almost USD $9 million, helping leverage an additional USD $12 million in total. Additionally in 2014, SOS funded an extra USD $1 million in projects tackling wildlife crime across Africa and Asia, upon which we hope to build even further in 2015.

Manta ray and divers. © Shawn Heinrichs for WildAid



>> COMMUNICATIONS AND OUTREACH

In 2014, SOS ramped up communications activities to support outreach and fundraising activities with international audiences and targets. It also increased efforts to collaborate more closely with regional IUCN colleagues. For example, the first major development was the launch of the French language version of the SOS website in early 2014.

Another significant development for 2014 was the launch of SOS' first report, titled "SOS – Three Years of Life and Action". This 44-page print and digital report was produced in English to illustrate the diversity of work and impacts SOS had achieved to date.

This document, along with a specially produced brochure, also served to support fundraising and partnership development activities by articulating the SOS vision and model and presenting the portfolio and key figures in a visually attractive way. The SOS brochure was also produced in print and digital formats in both English and French versions.

Both documents were accompanied by the launch of a suite of videos presenting different aspects of SOS, including an inspirational short presentation titled "*SOS: What If?*". There were also more detailed mission diaries and testimonials from three Bangladesh-based projects and a video diary of a Sumatran Rhino project. These are all featured on the SOS YouTube channel and website and are available for sharing.

The power of video to connect viewers with the important work of SOS grantees has been critical to helping SOS show just how valuable the model has been in terms of delivering measurable impacts.

That said, the power of storytelling can be applied in other ways to good effect also. In total, SOS published four newsletters and almost 100 original news pieces, mostly reporting on developments and conservation successes from grantees in the project portfolio. These are all available on the SOS website for easy and quick reference.

In addition, engagement and reach through the social media continued to improve, publishing news almost daily via Facebook and Twitter while making special efforts to celebrate officially recognised species or nature-related days. Interestingly, the most notable growth in reach correlated with collaborations with other IUCN communications teams – in particular the IUCN Red List of Threatened Species. There is still much work to be done to raise awareness and engagement in conservation action and species-related news, but many valuable lessons have been learned along the way.

Indeed, SOS continued to collaborate with external partners on communications initiatives in 2014. In tandem with our Red List colleagues, SOS engaged with French nature magazine *Terre Sauvage* to produce a special edition in print and digital versions for retail. With both print and digital formats published in December 2014 the digital English language version Special Edition was the most downloaded document from the IUCN library for December and was the only document produced in 2014 in the top ten downloaded documents for 2014.

FREEDOM in Paris. © Simon Bradley

On the global stage, the ongoing partnership between SOS and the FREEDOM Project raised significant international media attention for species and species conservation through a series of spectacular events in Chamonix, Paris and London and online via viral videos. FREEDOM is an international initiative working to popularise the inspiring power of nature through film, events, online video and outreach focusing on raptors and other birds of prey. Key components of the project are Victor and Darshan – two eagles specially trained to carry small video cameras on their backs while in flight, offering viewers an eagle's eye view of the world. The highlight for FREEDOM in 2014 was Victor's flight from the top of the Eiffel Tower in Paris. France's TF1 and *Paris Match* reported exclusively on the event – the first of its kind – reaching millions in France and worldwide in the days following.

Meanwhile, SOS organized and participated in events at the Convention on Biological Diversity's 12th Conference of the Parties, Korea in October and the IUCN World Parks Congress (WPC) in Sydney in November. These events allowed SOS to profile the value of small grants in conservation finance and the impact of species conservation in protected areas management respectively.

The WPC interactive session titled Saving Species in Protected Areas was especially well received. By inviting several SOS grantees to present on their projects, the event proved stimulating and informative for those present, including donors.

>> GROWING THE PARTNERSHIP

Similarly, SOS continued to grow in terms of donors and communications partnerships during 2014. Fondation Credit Agricole Suisse joined SOS in spring, funding a Chinese-based project implemented by Fauna & Flora International, working with two species of threatened conifers.

Over the course of the year, SOS continued working to engage with businesses to support species conservation with mixed success. These mainly short-term collaborations on communications-oriented activities, for example with Disney Nature France and sponsors for the *Terre Sauvage* special edition indicate that the SOS proposition could be better articulated to engage with businesses on larger and longer-term commitments.

An example of this has been the continued development of the relationship with Coq En Pate – an ethical French children's apparel company which began in late 2014 and promises to bear fruit for SOS in 2015 through various innovative fundraising activities.

SAVE OUR SPECIES

SUMMARY

The SOS Secretariat and the broader network continue to work together to deliver impact along the frontlines of many conservation efforts worldwide. While the work to raise funds is ongoing and never easy, SOS remains committed to the task at hand and has demonstrated some successes to date – in addition to its achievements as a conservation tool. Working ever more closely and synergistically with colleagues in IUCN's various Commissions and Regions will no doubt catalyse the SOS impact to even greater effect in 2015 and beyond.

INTEGRATED TIGER HABITAT CONSERVATION PROGRAMME

Through funds donated by the German government and channelled through the German development Bank KfW, IUCN launched its €20 million, five-year Integrated Tiger Habitat Conservation Programme (ITHCP) in 2014. The programme is managed by the IUCN Global Species Programme in tandem with SOS.

The programme focuses on three key aspects of tiger conservation:

1. The conservation of tiger populations through monitoring and anti-poaching;
2. The management of habitats and prey; and
3. Reducing human-tiger conflicts through providing alternative, sustainable livelihoods for communities living in and around tiger habitats.

After establishing a Secretariat based at IUCN HQ in Switzerland, team members attended the second global stock-taking conference of the Global Tiger Recovery Programme (GTRP) in Dhaka in September 2014. Soon after this, ITHCP launched its first call for concept notes receiving a total of 52 applications. These were reviewed by independent external reviewers as well as a hand-picked Programme Advisory Committee (PAC), made up of specialists with expertise in the different disciplines involved in the ITHCP.

This was then passed to the Programme Council for eventual shortlisting. It is expected that the ITHCP will begin funding multi-year grants from the middle of 2015.

Throughout this process, ITHCP has used the techniques and methodologies already tried and tested across the organization and more notably by SOS – Save Our Species.

Tiger (*Panthera tigris*), Endangered. © Debashish Dutta

Shaggy Ink Cap (*Coprinus comatus*), Not Evaluated. © David Wright CC BY 2.0

Publications Summary 2014

Regional Action Plan for the Conservation of Western Lowland Gorillas and Central Chimpanzees 2015–2025
English: https://portals.iucn.org/library/efiles/documents/2014-075.pdf

Assessment of Python Breeding Farms Supplying the International High-end Leather Industry
English: https://portals.iucn.org/library/sites/library/files/documents/SSC-OP-050.pdf

Diretrizes Para Reintroduções e outras Translocações para fins de Conservação: Tradução para o Português – Junho 2014
Portuguese: https://portals.iucn.org/library/sites/library/files/documents/2013-009-Pt.pdf

Position Statement: The Threat Posed by Unregulated Use of Poison to Africa's Biodiversity, Ecosystems and Human Health
English: https://portals.iucn.org/library/sites/library/files/documents/PP-006.pdf
French: https://portals.iucn.org/library/sites/library/files/documents/PP-006-Fr.pdf

Freshwater Key Biodiversity Areas in the Mediterranean Basin Hotspot
English: https://portals.iucn.org/library/sites/library/files/documents/SSC-OP-052.pdf

Guidelines for Wildlife Disease Risk Analysis
English: https://portals.iucn.org/library/sites/library/files/documents/2014-006.pdf

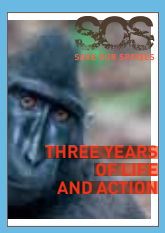
IUCN Species Survival Commission Guidelines on the Use of *Ex situ* Management for Species Conservation
English: https://portals.iucn.org/library/sites/library/files/documents/2014-064.pdf

Lesser Antillean Iguana: *Iguana delicatissima*: Conservation Action Plan, 2014–2016
https://portals.iucn.org/library/sites/library/files/documents/2014-057.pdf

Primates in Peril: The World's 25 Most Endangered Primates, 2012–2014
English: https://portals.iucn.org/library/sites/library/files/documents/IUCN-2014-018.pdf

Revised Regional Action Plan for the Conservation of the Cross River Gorilla (*Gorilla gorilla diehli*) 2014–2019
English: https://portals.iucn.org/library/sites/library/files/documents/IUCN-2014-013.pdf

Save Our Species: Three Years of Life and Action
English: https://portals.iucn.org/library/sites/library/files/documents/2014-036.pdf



Scaling up Pangolin Conservation
English: https://portals.iucn.org/library/sites/library/files/documents/2014-062.pdf

The IUCN Red List: 50 Years of Conservation
English and Spanish: https://itunes.apple.com/us/book/iucn-red-list-50-years-conservation/id934571728?mt=11

The Status and Distribution of Freshwater Biodiversity in the Eastern Mediterranean
English: https://portals.iucn.org/library/sites/library/files/documents/RL-262.2-001.pdf

Handbook of the Mammals of the World – Volume 4: Sea Mammals
English: http://www.lynxeds.com/hmw/handbook-mammals-world-volume-4

© Muhammad Yazid

NOT EVALUATED	DATA DEFICIENT	LEAST CONCERN	NEAR THREATENED	VULNERABLE	ENDANGERED	CRITICALLY ENDANGERED	EXTINCT IN THE WILD	EXTINCT
NE	DD	LC	NT	VU	EN	CR	EW	EX

Geographical range

Knowledge
Experts
Get Involved

Amazing Species: Bleeding Toad

The **Bleeding Toad**, *Leptophryne cruentata*, is listed as Critically Endangered on The IUCN Red List of Threatened Species™. It is endemic to West Java, Indonesia, specifically around Mount Gede, Mount Pangaro and south of Sukabumi. The Bleeding Toad's scientific name, *cruentata*, is from the Latin word meaning "bleeding" because of the frog's overall reddish-purple appearance and blood-red and yellow marbling on its back.

The population declined drastically after the eruption of Mount Galunggung in 1987. It is believed that other declining factors may be habitat alteration, loss, and fragmentation. Although the lethal chytrid fungus, responsible for devastating declines (and possible extinctions) in amphibian populations globally, has not been recorded in this area, the sudden decline in a creekside population is reminiscent of declines in similar amphibian species due to the presence of this pathogen. Only one individual Bleeding Toad was sighted from 1990 to 2003.

Part of the range of Bleeding Toad is located in Gunung Gede Pangrango National Park. Future conservation actions should include population surveys and possible captive breeding plans.

IUCN RED LIST Guiding Conservation for 50 Years

IUCN SSC Species Survival Commission

SOS SAVE OUR SPECIES

The production of the IUCN Red List of Threatened Species™ is made possible through the IUCN Red List Partnership.

IUCN SSC Specialist Group Network


AFRICAN ELEPHANT


AFRICAN RHINO


AFROTHERIA


AMPHIBIAN


ANOLINE LIZARD


ANTEATER, SLOTH AND ARMADILLO


ANTELOPE


ASIAN RHINO


ASIAN WILD CATTLE


BAT


BEAR


BISON


BOA AND PYTHON


BUMBLEBEE


BUSTARD


BUTTERFLY


CACTUS AND SUCCULENT


CANID


CAPRINAE


CARNIVOROUS PLANT


CAT


CAVE INVERTEBRATE


CETACEAN


CHAMELEON


CHINA PLANT


CLIMATE CHANGE


CONSERVATION BREEDING


CORMORANT


CRANE


CROCODILE


CROP WILD RELATIVE


CYCAD


DEER


DIVER AND LOON


DRAGONFLY


DUCK


EQUID


FLAMINGO


FRESHWATER CRAB AND CRAYFISH


FRESHWATER FISH


FRESHWATER PLANT


GALAPAGOS PLANT


GALLIFORMES


GIRAFFE & OKAPI


GRASSHOPPER


GROUPER AND WRASSE


HAWAII PLANT


HERON


HYAENA


IGUANA


INVASIVE SPECIES


LAGOMORPH


LARGE CARNIVORE INITIATIVE FOR EUROPE


LICHEN


MACARONESIAN ISLAND PLANT


MANGROVE


MARINE TURTLE


MEDICINAL PLANT


MOLLUSC


MUSHROOM, BRACKET AND PUFFBALL


NEW WORLD MARSUPIAL


ORCHID


OTTER


PALM


PANGOLIN


PECCARY


PELICAN


PINNIPED


POLAR BEAR


PRIMATE


RE-INTRODUCTION


SALMONID


SEA SNAKE


SHARK


SIRENIA


SMALL CARNIVORE


SMALL MAMMAL


SOUTH AMERICAN CAMELID


SOUTH ASIAN INVERTEBRATE


STURGEON


SUSTAINABLE USE AND LIVELIHOODS


TAPIR


TORTOISE AND FRESHWATER TURTLE


TUNA AND BILLFISH


VIPER


VULTURE


WILD PIG


WILDLIFE HEALTH


WOODCOCK AND SNIPE

Version2_03/2014