

Species

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SSC Quadrennial Reports
for the
3rd IUCN World
Conservation Congress



Species 42

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SPECIES SURVIVAL COMMISSION

IUCN

The World Conservation Union

Species is the newsletter of the Species Survival Commission of IUCN–The World Conservation Union. Commission members, in addition to providing leadership for conservation efforts for specific plant and animal groups, contribute technical and scientific counsel to biodiversity conservation projects throughout the world. They provide advice to governments, international conventions, and conservation organizations.

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Message from the Chair

24 NOV. 2004

THIS IS MY FINAL CONTRIBUTION to *Species* as the Chair of the Species Survival Commission. This issue of *Species* is being distributed in conjunction with the 3rd IUCN World Conservation Congress, which will elect the next Chair. It has been a pleasure and an honor to serve as the Chair of the SSC since November 1996, and for that I have to thank you, the members of the Commission.

We have made some tremendous advances in the last eight years. The revision of the Strategic Plan focused us on what we wanted to achieve as a Commission of IUCN. It is worth repeating our stated goal for the period of 2001 to 2010:

The extinction crisis and massive loss in biodiversity are universally adopted as a shared responsibility, resulting in action to reduce this loss of biodiversity within species, among species, and of ecosystems

In May 2002, the Parties to the Convention on Biological Diversity adopted the Strategic Plan for that treaty, with a goal that was later picked up by the world's heads of government at the World Summit on Sustainable Development – to significantly reduce the rate of loss of biodiversity by 2010. We can rightly claim that the thinking that went into the SSC Strategic Plan had an influence on both those processes, and that we have made great progress on the first half of our goal, that of recognition of the crisis. But what about the action part?

The stories in this issue are snapshots of the amazing work that has gone on in our network of volunteers over the last four years. Each previous issue of *Species* has drawn our attention to other activities. Yes, these are only a start, and yes, the network is constrained by lack of resources, but we should all be proud of what has been accomplished.

At the collective level, I would like to highlight two things. The first is the Red List Programme. When I started as Chair we had just released the 1996 edition of the IUCN Red List of Threatened Animals. It was still a book, about the same size and shape as the telephone book of my home city of Ottawa. A year later we released a somewhat larger telephone book, the 1997 IUCN Red List of Threatened Plants. That publication had been about ten years in the making and the assessments were still made under the old criteria.

At the Bangkok Congress we will be releasing the 2004 Red List of Threatened Species (note the integration of plants and animals) and the first Global Species Assessment. In the time since 1996 we have solidified the *IUCN Red List Categories and Criteria*, established clear program guidelines for the production of annual updates for the consolidated list, included a robust challenge function, and begun the work of extending the assessment process to cover a much wider range of species. Recognizing the size of the job, we established the Red List Consortium with BirdLife International, Conservation International, and NatureServ. By the time we get to Bangkok the Global Amphibian Assessment results will be available, and coupled with the latest set of results

from the *Threatened Birds of the World* by BirdLife International and the Global Mammal Assessment, we will be able to make the first application of the trend indices that were only proposals in 1996.

The second is the real progress we have made on the development and deployment of the long-promised Species Information Service. With significant support from Oracle and Conservation International in particular, building on the work done by the Institute of Zoology in Rome, we now have the data entry module of this critical biodiversity information system in the field, and the work continues to develop and put in place the other parts.

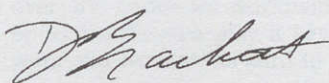
Other highlights for me include the insights we gained through the Voluntarism Study, the establishment of the Sir Peter Scott Conservation Action Fund, and the launch of the new SSC awards.

I could not have completed two full terms as Chair of the SSC without the support of my home institution, Environment Canada. Since June 2002 I have also had the support of the Center for Applied Biodiversity Science of Conservation International, which has allowed me the luxury of spending much more time on IUCN matters.

Organizations as complex as the SSC are not run by one individual. I have had the privilege of working with some of the most dedicated members of the SSC on the Steering and Executive Committees, in both my first and second term. Thanks to all of them, and to the lengthy list of dedicated Chairs of all of the Specialist Groups and Task Forces who are in many ways the heart of the SSC network.

Special thanks go to the staff members who have supported me, but especially to Simon Stuart and Susan Mainka as the Head of the Species Programme at IUCN HQ during my terms. And finally, I want to make special mention of two extraordinary individuals without whom the Chair's Office would have been more fiction than fact – Ruth Barreto and Carolina Caceres.

As the world faces up to its responsibilities to deal with the ongoing extinction crisis the work of the SSC will remain an important piece of the solution. Keep up the good work.



David Brackett—Species Survival
Commission Chair

Thanks to all the dedicated
Chairs who are in many ways
the heart of the SSC network



SSC Overview

THERE IS A GREAT DEAL of overlap between the work of the Species Programme and that of the Species Survival Commission. For example, production of the Red List would not be possible without the work of SSC members, but the Programme is needed to coordinate their work. Also the activities of the Commission are extremely broad-ranging with 8,000 members and 120 Specialist Groups. This report is limited to the work carried out by the SSC Secretariat as *Species 42* is dedicated to Specialist Group intersessional reports. It highlights the collective activities and achievements of SSC that contribute to the Strategic Plan 2001–2010 and to the programme priorities for 2000–2004.

During the 2000–2004 intersessional period, the Species Programme continued to work under the guidance of the SSC Strategic Plan, which is integral to the wider IUCN Programme. SSC's work is clearly linked to, and directed towards, the mission, goals and key result areas of the Union. For instance, SSC's goal statement is one of the two IUCN Programme goals.

Vision:
A world that values and conserves present levels of biodiversity.

Goal:

The extinction crisis and massive loss in biodiversity are universally adopted as a shared responsibility, resulting in action to reduce this loss of diversity within species, among species and of ecosystems.

Objectives:

1. Decisions and policies affecting biodiversity influenced by sound interdisciplinary scientific information.
2. Modes of production and consumption that promote the conservation of biodiversity adopted by users of natural resources.
3. Capacity increased to provide timely, innovative and practical solutions to conservation problems.

During this period, the work of the Species Programme became more relevant than ever with the growing emphasis on the targets set by the World Summit on Sustainable Development and the Convention on Biological Diversity to "significantly reduce the rate of loss of biodiversity by 2010".

To help find the necessary funding and to increase its impact, the Programme continued to strengthen partnerships with other conservation organizations, notably the Center for Applied Biodiversity Science at Conservation International. Through the Biodiversity Assessment Initiative, major strides were taken in the assessment of key taxonomic groups, which is central to SSC's business.

Successful launches of the 2002 and 2003 updates to the IUCN Red List of Threatened Species, with their unprecedented media coverage, ensured that SSC's position as a leading authority on the status of biodiversity was further endorsed.

Yet the Species Programme is becoming a victim of its own success. It is becoming increasingly difficult to keep pace with requests for its information and services. A challenge that lies ahead is how best to restructure the Programme and Secretariat to meet SSC's objectives in the coming years.



Bird Specialist Groups and Partners

Assessing the Status of the World's Birds

As the Red List Authority for birds, BirdLife International published *Threatened birds of the world* in 2000, containing the most comprehensive information on the world's threatened birds that had yet been published. Considerable interest in contributing to the Red Listing process was generated by the network of over 1,000 species experts and many collaborating organizations who contributed to *Threatened birds of the world*. To capitalize on this, and to make the Red Listing process more open, transparent and participatory, in 2002 BirdLife set up web-based discussion forums to advertise proposed Red List category changes, request relevant information and comment, and to invite suggestions for other species

whose Red List status merited review or re-examination. The discussion forums were organized regionally and taxonomically, to cater both for the large number of fieldworkers with expertise and interest in particular geographic areas and for SSC Specialist Groups or communities of experts interested in particular taxonomic groups.

Forums for waterbirds and galliformes were co-moderated by Wetlands International and the World Pheasant Association respectively, the two parent organizations who, along with SSC, provide support to the Specialist Groups focusing on these species. This provided an excellent opportunity to strengthen links with the taxonomic specialist groups and to promote and clarify the process by which they can contribute their expertise to the Red Listing process.

In 2002–2003, 300 species were actively reviewed, and the new information and analysis that resulted led to 226 species having their Red List category revised. These were published in *Threatened birds of the world 2004*, a CD-Rom released in March 2004. This contains species factsheets for all the world's birds (including, for the first time, documentation for all Least Concern species). For Threatened and Near Threatened species, the factsheets incorporated the latest information from the published literature, unpublished material and the network of species experts. Some 3,000 CDs have been widely distributed and all the information is also freely available on the BirdLife website (www.birdlife.org).

In future, BirdLife plans to continue to use the web-based discussion forums to solicit input and promote participatory Red Listing, feeding any revisions into the IUCN Red List at annual intervals. Over 70 species are already being considered

for the 2005 Red List. Information on species factsheets will be updated at least every four years for all species, but more often for particular species or species groups as opportunities arise. We are currently actively engaged in contributing to updates to the galliformes and parrot Action Plans and we are working with Wetlands International and the Waterbird Specialist Groups to update the third edition of *Waterbird Population Estimates*.

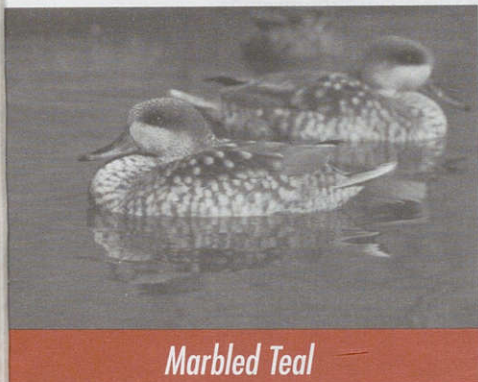
BirdLife has also recently completed a review of the implementation and effect of all 5,500 conservation actions identified for Globally Threatened Birds (GTBs) in 2000. The results of this review were just one of over 120 analyses presented in *State of the world's birds 2004*, a 70-page report published by BirdLife. This brings together for the first time what is known about the status and distribution of birds, the pressures on species, sites and habitats, and an analysis of current conservation action and conservation priorities. It draws on BirdLife's data on the status of the world's birds and the sites identified to conserve them (Important Bird Areas or IBAs), plus unpublished material from ongoing collaborations, including Specialist Groups, as well as results and examples from the recent scientific literature. The report shows how birds – the best-known major group of organisms – can help us understand the threats confronting global biodiversity. It identifies affordable solutions which could reverse the trends towards species extinction and habitat loss and the destruction of the ecological services on which the health of the planet depends. Over 5,000 copies have been freely distributed in order to advocate these key messages, and the information is downloadable from www.birdlife.org.

Many examples from *State of the world's birds* are included in the *Global Species Assessment* which BirdLife and the other members of the Red List Consortium produced in 2004. BirdLife has played a key role in the consortium, contributing to the development and improvement of standards for data collection and interpretation. In particular, BirdLife pioneered the development and testing of Red List Indices, which chart the changing status of threats to biodiversity over time. BirdLife produced the first examples using birds, and publication of these in peer-reviewed scientific papers has helped to raise the profile of the IUCN Red List and highlight its importance in measuring the changing state of biodiversity.

BirdLife's Partnership continues to develop in over 100 countries worldwide. The IUCN/SSC Specialist Groups play a key role in BirdLife's work and we look forward to another successful quadrennium.

BirdLife International
Leon Bennun, SSC Executive Committee
focal point for birds

Marbled Teal



Waterbird Specialist Group – A Partnership with Wetlands International

The IUCN/SSC waterbird Specialist Groups are operated as a network that is coordinated by Wetlands International (www.wetlands.org), a networking and facilitating organization. The network of Specialist Groups is a vital part of Wetlands International, essential for the delivery of wetland and wetland species expertise in support of wetland conservation globally. Wetlands International Specialist Groups are globally coordinated by Dr. Douglas Taylor, Wetlands International's International Science Coordinator and supported by Tunde Ojei, Specialist Group Network Development and Support Officer.

The 14 waterbird Specialist Groups have published scientific and technical reports, as well as bulletins, newsletters and workshop proceedings. They have also contributed to the third edition of Wetland International's Waterbird Population Estimates. This volume, available in PDF from <http://www.wetlands.org/pubs&WPE.htm>, sets the global standard in presenting estimates of the numbers and trends of waterbird populations throughout the world.

You can learn more about the Cormorant, Diver/Loon, Duck, Flamingo, Goose, Grebe, Heron, Pelican, Seaduck, Stock/Ibis/Spoonbill, Swan, Threatened Waterfowl, Wader and Woodcock/Snipe Specialist Groups, including profiles of their Chairs, at: <http://www.wetlands.org/networks/SGroups.htm>

World Pheasant Association

The last IUCN quadrennium was the first complete cycle under the formal agreement between the World Pheasant Association (WPA) and SSC over the running of the Galliformes Specialist Groups; the Cracid, Grouse, Megapode, Partridge Quail and Francolin, and Pheasant Groups. Whilst in many ways this merely formalized the relationship that existed throughout the 1990s, there is little doubt that it has led to much greater support for the five Specialist Groups. Part of this is due to better communication between SSC and WPA, and also with BirdLife International, but perhaps it is more significantly a consequence of WPA's decision to take on a Conservation Director.

WPA has a conservation strategy with three clear elements and the activities of the Specialist Groups are strongly represented in these elements. Through leadership in the conservation of the Galliformes, we seek to elevate the science undertaken by the Specialist Groups to a level of prominence that will ensure the recommendations flowing from their work will be acted upon. As we find out more and more about 'our' species, it is crucial that we develop and implement solutions to conservation problems. To this end, we critically evaluated the three Action Plans that were published in 1995 for the period 1995–2000. The paper that subsequently appeared in

Biological Conservation during 2003 indicated that the plans do make a difference. A more detailed analysis of the Pheasant Action Plan that appeared in BirdLife's *State of the World's Birds* indicated that the 2000–2004 version of the plans contained a greater proportion of applied research and management projects than its predecessor. This suggests that we are building on our science to propose sound solutions.

We have continued to work with the Specialist Groups on both Action Planning and Red Listing, coordinating Specialist Group inputs on the latter where appropriate. In 2000, we saw the publication of Action Plans for all five Galliformes Specialist Groups, with coordination provided by WPA where required. As the quadrennium ends, we are again in that position, and are evaluating the second editions of three Action Plans and coordinating the compilation with the Chairs where appropriate and feasible.

The training strand to our Conservation Strategy would simply not be possible without the Specialist Groups. The most high profile aspect of this is the Scientists' Training Workshop and other training activities that we run with our Asian symposia every three to four years. These rely heavily on the Chairs of the Pheasant and the Partridge, Quail and Francolin Specialist Groups in particular, and have gained a very welcome reputation in Asia for being both valuable and enjoyable. These activities are kept small, as we believe that intensive tuition of a few people is more beneficial in the long-term than relatively superficial training of many people.

Our final strand is the conservation projects themselves. It is fair to say that at the start of the quadrennium the projects in the then new Action Plans were the projects that we sought to initiate. As the Specialist Group reports indicate, the quantity (and quality) of these field projects are breathtaking and it is staggering that so much has been achieved without large financial backers and with such limited funds. The enthusiasm and skill of all Specialist Group members in making limited funds go a long way really is a lesson to many large conservation and development organizations.

Since 2000, it has become evident that with WPA support, some of these projects have been relatively easy to initiate and so we have moved swiftly on to new issues. One such issue is that of hunting, which on the surface accounts for the reason why the Galliformes covered by the five Specialist Groups feature so prominently on the *IUCN Red List of Threatened Species*. However, as we find out more about this threat, it seems that some of the assumptions made about hunting are not borne out in some areas, but in others the threat to wild populations is understated. So, we are seeking to address this type of generic issue in the often non-biological areas that it leads to. As



an example, a study in press in *Oryx* indicates that many people in the Northwest Himalayas would not stop hunting even if alternative sources were provided free of cost. How do we balance these cultural needs with the requirements of species living at low densities in forest patches of decreasing size? These are the sorts of issues that we are increasingly turning towards and during the next quadrennium; we look forward to working with SSC and the specialists in the Specialist Groups to provide workable answers.

Phil McGowan, Conservation Director

Bustard

Asad Rafi Rahmani, Chair

Cormorant

The Cormorant Specialist Group was officially founded at the 3rd European Cormorant Conference held in Gdansk, Poland, in April 1993. Its main aim is to facilitate the exchange of information on both ecology and biology of the different species of cormorants worldwide and on possible conflicts between cormorants and human fisheries' interests.

The 6th International Cormorant Research Group Conference took place in Odessa, Ukraine from 10–14 September 2003. The Cormorant Specialist Group continued to publish their Bulletin which is also available in PDF from http://web.tiscali.it/sv2001/cormo_abstract/crgb_5.htm

Mennobart Van Eerden, Chair

Cracid

The Cracid Specialist Group (CSG) has had a busy quadrennium of exchanging information and promoting awareness of Cracid conservation, as well as trying to ensure action on the projects identified in the *Curassows, Guans and Chachalacas: Status Survey and Conservation Action Plan for Cracids 2000–2004*.

A number of Cracid field projects have been implemented since the publication of the Cracid Action Plan. Of the 19 projects listed for support in Appendix V of the Action Plan, all but three have been realized, receiving full or partial support! Some of the projects over the past three years have included work on:

- Community-wide studies in Guatemala and Peru
- Chaco Chachalaca (*Ortalis canicollis*) in Brazil
- Crested guan (*Penelope purpurascens*) in Colombia
- Red-faced guan (*Penelope dabbenet*) in Argentina
- Black-fronted piping-guan (*Pipile jacutinga*) in Paraguay
- Highland guan (*Penelopina nigra*) in Guatemala

- Horned guan (*Oreophasis derbianus*) in Mexico
- Southern helmeted curassows (*Pauxi unicornis*) in Bolivia and Peru
- Alagoas curassow (*Mitu mitu*) in Brazil (Extinct in the wild)
- Razor-billed curassows (*Mitu tuberosa*) in Peru
- Cozumel Island curassow (*Crax rubra griscomi*) in Mexico
- Bare-faced curassow (*Crax fasciolata*) in Bolivia
- Blue-billed curassow (*Crax alberti*) in Colombia
- Wattled curassow (*Crax globulosa*) in Colombia and Bolivia

On 12 September 2001, during the Fifth International Congress on Management of Amazonia and Latin American Fauna (Cartagena, 10–14 September 2001), a symposium on the "Status of the Family Cracidae in Colombia: Perspectives of Use and Conservation" was coordinated by Ana Maria Franco and Luis Miguel Renjifo (Instituto Alexander von Humboldt), Isabel Melo and Jose Manuel Ochoa (Sociedad Antioqueña de Ornitología) and Diana Arzuza (Orniat). The objective of this meeting was to unite scientists interested in studying Cracids and to exchange and discuss information contributing to their management and conservation.

Symposium presentations included:

- *The status of the Cracid family in Colombia: threatened species* by Ana Maria Franco
- *Studies and perspectives of the Blue-billed curassow in Antioquia, Colombia* by Isabel Melo and Jose Manuel Ochoa
- *Evaluation of potential habitat and population of the Cauca guan in the Cauca River valley and its management in captivity* by Adriana Leon, Germán Corredor and Gustavo Kattan of the Cali Zoo and Fundación EcoAndina
- *Management and ex situ conservation of Cracids in Colombia* by Germán Corredor.
- *A Community investigation of the Wattled Curassow at Isla Mocagua (Leticia, Amazonia)* by Sara Bennet of Proyecto Crax globulosa.
- *Legislation dealing with management of fauna in Colombia* by Diana Vaca.

In addition, a workshop identifying information gaps for basic field research, *ex situ* conservation and management took place. In particular, recommendations for research and *ex situ* conservation focused on the needs of threatened species. Management focused on the opportunities and limitations that national legislation provides and determined what alternatives to Cracid use in Colombia can be offered, without creating false expectations within local communities. A series of propositions for conservation action were developed, with threatened species being an identified priority. This list was confirmed with the Colombian Cracidologist community.



It is time to update the *Cracid Action Plan* for 2005–2009

In 2003, Beatriz Torres coordinated a special exhibit at the Zoological Museum of the University of Copenhagen. The exhibit dealt with biodiversity, but featured the type specimen of Salvin's curassow (*Mitu salvini*), which is housed in Copenhagen. The mounted specimen was supplemented with field notes, sketches, and information about the species distribution, behavior, ecology, and conservation status. Interactive components include sonograms and gene sequencing. Original oil paintings by artist Nigel Hughes were also featured.

In early 2001, the Cracid Specialist Group published *Cracid Ecology and Conservation in the New Millennium* (D.M. Brooks and F. Gonzalez-Garcia,

Eds.), partly underwritten by the Crax International Conservation Group. It contains Cracid papers presented at regional symposia held in Monterrey, Mexico (with emphasis on Central America and Colombia)

and Asuncion, Paraguay (emphasis on Paraguay and Argentina) in October 1999, as well as Santa Cruz, Bolivia (emphasis on Bolivia and Peru) in 1997. The book is 225 pp., and four of the 13 contributions are in Spanish, but all contributions have English, Spanish and Portuguese abstracts. To order, please contact Jennifer King (jking@hmns.org) at the Houston Museum of Natural Science; 1 Hermann Circle; Retail Services; Houston, Texas 77030-1799; USA.

Also noteworthy are several publications the CSG is currently working on. The Group will soon begin updating the *Cracid Action Plan* for the period 2005–2009. If you would be interested in helping out with reviewing a draft of this document, kindly contact Dan Brooks. The CSG continues its strong commitment to the publication of Cracid research through the trilingual *Bol. CSG (Bulletin of the Cracid Specialist Group)*. This Bulletin has been published and circulated bi-annually, every March and September, with generous help from the World Pheasant Association. The Bulletin now reaches over 400 individuals around the globe, predominantly in Latin America.

In addition, the CSG website has been revamped and moved to www.cracids.org.

For more information on the Cracid Specialist Group in general, please contact Dr. Dan Brooks, CSG Chair, at the Houston Museum of Natural Science (address above) or via email at dbrooks@hmns.org; or check out the CSG website: <http://www.cracids.org>.

Dan Brooks, Chair

Crane

The International Crane Foundation acts as the IUCN/SSC Crane Specialist Group.

Overview

Eleven of the world's 15 species of cranes are threatened. An extensive network of protected areas now exist in the most important areas for cranes and growing numbers of people and organizations have become committed to crane conservation and the places where they live. Nevertheless, most protected sites are still threatened by external human activities and management at many sites is still insufficient to safeguard the birds and their critical habitats for the long term. Continued research, the growing capacity of nature reserve managers and expanding collaboration among countries along crane flyways, are all positive signs for the future of cranes. Some key highlights on endangered cranes are presented below and you can read more in our quadrennial report on the SSC 2000–2004 Quadrennial CD-Rom.

Siberian Cranes

Crane enthusiasts worldwide mourn the apparent loss of Asia's Central Population of Siberian cranes that once migrated from western Siberia to spend the winter at Keoladeo National Park in India. The population underwent a steady decline from about 75 birds in the early 1970s to just a single pair early this century. That pair was last spotted during an aerial survey of the breeding grounds in 2002. The probable loss of this population is mirrored by the continued decline of the western population of Siberian cranes that winters on the Caspian lowlands in Iran. From about a dozen birds upon their discovery in 1978, their numbers have declined to just four birds in 2004. The good news is that the eastern population of Siberian cranes numbers more than 3,000 birds and projects are underway to help assure its survival throughout its range.

Whooping Cranes

The population of whooping cranes that migrates from northern Canada to the coast of Texas, USA, has increased from 15 birds in 1941 to a record high of 194 birds in 2004. Declining inflows of fresh water into coastal wetlands due to expanding human uses inland are a threat to the availability of blue crabs which is the primary food of whooping cranes in winter. There are about 120 captive whooping cranes at four major North American facilities, augmenting the wild populations via release programs. Since 2001, captive-reared cranes have been trained to follow ultra-light aircraft on migrations between central Wisconsin and northwest Florida where they winter and, in spring, return to Wisconsin without assistance. Of the 39 birds led to Florida since 2001, 35 have survived to date and it is hoped two pairs who have established wetland territories will breed there when attaining sexual maturity. The



recovery efforts for the whooping cranes provide incentives and knowledge for similar efforts for the recovery of migratory populations of Siberian cranes.

Cuban Sandhill Cranes

Cuban colleague, Dr. Xiomara Galvez, and her team, determined that Cuban sandhill cranes on the Isle of Youth usually select a pristine community of savannah vegetation in which to lay their eggs. Monitoring the nest locations of the cranes reflected the distribution of the nest savannah habitat. Continued research on other sandhill populations throughout the country will be undertaken to determine if cranes in other areas also select the endangered savannah habitats for nesting. There are an estimated 550 Cuban sandhill cranes in 13 widely-separated areas.

Black Necked Cranes

The endangered black-necked crane of the Tibetan and Yunnan-Guizhou Plateaus numbers about 8,000 birds. Their breeding grounds are primarily in China, with some breeding in Ladakh, India. Coordinated winter counts reveal approximately double the numbers of cranes formerly estimated. However, in most areas, these cranes are dependent in winter on gleanings in crop fields and urban expansion, greenhouses and afforestation are threats. In Guizhou province, small loans administered by the Cao Hai Nature Reserve (where 600 cranes winter) to the local people has created a win-win situation between humans and wildlife.

Southern Asia

In India, Gopi Sundar heads the India Cranes and Wetlands Working Group under the auspices of the Wildlife Protection Society of India. During his recent research, supported by the Wildlife Institute of India, Gopi discovered that certain wetlands supported about 3,000 India sarus cranes. The wetlands were being degraded through a development program supported by the World Bank. Mr. Sundar networked with non-profit organizations and took the case to court and won. Local authorities were asked to alter the remaining program to ensure that wetlands were not damaged.

In Vietnam, Dr. Tram Triet, at Ho Chi Min University, heads a wetland research and conservation program to help conserve key wetlands for eastern sarus cranes on the Mekong Delta and in the highlands along the border with Cambodia. He also is developing a network of universities in Southeast Asia that focus upon academic training at graduate level.

Africa

In Africa, a major collaborative effort is underway among 11 nations to work with local communities and protect the large wetland systems upon which

the continent's wattled cranes depend. Currently, we estimate that the global population of wattled cranes is now about 7,500 birds, less than 50% of the estimated population only a decade ago. United under the African Wattled Crane Program (AWAC), a diversity of research and conservation initiatives involving hydrology, wildlife ecology, education and aid to local people are being developed.

Blue crane conservation is being carried out by the South African Crane Working Group (SACWG). The grassroots work of SACWG staff in several important crane areas is distinguished nationally for bridging the gap between the conflicting needs (both real and perceived) of farmers and wildlife. Through comprehensive monitoring, there are considered to be approximately 23,000 blue cranes in South Africa, the majority of which live on private land.

Grey crowned cranes are declining throughout their former stronghold and the East Africa subspecies population is now estimated at only about 65,000 birds, with about 8,000 to 12,000 of the southern subspecies remaining. As with the black crowned crane, the single biggest threat to these birds is probably live trade. Colleagues in Tanzania estimate that thousands of crowned cranes are being marketed to Europe and elsewhere out of Tanzania. The International Crane Foundation and colleagues in Tanzania and South Africa are working together to develop a comprehensive program to address legal trade and illegal trade. Efforts to stem the loss of black crowned cranes due to live bird trade in the Inner Niger Delta of Mali have been ongoing for several years. A new project is also underway to conserve black crowned cranes on agricultural fields in the rice-growing zone of coastal West Africa.

George Archibald, Chair

Diver/Loon

The Diver/Loon Specialist Group is engaged actively and continuously to improve worldwide loon population estimates and to protect loon habitats from excessive human disturbances. We are closely affiliated with the North American Loon Fund (an umbrella organization of about 14 self-financing regional and local affiliates in North America) and similar groups in Sweden and the UK, as well as numerous individuals in other countries, although our coverage in Asia could be improved. Over 2,000 loon enthusiasts are engaged in various volunteer activities.

Since 1999, the Group has been engaged in projects counting regional or local breeding loon populations. Some 14 loon organizations participate and prepare annual reports on the results of the counts. In addition, the Group participated in a special Loon session at the "Waterbird and Limnology" conference, held in 2003 in Canada. The proceedings of this meeting are currently in press.



In future, the Group plans to review the status of on-going loon population monitoring done by loon organizations and recommend improvements to loon monitoring efforts, in order to obtain more accurate world-wide loon population estimates. In addition, we hope to organize a major loon/diver research and management conference every three years. We will continue to encourage active regional cooperation among loon organizations.

Joseph Kerekes, Chair

Duck

The Duck Specialist Group's vision is to establish and maintain an international network of experts, in collaboration with international conservation organizations and conventions, which will promote the management, conservation and monitoring of duck species worldwide. Our mission is to promote, in collaboration with the Threatened Waterfowl Specialist Group and the Seaduck Specialist Group, the management, conservation and monitoring of ducks through information exchange and provision of advice. To achieve its mission, the Group aims to: provide an international network of experts on the world's ducks; stimulate and support information exchange between duck specialists and; coordinate the provision of information and advice to Wetlands International, IUCN/SSC and others in support of promoting the conservation, management and wise use of ducks and their habitats.

We have prepared a strategy for 2002–2005 which can be found on our website at: <http://www.wetlands.org/networks/Duck/Duck.htm>

In our Strategic Plan, the Group has identified three programs: maintaining an international network of duck specialists; stimulating and supporting information exchange between duck specialists and; provision of advice. For each program, objectives, actions and results are identified. Some of our actions include increasing the geographical coverage and expertise of the membership, developing communications tools, and contributing to products such as the Wetlands International Waterbird Populations Estimate and the IUCN Red List of Threatened Species.

James Robinson, Chair

Flamingo

Alan Johnson has served as the Flamingo Specialist Group Chair since 1978 but will be stepping down after the IUCN Congress and a new coordinator will be appointed by the Wetlands International Board. He has enjoyed being coordinator of the group, as well as corresponding with and meeting amateur and professional 'flamingo fanatics' from all over the world. Twenty-five years ago very little research was being done on flamingos whereas today there is growing interest and many active research and conservation projects are in progress in Africa, Asia, Europe, the Caribbean and South America.

Alan Johnson, Chair

Goose

The Goose Specialist Group seeks to strengthen contacts between all researchers on migratory goose populations in the northern hemisphere. A database with goose censuses from the Western palearctic is supported by a network of national coordinators. Annual meetings have been held since 1995 and presently, there are 400 members in our Group.

The present global coordinator is Bart Ebbinge, based at the Alterra, Green World Research Institute in Wageningen, the Netherlands. Regional coordinators are Ray Alisauskas based at the Canadian Wildlife Service in Saskatoon, Saskatchewan (Canada) for North America and Masayuki Kurechi of the Japanese Association for Wild Geese Protection in Wakayanagi (Japan) for East Asia.

Our last Goose Specialist Group meeting was held from 5–10 March 2004 in Odessa, Ukraine. This 8th annual meeting was attended by 70 people from 16 different countries. We are particularly grateful to Wetlands International, the DLO–International Co-operation Programme and the agricultural counselors of the Dutch Embassies in Moscow and New Delhi for financial support. We are also grateful to Dr. Anatoli Korzyukov (Odessa I.I. Mechnikov National University) and Dr. Ivan Rusev (Wildlife Conservation) for organizing this meeting.

The focus was on the three goose species that winter along the Black Sea coast; Greater White-fronted Geese, Red-breasted



Red-breasted goose

Geese and Greylag Geese. The latter species also nests in Ukraine. Also the rare Lesser White-fronted Goose, Bean Geese in Germany, Dark-bellied Brent Geese in France, Bar-headed Geese wintering in Myanmar and India, and Pink-footed Geese that nest on Spitsbergen (Svalbard) were on the agenda.

To solve the internal problems around the topic of re-introduction within the Lesser White-fronted Goose Working Group, a new troika consisting of Ivan Rusev (Ukraine), Maire Toming (Estonia) and Åke Andersson (Sweden) was appointed and in close co-operation with the IUCN/SSC Re-introduction Specialist Group, they will try to join forces in order to safeguard the future of this threatened goose species.

Many reports stressed the high pressure of hunting and poaching on the geese that migrate from Eastern Europe along the Black Sea coast, and there is a clear need for improved monitoring of goose numbers in this area. One of the important staging areas is Manych Lake. Also several plans threatening coastal areas near Odessa (Dniester delta) and the Biosphere reserve in the Danube delta were discussed. It was reassuring to learn that a successfully coordinated simultaneous mid-winter count in Bulgaria, Romania and Ukraine yielded a total of 52,000 Red-breasted Geese.

The weather during the conference was unusually cold (+5°C during the day) due to strong northerly winds, and this kept the geese in the area, so that during the conference and the three-day post-conference excursion to the Danube delta 20,000 Greater White-fronts and 1,000 Red-breasted Geese and many White-tailed Eagles could be observed at close range and we also saw many Ramsar wetlands along the coastal area.

The next meeting will be held in early November 2005 in Sopron, Hungary.

Bart Ebbsing, Chair

Grebe

Bruce Eichhorst, Chair

Grouse

The Grouse Specialist Group (GSG) keeps growing. By mid 2004, the Group had 116 registered members in 30 countries of the northern hemisphere. In particular, our representation has become better in eastern and central Europe and the Caucasus Region, as well as in North America.

Making use of the network

In an era of declining financial resources, ecological research and conservation are not priorities of funding agencies and decision makers. Grouse specialists in many parts of the range have had difficulties sustaining their work. In this situation,

international cooperation within IUCN/SSC, and the Specialist Groups in particular, has great potential. During the past four years, the Group has begun to successfully use its growing network to promote and assist grouse research and conservation programs by officially endorsing individual projects. International attention and support has proved successful in keeping grouse conservation on the global agenda.

For example, in spring 2003, 25 Grouse Specialist Group members visited the Scottish Capercaillie Life Project. GSG members met with forest agency staff and private estate managers and expressed their approval of the project. Project Manager and GSG member Kenny Kortland reported that this endorsement by international specialists has strengthened the project. He believes that the formal GSG support had great 'political' value in securing funding and public interest. To the visiting GSG members, the trip offered an opportunity to discuss research and conservation questions informally and on-site. The visit was a great success for both the project and the GSG members. Visits such as these, and informal meetings and workshops on selected topics, are becoming a tradition and strength of the GSG. They have a potential to assist specific projects and to promote exchanges of experience and discussion within the Specialist Group.

Status of grouse species

While the grouse family may not be as critical as related taxa, the overall situation has not improved since the turn of the century. The 2000 IUCN Red List of Threatened Species saw the newly recognized Gunnison Sage Grouse (*Centrocercus minimus*), first described by GSG members Jessica Young and Clait Braun, listed as Endangered. The Caucasian black grouse (*Tetrao mlkosiewiczzi*), was re-classified from Near Threatened to Data Deficient and the GSG continues to actively promote initiatives that contribute to clarifying this species' status. Population estimates and conservation activities are beginning in several countries of the Caucasus region. In the 2002 update of the IUCN Red List of Threatened Species, the Lesser prairie chicken (*Tympanuchus pallidicinctus*), was classified as Vulnerable owing to rapid population declines. The Chinese grouse (*Bonasa sewerzowi*), and Siberian grouse (*Falcapennis falcapennis*), remain listed as Near Threatened. At regional, national, and local scales, many populations of grouse are threatened with extinction. Fourteen of the 18 species of grouse are included in the national red-data books of at least one country.

Grouse Action Plan

The first IUCN Grouse Action Plan 2000–2004 was published in the year 2000. It has been perceived as a useful reference document that provides an overview of all grouse species and their situation



in a single publication. Unfortunately, unfavorable socio-economic and political situations in parts of the range, and related lack of funding and qualified specialists make the implementation of priority projects difficult. A revision of the Grouse Action Plan is planned for 2004/05.

GSG Audit

Following the example of the Pheasant Group and based on the Terms of Reference given by IUCN/SSC to Specialist Groups and their Chairs, the Grouse SG has reviewed its tasks and performance. The 2002 GSG Audit revealed a number of shortcomings. The GSG is lacking representation in parts of Eastern Europe and Asia; is rarely contributing actively to conservation debates and making advocacy interventions; is unsuccessful in Action Plan project implementation and is not sufficiently providing the means for monitoring species status. As major tasks, the GSG has agreed to: establish and maintain a GSG website; to publish and distribute *Grouse News* electronically; to identify potential new members in Eastern Europe and Asia; to encourage and assist Action Plan project proposals to implement their studies; to contribute to clarifying the conservation status of the Data Deficient Caucasian black grouse; to develop and continuously update a database on distribution, localities, and status of all grouse species; to seek to become involved in wider conservation debates and advocacy for action and to revise the Grouse Action Plan for the period 2005–2009. By now, most of these tasks have been successfully tackled. The result of the Audit was a clearer view of what the GSG is supposed to do, how well we are doing it, and, most importantly, of the way forward towards making a difference in understanding and sustaining grouse and their habitats.

GSG website and newsletter Grouse News

Since its launch in December 2002, the GSG website, <http://www.gct.org.uk/gsg/> has become a valuable and attractive platform for information on grouse and the Group, maintained by webmaster Michèle Loneux. At that time, the GSG's newsletter, *Grouse News*, began to be published electronically to minimize costs and optimize distribution. Tor Kristian Spidsø became the new Editor when Diana and Tim Lovel retired after 12 years. *Grouse News* continues to be published twice a year and is also available on the GSG website.

International Grouse Symposium

The 9th International Grouse Symposium was held in China in September 2002. A full week of lectures and discussions in Beijing were followed by a one-week field trip to the Lianhuashan Reserve and the Chinese grouse research project. Thanks to Symposium President Sun Yue-Hua, grouse ecologists from North America and Europe were

offered a great opportunity to learn about the grouse of China and Asia, and the growing number of excellent wildlife studies conducted in this region, as well as the many conservation problems Asian conservationists are facing. Proceedings of both the 8th (1999) and the 9th (2002) International Grouse Symposia were published in special issues of the journal *Wildlife Biology* (<http://www.wildlifebiology.com/>) in December 2000 and December 2003, respectively. This provided the Symposia and its Proceedings with wider attention. Papers were selected by peer-review and the final selection of papers nicely reflects recent trends in the study of grouse, which is increasing cooperation among researchers from different countries and growing integration of disciplines and approaches.

The 10th International Grouse Symposium will be held in France in 2005, hosted by GSG member Emmanuel Ménoni and the Office National de la Chasse et la Faune Sauvage (ONCFS). For additional information on Grouse SG activities see <http://www.gct.org.uk/gsg/>

Dr. Ilse Storch, Chair

Heron

The Heron Specialist Group (HSG) was productive in both projects and organization during the past four years.

The Heron Specialist Group was saddened to report the death in 2003 of Heinz Hafner, past Chair and founding Co-chair of the Group. James Kushlan, also a founding Co-chair, took over from Heinz during his illness and now chairs the Group, which consists of over 200 members. In addition, the Group boasts Regional Vice-chairs Mauro Fasola (Europe), Robert Butler (North America), Fabio Olmos (southern South America), Gonzalo Morales (northern South America), Donald Turner (East Africa), Christophe Tourenq (Middle East/ West Asia), Lew Young (East Asia), and Max Maddock (Australia / Oceania).

Our projects in 2000–2004

The Heron Specialist Group reviewed the status of herons in all regions of the world and synthesized the major threats to herons. The findings were published in a book, *Heron Conservation*, in 2002 (Academic Press). In addition, the Group has completed a book-length monograph on the biology of herons of the world. This book, *The Herons*, will be published by Oxford University press in 2004.

A draft review of the *Action Plan for the Herons of the World* was completed. At the time of writing, the final edition of this Action Plan is anticipated before the year's end. The Action Plan focuses on the identification of priority projects for heron conservation.

An informational Heron Specialist Group website, hosted by Station Biologique de la Tour du Valat, went live in 2004 (<http://www.tourduvalat.org/hsg.htm>). The Group also assembled a Bibliography of the Herons of the World which is available on our website.

The Heron Specialist Group undertook to compile maps of the ranges of the herons of the world. A draft set of maps were made available for review by authorities from around the world. A revised edition of the maps is in production and will be made available on our website.

We also identified and delineated populations of each species of heron as conservation entities in order to assess the status of heron populations. A review of the status of each population, including population size and category of threat, was conducted. The results are available on our website and served as one basis for World Waterbird Population Estimates and for the HSG contribution to the IUCN Red List of Threatened Species. This assessment will be re-evaluated in 2005.

In 2002 the Heron Specialist Group met in conjunction with the International Ornithological Congress in China and focused on Asian issues. The Group also met during the Waterbirds Around the World Conference in Scotland (2004) and concentrated on the website and Group organization. The next meeting of the Heron Specialist Group is expected to be held at the International Ornithological Congress in Germany in 2006.

Jim Kushlan, Chair

Megapode

Research and survey highlights for the Megapode Specialist Group were:

The confirmation of a thriving population of the Critically Endangered Polynesian megapode (*Megapodius pritchardii*), on the small volcanic island of Fonualei, Kingdom of Tonga, after the translocation of eggs and chicks from the nearby island of Niuafu'ou in the early 1990s was a significant highlight. The population has doubled in size and now occurs on two instead of one island. Its conservation status might therefore be downgraded from Critically Endangered to Endangered.

Another success was the rediscovery of the virtually unknown Bruijn's brush-turkey (*Aepyptodius bruijnii*), from the island of Waigeo, Irian Jaya, Indonesia, where a small population was discovered at higher elevations in the centre of the island. Since it was first described in 1880 and after a single specimen which was collected in 1939, no birds have been seen alive. The first ever population estimates and the conservation status of the species are currently being assessed.

Conservation projects were initiated in the Solomon Islands and Vanuatu, imposing temporary bans on egg-collecting for two species, the Melanesian megapode (*Megapodius eremita*), and the Vanuatu megapode (*Megapodius layardi*). These projects are executed and controlled by the local communities for which the megapode eggs are an important part of their economy and culture.

The maleo (*Macrocephalon maleo*), was surveyed in central and southeast Sulawesi. As a result it has been upgraded from Vulnerable to Endangered. The Wildlife Conservation Society has been active in promoting maleo conservation in North Sulawesi.

Recent studies on chick development and behavior in the Australian brush-turkey (*Alectura lathamii*), have revealed considerable information of great scientific and conservation importance (see publications listed in the SSC 2000–2004 Quadrennial CD-Rom) for this and other megapode species.

Other key accomplishments

The 4th international megapode meeting was held as a registered symposium titled *Megapodes: past, present & future* as part of the 2nd Southern Hemisphere Ornithological Congress (Brisbane, Australia, 27 June – 2 July 2000). Despite a limited amount of time available, seven members of the Megapode Specialist Group presented their work.

The 5th international megapode meeting was held as a symposium during the 3rd International Galliformes Symposium 2004 (Dehra Dun, India, 5–10 April 2004). Four oral papers were presented. During this meeting, Dr. Gillian Baker was appointed co-chair of the Megapode Specialist Group.

In 2000, the second edition of the Megapode Action Plan was published by IUCN, with financial support from The Netherlands Foundation for International Nature Protection (Van Tienhoven Foundation). In May 2004, preparations for the third edition, covering 2005–2009, began.

And finally, as of Vol. 17(1) 2003, the *Megapode Newsletter* is distributed by email as a PDF document.

René W.R.J. Dekker, Chair

Darryl N. Jones

Success for the Polynesian megapode and Bruijn's brush-turkey

Partridge, Quail and Francolin

This Specialist Group is dedicated to the conservation of an eclectic group of Galliformes representing over 140 species. This large group contains many reasonably secure species, but also some of the most endangered birds in the world. We are fortunate that we have a series of four other Specialist Groups focused on other Galliformes that provides a unique consortium for conservation research and action. We work particularly closely with the Pheasant Specialist Group and share many members, projects and other complementary activities.

The Partridge, Quail and Francolin Specialist Group (PQFSG) operates as a voluntary network of about 100 people worldwide. Recognizing some similar issues with the Pheasant Specialist Group, we have been working very hard to diversify membership and administration of the Group. In addition, we have continued to work to keep communication lines open by operating an independent website (<http://www.gct.org.uk/pqf/>) for the Specialist Group. We moved our twice per year newsletters from paper format to electronic format. Our newsletter editors, Dr. Stephen Browne and Mr. Jeff Thompson recently produced edition number 20. We also

dropped any kind of membership fee which we found to be administratively difficult and a hindrance to many of our colleagues.

One of the principle cooperative activities of the group is the review and improvement of project proposals, most of which are eventually endorsed by the Chair. We have had success assisting a number of individuals from around the globe connect with funding organizations. It is especially interesting to see conservation projects in Asia being particularly successful. Mr. Dai Bo and Dr. Simon Dowell have undertaken a number of projects on the Sichuan hill partridge and were instrumental in the establishment of several very large reserves in Sichuan Province, China. Dr. Lian Wei has been successful in highlighting the plight of the Hainan hill partridge on Hainan Island, China. Dr. Rich Fuller has helped to reinvigorate francolin research and conservation in East Africa with a number of our colleagues from Makerere University in Uganda. Mr. Bhagawan Dahal and Dr. Phil McGowan continue research on the swamp francolin, an endangered species limited to the terai of India and Nepal. In Latin America, Mr. Jack Eitnienar has helped to coordinate a number of projects and serves very well as a regional coordinator. He took the lead on recently published conference proceedings on the conservation of quails in the Neotropics.

One of the most important events for this quadrennial was the World Pheasant Association (WPA) International Symposium on Galliformes, jointly organized with the Specialist Groups for

Megapodes and Pheasant, and hosted in April 2004 by WPA-India and the Wildlife Institute of India. More than 150 people from 25 countries attended. A strong local focus allowed the drafting of a South Asia Regional Action Plan for Galliformes, designed to be used as a template by the six nations of the region. Proceedings from this conference will help disseminate the diversity of conservation research and action being undertaken on Galliformes. One aspect of this conference for which members of PQFSG have taken a lead is the field research workshop held after the conference. This has become much more formal with production of a course book and CD-Rom, along with establishment of a website that will be housed at the University of Georgia, U.S.A.

As we head into our third 5-year conservation action phase, we are seeing two hopeful trends for the projects and species under our remit. First, a number of species and areas that were identified in the first two Action Plans are finally seeing dedicated conservationists move projects forward. Many of these languished because of the difficulty due to geography or political instability. The second is the recognition that we need better science and implementation of conservation action in order to bring the goals of the Specialist Group and Action Plans to complete fruition.

John Carroll, Chair

Pelican

Old World Pelicans

With our corresponding members (25) and thanks to a financial support of the Sansouire Foundation, we have continued to, as much as possible, get the best picture of pelicans in the Palearctic.

In southeastern Europe most of the *Pelecanus crispus* colonies are increasing and today the largest colony in the world with more than 1,000 breeding pairs is located at Lake Mikri Prespa, northwestern Greece. On the other hand, many reports are showing that the situation of Dalmatian pelican breeding colonies in the former USSR are stable or deteriorating with breeding pair numbers going down in many colonies. A comprehensive, updated world review of the Dalmatian pelican has given an estimate of between 4,000 and 5,200 breeding pairs located in 13 countries.

A project to re-introduce Dalmatian pelicans in Croatia was launched in October 2001 during a meeting at Zagreb. A project steering committee including Croatian and foreign experts was formed and the project is supervised by the Institute for Ornithology in Croatia (Dr Jasmina Muzinic). Since the meeting in Zagreb, progress has been slow, primarily because of a lack of funds. Thanks to a grant from the San Diego Zoo

Dedicated to the conservation of
an eclectic group of birds



Stork, Pelican and Spoonbill

(USA) a feasibility study has been undertaken in order to choose the location for the re-introduction and three potential sites have been chosen. This feasibility study is ongoing and will include a sociological study examining how local people perceive such an introduction in their wetland.

Pelecanus onocrotalus is globally stable within the Palearctic, although some colonies might show a slight decline (e.g. Danube delta, Romania; Balkash lake, Kazakhstan). A comprehensive updated review of the Palearctic situation of the Great white pelican has estimated between 6,700– and 11,000 breeding pairs located in nine countries. Recent studies using satellite tracking have shown that the Great white pelican breeding in southeastern Europe winter in wetlands of East Africa (Sudan, Ethiopia and Kenya).

Possibly the most threatened pelican species in the world, the breeding population of *Pelecanus philippensis* is restricted to India, Sri Lanka and Cambodia and perhaps Sumatra. A comprehensive census of all breeding colonies in the three or four countries is urgently needed in order to better assess the status of this species. Fortunately, increased research activity in India will certainly help draw attention to the worrying situation of this species and help for its management and habitat.

The conservation status of pelicans nesting within the Palearctic remains worrying in many locations, although some success and increasing numbers have been observed thanks to conservation measures and management actions. The activities of the Pelican Specialist Group in the Old World are limited due to a lack of interest in these birds, and probably also because they can nowadays only be observed in remote areas.

Alain Crivelli, Chair

Pheasant

With 24 (48%) of our 50 pheasant species on the IUCN Red List of Threatened Species, compared to just 11% for all birds, it is clear that pheasants need more help than most, although only three are listed as Endangered. As widely hunted and predominantly forest birds of Asia, this situation could easily deteriorate further in the face of unsustainable off-take rates and pervasive human impacts on forests. The keystone for our work designed to stabilize or improve this situation on the ground is the *Pheasant Action Plan* (2000–2004), and it is against this that our success in making a positive contribution must be judged.

We operate as a voluntary self-help network of about 100 people worldwide, and took some time to examine how well we actually function as such. A formal audit of group activities, using the guidelines for Specialist Group chairs issued by SSC in 2000 as the template, proved to be a constructive exercise, highlighting both our strengths and weaknesses, which we have since been working to correct. For instance, we have established an independent website, improved our membership coverage in Southeast Asia, encouraged new work on the measurement of hunting and other human impacts (in India and China), and facilitated training workshops in Asia in field techniques, conservation breeding and project planning, data analysis and scientific writing. All these activities and the appointment of Rajiv Kalsi from India as our newsletter (*Tragopan*) editor, are helping to move the Group's centre of gravity eastwards, away from Europe and towards Asia, where 98% of the world's pheasant species actually occur! We have retained a UK-based Chair's Advisory Committee because this gives us easy access to a wealth of technical expertise in research methods, through which we can inform projects all over Asia.

Turning to the current five-year work program outlined in the Action Plan, we estimate that of the 25 projects given international priority, there has been activity on 15 (60%). Each project specifies a number of actions, of which there is a total of 80. We know there has been progress on at least 31 (39%) of these. These percentages are less impressive than the 76% of 25 projects and 76% of 73 actions recorded in a full audit of the 1995–99 Action Plan (Fuller et al. [2003] *Biological Conservation* 112: 343–349), but the level of recent activity in China, where about half of the world's pheasants occur, is comparable. In mitigation globally, it should be stressed that the types of projects prioritized for these two periods were rather different. There has been a shift away from surveys of status and studies of natural history, towards applied research and management interventions. Thus it is arguable that we have set ourselves a much tougher assignment in the 2000–04 Action Plan, based at least in part on the successful outcome of projects outlined in the previous one. The 2005–09 Action Plan is currently in

preparation, so like all good athletes, we are in training, pushing ourselves hard, and improving both our strategy and performance!

One of the principal cooperative activities of the group is the review and improvement of project proposals, most of which are eventually endorsed by the Chair. We have endorsed 17 proposals since the start of 2001 and have five more in the pipeline at present. Almost all of these are concerned with some aspect of Action Plan implementation or actions for individual threatened species. They concern work in India, China, Nepal, Malaysia, Indonesia, Bangladesh, Mongolia, Thailand and Myanmar, and cover species ecology, measuring threats, management interventions, taxonomy and training. We are privileged to have some project funds privately donated and managed for us by World Pheasant Association (WPA), through which the majority of these projects have received partial support. We are grateful for co-funding by the Oriental Bird Club (UK), Wildlife Conservation Society (USA), Bombay Natural History Society (India), Annapurna Conservation Area Project (Nepal), China National Natural Science Foundation, Yunnan Province Natural Science Foundation (China), Stiftung Avifauna Protecta (Germany), Society for Conservation of Species and Populations (Germany), King Mongkut's University of Technology (Thailand), Beijing Normal University and Hainan Normal University (China).

The undoubted highlight of the quadrennium was the WPA International Symposium on Galliformes, jointly organized with the Specialist Groups for Megapodes and Partridges, Quails and Francolins, and hosted in April 2004 by WPA-India and the Wildlife Institute of India. Generous funding via WPA allowed the partial sponsorship

of over 40 participants, and over 150 people from 25 countries attended. A strong local focus resulted in the drafting of a South Asia Regional Action Plan for Galliformes, designed to be used as a template by six

nations. There was also a thorough review of all project activity since the last meeting in this series (Nepal, 2000), and workshops on habitat assessment and abundance estimation.

Coming to the next Action Plan and IUCN quadrennium, our biggest challenge remains translating scientific findings into conservation action on the ground. This group is dominated by scientists who are collectively having some success in defining solutions to the conservation problems facing our species and their habitats. How to translate these into the language of land-managers and policy-makers, so that the need for and means of implementation are fully transparent, and the persuasive presentation of them at government level

remains a challenge. Few group members are able to do this effectively, but at the national and local level we need them to forge alliances with professionals in other fields who can precipitate the action required, perhaps most obviously by linking our concerns with those of the wider poverty eradication and sustainable development agenda. Cross-linkage with other Specialist Groups and IUCN Commissions ought to be part of this process.

Visit our website at: <http://www.gct.org.uk/psg>

Peter Carson, Chair

Seaduck

The Wetlands International Seaduck Specialist Group (SeSG) aims to enhance international co-operation among seaduck scientists, including the arrangement of regular meetings, forming links to international organizations and disseminating information about seaduck research, particularly the results of national and international monitoring schemes.

Linked to the SeSG is a decentralized database, which covers Africa, Europe and the Middle East. The aim of the database is to collate and store results from the International Waterbird Census coordinated by Wetlands International. The database aims to provide reliable population estimates and information on seaduck trends and distribution.

Throughout the quadrennium, two meetings of the SeSG were held. Both included special workshop sessions, one on Scoters in the Western Palearctic (at the Fuglsø, Denmark meeting in November 2000) and one on common eider in the Baltic/Wadden Sea flyway (at Roosta in Estonia in April 2002). Side events on Steller's eider also occurred at both meetings. In addition, issue 9 of the *Seaduck Bulletin* was published in June 2002. We hope to release issue 10 this December. Other publications to which we contributed include the *European Action Plan for Stellers Eider*.

Stefan Pihl, Chair

As widely hunted, predominately forest birds of Asia, their situation could easily deteriorate



Stork, Ibis and Spoonbill

Storks, Ibises and Spoonbills are known throughout the world. There are many local, national and international groups as well as the many dedicated individuals with strong interests in these birds. We all work together for the conservation of these birds.

The Stork, Ibis and Spoonbill Specialist Group (SISSG) has established itself as a focal group to bring people together, facilitate communication and enhance cooperative conservation efforts as we believe that, through co-operation, we can achieve the greatest benefits for conservation.

The aims of our Group are:

- **To work for the conservation of Storks, Ibises and Spoonbills (and other waterbirds).**
- **To monitor their status, with particular emphasis on endangered species, but including all species.**
- **To facilitate cooperative efforts for these birds among conservationists and researchers.**
- **To provide support to conservation efforts: e.g., contacts, information, etc.**
- **To provide critical monitoring and other information to Wetlands International, BirdLife International and IUCN.**

Throughout the quadrennium, we have been involved in a number of efforts with European white storks, particularly satellite tracking of the species from Europe to South Africa. We have contributed to an Oriental white stork species protection program for Russia, elaborated by IUCN and WWF Russia. Regular meetings have been organized by the black stork working group. The SISSG coordinates a black stork color ringing program.

We continue to support research and conservation of giant ibis and white-shouldered ibis in Southeast Asia, with emphasis on Cambodia.

We cooperate closely with China and Japan for the continuing conservation of the Oriental crested ibis. We have made contributions of materials, lectures and ideas to the Crested Ibis Conservation and Breeding Program in Xian and Yangxian County and are currently working on a re-introduction plan. The Yamashina Institute of Ornithology provides bands for the wild birds while we provide bands for the captive population and coordinate the color-banding protocols.

The Black-faced Spoonbill Working Group, consisting of government agencies, NGOs and individuals throughout the range in East Asia, works to coordinate conservation efforts, follow yearly changes in the population and share our increasing knowledge of the needs of the species. The international banding scheme is coordinated by the Yamashina Institute of Ornithology.

In future, we intend to continue our existing projects and will produce at least one newsletter per year. One priority will be to, with partners, plan meetings to share information on endangered species in Taiwan and Cambodia.

Malcolm Coulter & Wim Van den Bossche, Co-Chairs

Swan

The Swan Specialist Group aims to ensure good communication between swan researchers worldwide, to promote cooperative research and ringing programs where appropriate, and to improve links and information exchange with other research groups. In addition, we aim to identify gaps in our knowledge with a view to encouraging new projects in these areas and to advise effectively on swan management and conservation issues especially at an international level.

The Swan Specialist Group is part of the Wildfowl and Wetlands Trust (WWT) scientific program and information on the program can be found at: <http://www.wwt.org.uk/swan>

Throughout the quadrennium, the *Swan Specialist Group Newsletter* continued to be published by WWT. The most recent issue, April 2004, contains a number of updates from swan projects world-wide.

The Fourth International Swan Symposium of the Wetlands International Swan Specialist Group took place from 13–18 February 2001, at the invitation of Environmental Studies at Airlie, USA, and in conjunction with the 18th Conference of the Trumpeter Swan Society. Recommendations arising from this meeting can be found on the Wetlands International website at: http://www.wetlands.org/networks/Swan/SympRec_2001.htm. In addition, the proceedings were published as a special edition of the *Waterbirds* journal in December 2002.

Jan Beekman, Chair



Threatened Waterfowl

The Threatened Waterfowl Specialist Group (TWSG) aims:

- **To identify which Anatidae taxa are globally threatened and to monitor their status and distribution (in collaboration with the Red List Authority for birds, BirdLife International);**
- **To produce international Action Plans and to carry out conservation and research projects on globally threatened Anatidae and;**
- **To maintain an effective communications network between threatened waterfowl conservationists.**

Over the last three years, our membership has grown by 7% from 880 members in 2001 to 938 in 141 countries in 2004. We now have 498 Core Members, 126 of whom are actively engaged in threatened waterfowl conservation. We have expert members for 58 of the 59 threatened waterfowl taxa. Information dissemination remains a core activity for the Group. Our recent bulletins are available on our website (www.wwt.org.uk/threatsp/twsg), and we run seven listserves. During the quadrennium, we also published over 100 scientific papers, reports and popular articles plus the 13th and 14th editions of the *Threatened Waterfowl Specialist Group News* bulletin, which is circulated to all members free-of-charge.

We have conducted or provided support to over 40 individual conservation and research projects including:

- Production of global action plans for ferruginous duck, white-headed duck and the critically endangered Brazilian merganser.
- Organization of conservation planning workshops for ferruginous duck and Brazilian merganser.
- Publication of the proceedings from the ferruginous duck conservation planning workshop (25 papers on status, distribution, biology and conservation).
- Surveys which discovered new populations of Brazilian merganser in central Brazil and Argentina.
- A successful pilot nest box program for the scaly-sided merganser in far-east Russia. Over 140 nest boxes have now been erected, with the help of local people and school-children, in areas where the merganser's breeding habitat has been destroyed through logging.
- Three surveys for white-winged ducks in North Sumatra province, Sumatra. Unfortunately these located very few birds and reported widespread deforestation.
- Research and education work on white-winged duck in Way Kambas National Park, Sumatra.
- Surveys of blue-winged goose in Ethiopia.
- Surveys of West Indian whistling-ducks in the Turks and Caicos Islands, and St. Kitts-Nevis.

- Studies modeling ruddy duck impact on white-headed duck. The spatially-explicit model simulates the life histories of individual ruddy ducks in real landscapes using habitat information held within a Geographical Information System. Model predictions suggest that ruddy duck numbers in the UK can be reduced to less than 175 birds in approximately 10 years and eradicated in 20 years. Egg control is unlikely to be a practical alternative to culling on a national scale, but could be considered on sites where culling in the breeding season is not possible.
- A European ruddy duck survey.
- Circulation of the European ruddy duck eradication strategy to 350 contacts in 70 countries.
- Trials of a new design of nasal marker for white-headed ducks.
- Studies of the ecology of the marbled teal in Spain.
- A detailed study of the population genetics of white-headed ducks and ruddy ducks, and of their hybridization, and a study comparing hybrid morphology with their genetic makeup.
- A study of lead contamination in Laguna Medina and other Andalusian key sites for white-headed ducks.
- Publication of seven papers on marbled teal and four on white-headed duck.

Notably, starting in 2003, the Group has been supporting a red-breasted goose winter monitoring program being conducted by the Bulgarian Society for the Protection of Birds (BSPB). The red-breasted goose is globally endangered due mainly to its reliance on only five main winter roost sites that are threatened by habitat loss and disturbance from hunting activities. The global population may have declined from around 90,000 birds in 1999-2000 to only 50,000 birds in 2003-2004, probably due to extremes of weather and low food availability on the wintering grounds and poor breeding conditions on the tundra. The winter monitoring program is focused on the two main roost sites for the red-breasted goose – Shabla and Durankulak Lakes in northeast Bulgaria, but as part of this work coordinated monthly counts are being conducted in Bulgaria, Romania and Ukraine. Funding has already been secured to extend the surveys in 2004/2005. The TWSG will now work with BSPB to formulate a plan for red-breasted goose conservation. As well as the production of an updated global action plan, priority projects are likely to include the introduction of hunting patrols, identification of preferred inland feeding sites during conditions of high hunting disturbance (to inform BSPB's land-purchase program), formulating a crop rotation plan for feeding areas alongside Shabla and Durankulak Lakes to ensure availability of pre-

ferred food crops and an integrated public awareness program focusing on hunters, farmers and local schoolchildren. The TWSG also plan to assist BSPB in raising funds for various items required for the long-term future of the monitoring program.

The Secretariat for the Group is based at the headquarters of the Wildfowl & Wetlands Trust (WWT) at Slimbridge in the UK. WWT maintains nine visitor centers throughout the UK designed to bring people and wildlife closer together for the benefit of both. As part of these activities, WWT maintains waterbird collections totaling over 7,000 birds at five centers. Over the last four years, the TWSG has been receiving increased support from waterfowl keepers who wish to help conserve threatened waterfowl in their natural habitats. A good example of linking *ex situ* and *in situ* conservation activities involves an agreement between WWT and the Durrell Wildlife Conservation Trust (DWCT) where, in return for 30 greater flamingos from WWT, DWCT will provide the Group with a number of places on their world-renowned International Training Programme's Summer School. The aims of the Summer School are to provide an introduction to practical aspects of animal management *in situ* and *ex situ*, and to encourage a critical understanding of biodiversity conservation. Over the next three years, young TWSG members from developing countries will attend the summer school, starting in 2004 with Nicky Petkov from Bulgaria.

Baz Hughes, Chair

Wader

The International Wader Study Group, an association of amateurs and professionals from all parts of the world interested in Charadrii (waders or shorebirds), acts as the IUCN/SSC Wader Specialist Group (WSG). In its role as a global wader expert network, the WSG undertakes the compilation and interpretation of wader population estimates.

For some years, the WSG has been involved in re-evaluating population sizes and trends of all species of migratory waders in Africa and Western Eurasia. The final results (which assessed 131 populations of 55 species) were incorporated into Wetlands International's third edition of Waterbird Population Estimates. The results were also included in the global review of wader population status undertaken at WSG's 2003 annual Conference in Spain, where new information indicated declines of a significant proportion of the world's waders (shorebirds), and suggested that, for these birds at least, it will be extremely challenging to achieve conservation without significant investments and highly focused activity by

governments on all continents. The review is currently available on our website at: <http://web.uct.ac.za/depts/stats/adu/wsg/index.html>

The Wader Study Group also maintains contacts with many regional, national and international bodies interested in bird research and conservation, and often works alongside them in co-operative studies. The group has also been involved in the organization of expeditions to remote areas to fill gaps in our knowledge of waders.

Projects coordinated by WSG and currently on-going include:

Where are the important areas for Golden Plovers on autumn migration?

Golden Plovers are among the most numerous waders migrating through Europe. Since a large part of the important staging areas are inland sites, the species is not well covered by coordinated counts of coastal waders. The knowledge about timing of migration and important staging areas is therefore more fragmented for Golden Plover than for the majority of coastal waders. Many countries are signed up to protect the Golden Plover, but few have good counts of passage and winter populations.

WSG International Ruff Census

Large numbers of Ruff (*Philomachus pugnax*), migrate through Europe every year. There are however wide differences between the estimated size of the breeding population and the wintering population in Western Africa. To gain a better understanding of Ruff numbers during migration a census of roosting sites is being undertaken throughout all of Europe.

Breeding Waders in Europe

The Wader Study Group has initiated a project to update Information on breeding waders in Europe. The project has three objectives:

1. to revise population estimates previously collated in 1986;
2. where possible to establish population trends – both within and across countries and
3. for species with especially good data, to monitor population densities and trends on different habitats.

WSG Color Marking Register

The WSG color marking register functions as a central record of wader marking schemes – it avoids interference between projects and provides a single contact point for the reporting of sightings. The register coordinates color marking schemes for waders throughout the East Atlantic Flyway. It is concerned with both permanent marks that last the lifetime of the bird and temporary marks which may last for a season only.

Arctic Birds Breeding Conditions Survey

The International Breeding Conditions Survey on Arctic Birds (ABBSC) is a joint venture of the International Wader Study Group and Wetlands International's Goose and Swan Specialist Groups. This project aims to collate information on environmental conditions on the breeding grounds of Arctic nesting birds (in particular, waders and waterfowl) on a regularly updated database. Analyses of data on bird numbers and breeding performance during the Arctic summer in relation to climatic, predatory and other relevant factors can give insights into ecological processes acting on a large scale and also provide valuable information for the conservation of sites and species. Website: <http://www.arcticbirds.ru/>.

David Stroud, Chair

Woodcock and Snipe

The objective of the Woodcock and Snipe Specialist Group (WSSG) is to collect information and promote research on seven woodcock and 18 snipe species globally. The Group includes some

80 members, about 40 of whom are directly involved in research, primarily of European species.

Among our identified long-term actions, the Group aims to estimate trends in the European woodcock

(*Scolopax rusticola*), breeding and wintering population. Currently, four countries (France, Russia, Great Britain, and French-speaking Switzerland) organize an annual woodcock breeding survey. Such a survey is also organized in North America for the American Woodcock, *Scolopax minor*. However, a survey of the wintering woodcock population is only undertaken in France. The development of woodcock and snipe, *Gallinago gallinago*, *Gallinago media*, *Limnocryptes minimus*, ringing networks to estimate the survival rate of the European populations is another important long-term action. Presently, ringing networks are very active in Russia and in France. Finally, the WSSG is also involved in the collection of hunting bag statistics.

In the past four years, several specific studies have been undertaken by WSSG members. A survey of the common snipe and jack snipe breeding population in Russia has been initiated. A genetic study of European woodcock populations is in progress. The study of the resident woodcock population in the Azores Islands is continuing. Our knowledge of the ecology and behavior of woodcock and snipes has also been improved. For example, the ecology of African snipe (*Gallinago nigripennis*), has been studied in Kenya. Research on the behavior of European woodcock and jack

snipe during the wintering period were carried out in France. The survival rates of woodcock populations wintering in France and of the Russian woodcock population were estimated. Research efforts focused on the European woodcock because of its importance as a prey species, on the jack snipe because of our current limited knowledge and the vulnerable conservation status of this species and on the great snipe because of its uncertain conservation status.

A major event during the past four years was the 6th Woodcock and Snipe Workshop which was held in Nantes (France), in November 2003. About 40 participants from 12 countries attended the workshop. It was an opportunity to exchange information on the status of woodcock and snipe species and to share recent research results. The proceedings will be available in 2005. This workshop was organized by the Office National de la Chasse et de la Faune Sauvage – France (ONCFS) and Wetlands International. Members contributed to the third edition of the *Waterbird Population Estimate* and to the updating of the *Jack Snipe European Action Plan*.

The major challenge in the coming years will be to collect information on 10 species considered to have a poor conservation status in South America, Asia and Africa.

Our newsletter is published annually and international information is provided to members in every issue. The WSSG is grateful to ONCFS for the financial support provided in the past four years.

Yves Ferrand, Chair

Our future challenge will be to collect information on species in South America, Asia and Africa



Fish Specialist Groups

Expanding the Marine Work of the SSC

The past few years have seen a significant expansion of SSC's work on marine species, through the activities of a slowly but steadily increasing number of marine Specialist Groups as well as efforts led by Amie Bräutigam, the Marine Programme's executive officer. A three-year challenge grant, secured through the efforts of Roger McManus, the SSC Executive Committee's Marine Focal Point, in 2003, has enabled the Perry Institute for Marine Science to establish a threatened marine species program supporting SSC's marine work, which included a number of activities in the past year that will expand in the coming years.

The expansion of SSC's marine work is moving forward on the basis of a strategic plan elaborated at a workshop convened on SSC's behalf by The Ocean Conservancy in 2001. This workshop identified a number of priorities for SSC's marine work, including increasing collaboration with other components of IUCN and other NGOs in the expansion of marine protected areas (MPAs) and the development and dissemination of tools and methods for marine species management, but the top priority that emerged was to develop activities aimed at "shattering the myth" about marine species being immune to extinction.

The Shatter the Myth Project

In 2003, an SSC workshop explored the scientific and communications issues that underlie common misperceptions about marine species being resilient to extinction and developed the basis for a multi-year, collaborative *Shatter the Myth* project with science, communications and policy components. The first year of the *Shatter the Myth* project has focused on the development of a set of technical resource materials on extinction and endangerment in marine species, several of them produced by Elodie Hudson, and on a number of communications products. We have also engaged other partners and the broader community to discuss the vulnerability of marine species and its implications for management. These technical resources will be made available in a publication to be launched at the IUCN World Conservation Congress. Expert panel discussions on *Extinction in the Sea* were convened by SSC and the IUCN Global Marine Programme at both the World Parks Congress and International Coral Reef Symposium and have featured several marine Specialist Group chairs, Melita Samoilys of the IUCN East Africa Regional Office and others.

The SSC Marine Programme, through the support of the Perry Institute for Marine Science, has also produced an *Extinction in the Sea* exhibit, which was launched at the World Fisheries Congress in May 2004 and will travel to a range of other venues to draw attention to the loss of marine species, in particular from over-fishing. In addition, in conjunction with Yvonne Sadovy, Chair of the Grouper and Wrasse Specialist Group, we pro-

duced the first in what we hope will be a series of *Vanishing Marine Species*. This poster featured the humphead wrasse, one of the most spectacular of coral reef fish, which is increasingly threatened by over-fishing primarily for the live reef food fish trade.

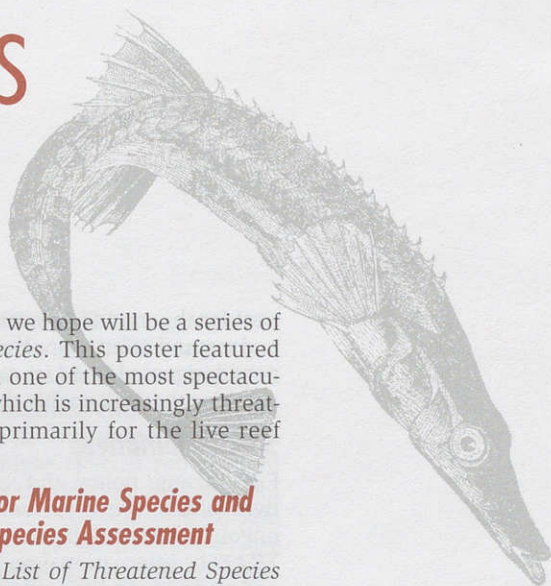
The IUCN Red List for Marine Species and the Global Marine Species Assessment

Just as the *IUCN Red List of Threatened Species* needs the *Shatter the Myth* project to enhance the credibility of the Red List process, the *Shatter the Myth* project needs the Red List to further develop the dataset and increase our knowledge of species that are at risk and the causative factors. Hence, a major effort of the SSC marine program has been to develop the program and funding strategy for a major expansion of the Red List for marine species. A workshop hosted by Conservation International in October 2003 resulted in a three-year, USD 10 million program strategy that has served as the basis for engaging with potential donors and collaborators.

The marine Specialist Groups have been steadily increasing their efforts for reviewing marine species for the IUCN Red List. Most notable among these efforts are the hundreds of assessments undertaken under the auspices of the Shark Specialist Group. The Grouper and Wrasse Specialist Group has also been steadily increasing the number of species they have reviewed for the Red List. These efforts have added considerably to our understanding of the conservation status of marine fishes, and have highlighted the risk of extinction to marine species generally. Michael Smith, the Co-Chair of the Caribbean Fish Specialist Group, has been conducting reviews of hundreds of marine species using FAO data.

Based on the October 2003 workshop, work has accelerated to develop a program and funding strategy for the Global Marine Species Assessment (GMSA) to provide a review of the conservation status of all marine vertebrates and selected marine invertebrates and plants. Being developed as a partnership between IUCN/SSC, Conservation International, the University of Guam Marine Laboratory and others, this program aims not only to identify marine species at risk of extinction, but also to enable a broader assessment of the overall conservation status of marine biodiversity. The GMSA is a component of the SSC's ongoing global assessment of species, initiated with the Global Amphibian Assessment and continuing with the Global Mammal Assessment.

Through the efforts of Conservation International, funding for the GMSA is being provided to assist the Red List efforts of the Shark Specialist Group and the Coral Reef Fishes Specialist Group. The primary funding objective currently is to hire a Director for the GMSA, who will accelerate sup-



port for the marine Specialist Groups in this work and expand efforts for other taxa that will require new designated Red List Authorities and the partnerships that will enable their work to go forward.

Species Initiatives

Fundraising, policy and technical support initiatives for the recovery of several marine species are ongoing. Amie Bräutigam is finalizing a review for TRAFFIC International on the status, exploitation and trade of marine turtles in 26 political jurisdictions in the Wider Caribbean. With the support of Conservation International and others, the Cetacean Specialist Group is facilitating the organization of a meeting in Wuhan, China to provide technical advice on the capture and husbandry of the Critically Endangered Chinese river dolphin, or baiji, in anticipation of the establishment of a captive breeding program. The Government of China has secured financial resources and has provided the materials and labor needed to capture remaining baiji in perhaps this last effort to save this species from extinction.

In addition to the Perry Institute for Marine Science, the *Shatter the Myth* project and SSC marine program have benefited from the financial support of a number of donors and collaborators, including The Ocean Conservancy, the US State Department, the Curtis and Edith Munson Foundation and Conservation International. We would also like to thank the many Specialist Group members and outside experts and agencies who have collaborated with us in these efforts.

Roger McManus, SSC Executive Focal Point for Marine

Amie Bräutigam, Executive Officer

Caribbean Fish

Michael Smith and Carlos Rodríguez, Co-Chairs

Coral Reef Fish

The Coral Reef Fishes Specialist Group (CRFSG) is tasked with conducting Red List Assessments for approximately 9,000 species of fishes exclusive of those covered by other marine fish Red List Authorities such as Caribbean Fishes, Sharks and Groupers and Wrasses. Our Group has assumed responsibility for coral reef fishes (including reef-associated habitats such as mangroves, sea grasses and estuaries), and rocky reef fishes of tropical and warm temperate waters of the Indo-Pacific and eastern Atlantic regions. The CRFSG is also working on insular anadromous (fishes that spawn in freshwater and live most of their lives in saltwater), amphidromous (fishes that migrate from freshwater to saltwater or vice versa and the migration is not associated with breeding), and catadromous (fishes that inhabit freshwater as adults but migrate to saltwater to spawn) fishes of

the tropical and subtropical Indo-Pacific Region, and intends to forge a collaborative relationship with the newly-formed Global Freshwater Fish Specialist Group. Because of concerns for the future of coral reefs and related habitats, there is a need to assess the relative degree of risk and threats to fish species that depend, entirely or partially, upon these habitats for their survival. Data obtained from these assessments can be analyzed in order to identify the types of information necessary to develop effective conservation strategies.

The assessment of such a large number of fishes will require the setting of priorities, through consultation with relevant experts and the use of predictive tools. The planned assessment process will include preparation of agreed taxonomic lists, the collection, synthesis and analysis of biological and ecological data, including mapping patterns of distribution (in collaboration with Dr. Gerald R. Allen of Conservation International), and determinations of population abundance, status, threats and conservation actions. The Global Assessment of Reef Fishes project (GARF) being developed by the CRFSG will also convene a series of regional expert workshops to review existing data, identify additional data needs and conduct Red List assessments of species identified previously, by use of the recently developed Susceptibility Matrix or other indicators, for immediate attention. Furthermore, a peer review process of the Red List assessments will be undertaken prior to the submission of these assessments for publication in the *IUCN Red List of Threatened Species*.

At present, Red List assessment activities have been slow as efforts have been directed instead to the reorganization of the CRFSG and the development of the GARF project. Red List assessments will begin in earnest during the latter part of 2004. Reorganization activities have included the addition of a number of taxonomists, systematists, ecologists, biogeographers, fisheries biologists and conservation biologists from around the world to our membership. The GARF project will provide a means for formalizing a command structure based at the University of Guam Marine Laboratory but inclusive of members located in institutions elsewhere who will attend to specific functions within the Group.

The promotion of CRFSG activities is one such function. The Group is currently seeking funding to develop and maintain a website that will be



Flame hawkfish, *Neocirrhites armatus*

established at the University of East Anglia (United Kingdom) under the direction of Dr. Isabelle Côté. The website will provide information on the GARF, recent or new Red List submissions, extinction threats, member activities, and other relevant news. Another avenue used by CRFSG members to promote awareness of extinction risks among reef fishes has been the publication of short papers in the "Threatened Fishes of the World" series of the journal *Environmental Biology of Fishes*. A recent example is "Threatened Fishes of the World: *Bolbometopon muricatum* (Valenciennes, 1840) (Scaridae) by Terry J. Donaldson and Nicholas K. Dulvy (*Environmental Biology of Fishes* 70 (4): 373).

Some CRFSG activities were presented as part of a talk on reef fish extinction threats by T.J. Donaldson at the IUCN satellite meeting, IUCN Initiative on Extinction in the Sea: Coral Reef Species, held at the recent 10th International Coral Reef Symposium in Okinawa, Japan. Coincident with this presentation was the launch of the *IUCN Global Coral Reef Portfolio* that contained an article entitled "Vulnerability of reef fish species to extinction".

Terry J. Donaldson, Chair

Grouper and Wrasse

The Grouper and Wrasse Specialist Group was established in 1998 because of growing conservation concerns for vulnerable species in these two fish families. Groupers (Serranidae) and wrasses (Labridae) are amongst the most highly valued of all reef-associated fishes and are being increasingly targeted globally for human consumption, and as marine ornamentals. As one example, a burgeoning trade in live reef food fish in SE Asia has placed particularly heavy pressure on populations of several favored species, particularly in Indonesia and the Philippines, and, increasingly into the Pacific and Indian Oceans. Even traditional fisheries, especially those that are developing export markets, have reached, or threaten to reach, levels of intensity that are unsustainable for this vulnerable group of fishes.

Groupers and wrasses are largely dependent on rocky and coral reefs. Many are long-lived and slow-growing. Despite the fact that most species produce large numbers of eggs each year, rates of population growth are slow and they can only withstand light levels of fishing pressure. Their high value, however, makes them a particularly appealing target. Many the larger species of groupers and wrasses aggregate to spawn for short periods and at specific locations each year. The practice of targeting spawning aggregations, both in the western tropical Atlantic and the Indo-Pacific, is considered to be a particular threat because such aggregations evidently represent all

annual reproductive activity. These aggregations are vulnerable bottlenecks in the life history of many species and need to be protected or managed.

The various pressures on these two families have led to marked declines in several species and, in 1996, grouper and wrasse species represented 10% of all marine fishes included in the IUCN Red List, but 50% of all the commercially important species listed. Since then, 27 grouper and wrasse species have been assessed and included on the 2000 *IUCN Red List*. Of these, three are Critically Endangered, one Endangered, 17 Vulnerable, two Lower Risk and four are Data Deficient. The majority of the threatened listings resulted from concerns of overexploitation of particularly vulnerable species

The aim of our Specialist Group is to bring together a small, but active, group of specialists, spanning biology, fisheries, socio-economics and conservation, to focus on issues related to these highly valued and vulnerable species. For many, there is little data on their biology, fishery or conservation status. We need to identify what is known, as well as what we need to know and how we might gather such information, to assess current status and exploitation patterns. The ultimate goal of this group is to reduce the need for concern for threatened species by identifying and promoting appropriate patterns of resource use and management. Actions include a focus of attention on vulnerable life history stages, such as spawning aggregations or nursery areas, and promotion of marine reserves to protect spawning biomass and critical habitats. Specially focused campaigns are being developed for the most vulnerable species, such as the Humphead wrasse (*Cheilinus undulatus*), of the Indo-Pacific, and several species of *Epinephelus* of the tropical western Atlantic.

The Specialist Group in the current triennium has 20 members from 16 countries. We work on species assessments, develop initiatives to address conservation concerns for specific cases, provide information and advice as needed, prepare a small, informal, news-sheet, and strive to improve the collection of information and monitoring of trade of commercially important species. Given how little is known about most of the species that we cover, and the general lack of attention being paid to conservation of reef species in general, we have begun developing species summaries and a campaign to raise awareness on those that are most threatened.

You can learn more about us at our website: <http://www.hku.hk/ecology/GroupersWrasses/iucnsg/index.html>

Yvonne Sadovy, Chair

Salmon

The Salmon Specialist Group (SSG) was established in 2001 as the first international forum dedicated to research, monitoring and conservation of native stocks of salmonid fish at risk of extinction. This group will protect and restore native salmon populations by organizing fisheries scientists and managers to develop and implement salmon conservation policies and programs. In the long term, the group will assess the status of salmonid fish for the *IUCN Red List of Threatened Species*; contribute information to the Species Information Service (SIS); and provide expertise on the unique needs of anadromous fish as part of an overall assessment of biodiversity decline.

In this summary, we report on a number of significant accomplishments of the Salmonid Specialist Group.

Monitoring

We have established a formalized approach for monitoring Pacific salmon across their natural range. We convened a third workshop on this theme in March 2004 in Oregon. The monitoring strategy is designed to achieve the broad goals identified by the IUCN for species conservation. We showcased results from this workshop in the form of a roundtable at the Fourth World Fisheries Congress in Vancouver, Canada, and have completed a concept paper outlining our approach. This concept paper will evolve into a manuscript to be submitted to a peer-reviewed journal in late 2005.

During our most recent SSG meeting, we highlighted the importance of establishing more explicit guidelines for regional review of the status and listing of salmonid species through the IUCN. We believe this to be particularly important because salmonids exhibit a great degree of population differentiation. We are presently collaborating on a concept paper that will help guide our future work in this area.

Red listing

We completed a review of a submission to list eulachon (*Thaleichthys pacificus*). This petition was reviewed by four SSG members and there was consensus that the analysis was inadequate for listing.

We have made progress in our efforts to review the status of the Sakhalin taimen (*Hucho perryi*). We held a taimen experts workshop in Khabarovsk, Russia in May 2003, and have now established a working group of scientists in Russia, Japan, Austria and the USA to complete the first comprehensive review of *H. perryi*. This effort was precipitated by widespread perceptions of range restriction and declining population sizes. Members of the group will co-author a full monograph on the species, with separate chapters devoted to key regions within their natural range. Completion of the first draft of the monograph is

planned for spring 2005. The SSG is also helping to standardize biological and genetic data collected on the species and to spur new sampling initiatives.

We are continuing our efforts to assess the status and distribution of rainbow and steelhead in the Russian Far East. We have conducted assessments in the Shantar Islands and continue to monitor populations at our core research sites on Kamchatka. This work will help clearly delineate range boundaries for the species.

Conservation Strategies

We presented our Kamchatkan steelhead (*Oncorhynchus mykiss*) conservation strategy at the Fourth World Fisheries Congress. This will be presented for approval in Moscow, Russia after government reorganization there is complete.

We have made significant progress in our efforts to establish protected areas for salmon. We reached agreement on our approach at a Salmon Protected Areas meeting in Khabarovsk in May 2003, then applied the approach successfully by establishing the Kol Protected Area (KPA). Approved by the Governor of Kamchatka this spring, the KPA is a 544,000 acre, headwaters-to-ocean salmon refuge, located along the southwest side of Russia's Kamchatka Peninsula. This area is significant because it contains all six native Pacific salmon species as well as steelhead-rainbow trout, Dolly Varden char and white-spotted char. More details on the KPA can be found at The Wild Salmon Center (WSC) website under "Press Room" (www.wildsalmoncenter.org).

Our next steps are to secure approval on protected areas in Moscow, and to continue our involvement in the Kamchatka Salmon Biodiversity Program at WSC with support from the United Nations Development Program Global Environment Facility.

The Salmon Specialist Group (SSG) has now been in existence for three years. Guido Rahr of the Wild Salmon Center served as chair during 2001-2003. In 2003, Dr. Peter Rand joined the Wild Salmon Center as the conservation biologist for the State of the Salmon Consortium and now devotes 50% of his time to SSG activities. Currently Guido and Pete are serving the SSG as Co-Chairs. Our membership has grown to 16 individuals from four countries (USA, Canada, Russia and Japan) and our membership encompasses a variety of specialties and skills. The group recently launched its own website showcasing our past, present and future work, hosted by the State of the Salmon consortium (www.stateofthesalmon.org/SSG). In short, our group is gaining momentum and we are poised in the coming years to fill an important niche and establish our credibility as an authority in salmonid conservation issues in the international arena.

Guido Rahr and Peter Rand, Co-Chairs

Shark

Introduction

The Shark Specialist Group (SSG), established in 1991, promotes conservation of chondrichthyan fishes (sharks, skates, rays and chimaeras), effective management of their fisheries and habitats, and, where necessary, recovery of their populations. Regional vice-chairs and other named officers form the Executive Committee, under the leadership of Co-chairs John Musick and Sarah Fowler. They direct the work of Programme Officer, Rachel Cavanagh, who coordinates the network. During the current Quadrennium, SSG membership rose significantly to over 170 individuals from over 60 countries organized into ten ocean regions.

In 2000, the SSG identified the lack of dedicated staff as our greatest constraint, and an application was submitted to the UK Department of Environment Global Wildlife Division for a grant to employ a full time Programme Officer. Its award in 2001 (initially for three years, recently extended to early 2005) and the appointment of Rachel Cavanagh stimulated a huge increase in SSG activity and productivity. Soon after, we secured a two-year grant for core funds from the David and Lucile Packard Foundation which greatly increased activities in our priority areas of work. We have also received generous donations from the US State Department's Voluntary Contributions to IUCN and sponsorship from other sources.

FAO and CITES

Despite increasing concern in international fora regarding the vulnerability of sharks to overexploitation, few effective international shark conservation and management mechanisms are in place. CITES Parties' concerns resulted in the adoption of the FAO International Plan of Action for Shark Conservation and Management (IPOA-Sharks) in 1999, which aimed for national

shark fisheries management plans by 2001. Its poor implementation is recognized by CITES and FAO. SSG has assisted some States with IPOA-Sharks implementation (through training, workshops and drafting National Shark Plans). Group members are preparing the FAO catalogue of Batoid Fishes of the World, an essential

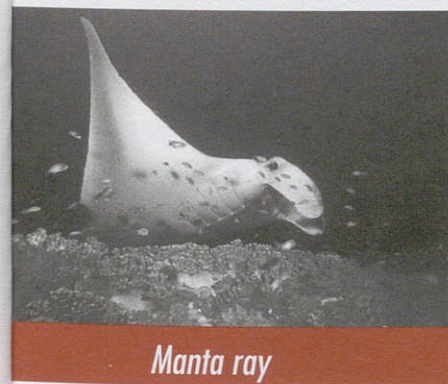
and Animals Committee in implementing CITES Decisions and Resolutions by monitoring IPOA progress and assessing shark fisheries and trade.

By the end of 2004, the SSG will have been represented on the IUCN delegation at every FAO Committee on Fisheries (COFI) and COFI Fish Trade meeting since 2001, two FAO expert panels, an FAO Technical Consultation, three CITES Animals Committee meetings and intercessional Shark Working Group, and the 12th and 13th CITES Conference of the Parties. We have prepared information papers or documents for these meetings, solely or jointly with TRAFFIC, Parties or an Animals Committee member and assisted SSG members with other information papers (see www.cites.org). We have provided advice to proponents and Parties on other documents, Resolution Conf. 12.6 on the Conservation and Management of Sharks and listing proposals in 2002 and 2004. In addition, we are working to promote regional and international cooperation to regulate the widespread practice of shark finning and have developed technical documents on the subject, posted on our website (<http://www.flmnh.ufl.edu/fish/organizations/ssg/ssg.htm>).

SSG involvement in other fisheries and biodiversity initiatives includes attendance at technical and scientific meetings, including the Asia-Pacific Economic Cooperation (APEC) fisheries working group, European Commission Scientific, Technical and Economic Committee on Fisheries, International Council for the Exploration of the Sea (ICES) Elasmobranch Study Group, Northwest Atlantic Fisheries Organization (NAFO), International Commission for the Conservation of Atlantic Tunas (ICCAT), Indo-Pacific Fish Conference, World Fisheries Congress and many others.

Red List Programme

Several donors enabled the SSG to embark on a series of regional Red List workshops in 2003 and 2004, bringing together international experts, national scientists and fisheries staff to compile data, assess species status and develop priorities for future work. Results have been submitted to IUCN, regional reports prepared, and connections between members formed, inspiring and driving regional projects and cooperation. Five workshops were held in 2003 and global assessments completed for 262 species and 65 regional populations (56 species globally threatened and 26 sub-populations threatened regionally). Two workshops were held in 2004, and a further 117 global assessments submitted for the 2004 *IUCN Red List of Threatened Species*. Several hundred draft assessments are under review for the 2005 Red List. To date, 22% of species assessed are threatened (Critically Endangered, Endangered or Vulnerable), 23% Near Threatened, 25% Data Deficient and 30% Least Concern. Taxa at highest



Manta ray

monitoring and management tool for many fisheries. We also assisted CITES Parties, Secretariat

extinction risk include commercially exploited deep-sea sharks, endemics with restricted ranges in exploited areas and the highly vulnerable sawfishes.

IUCN Marine and Species Programmes

In addition to liaison with IUCN regarding FAO and CITES, the SSG has participated in the 'Shattering the Myth' initiative on marine species extinction risk and attended the World Parks Congress and World Conservation Congress. We assisted IUCN with developing their Information Paper in response to a draft European Union finning regulation. A motion on Shark Finning will bring this issue to the World Conservation Congress.

Communication and Publications

We have continued to publish our newsletter *Shark News* and have prepared the reports included on the SSC 2000–2004 Quadrennial CD-Rom. Considerable resources have been devoted to improving the SSG website, <http://www.flmnh.ufl.edu/fish/organizations/ssg/ssg.htm>, posting updates on our activities and information documents and we will present our global status report and regular updates of the information contained. Our members have presented numerous scientific and technical papers referring to SSG activities. On behalf of the APEC Fisheries Working Group, SSG members prepared a manual on Elasmobranch Fisheries Management Techniques intended to contribute towards sustainable shark fisheries and IPOA-Sharks implementation.

Next Quadrennium

Current financial support ends in early 2005, yet demand for SSG advice and information is rising steadily and we require a matching increase in funding in order to meet requests for assistance. Although the global nature of the shark conservation problem is widely recognized, obtaining funding is difficult with intense competition for increasingly scarce resources.

We intend to complete Red List assessments for all chondrichthyan taxa (through further regional workshops) and disseminate the results. Top priority is our continued support to CITES activities and promoting implementation of the IPOA-Sharks, through shark management workshops, including a joint workshop with Project Seahorse and the Grouper and Wrasse Specialist Group, to be sponsored by the government of Oman. We must recruit members from poorly represented areas (particularly Africa and Asia) and liaise more closely with other SSC marine Specialist Groups and IUCN Programmes.

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Sarah Fowler and Jack Musick, Co-Chairs
Rachel Cavanagh, Programme Officer

Sturgeon

Sturgeons are one of the most lucrative aquatic species in the world. They have been around for more than 150 million years and are of interest both for their evolutionary aspect and importance in fisheries. The Caspian Sea is one of the most important ecosystems for sturgeon, comprising the main habitat for six species which collectively provide more than 90% of the world's caviar.

In the past decade however, sturgeon stocks have declined dramatically in their main habitats. The legal catch of these species have dropped from 26800 tons in 1981 to less than 2500 tons in 2003. The decreasing trend in these stocks during 1995 and 1996 were very severe and would have no doubt led to extinction of one of the most of the commercially valuable species. Alarmed by this trend, the Sturgeon Specialist Group (SSG) encouraged Parties to CITES to include all sturgeon species in the CITES control list (Appendix II) as one tool to help conserve these valuable species globally. Fortunately, this recommendation was formally adopted during the 10th CITES Conference of Parties, Harare, Zimbabwe, 1997 and came into force on 1 April, 1998. These regulations have helped control the illegal entry of caviar into the world market and have, to some extent, helped to restore sturgeon stocks, particularly sturgeon of the Caspian Sea.

The SSG was re-organized in October 1999 and, with the collaboration of researchers, scientists and experts, has contributed towards the rehabilitation of sturgeon stocks through the exchange of views and experience. At present 46 members from 14 different countries, particularly sturgeon range states are actively participating in the work of the Group.

The SSG held its first meeting in February 2001, with the intent to promote restoration of sturgeon species in the wild and their natural habitats through development and implementation of appropriate conservation action (including sustainable use). The Group also identified the collection and assessment of information on population and stock status of sturgeons including catch and exploitation methods, the establishment of a database and exchange of information at the regional, national and international level, discussion of sturgeon conservation needs and taking essential scientific measures at the global level towards conservation of sturgeons as key activities. Sub-committees have been established for each of the above areas of work in order to identify priorities. Considering the worldwide distribution of sturgeons, SSG members proposed appointing deputy chairs for Eurasia and America to assist and support the Chair in compiling information and producing an Action Plan for the conservation and sustainable use of sturgeons.

During the second SSG meeting in July 2001, the SSG members proposed to establish five sub-committees for various disciplines within the SSG to

cover: stock assessments and restocking; identification and genetic samples; aquaculture; CITES and sturgeon trade; and ecology and environment. Group members would participate on sub-committees on the basis of their specialization and interest.

At present, the Sturgeon Specialist Group works in close collaboration with international organizations such as CITES for exchange of scientific information. During the past four years, the SSG has participated actively in the significant trade review of 14 sturgeon species. Based on information regarding their ecological and biological status, catch and caviar trade, scientific recommendations resulting from this review are presented to the producer and consumer countries at meetings of the CITES Animals Committee.

Following the proposed rule from the US Fish and Wildlife Service to list beluga sturgeon (*Huso huso*) under the US Endangered Species Act in June 2002, the SSG compiled and submitted comments on the proposal.

The SSG has also assisted in the assessment of North American sturgeon species for the 2004 Red List. The status of 12 North American acipenserid species, sub-species and recognized sub-populations were evaluated by species experts in the U.S. and, where appropriate, Canada for designation on the IUCN Red List of Threatened Species.

The Chair has received several proposals and requests from sturgeon stakeholders seeking the cooperation and collaboration of the SSG, as well as advice on various aspects related to sturgeons. Based on the species under consideration, the proposals and requests are forwarded to the relevant specialists within the SSG for their comments and technical assistance.

The Sturgeon Specialist Group strives hard to employ all existing scientific avenues and seek the collaboration of researchers, scientists and all those interested in sturgeons, to raise awareness of the serious situation facing sturgeons. The SSG aims to convey the urgency and scale of conservation problems faced by sturgeon to the public, students and policy makers to prevent the extinction of these valuable species popularly known as living fossils.

Mohammad Pourkazemi, Chair

**Caspian Sea sturgeon
collectively provide over
90% of the world's caviar**

SSC Influencing Decisions and Policies with Scientific Information

IUCN Red List of Threatened Species

Updates to the *IUCN Red List of Threatened Species* were launched in 2002 and 2003 and generated widespread media coverage. The 2003 update included a larger number of assessments and improved documentation for many species. Since the release of the 2002 Red List, more than 2,000 new entries were added and 380 taxa reassessed. For the first time, all Least Concern species, and complete lists of all mammal, conifer and cycad species were included. The IUCN Red List now includes 12,259 species threatened with extinction. In 2003, the focus was on island populations of native plants and animals that are being lost through the effects of invasive alien species, a major threat to global biodiversity. For the 2004 Red List, to be launched in October 2004, a major analysis of the data is being carried out and complete global data sets for birds, mammals and amphibians included. Meanwhile, there has been good progress on developing and testing a Red List training package and the Red List Programme continued to play an active role advising on Red List activities in many countries.

Global Conservation Status Assessments

SSC is developing the Red List as a tool for monitoring the status of global biodiversity through baseline assessment and regular re-assessment of groups of species as indicators of change in terrestrial, freshwater, and marine biodiversity. This effort is enthusiastically welcomed by the global scientific community as a major contribution to biodiversity conservation priority-setting. Supported by the Biodiversity Assessment Initiative being carried out by SSC in collaboration with Conservation International and the Center for Applied Biodiversity Science, the Global Amphibian Assessment (GAA) began in 2001 with the results due to be launched in September 2004. This is the first ever status assessment of the world's 5,000 amphibian species and initial results indicate that amphibians are more threatened than birds or mammals with a particularly serious situation emerging in Meso America.

The Global Mammal Assessment (GMA) began in 2003, drawing on the knowledge and expertise of SSC's mammal-related Specialist Groups and partner institutions. The goals of the assessment are to map the distribution and assess the conservation status of each species to establish global baselines for biodiversity monitoring and conservation planning. The GMA is expected to take two years to complete, but preliminary results will allow a comparative analysis of the conservation status of mammals, birds, and amphibians.

A Freshwater Biodiversity Assessment Programme was also established to fill a significant gap in knowledge. Assessments carried out under this Programme are helping to reinforce links between SSC, the Species Programme, and IUCN's Regional and Country Offices.

Species Information Service (SIS)

Development and implementation of SSC's primary data management initiative has been a priority essential to expanding and using the Red List. The Access version of the SIS Data Entry Module is now in use by more than 30 Specialist Groups, the software tool is available from a website and a user manual has been generated for the SIS data entry module. The prototype web-accessible SIS site has been updated with current information from the Global Amphibian Assessment. Oracle Systems (Rome) assisted with the protocol conversion, and valuable lessons were learned for the next version of the software tool. While funding remains a serious constraint, several significant pledges of support have been received and a new information package has been produced. This articulates how SIS can meet the need for sound, interdisciplinary scientific information about biodiversity status, trends, and indicators within the private sector, international development institutions, and international financial institutions.

Plant Conservation Programme

The Plants Programme has been closely involved with the development and implementation of the Convention on Biological Diversity (CBD) Global Strategy for Plant Conservation which was adopted in 2002. SSC is leading a global effort to address Strategy Target 2, "A preliminary assessment of the conservation status of all known plant species, at national, regional and international levels". SSC is also sharing the lead for Target 5, "Protection of 50% of the most important areas for plant diversity assured" with Plantlife International. SSC plant Specialist Groups are contributing to these and other targets of the Strategy. Preparation of the first "Top 50" plants booklet, aimed at raising awareness of and undertaking conservation action for Critically Endangered plant species, is focusing on plants from the Mediterranean islands. Work on conservation of plants essential to human welfare such as trees, medicinal species and wild crop relatives, as well as extremely threatened island endemics, have received priority attention.

Sustainable Use

The *Sustainable Use of Species and Ecosystems: Developing Tools for the Management of Living Wild Resources from a Quantitative Review of the Factors that Determine Sustainability* is an initiative to investigate the linkages between economic, social and biological factors influencing the sustainable use of wild species. This project is being undertaken by the SSC Sustainable Use Specialist Group in partnership with the SSC Wildlife Trade Programme, IUCN South America Regional Office, IUCN Asia Regional Office, TRAFFIC (the wildlife trade monitoring network), and the Durrell Institute of Conservation and Ecology.

Wildlife Trade Programme

SSC's Wildlife Trade Programme became part of a multi-partner project examining the conservation, development and trade impacts of application of the precautionary principle. This work aims to highlight the experiences and perspectives of developing countries and develop "best practice" guidance on the meaning and application of precaution in natural resource management and biodiversity conservation.

Examining the impacts of commercial captive propagation on the conservation of wild species has been another focus for the Trade Programme which convened representatives of the private sector, governmental and non-governmental organisations. This resulted in a checklist of issues to be addressed when assessing the conservation costs and benefits of potential aquaculture projects. For production of terrestrial animals, a study of the potential costs and benefits of captive production, and a stakeholder analysis to determine who is likely to benefit under certain production systems was developed.



Medicinals for sale

Invasive Species

SSC was central to IUCN's activities for International Biodiversity Day in May 2001 with its theme "biodiversity and management of invasive alien species." Media activities focused on the booklet *100 of the World's Worst Invasive Species* produced by SSC's Invasive Species Specialist Group (ISSG). Work of the ISSG in Europe and the Pacific has contributed to the implementation of regional approaches for alien invasive species – the adoption by the Standing Committee of the Bern Convention (on the conservation of European wildlife and natural habitats) of the European Strategy on Invasive Alien Species, and a declaration of a plan of action on alien invasive species by Western Indian Ocean Island states.

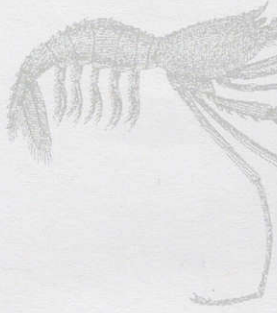
Freshwater Biodiversity Assessment

The SSC Freshwater Biodiversity Assessment Programme is developing methodologies for identifying priority areas for freshwater biodiversity assessment. A project supported by Wetlands International and DGIS (Netherlands) is enabling a regional biodiversity assessment of inland waters in East Africa, training in biodiversity data management and applying the IUCN Red List Categories and Criteria to conservation status assessments. Work on building capacity to manage freshwater biodiversity is also underway in the Lower Mekong River Basin in Asia, in collaboration with the IUCN Asia Regional Office.

Marine Biodiversity

Efforts to rejuvenate SSC's marine activities received a major boost with the creation of a new partnership with the Florida-based Perry Institute for Marine Science. This will help protect the world's oceans through research and the development and promotion of conservation efforts for threatened marine species.

Invertebrate Specialist Groups



SSC Invertebrates Conservation Committee – the last four years

The need for the conservation of invertebrates has increased substantially in the last few years. This has come about through recognition that they are as much under threat as plants and vertebrates. Estimates suggest that possibly a quarter of insects alone may become extinct in the next three decades.

As well as there being concern for invertebrates in their own right, there is a growing realization that invertebrates are part of the very fabric of ecosystems. They recycle nutrients, pollinate, eat and get eaten. Yet only one in 20 or so species are known to science. Most are undiscovered or forgotten, which means that there is the risk that many will be lost without us even knowing who they were.

Nevertheless, work is being done to correct the situation. About 10,000 new species of invertebrates are discovered every year, and they are being increasingly involved in conservation action. They are indeed a critical part of precautionary conservation planning. There is a need to conserve an essential core and variety of habitats to maintain as many species as possible, in as high abundance as possible. Overlying this 'coarse filter' landscape approach is the 'fine filter' species approach, of which the IUCN/SSC is beginning to play a major role with regards to invertebrates.

To sketch the way forward, two major meetings were held. The first was the SSC Invertebrates Scoping Workshop, which focused on 'where we are at' and 'where we should be going.' The workshop, which was held in Washington DC in November 2001, developed a vision: "A world that researches, documents, monitors, values and conserves invertebrate biodiversity for the maintenance of ecosystem health and integrity into the future."

The workshop also prioritized areas where the SSC could contribute further to invertebrate conservation. The top three areas were, in short, establishment of new Specialist Groups, increase linkages among invertebrate and other conservationists and increase the flow of data and information on invertebrates. The workshop also went on to identify the great value of the Red List for invertebrate conservation, followed by the importance of the currently available SSC Action Plans.

The 2001 workshop was followed in March 2004 by the landmark symposium organized by the American Museum of Natural History, New York under the banner *Expanding the Ark: The Science and Practice of Invertebrate Conservation*. This enormously successful meeting led to the formation of the Expanding the Ark Coalition (ETAC) to include IUCN representation and strong linkages with the Xerces Society. Considerable discussion took place which identified the role and value of invertebrate Specialist Groups. In future, special attention needs to be given to reviving the Orthopteroidea (grasshoppers and related

species) and Lepidoptera (butterflies and moths) Groups, with the possibility of inaugurating new Groups, especially Scarab (beetles), Cicindelid (tiger beetles) and Spider Specialist Groups.

In addition, it was recognized that the new geographically-based Groups such as the South Asian Invertebrates Specialist Group and the Southern African Invertebrates Specialist Group have valuable and important roles to play, in increasing awareness of invertebrate conservation and acting as Red Listing Authorities for the myriad of taxa that do not have, and are not likely to have, their own taxonomic Group in the foreseeable future.

The 2001 workshop identified dragonflies as an excellent target group for undertaking a global assessment along the lines of the Global Amphibian Assessment. This was put to the international odonatological community in January 2003, and was widely applauded. It was further supported by ETAC in 2004. Such a Global Dragonfly Assessment is now being championed by the Odonata Specialist Group.



Karkloof blue butterfly

Much groundwork and discussion took place over this last quadrennium, with a groundswell of new enthusiasm for the next few years. Much of the basic direction setting and goals have been identified, and now the time is as ripe as ever for giving invertebrates a better chance on this planet.

Michael J. Samways, SSC Executive Focal Point for invertebrates

European Invertebrates

Working for a stronger network of invertebrate conservation activity across Europe

In Europe, there are already a series of different taxon-based and issue-based groups working on a diverse range of initiatives relating to the conservation of invertebrates, yet at present there is little interface with the IUCN and SSC programs. The European Invertebrates Specialist Group (EISG) seeks to increase regional coverage within SSC and to work with existing, well-established groups to build a stronger network of invertebrate conservation activity in Europe. This will form a bridge between the various specialists in Europe, so that all can work together to develop a better understanding of the nature of the threats facing invertebrates. It will also allow better manage-



European Invertebrates Specialist Group

ment of resources to minimize human effects on the species and their habitats.

The EISG mandate includes all European taxa including terrestrial, freshwater and marine invertebrates. We identified potential Group members from natural history societies dealing with invertebrate taxa in each country; the European Invertebrate

Survey; the Bern Group of Invertebrate Experts; taxon based SSC invertebrate Specialist Groups such as the Mollusca and Odonata groups; and research institutes and government departments dealing with the conservation of invertebrate taxa.

At the time the Group was formed, approximately 12 months ago, some possible activities for the Group to undertake were identified including: collation of information needed to assess the conservation status of threatened invertebrates; acting as a Red List Authority and contributing to the global *IUCN Red List of Threatened Species*; building awareness and understanding of threats posed by introduced non-native species, their current ranges and rates of movement and the exchange of information about eradication methods; working with other SSC Specialist Groups on specific topics such as re-introduction, sustainable use and conservation breeding.

These were taken to the inaugural meeting of the European Invertebrate Specialist Group for discussion and identification of focal points.

Inaugural Meeting

The inaugural meeting of the European Invertebrate Specialist Group was held on Monday 8th September in Cardiff, UK.

A presentation was made to a captive audience of European invertebrate zoologists and included some basic principles under which the Group would function. The principle of a strong collaborative working environment was generally welcomed and recommended as the most practical way for the EISG to develop. The IUCN 'brand' was recognized for its high profile amongst national and international bodies, built as it is on sound science from dedicated contributors in many countries.

Discussion then turned to specifics - what would the new group do? How would it work? Three approaches were discussed and agreed. The Group would establish EISG working groups, based on functional guilds and build upon existing alliances. Three such groups were identified, a

Saproxyllic invertebrates (those that inhabit dead, decaying wood) working group (Focal point - Adrian Fowles, UK), Alpine invertebrates (John Haslett, Austria) and Cave dwelling invertebrates (Anastasios Legakis, Greece). Secondly, the Group identified the need to collaborate with the European Invertebrate Survey (EIS) who are leading the production of a European Invertebrate Conservation Strategy. Contributing to the IUCN Red List of Threatened Species at the global, European and national scale was the third approach identified.

Having got off to a good start much remains to be done to make sure this new group grows and thrives.

Deborah Procter, Chair

Inland Water Crustacean

Freshwater Crustacea are an ecologically important and typically understudied component to our highly endangered freshwater ecosystems. The Inland Water Crustacean Specialist Group (IWCSG) is dedicated to assessing the status of freshwater Crustacea according to the IUCN Red List Categories and Criteria and using this information to improve the conservation of highly fragile freshwater ecosystems.

Within the last four years, our group has been reorganized with the stepping down (and subsequent sad death) of former Chair Denton Belk. Keith Crandall has taken over the group as Chair and has been working to re-establish group membership and set priorities for the coming years. Our recent work has focused on the inclusion of a section on "Conservation Assessment" as part of new species descriptions. Additionally, IWCSG member Neil Cumberlidge has evaluated a group of freshwater crabs from East Africa to be included in the 2004 Red List. Of the 36 species evaluated, 19 (or 53%) were considered threatened to some degree and 7 (19%) endangered. Unfortunately, these are typical percentages for freshwater Crustacea and further indicate their important role as indicator species for this threatened environment. Finally, IWCSG members Mohamed Bahir, Peter Ng, Keith Crandall, and Rohan Pethiyagoda evaluated the freshwater crabs (Parathelphusidae) from Sri Lanka. Recent exploration, lead by Bahir and Ng, of the freshwater crab biota of Sri Lanka has led to the discovery and description of 49 species distributed in seven genera from this family - all endemic to Sri Lanka. This evaluation showed 36 species in a threatened category (73%) with 21 species (43%) listed as Critically Endangered and another seven listed as Endangered.

These two evaluations epitomize the work of our Specialist Group. We are clearly in a discovery



and initial evaluation mode and hope that these alarming statistics will bring swift action to protect freshwater ecosystems.

Keith A. Crandall, *Chair*

Mollusc

There is an urgent need for conservation action to stem the loss of this group of ecosystem-service providers, as was recently highlighted in a paper written by members of the Mollusc Specialist Group (MSG) showing that Molluscs are one of the most threatened groups of animals (Lydeard *et al.*, The global decline of nonmarine molluscs, *BioScience* 54: 321–330, 2004—as found on the SSC 2000–2004 Quadrennial CD-Rom).

Conservation of landsnails

Invasive species can alter habitats or have an impact upon native species through predation and threats from invasive species are continuing to cause species extinctions. The battle to keep Pacific Island *Partula* snails from extinction is still ongoing with many of the surviving populations only present in breeding programs. The *Partula* group continues their efforts to maintain the captive populations and to establish “predator-free” zones in their native habitats so that the species may be returned to the wild.

In 2003, the first review of threatened species on Galapagos since 1990, showed most of the endemic Bulimid land snails are threatened with extinction, with the major threats being habitat change, goats and fire-ants. The government has implemented quarantine control programs to restrict the introduction of new invasive species and there are eradication programs for the goats and fire-ants. However, further survey work is necessary to establish if the 22 species believed to close to extinction will return from the brink.

Many land snails have small distributional ranges, and are hence at risk from activities that modify their habitat. Forest logging is a major issue in East Africa, where over 75% of the land snails are restricted to forests. Red List assessments are now underway for those species restricted to the Eastern Arc Mountains, although similar problems exist in the Atlantic forest of Brazil. In addition, a new threat highlighted in the 2004 Red List is quarrying. In SE Asia, there are many small endemic species that are restricted to small isolated limestone hills. These are quarried for production of cement, and as a consequence entire habitats and their species are at risk.

Conservation of freshwater molluscs

The two major causes of decline in freshwater molluscs are the expansion of invasive species and habitat decline (destruction, modification or water quality). For example, three major pest species have been identified, golden apple snails,

zebra mussels, and Asian freshwater mussels, although other invasive species exist. Invasive species such as the Zebra Mussel in North America and the Asian freshwater clam (North America & South America) lead to loss of native biodiversity; but just as important is the reduction of water filtration services, considered critical to the functioning of the ecosystem. The invasive species also lead to economic losses, as they aggregate in pipelines impeding irrigation pumping-stations and water inlets to power stations.

The USA is one of the global hotspots of freshwater mollusc diversity. Since 1998, we have reassessed the status of many species and found 65% of bivalves are Threatened or Near Threatened species. At the Freshwater Mollusk Conservation Center (FMCC), propagation work is underway to augment mussel populations in reproductive decline and to expand the ranges of extant populations. Similar activities are ongoing in South America and Europe. Research continues to identify host fishes for endangered mussels and to improve culture techniques, particularly the rearing of juvenile mussels. It is clear that the ability to raise juveniles to a stage where they can overcome the poor quality of river and lake systems, and be re-established in their native habitats is key to the conservation of threatened freshwater bivalves worldwide. FMCC plan to distribute a manual for mussel propagation to assist with conservation globally.

Spring-snails are threatened worldwide, with over 25% of the species assessed considered threatened. Diversity hotspots occur in Australasia, North America and Europe. These small freshwater snails have specialist habitats ranging from thermal pools, seasonal pools, caves and tufa-mounds, and live for relatively short periods compared to the bivalves. A challenge will be to identify all of these small range endemics before their habitats are altered and the species become extinct. Also, managing ground water abstraction is essential to ensuring survival of spring snails. In Spain and many parts of Europe, work by landowners to clean-up spring heads has replaced small habitats of emergent vegetation with concrete habitats for the freshwater snails. Similar dilemmas face the managers of the thermal springs in the North American Rocky Mountains and Europe - managing endangered species in artificial habitats, as human exploitation of the water source has led to habitat change.

Conservation of marine species

The main threats to marine mollusc species are over-exploitation (either by direct harvesting or take as bycatch), destruction of habitats (dredging or dynamite fishing) or alien invasive species changing habitats. Mollusc experts were present at a recent workshop convened by Conservation International - *Defying Oceans' End*. This workshop called for a change to the assumption that all

marine species are abundant, and hence a limitless resource for exploitation. Few marine species have had their threat status evaluated, but in 2003, the white abalone (*Haliotis sorenseni*), was listed as Critically Endangered due to past over-exploitation followed by disease. Similarly, CITES recently called for a ban on the export from some Caribbean sources of the queen conch (*Strombus gigas*), as a result of data showing severe decline in these populations. Another mollusc species, the rock-boring date mussel (*Lithophaga lithophaga*), has been proposed for inclusion on CITES, as the result of over-exploitation in the Mediterranean. Recently, reports on the impact of bioprospecting for painkillers derived from the toxins of marine gastropods (family Conidae) have also attracted discussion, with extinction issues being raised.

Activities relating to Molluscan conservation

Over the last four years, there has been a series of developments in different regions that should assist in the conservation efforts of both NGO's and government agencies in Africa, the Mekong Basin, Europe and Australia. More members have been recruited to the MSG coordinating group, with another 140 scientists contributing to conservation activities. The annual Newsletter *Tentacle* describes in more detail some of the activities reported above and these are included on the SSC 2000–2004 Quadrennial CD-Rom

Meetings on Molluscan Conservation

Unitas Malacologia (World Congress of Malacology), September 2001, provided a forum for 170 scientists to meet and present their findings on a variety of topics relating to the conservation of Molluscs. The proceedings volume (Eds. Killeen & Seddon, 2004) is available for purchase from the Conchological Society of Great Britain & Ireland. In USA, the Freshwater Mollusk Conservation Society has had special meetings on conservation breeding, management of alien invasive species and conservation genetics. In Australia, a meeting organized by Malacological Society of Australasia brought together the State Agencies and species experts and resulted in the establishment of a joint program of research on activities including species mapping and threatened species assessments. In Europe meetings have been held on management and life-cycles of certain species. Finally, meetings on assessment of threatened species in China and the Mekong basin may lead to future listings at global level.

Taxonomic tools

The Freshwater Mollusk Conservation Society has organized taxonomic training workshops with identification manuals for the identification of US freshwater snails. In Europe, Africa and SE Asia, new fieldguides and identification charts to land-snails and freshwater molluscs provide education-

al tools for workshops. The use of web-based resources listing species names for regions has increased, with new products such as the Global List of Freshwater Bivalves, Cephbase and the Indopacific Marine Molluscs database adding to the existing Malacolog, Clemam and Clemcom.

Conservation breeding and genetic research programs

These have included freshwater mussel propagation, *Partula* breeding programs, manuals to assist with translocation of animals, identification of similar populations for mussel relocation, understanding island endemism and local populations and understanding population structure.

Ecological requirements and lifecycle studies

The management of threatened species requires an understanding the microclimate, hydrology and vegetation structure leading to many species-specific studies worldwide. Studies have also identified host species for mussels.

Linkages with regional specialist groups

In Europe, the new European Invertebrate Specialist Group provides overlap with the Mollusc Specialist Group with a joint project proposed for a Red List of European Invertebrates. Members of SSC Southern African Invertebrate Specialist Group and SSC Mollusc Specialist Group have reviewed threatened species assessments on land snails and passed this information through the regional and global networks. MSG is supporting Southern Asian Invertebrate Specialist Group in their efforts to promote the conservation of freshwater molluscs.

Mary Seddon, Chair

The battle to keep Pacific island *Partula* snails from extinction is still ongoing



North Eurasian Invertebrates

Since the new North Eurasian Invertebrates Specialist Group (NEISG) was created in October 2003, it has continued to develop and increase. Our current small team of invertebrate zoologists from Moscow and Novosibirsk hope that our colleagues from all countries of North Eurasia will join us in the near future.

The main goals of the Group are to develop strategic plans for invertebrate conservation on regional, national, and ecosystem levels, to understand the role of invertebrates in ecosystems and for human well-being, to disseminate information about rare invertebrates, and to increase public education in this area. The NEISG aims to move from simply compiling Red Lists to achieving a better understanding of the nature and ecology of rare species. We also hope to initiate contacts with governmental and non-governmental institutions and to develop relationships with the other IUCN/SSC regional invertebrates groups (European and South Asian). Also, NEISG will support studies on the distribution and dynamics of rare species populations, especially those based on a landscape or ecosystem approach.

In North Eurasian countries (mainly in the former Soviet Union republics), activities of invertebrate conservationists are not coordinated. As a result, editors of different Red Books and red lists (at the national and regional scale)

used different criteria for invertebrates. In many cases, the listings are not based on the ecological and geographic situation and data, but on the opinions of

editors and authors. The IUCN Categories and Criteria are not referenced in these studies and often better data is needed. For instance, the Red Book of the Russian Federation includes more than 150 species of invertebrates, but our knowledge about the majority of these species is limited. We will encourage further studies on a number of these species in order to collect better data on which to make population and ecosystem-level assessment decisions, with a view to eventually re-assessing their status.

Members of the Group took part in the preparation of a comprehensive volume on *Arthropoda of the Sokhondinskiy Biosphere Reserve* (Russia, south Siberia). The Reserve is in a mountainous area of the Transbaikalian Region and consists of a mosaic of different ecosystems: steppes, taiga, and mountain tundra. The book contains descriptions of over 2,300 species of insects and their kin, as well as their general distribution. It will be published in Russian at the end of 2004.

Some special studies of the rare small katydid *Miramiola pusilla* were continued in 2003–2004. Its range includes Moldova and the southern parts of the Ukraine and Russia (from Rostov to Novosibirsk Regions) and the northern part of

Kazakhstan. This species inhabits grasses of the native dry steppes. Its distribution is limited by the distribution of this grassland ecosystem, which is threatened by ploughing and overgrazing.

In September 2004, NEISG members met in conjunction with the Siberian Zoological Conference in Novosibirsk to discuss invertebrate conservation, establish a work program and identify focal points. Another important upcoming meeting will be organized in Gorno-Altai by the Department of Natural Resources of the Republic of Altai. It will be devoted to the preparation of a new edition of the Red Book of the Republic.

Michael G. Sergeev, Chair

Odonata

The Odonata (dragonflies) Specialist Group (OSG) consists of 25 members worldwide. The Group was re-structured in 2003 and activities since 2003 are reported on here.

In July 2004, *Guardians of the Watershed*, Global status of dragonflies: critical species, threat and conservation was published by the OSG as a special issue of the *International Journal of Odonatology*. Regional experts compiled available information regarding the global threat status of dragonflies and their habitats for this issue. Thirty-five authors report on 22 regions and together they cover almost all the regions suitable for odonate life, with the exception of some Asiatic regions. For each region a review on the odonatological history is given, critical odonate species as well as critical habitats and sites are listed and general recommendations for necessary conservation measures and research are provided. The references consist of 1,460 cited papers – a tremendous source for further reading. “*Guardians of the Watershed*” will undoubtedly be of use to all odonatologists looking for global, but concentrated, information on the threats to dragonfly survival. The chief goal, however, is to provide information for nature conservationists, targeting especially the IUCN Species Survival Commission.

Doubtless, one of the world's biggest concerns is the availability of freshwater for human use or for irrigation. Water scarcity and quality are already vital problems in some regions, and the affected area is growing dramatically. Currently, almost 40% of the world's human populations experience serious water shortages. Wetlands, which have already been reduced by as much as 50% worldwide, store water, reduce flooding and provide habitats for an immense biodiversity of plants and animals. Odonata are optimal indicators of wetland health. While the habitat selection of adult dragonflies strongly depends on vegetation structure, their larvae develop in water and are critical determinates of water quality and aquatic habitat structure. A full array of different ecological

Studies of the rare, small katydid, *Miramiola pusilla*, continued



South Asian Invertebrates

types, from pioneers to specialists, occurs within the Odonata. This allows us to monitor habitat changes using dragonflies as positive and negative indicators. Dragonflies are already used as indicators for wetland quality in Europe, Japan, the USA and Australia, but baseline data is also needed in other parts of the world in order to facilitate even wider applied research, conservation measures and long-term monitoring schemes. The IUCN/SSC Odonata Specialist Group provided a first step in 1997, when *Dragonflies – Status Survey and Conservation Action Plan* was published. Regional reports found in *Guardians of the Watershed* provide a second step and we sincerely hope that the reports will influence the conservation of Odonata and their habitats.

Based on the regional reports, the OSG is currently revising the entire global dragonfly Red List assessments. For some tropical regions, especially South America and Southeast Asia, we are still largely in the “data deficient” category for many species and surveys are urgently needed before any serious assessment can occur. On the other hand, we do have good information on the status and necessary conservation measures for species found in North America, Europe, North and Southwest Asia, Japan and Australia, as well as comparatively good information for large parts of Africa.

OSG members contributed assessments of dragonfly species of eastern Africa to the regional status assessment of freshwater taxa of eastern Africa, lead by Will Darwall, IUCN/SSC Freshwater Biodiversity Assessment Officer. The regional assessment results are currently in the final stage of review and publication. Some Group members are also currently involved in a similar attempt to assess the status of European dragonfly species. Group members have also contributed to the development of guidelines for identifying priority areas for Odonata which should be finalized in 2005. However, attempts to initiate a global dragonfly assessment have been hampered by the lack of funds available for such endeavors at the moment.

A short summary of the *Guardians of the Watershed* and its table of contents can be found on the SSC 2000–2004 Quadrennial CD-Rom. *Guardians of the Watershed* can be ordered from the chairman of the OSG (violacl@gmx.de) for 20€ plus postage and bank charges, if these arise.

Viola Clausnitzer, Chair

Social Insects

Donat Agosti, Chair

Southern African Invertebrates

In recent years there has been a growing awareness of the plight of invertebrates in various ecosystems across the globe. While some invertebrate taxa are covered by their own Specialist Groups, the vast majority are simply not represented in the IUCN/SSC stable. This meant that for many invertebrates there was no way of red listing them through a Red Listing Authority (RLA). One way to overcome this short-coming was to introduce geographical area-based Groups. The first of these to be instituted was the Southern African Invertebrates Specialist Group. This was a particularly appropriate move because three (Cape Floral Region, Succulent Karoo, and Maputaland) of the world's 33 global hotspots are in South Africa. The Cape Floral Region and the Succulent Karoo in particular are very high in endemic invertebrate species, with many taxa having disproportionately high levels of endemism compared with elsewhere.

There was a debate over the geographical extent of the Southern African Invertebrates Specialist Group, with concerns as to where exactly its geographical jurisdiction ends. For now it reaches up to East Africa. As the Indian Ocean islands also require a RLA for invertebrates, the Southern African Invertebrates Specialist Group helps to link them to the IUCN/SSC network. This is considered an important step because, being tropical islands, they are under considerable anthropogenic pressure. They also suffered a monumental change in 1998 when a mass bleaching event caused considerable dieback of the coral reefs.

To facilitate communication between invertebrate specialists, a newsletter *Colophon* was instigated, with news and events being shared electronically. During these formative years of the Southern African Invertebrates Specialist Group, a sister grouping of invertebrate conservationists was initiated under the name of the Inland Invertebrate Initiative, focusing on fund raising for terrestrial components of invertebrate diversity, but only in South Africa and Lesotho. Funding was received from the Green Trust to assess the status of 100 invertebrates. This has been done and the assessments have been incorporated into the Species Information Service (SIS) database.

During the preceding Quadrennial period, two Southern African Invertebrates Specialist Group meetings were held, in Pietermaritzburg 2001 and in Pretoria in 2003, in association with the Entomological Society of Southern Africa. These meetings have been very successful as a means of sharing views and actively initiating programs that conserve invertebrates. Out of the 2001 meeting, a Special Issue of *African Entomology* titled ‘Arthropod Diversity and Conservation in Southern Africa’ was produced (March 2002).

Invertebrate linkages are strong in Southern Africa, with this group of organisms being increasingly incorporated into biodiversity assess-

ments. Among these assessments is the recovery of biodiversity when invasive alien trees are removed from riparian corridors. Certain species of Odonata, for example, have been severely restricted by the impacts of invasive alien plants, but have been given a reprieve with removal of alien plants. Three species were even feared extinct as the impact of the aliens has been so great, but populations have since been found, and now are only known from sites where the alien species have been removed.

Other invertebrate conservation projects have taken place, including studies on millipedes, snails, butterflies and grasshoppers, as well as functional groups such as pollinators and saproxylic (inhabiting dead, decaying wood) organisms. Studies have also been carried out on the coral reefs of the Seychelles and South Africa, and in the sandstone caves of Table Mountain. Considerable work has also been done in the Seychelles on various aspects of terrestrial invertebrate conservation. The Seychelles giant millipede is so abundant on Cousine Island (although it has gone extinct on some other islands) that it is equivalent in biomass to one elephant for every 5 ha, and is a major factor in soil formation on this small granitic island.

Among the management methods being developed for invertebrates are remnant grassland corridors and nodes among planted pine patches. These remnant areas are playing a major role in conserving indigenous invertebrates, including herbivores such as grasshoppers, nectarivores such as butterflies, as well as flower-arthropod associations.

An exciting new discovery during this last quadrennium was the discovery of a completely new insect order, the Mantophasmatoidea, suggesting

Exciting discovery of a new insect order

that there are still many more invertebrate species to discover in the region. It also emphasizes the importance of the landscape or 'coarse filter' approach in addition to the species or 'fine filter' approach for maintaining the rich diversity and all the ecological processes in the area. As there are likely to be many more invertebrate species awaiting discovery and conservation, it is essential to maintain as much intact natural land and aquatic systems as possible. Methodologies are being developed locally to improve decision making on priority areas for conservation.

The Southern African Invertebrates Specialist Group continues to thrive, linking strongly with universities, museums and NGOs. It has also contributed to the National Biodiversity and Strategic Action Plan for South Africa, and the new Biodiversity Bill. Besides being a cohesive voice for red listing and communication in Southern Africa, the Southern African Invertebrates

Specialist Group links strongly with the Invertebrate Committee of the IUCN/SSC and with the new international initiative emanating from the American Museum of Natural History, New York, under the name 'Expanding the Ark Coalition'. The Southern African Invertebrates Specialist Group, as representative of a huge slice of biodiversity, continues to be active in landscape management as well as national and international conservation activities.

Michael Samways, Chair



Mopane 'worm'

South Asian Invertebrates

The South Asian Invertebrate Specialist Group (SAsISG) was formed in February 2002, hosted by Zoo Outreach Organisation / CBSG, South Asia. It operates in conjunction with *Invertebrate Conservation and Information Network of South Asia* (ICINSA), a networking activity of ZOO/CBSG South Asia, developed to promote invertebrate conservation in South Asian countries. The objective of SAsISG is to assist individuals, institutes and agencies in South Asia (Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan and Sri Lanka) to conserve invertebrates. The SAsISG has 26 founding members from 6 countries. Since its inception, the Group has been involved in various regional level activities, meeting the goals of its work plan which was formulated in consultation with the SSC's Strategic Plan (2000–2010). It has also begun distribution of an electronic newsletter 'ProtoEch' covering invertebrate activity reports from the region.

In October 2002 a training workshop on the Conservation Assessment and Management Plan (C.A.M.P) workshop process for invertebrates was organized in collaboration with the IUCN Bangladesh Country office. The objective of the two-day training workshop was to acquaint the invertebrate conservation community with the C.A.M.P. process and to train them in the use of IUCN Red List Categories and Criteria. Thirty-one scientists from Bangladesh and one from Pakistan attended the workshop. The SAsISG, in collaboration with Dhaka University, conducted a training workshop in Bangladesh for the Dhaka University students. The group nominated Sanjay Molur as the Red List authority.

One of the major achievements of the SAsISG is the formation of sub-networks, based on the thematic work programs of the Convention of Biological Diversity. The sub-networks include an Invertebrate pollinator network, Aquatic (marine) invertebrate network, Aquatic (Inland) invertebrate network, Agro-biodiversity invertebrate network, Under-soil invertebrate network and Terrestrial invertebrate network. The Invertebrate pollinator network of South Asia (IPNSA) is the first sub-network activity of the South Asian Invertebrate Specialist Group. Pollinating invertebrates are one of the most significant of the functional groups since the survival of a multitude of other organisms depends on a working food chain which a decline in pollinating invertebrates surely will affect and reports from many countries in the world indicate that pollinating invertebrates are in serious decline. The IPNSA has 36 members with a point person for the sub-network from the founding SAsISG members. The objective of the network is to identify all field biologists in South Asia working on invertebrate pollinators and network them to promote conservation particularly through field studies, to plan and execute activities on invertebrate pollinators such as training

programs, workshops and meetings, to bring out publications related to invertebrate pollinators for better exchange of ideas and to educate policy makers and general public about this issue. The Aquatic (inland) invertebrate network and the Under-soil invertebrate network are in the process of formation. All networks will include five steps of conservation formula developed by CBSG South Asia; networking, capacity building, field studies, rapid species assessments and education.

A database of the members of the SAsISG and sub-networks has been developed and a directory will be formed and made available to Group members through the web. The Group has been represented at several local and regional events, and collected information to aid the work of the Specialist Group, its members and invertebrate scientists in South Asia. Hands on training in taxonomy and field techniques, involving specialists to assess selected invertebrates for inclusion on the *IUCN Red List of Threatened Species* and developing education materials for various invertebrate groups will be some of the major future projects.

The Invertebrate Conservation Unit, London Zoo is acknowledged for its constant encouragement and financial support for the South Asian Invertebrate Specialist Group's projects.

B.A. Daniel, Co-Chair

Mammal Specialist Groups



African Elephant

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. With 49 members from 27 African elephant range states, all actively involved in different aspects of elephant conservation or management, the Group is in a unique position to engage in cutting edge elephant conservation action across the continent.

During this quadrennium, the AfESG has continued to consolidate its position as the world's leading technical authority on the African elephant. Some of the most notable achievements of the AfESG during this period have been as follows:

Compiling and synthesizing information on the conservation and status of the African elephant

In 2003, the AfESG produced and distributed the African Elephant Status Report 2002 containing the latest continent-wide information on the numbers and distribution of African elephants. This report also introduces a number of innovations with respect to its most recent predecessors including categorization of distribution data, the display of point range information, the inclusion of data quality tables, a more detailed treatment at the regional and continental levels and new historical sections. Like its predecessors, the African Elephant Database 1995 and 1998 updates, this report is expected to become the global standard reference on the status of elephants in Africa.

Managing the challenges of human-elephant conflict

The AfESG first established a temporary subgroup called the Human-Elephant Conflict Taskforce (HECTF) in 1996; in 2002 this was transformed into a permanent body (Human Elephant Conflict Working Group - HECWG) to reflect the serious, widespread, and persistent nature of the problem. During the current quadrennium, the HECWG has developed a number of technical products designed to help assess and mitigate human-elephant conflict. These include the Decision Support System for Managing Human Elephant Conflict Situations in Africa, a standardized Data Collection and Analysis Protocol and Training Manual for Enumerators of Elephant Damage as well as a number of technical briefs. These "tools" are currently being tested in many different human-elephant conflict sites across Africa.

AfESG's work has shown that management of human-elephant conflict requires solid support and informed political policy at all levels of government, strong commitment on the part of wildlife management authorities, the development and implementation of integrated land-use plans, timely implementation of available tools and methods and a climate of trust between the diversity of negotiating parties on the ground.

Presently, AfESG is examining how a full "in-country human-elephant conflict management program" that operates at all these levels can work in both Anglophone and Francophone range states.

Strategic planning

The AfESG has continued to promote the adoption and implementation of the West African Elephant Conservation Strategy (WAECS), which it helped to develop, together with the West African elephant range states in 1999. With assistance from the Convention on the Conservation of Migratory Species of Wild Animals (CMS), the WAECS has been integrated as the primary plan of action into a Ministerial-level Memorandum of Understanding, which it is hoped, will be adopted soon under the aegis of the Economic Community of West African States (ECOWAS). The AfESG also helped to develop Action Plans for the conservation and management of five of the largest remaining cross-border elephant populations in West Africa.

Following official requests from the seven elephant range state governments of Central Africa to develop a Central Africa Elephant Conservation Strategy, the AfESG began work on the technical background preparations and is in the process of raising funds for a multi-stakeholder participative workshop to develop a strategic framework for the strategy.

Most recently the AfESG, together with the IUCN Regional Office for Southern Africa and the Southern African Sustainable Use Specialist Group, has been asked to provide technical input to a Southern African elephant conservation strategy.

On a national scale, the AfESG has assisted in the development of national elephant conservation strategies for Botswana, Burkina Faso, Benin, Côte d'Ivoire, Guinea Conakry, Kenya, Mali, Niger and Togo over the past four years. In addition to previous undertakings, almost a third of the current range states have been assisted and several more have recently joined the queue.

Listing of the African elephant by the IUCN Red List criteria

As the official Red Listing Authority for the African elephant, the AfESG carried out a new assessment of the African elephant by the revised IUCN Red List Categories and Criteria version 3.1 in time for inclusion in the 2004 IUCN Red List of Threatened Species.



African elephant

Advising on translocation and re-introduction of African elephants

In collaboration with the IUCN/SSC Re-introduction Specialist Group, the AfESG established a task force to produce technical guidelines for in situ translocation of the African elephant for conservation purposes designed to help African wildlife authorities and donors to make informed decisions about translocation as a tool for African elephant conservation and management. These guidelines, which were published in early 2004, have been widely disseminated in French, English and Portuguese.

Disseminating information about elephant conservation and management

Since December 2000, eight issues of *Pachyderm*, the scientific journal of the IUCN/SSC African Elephant, African Rhino and Asian Rhino Specialist Groups have been produced by the AfESG. *Pachyderm* has a circulation of over 1,200 readers and contains articles in English and French on the most recent African elephant research activities and conservation issues.

The AfESG website, <http://iucn.org/afesg>, has been transformed into an effective platform for disseminating information about conservation and management of the African elephant. This site contains copies of all the main technical documents produced by the AfESG (including all those mentioned in this report), most of which are available in French and English, and increasingly in Portuguese as well, and consistently receives about 1,500 "hits" per day making it one of the most accessed of all the Specialist Group websites.

Mobilizing resources for African elephant conservation and management

The AfESG raised approximately USD 1,000,000 for activities directly related to African elephant conservation and management. In addition, the total voluntary contribution by the AfESG Chair and members during this time was estimated at more than USD 300,000 per year.

Holly Dublin, Chair

Leo Niskanen, Senior Programme Officer

African Rhino

The African Rhino Specialist Group (AfRSG) has assisted African Range States in developing and revising the critically important national and organizational rhino conservation plans and strategies in line with the international best practice principles as outlined in the IUCN African Rhino Action Plan. Countries to have benefited include Botswana, Kenya, Namibia, South Africa, Zambia and Zimbabwe. We have assisted South African National Parks to revise their strategic plan and Ezemvelo KZN Wildlife to develop a biological management policy for black rhino.

The AfRSG held its biennial meetings in June 2002 (Zimbabwe) and June 2004 (Kenya). As usual these meetings were attended by the majority of AfRSG members as well as invited observers, and they continue to provide a good forum for disseminating new knowledge and advice on rhino conservation as well as for workshopping specific topics. The continental rhino statistics are updated at these meetings and the recovery of black and white rhino populations continues with numbers in the wild up to 3,600 and 11,100 respectively and a further 242 and 747 in captivity. Poaching however appears to be increasing and the northern white rhino is facing a major threat with substantially increased poaching reducing numbers to about 17 in the Democratic Republic of the Congo. Numbers may have declined by 40% in the past year. The relic population of western black rhino in Cameroon is also perilously close to extinction. Importantly, the mix of official state representatives and specialists in the group, has, over the years, helped create and maintain a very valuable network for rhino conservationists throughout Africa. One major recommendation to emerge from the most recent meeting is that the AfRSG takes the lead role in facilitating the establishment of an Eastern African Community Rhino Management Group.

One of the major achievements in the reporting period was the holding of an international Black Rhino Biological Management Workshop to address issues around the declining performance of a number of important and key populations in several range states. The workshop produced a revised biological management harvesting strategy which should result in hundreds more black rhino being produced in the next few years. Subsequently, the AfRSG Scientific Officer visited a number of key conservation management agencies in South Africa, Kenya and Namibia to present the results to senior decision-makers and to management and research staff in the field.

The AfRSG Chairman, Scientific Officer and selected members also provide support for a number of regional initiatives. In particular we are part of the consortium driving the Italian-funded SADC (Southern African Development Community) Regional Programme for Rhino Conservation, providing technical direction and leading a number of projects. Apart from holding three full SADC rhino range state meetings and founding a SADC Rhino Recovery Group comprising six countries, the program has facilitated the exchange of rhinos between countries, for example the introduction of black rhinos to Zambia and Botswana and additional founder white rhinos to Botswana. It has also developed the WILDb rhino database management system, largely funded the complete revision of the "RHINO" Bayesian Mark-Recapture software package, and funded and held a number of courses on rhino identification based monitoring (using the revised AfRSG ID training



course); and developed improved horn fingerprinting analytical tools (which can now reliably identify species and source the region of horn recovered (but not yet the precise park with sufficient accuracy). It has completed a law enforcement and intelligence database to assist wildlife investigators and police, and sponsored the development of the highly successful Scene of the Crime training course which to date has been held in Namibia, Kenya, Zimbabwe, Swaziland and Botswana.

The AfRSG continues to assist donor agencies, and especially US Fish and Wildlife's Rhino and Tiger Conservation fund, spend their monies wisely by priority rating and reviewing project proposals. It reviews CITES proposals on request from the IUCN/SSC Wildlife Trade Programme and is the Red List Authority for African Rhinos. The AfRSG has also regularly contributed articles and short notes to both *Species* and *Pachyderm*. With US Fish and Wildlife funding, the AfRSG has produced a number of revisions of its widely used rhino identification monitoring training course. In completing a questionnaire upon request of the SSC Chair, it became apparent how many of the AfRSG's activities are actively contributing to meeting the SSC Strategic Plan goals.

AfRSG members are also part of a new UK-funded Darwin Initiative project (together with the Zoological Society of London and Kenya Wildlife Service's rhino program) that seeks to build conservation capacity in Kenya. The Darwin Project has already trained 18 qualified monitoring instructors, has led to the improvement of the Kenyan rhino database management system and will result in improved status reporting, biological management and carrying capacity estimation in Kenyan parks.

In 2003, a number of AfRSG members also attended and participated in a very useful multi-disciplinary Ngorongoro Crater black rhino conservation workshop. In particular they were able to highlight specific problems that were negatively impacting upon black rhino population dynamics in the crater.

The AfRSG Scientific Officer has assisted the Rhino and Elephant and Security Group of Southern Africa develop focused terms of reference, and has participated in a number of their meetings. He has also acted as an expert witness in a horn dealing case in Swaziland. He has assisted Namibia by providing direction on how the population estimates of their largest black rhino population can be improved, together with providing easy-to-use spreadsheet tools to facilitate the future count planning and data analysis in this park.

The AfRSG is extremely grateful to WWF for its long-term support; because without it the group could not have achieved what it has during the reporting period. Core support and meeting fund-

ing is never easy to raise, but is essential for the productive functioning of groups such as the AfRSG. The WWF African Rhino Programme provides funds for the partial employment of the AfRSG's Scientific Officer and, funded the 2002 AfRSG meeting and co-funded (together with the SADC Rhino Programme) the 2004 AfRSG meeting. In addition WWF (South Africa) provides an operating budget for the Chairman.

Martin Brooks, Chair

Richard Emslie, Scientific Officer

Afrotheria

Africa supports a bewildering diversity of flora and fauna. Especially familiar are the large charismatic (and often exotic looking) mammals such as elephants, rhinos, giraffes, lions, etc. Africa also has numerous less familiar (but definitely no less exotic) small mammals, including Endangered oddities like the golden-rumped sengi (*Rhynchocyon chrysopygus*), the dryad shrew tenrec (*Microgale dryas*), and Van Zyl's golden mole (*Cryptochloris zyl*). However, few people - including many biologists - are familiar with these species and their strange-sounding names. Unfortunately, just because they are not well known does not mean that they have escaped the need for conservation action. Thus, we formed the Afrotheria Specialist Group in 2001 to focus attention and conservation actions on some of these lesser-known African mammals.

What is this term, Afrotheria? The development of molecular techniques to explore the evolutionary relationships (phylogeny) of animals has resulted in scientists gathering overwhelming support for a common African ancestry for several "odd" groups of mammals. This ancient radiation includes species with little superficial resemblance to each other. Only ten years ago, no one would have dreamed of grouping the elephants, sea cows, hyraxes, aardvark, sengis (or elephant-shrews), tenrecs, and golden moles into a single evolutionary unit, the Afrotheria. Some biologists do not accept this arrangement, but nevertheless it is a useful and efficient assemblage to focus conservation activities.

Because the Afrotheria is a relatively new concept, our specialist group is also new. Our 30-odd members include a Section Coordinator for each group (or clade) - the hyraxes, aardvark, sengis (elephant-shrews), tenrecs, and golden moles. We did not include the half-dozen or so species of elephants and sea cows in our group because these charismatic large mammals already had very active specialist groups. The smaller species of the Afrotheria, however, are often overlooked by the public, conservation organizations and governmental agencies. We want to encourage more conservation attention on these "forgotten"



afrotheres. To do this, we split off the sengis, tenrecs and golden moles from the existing Insectivore, Tree-shrew and Elephant-shrew Specialist Group (now called the Insectivore Specialist Group), we absorbed the old Hyrax Specialist Group and finally we adopted the armadillo (*Orycteropus afer*), which had never been included in a Specialist Group. One of the benefits of our amalgamation is our species are restricted (endemic) to Madagascar and Africa (although the rock hyrax, *Procavia capensis*, just creeps into the Arabian Peninsula), thus giving us a strong geographical focus for carrying out our activities.

The afrotherian clades do not include numerous species, especially when compared to other mam-

malian groups such as bats, insectivores, rodents, and even primates. There is only one armadillo, 6 hyraxes, 15 sengis, 21 golden-moles, and 30 tenrecs. Many of these have broad distributions in a wide variety of terrestrial habitats, which means they are not particularly vulnerable to extinction (for example the rock hyrax, along with the

armadillo and several sengis). Other Afrotheria, however, have highly specialized habitat requirements and restricted (possibly relictual) distributions, and these are highly vulnerable. This is especially true of forest-dwelling sengis (genus *Rhynchocyon*) and hyraxes (genus *Dendrohyrax*). Several tenrecs on Madagascar are also especially vulnerable because of the disappearance of forest and aquatic habitats on the island. Additionally, several of the golden-moles are known from very small areas, some being known from only a few specimens. In nearly all the cases where afrotherians are threatened with extinction, the basic problem is the disappearance of their habitat due to a variety of human activities.

Since the formation of the Afrotheria Specialist Group, we have concentrated on disseminating general background information on the afrotheres, as well as addressing numerous specific or technical requests for information from the public, fellow biologists, conservation organization, and government agencies. To help us in efficiently providing this information we established a web site (<http://www.calacademy.org/research/bmammals/afrotheria/ASG.html>), which is frequently updated by our web master, Erik Seiffert. We also periodically produce a newsletter (*Afrotherian Conservation*), which is edited by Peter Stephenson. The newsletter can be seen and downloaded from our web site, but we

also distribute hard copies to Africa with assistance from Paul Owen of the National Association of Private Animal Keepers (Great Britain). On the technical front, we re-assessed the status of several sengis for the 2003 *Red List of Threatened Species* and our members are in the process of evaluating all our species for the Global Mammal Assessment and the IUCN Red List.

Even though our specialist group only covers about 73 species, nearly a third of these will probably be threatened when we complete our Red List evaluations. Several of these will be Endangered or Critically Endangered and thus in need of immediate conservation actions. For example, several members of our Specialist Group have been actively seeking funds to assist in developing conservation plans for Juliana's golden mole (*Neamblysomus julianae*) in South Africa and the web-footed tenrec (*Limnogale mergulus*) in Madagascar.

Why is it important to focus on the conservation of Juliana's golden mole and the web-footed tenrec, or any of the afrotheres? Of course it relates to protecting our biodiversity heritage. The Afrotheria represents one of the major, and most ancient, mammalian evolutionary radiations, contributing significantly to the overall diversity of mammals. By one count, the seven clades making up the Afrotheria (in this case including the elephants and sea cows) represent nearly a third of all the living orders of mammals, but contribute only about 6% of mammals found in Africa and Madagascar (about 1,200 species). While once the dominant mammals of Africa, afrotheres have dwindled in diversity owing to repeated invasions of Africa by more recently evolved mammals from Eurasia. With relatively few extinctions, now primarily of anthropogenic agency, it is possible that an entire group of mammals might disappear. An extreme example would be if the armadillo, the only living representative of this group, were extirpated we would lose an entire mammalian order (fortunately, the armadillo is not threatened). It is tragic to extirpate any species, but the loss of any representative of the Afrotheria is especially horrid because the relatively few extant species are all that remain after more than 100 million years of mammalian evolution confined to Africa.

Galen B. Rathbun, Chair



Golden-rumped sengi

Antelope

The Antelope Specialist Group (ASG) has had an active quadrennium. We reorganized into seven regional and three taxonomic sub-groups, each with their own Chair. The details of these groups can be found on the SSC 2000–2004 Quadrennial CD-Rom.

Each sub-group has been very active. For instance, David Mallon, Chair of the ASG Middle East and Asia Region, reports that the Group undertook to: revise Red List assessments for saiga and chiru in response to changes in poaching levels; carry out Red List assessments of all Asian species (26 taxa) for the 2003 IUCN Red List; complete Global Mammal Assessments for Asian and North African antelopes (ongoing); liaise with CITES secretariat, TRAFFIC and other organizations on the poaching of chiru for the shahtoosh trade and the poaching of saiga. We also collaborated with the Institute of Zoology, Beijing on the conservation of Przewalski's gazelle which included two field visits to assess status and conservation options. This was in addition to responding to enquiries on Asian antelopes, supporting grant applications and representing the ASG at a number of international meetings.

Working on-the-ground for antelope conservation is a key priority and, in 2002, a mountain nyala (*Tragelaphus buxtoni*) population status and conservation planning field study was supported by a USD 5,000 grant, donated by Mary Jane Mann. James Malcolm of the University of Redlands, California, undertook this investigation, which was reported on in issue 22 of our newsletter, *Gnusletter*.

Another field study on Serengeti wildebeest reproductive physiology, funded primarily by the Smithsonian Institution Scholarly Studies Program, occurred during this quadrennium.

In 2002, the ASG reported to the IUCN Director General on antelope capture operations by a commercial South African company in Senegal's Niokolo-Koba National Park. In addition to 74 roan, 23 Buffon's kob, 10 waterbuck, and 10 buffalo, nine western giant eland (*Tragelaphus derbianus derbianus*) were captured, leaving probably less than 100 survivors of this Critically Endangered subspecies. All these animals were translocated to the Bandia Reserve, a tourist attraction near Dakar far outside the eland's natural range, where at least three eland died.

In addition, we undertook a 2002 survey of the giant sable (*Hippotragus niger variani*) reserves in central Angola, an ASG priority since 1988. Previous scheduled attempts included a nine-day stay in Luanda in 2000 and a brief helicopter survey in 2001, spoiled by bad weather. Flights over the two reserves in an army helicopter were fruitless, but an incursion on foot into Cangandala National Park resulted in sightings and proof that the giant sable has survived the 25-year civil war.

The Antelope Specialist Group participated in preparations for repatriating 18 mountain bongos

(*Tragelaphus eurycerus isaaci*) donated by 13 US zoos to Mt. Kenya, where the founders were captured in the 1970s. They were successfully delivered to captive breeding enclosures on the Mt. Kenya Game Ranch, on 30 January 2004, following a 20-hour flight from Atlanta to Nairobi. This completes phase one of a project eight years in the making. Chosen as the flagship species for the Mt. Kenya World Heritage Site, the goal is eventual re-introduction in the park.

A number of workshops and symposia on antelope were held during the quadrennium. These included a Mini-antelope Zimbabwe Symposium in February 2001, hosted by the Marwell Zimbabwe Trust. One outcome from this symposium was the formation of the Small Antelope Interest Group, chaired by Amy Plowman. A second small antelope symposium was held in 2004 and included a special workshop on Aders' duiker. Also in 2001, a Roan Action Group Workshop discussed results of genetic research results and a basic strategy statement for conservation and management of roan in South Africa.

A meeting of Southern and Eastern Africa Regional ASG took place in 2003. Participants discussed the Endangered puku (*Kobus vardonii*) population in Chobe National Park; the endangered South African oribi (*Ourebia ourebi*) population; mortality of eastern giant eland (*Tragelaphus derbianus gigas*) captured in the Central African Republic; the need for a strategic conservation plan to prevent hybridization of blue and black wildebeest and the need for the Angolan and giant sable research project which is about to be undertaken by a South African graduate student.

The Antelope Specialist Group contributed to the *Red Book: The Extinction Crisis Face to Face* published by SSC, Agrupacion Sierra Madre and CEMEX in 2002. We also published *Antelopes Global Survey and Regional Action Plans*, Part 4: North Africa, the Middle East, and Asia, compiled by David Mallon and Stephen Kingswood, and *Antelope Survey Update Number 8* including Burkina Faso, CAR, Chad, Djibouti, Lesotho, Mali, Mozambique, Rwanda, compiled by Rod East. *Antelope Survey Update Number 9*, compiled by Bertrand and Phillipe Chardonnet, Regional Chairs, ASG Central and West African Region, is now in press. It includes chapters on protected areas and endangered species in Senegal, Gambia, Mali and Guinea, Benin, Niger, Nigeria, Chad, and the Central African Republic.

Two issues per year of *Gnusletter* were published and sent to approximately 200 members and subscribers.

Richard D. Estes, Chair



Asian Elephant

The Asian Elephant Specialist Group (AESG) enjoys a mixed membership of scientists, government officials, academicians and conservationists from the specie's range States in Asia, as well as other countries. Over the years, the group has made efforts to play an active role in the conservation of the Asian elephant. Prof. R. Sukumar (India) continued as Chair of the group for a second term, with Prof. Charles Santiapillai (Sri Lanka) and Mr. Widodo Ramono (Indonesia) serving as Deputy Chairs. Several new members were inducted into the group, to bring in younger biologists and conservationists and to give a more complete geographical representation as well.

Group Meeting

The Group held one full meeting during this quadrennium. At the same time, many members have made it a point to catch up with the Group's activities whenever they could find time at various other international meetings and symposia.

A full meeting of the group was held in May 2002 in Cambodia. The meeting was convened mainly to discuss the draft Asian Elephant Action Plan. More than 100 participants from 18 countries were able to attend this meeting due to the generous funding from the US Fish and Wildlife Service (Asian Elephant Conservation Fund), Chester Zoo (UK) and the Department for Environment, Food & Rural Affairs (now DETR, UK). The support of the Cambodian government and Fauna and Flora International was crucial for the success of the Phnom Penh meeting. Presentations on the status of the elephant in the range States and the highlights of the country chapters of the draft Action Plan followed. One of the highlights was the importance given to regionalization of activities and communication among the membership. Accordingly, four working groups were constituted for discussing regional issues of elephant conservation. These were Mainland Southeast Asia, Indonesia/Sabah Malaysia, Southern India/Sri Lanka and Northern and Central India, Bhutan, Nepal, and Bangladesh.

Four task forces were also established to provide the framework for the further work of the group and management guidelines on various issues. The deliberations of the task forces were not to be confined to those present at the meeting, but extend to the entire membership as well as other experts. The different task forces and the issues discussed were:

- The Human-Elephant Conflict Task Force considered payment of compensation for damage to crop and loss of human life, alternative land-use and cropping patterns, mobile anti-depredation units, translocating chronic crop-raiding or rogue elephants and research on innovative, reliable and low-cost conflict mitigation measures.
- The Poaching and Ivory Trade Task Force discussed protocols for registration of ivory stocks,

implications for Asian elephants if trade in African ivory is resumed, capacity building in range States for monitoring poaching and the ivory trade and scientific determination of African and Asian ivory.

- The Captive Elephant Welfare and Management Task Force discussed the broad principles for the care and welfare of captive elephants, establishing a database of captive elephants, and the need for a Coordinating Office to serve as a resource center for information about captive elephants and to facilitate communication and to administer the work of the Task Force.
- The Habitat Mapping and GIS Task Force discussed guidelines and standards for elephant habitat mapping and population estimation, building technical capacity to gather scientific data and the development of techniques for effective monitoring of Asian elephant populations.

Updating the Asian Elephant Action Plan

The revised Action Plan for Asian elephant conservation is currently being edited and will be released at the IUCN World Conservation Congress in November 2004. The draft chapters have been loaded onto the group's website for suggestions and inputs from the membership. This Action Plan will hopefully assist Governments and other policy makers in local conservation efforts in the range States. The US Fish and Wildlife Service is generously supporting this initiative through the Asian Elephant Conservation Fund.

Communication

Prof. Charles Santiapillai continued to produce *Gajah*, the journal of the AsESG, during the quadrennium. Four issues of the journal were produced and distributed not only among the membership but to a broader audience as well.

The Asian Elephant Specialist Group launched its own website hosted by IUCN, <http://www.iucn.org/themes/ssc/sgs/asesg/>. The website will detail all the activities of the Group as well as provide necessary information on the Asian elephant and its conservation. An electronic version of the 1990 Action Plan for Asian Elephant Conservation, draft chapters of the revised Action Plan for members' inputs and comments and member contact details have all been posted. The site will enable better networking and communication among the members, as well as the wider conservation community by providing updated information from the field. There will be a separate section to answer queries from students and the general public on various subjects related to the Asian elephant. Efforts to produce an online version of *Gajah*, the Group's peer-reviewed journal are underway.

Raman Sukumar, Chair

Joshua David, Assistant to the Chair

Asian Rhino

During the 2001-2004 quadrennium, the Asian Rhino Specialist Group (AsRSG) has concentrated on implementation of the *Action Plan for Asian Rhinos* published in 1997. The strategies and action plans in this document for the various taxa of Asian rhinos remain applicable, especially with the adaptive modifications produced through regional workshops, reconnaissance, and consultations during this quadrennium.

In 1998 AsRSG reoriented to a more regional approach recognizing that Southeast Asia and South Asia have rather different sets of problems, personalities, and parameters. An Executive Committee was created, consisting of the Chair (from Southeast Asia), two Deputy Chairs (one each from Southeast Asia and South Asia), and Principle Representatives from the six known range states (India, Nepal, Peninsula Malaysia, Sabah, Indonesia, and Vietnam). This Executive Committee has not been particularly effective at an interregional level for a variety of reasons, including fundamental differences of the two regions, changes in the positions of members, and events like the insurgency in Nepal.

Implementation of action plans requires funds. Hence, the AsRSG has devoted much of its effort to recruiting funds for programs and projects. AsRSG has continued and increased its partnership with the International Rhino Foundation (IRF) which provides funds both for the operation of the AsRSG itself under a Memorandum of Understanding (MOU) with IUCN and for the implementation of conservation action. AsRSG has also collaborated closely with WWF, especially through AREAS (Asian Rhino and Elephant Action Strategy). AsRSG has provided encouragement and guidance for several other NGOs: SOS-Rhino, the Asian Rhino Project, and Save the Rhino International. AsRSG has worked closely with US Fish & Wildlife Service (USFWS) Rhinoceros & Tiger Conservation Fund. Finally, AsRSG has liaised with the African Rhino Specialist Group (AfRSG). Through regional workshops as well as individual surveys and consultations by the Chair and Program Officers, AsRSG has also provided much technical assistance for rhino conservation in all range states.

AsRSG has ceased publishing a paper newsletter but instead disseminates information electronically primarily by maintaining a website as a subsection of the IRF website: www.rhinos-irf.org. AsRSG has also provided Chair reports regularly to *Pachyderm*. The Group has compiled current estimates of rhino populations in all range states. AsRSG provides this information to the SSC through participation in the SSC Global and Regional Mammal Assessments. Updates of rhino numbers also appear on the AsRSG/IRF website.

The various technical and financial activities and achievements of the Group and/or its members by range state include:

Southeast Asia

Indonesia

AsRSG, in conjunction with IRF, has continued to be the primary provider and recruiter of financial (USD 500,000 per year) and technical support for the system of anti-poaching teams known as Rhino Protection Units (RPU), the mainstay of the *in situ* Action Plan for both Sumatran (*Dicerorhinus sumatrensis*) in Bukit Barisan Selatan (BBS), Way Kambas, Kerinci Seblat National Parks and Javan Rhino (*Rhinoceros sondaicus*) in Ujung Kulon. AsRSG has also provided technical training and assistance for the RPUs in Gunung Leuser National Park, the other major Sumatran rhino population in Indonesia. A notable accomplishment is a major grant (USD 700,000 over two years) from the Critical Ecosystems Partnership Fund (CEPF) for the RPUs in BBS. AsRSG and IRF have also continued to provide financial and technical assistance for the Sumatran Rhino Sanctuary in Way Kambas, an integral part of the Global Captive Propagation Program for the Sumatran rhino. Regional meetings for rhino conservation in Indonesia occurred under AsRSG auspices in 2000 and 2003.

Peninsula Malaysia

The AsRSG Chair, as Chair of the Malaysian Rhino Foundation (MRF), has continued to provide the main coordination for the RPU Program in Peninsula Malaysia. As in Indonesia, AsRSG through IRF/MRF is the primary source of external funds (USD 150,000 per year). Regional meetings for rhino conservation in Peninsula Malaysia occurred under the auspices of AsRSG in 2000, 2003 and 2004. This last meeting produced some significant modifications to the *in situ* Action Plan. Major disease events caused the deaths of all seven Sumatran rhinos in captivity in Peninsula Malaysia in 2002-2003. AsRSG and IRF/MRF have been leaders in diagnosing the cause and hence preventing recurrence of these problems.

Sabah

SOS-Rhino, another rhino NGO associated with the AsRSG, has primary responsibility for providing financial and technical assistance for Sumatran rhino programs in Sabah, Borneo. SOS-Rhino supported activities include RPUs, a very extensive community outreach program and an *ex situ* sanctuary. The AsRSG Chair and Program Officer, Nico van Strien, have also provided technical assistance by visits to the Sabah program.

Vietnam

AsRSG, through missions conducted in 2001 and 2003 by Program Officer Nico van Strien, has provided technical assistance for the valiant efforts to save the direly endangered population of Javan rhinos where only two to seven individuals remain in the Cat Loc area of Vietnam.

South Asia

India

In 1999, AsRSG conducted a major regional workshop for *Rhinoceros unicornis*. This meeting resulted in some adaptive modifications to our Action Plan, including a project to improve the re-introduction program for Indian rhino in Dudhwa National Park, currently being supported by SOS-Rhino. AsRSG Program Officer Nico van Strien conducted a joint mission with Christy Williams of WWF-AREAS and Fred Bagley of the USFWS to Assam in 2002. One result has been the joint funding by USFWS and IRF of capacity development for the Wildlife Areas Development and Welfare Trust, an NGO facilitating the work of the Forest and Wildlife Department

Nepal

Nepal has been the most difficult place for AsRSG to operate because of the insurgency. However, AsRSG and IRF are trying to facilitate development of a major cooperative program for *in situ* conservation with linkages to the *ex situ* community. A first step will be an options study to assess ecological carrying capacities as well as protection capabilities and resources.

Ex Situ Programs

While the primary emphasis of AsRSG is on *in situ* efforts, the Group has also facilitated *ex situ* programs, notably for the Sumatran rhino which has finally been reproduced with some regular success (twice at the Cincinnati Zoo). This success has been achieved through development and exchange of technical information via AsRSG members, including several technical workshops in Indonesia and Malaysia 1999, 2000, 2003. A Global Captive Propagation Program and Management Committee has also formed under AsRSG to develop a viable captive breeding program, building on the success in Cincinnati.

AsRSG activities and achievements with rhino conservation are described in more detail in the materials found on the SSC 2000–2004 Quadrennial CD-Rom.

Mohd Khan Momin Khan, Chair

Nico van Strien & Thomas J. Foose, Programme Officers

Asian Wild Cattle

Much of the quadrennium has been spent working on the dwarf buffaloes or anoas of Sulawesi in Indonesia and on wild water buffalo, particularly those in Nepal. Group members James Burton and Abdul Haris Mustari have been leading a study of the anoas (*Bubalus depressicornis* and *B. quarlesi*), concentrating on their genetics, morphology and distribution. A paper summarizing this work is now in press in Mammal Review (see our report on the SSC 2000–2004 Quadrennial

CD-Rom for a complete list of references). In Nepal, Joel Heinen and Simon Hedges provided advice and reference material to a Zoological Society of London project working on wild water buffalo (*Bubalus arnee*) in Nepal and to an IUCN Nepal project on "Community Incentives to Reduce Land Use Conflict and Conserve Biodiversity in Nepal". The Group's ongoing interest in the important buffalo population is now moving up a gear as plans are made to promote the re-introduction of wild buffalo to a second site in Nepal. As part of this work the sole existing Nepalese population in Kosi Tappu Wildlife Reserve was resurveyed in 2004.

Banteng have also been a priority species for the Group. Simon Hedges and Martin Tyson presented a paper "Conflict between endangered species, extinction risk, and the agony of choice: Dholes and Banteng in Java" at the Society for Conservation Biology's Annual Meeting in July 2002. The paper examined the dilemma posed by Dhole (*Cuon alpinus*) predation on a major Banteng population in Indonesia. Several group members (Simon Hedges, Erik Meijaard, Will Duckworth, Rob Timmins, Martin Tyson, Joe Walston, Tony Lynam) are involved in preparing a paper for *Biological Conservation* on the "Distribution, Status, and Conservation of Banteng, *Bos javanicus*", which extends and updates the information presented in previous papers. Three teams containing Asian Wild Cattle Specialist Group (AWCSG) members conducted surveys for banteng, gaur, water buffalo and other species in eastern Cambodia (the three teams were funded by the Wildlife Conservation Society (WCS), WWF, and Fauna and Flora International respectively). Rob Timmins, Joe Walston, Soriyun and Barney Long conducted the fieldwork; Simon Hedges and Will Duckworth provided advice and reviewed the resulting reports. The group has also provided data and other inputs to a WWF project in Cambodia that aims to set up a pilot site for intensive protection of large mammal populations, which will be used to generate income through ecotourism and eventually sustainable use of the large mammals and other natural resources. While in Myanmar, tiger and other large mammal surveys conducted by the Ministry of Forestry and WCS and lead by group member Tony Lynam provided much new data on the distribution of banteng, gaur, and water buffalo.

The last quadrennium saw serious doubts raised about the status of kiting vor (*Psuedonovibos spiralis*) and a lively debate about whether it is a real animal or a hoax. Several group members (Simon Hedges, Will Duckworth, Rob Timmins, Joe Walston, Hunter Weiler) were involved in this debate, and Simon Hedges, Will Duckworth, and David Mallon prepared the IUCN position statement on *Pseudonovibos spiralis*. The Group was also active in exposing the supposed kouprey sighting in Vietnam in July 2003 as a hoax.

Lively debate on whether the khting vor is a real animal or a hoax

More recently, several AWCSG members (Will Duckworth, Simon Hedges, Tony Lynam, Erik Meijaard, Rob Timmins, Joe Walston) participated in the Southeast Asian Mammal Biodiversity Workshop, Thailand, 3–7 May 2004, and provided data on wild cattle distribution, status, and ecology.

Turning to other more general activities, the AWCSG continued to provide data and advice (as well as a paper and proposal review service) to a multitude of individuals and organizations interested in wild cattle and buffaloes including the American Museum of Natural History, the Key Centre for Tropical Wildlife Management (Australia), the National Geographic Society, the UNEP-World Conservation Monitoring Centre, the Wildlife Institute of India and WWF.

The group was also active in drawing attention to problems with Red List criteria, particularly the definition of mature individuals. Group member Colin Groves played a major role in clarifying nomenclature

for species that have domestic relatives, work that lead to Opinion 2027 of the International Commission on Zoological Nomenclature conserving specific names based on wild species which are pre-dated by or contemporary with those based on domestic animals. In addition, several group members shared their knowledge of dung and camera-trap based survey methodology with the CITES Monitoring the Illegal Killing of Elephants (MIKE) program. This lead to a number of reports, and more generally, we hope, to improvements in dung-based survey methodology that will benefit wild cattle in addition to elephants.

Future plans

We hope to see the long-awaited IUCN/SSC Asian Wild Cattle and Buffaloes Status Report and Conservation Action Plan published in the near future. Simon Hedges is currently working on the final draft assisted by Heather Fener, a research assistant hired by WCS's New York office. Other plans for the new quadrennium include asking our members how they think the Group could be reorganized to make it more effective. One idea under consideration is the appointment of a number of Regional Coordinators. We also plan to create a website that will act as an information portal for data on wild cattle distribution and status.

Simon Hedges, Chair

Australian Marsupial

Chris Dickman, Chair

Bear

The Bear Specialist Group (BSG) completed the *Bears Status Survey and Conservation Action Plan* in 1999. Since then, we have worked on ways to implement this plan. First on our agenda was a reorganization of the group, to more effectively involve experts from around the world, especially in Asia, where four of the eight bear species are endemic and 60% of the world's people live. Four bear species are considered Vulnerable to extinction and one (giant panda – *Ailuropoda melanoleuca*) is Endangered. Only American black bears, *Ursus americanus*, and certain populations of brown bears, *U. arctos*, in North America and parts of Europe and Asia appear to be relatively secure.

The reorganization of the BSG, which took three years, is now nearly complete. We have established expert teams to represent different bear species, regions, or issues. Presently we have nine such teams: Andean bears, *Tremarctos ornatus*, in South America, Asiatic black bears, *U. thibetanus*, sloth bears, *Melursus (U.) ursinus*, sun bears, *Helarctos (U.) malayanus*, giant pandas, southern Asian brown bears, northern Asian brown bears, European brown bears, and a team dealing with trade in bear parts for all bear species. Each team consists of representatives from range countries and is chaired by one or two species experts. All of these expert team chairs, together with some other bear experts, make up a coordinating committee, which is administered by the Co-Chairs of the Bear Specialist Group. We have not established expert teams, per se, from North America, because there are already so many bear experts there and such a large proportion of bear funding is already directed to that continent. However, three members of our coordinating committee are experts on North American brown (grizzly) bears and two are experts on American black bears. One member is specifically working on black bears in Mexico, where the greatest conservation needs for this species exist. Other expert teams (e.g., captive breeding) are in the development stages. Polar bears, *U. maritimus*, being a marine mammal, are in a separate Polar Bear Specialist Group.

The BSG differs from most other specialist groups in being affiliated with another professional organization whose goal is also to promote conservation and restoration of the world's bears – the International Association for Bear Research and Management (IBA). The IBA has been in existence since 1968 and presently has a membership of over 600 bear specialists from at least 50 countries. The IBA has a governing council that coordinates activities with the Bear Specialist Group and also appoints the BSG Chair(s). The IBA holds scientific meetings in North America and Europe every two out of three years and will host its first Asian meeting in Japan in 2006. The BSG meetings coincide with IBA meetings. The IBA produces a peer-reviewed journal (*Ursus*) and a four-issue per year newsletter, *International Bear*



News (IBN), which also serves as the official Group newsletter. *Ursus* has published numerous papers on the conservation status of bears and IBN includes a regular column on the activities of the BSG and of people working on bear projects around the world.

Recently the IBA initiated a Bear Conservation Fund, which will support some activities of the IBA such as subsidizing travel for meetings and training by professionals and students from developing countries, but will mostly help support conservation initiatives of the BSG. Expert teams submitted proposals outlining their most urgent needs, and these were collated into a Bear Conservation Fund Prospectus. That prospectus is being used to enlist donations for building a fund capable of sustaining large-scale regional projects.

Most bear expert teams submitted proposals that entailed range mapping and indexing of population size. This is patterned, to an extent, on the model used for tigers, jaguars, tapirs and elephants. Teams have already begun gathering existing data, in the form of park records, camera trapping data (obtained from researchers of other taxa and other specialist groups), interviews and questionnaires. Some of the previous range maps, even those from the 1999 Conservation Action Plan, have been significantly revised based on this updated information. The next step is to corroborate and expand this information with direct field investigations, including surveys of signs (mainly claw marks on trees, diggings and scats), as well as baited barbed-wire hair traps to obtain DNA samples. The ultimate goal is not just to create more accurate maps, but also to establish Bear Monitoring Units (BMUs), areas with reasonably solid baseline data on bear abundance that can be used to track population trend into the future. An additional goal is to designate Bear Conservation Units (BCUs), areas or corridors important for the long-term persistence of these species in certain regions. This work also may lead to the identification of areas in need of population augmentation or re-introduction.

Other proposed projects include research on specific population threats, such as livestock and crop depredations which put offending bears at risk of being killed, highway construction and excessive mortality prompted by the trade in bear parts. In Asia, the trade in parts (mainly gall bladders, bile and paws) is one of the most menacing threats to bears; yet, whereas some quantitative information on the magnitude of this trade is available from confiscation records, very little data is available on actual numbers of bears killed and the effects on wild populations. Associated problems involve the farming of bears for the purpose of milking their bile for commercial sale.

During the past 12 years, the IBA helped support over 60 bear projects with small grants totaling over USD 250,000. Most of these have dealt with

bears in Asia and South America. These projects have had numerous conservation spin-offs, especially involving capacity building and public awareness of bear-related issues. However, the IBA has not previously been in a position to support large-scale conservation initiatives. The goal of the Bear Specialist Group for the forthcoming quadrennium is to begin such large-scale projects, which we view as being a collaborative effort among bear experts, government wildlife biologists, NGOs and experts from other specialist groups working in the same regions.

Dave Garshelis and Bruce McLellan, Co-Chairs

Bison

European Region

During the past four years, a key activity of the European region of the Bison Specialist Group (BSG) was completing an Action Plan, initiated at a workshop organized with the Conservation Breeding Specialist Group (CBSG) almost ten years ago. In April 2002, the members of the European BSG met in Bialowieza to discuss the final version of the Action Plan and the first *Status Survey and Conservation Action Plan for European bison*, is now being published. The Action Plan, a result of tremendous collaborative efforts by European specialists, highlights recommendations for conserving this large mammal. It presents the history of its extinction in the wild and the subsequent re-introduction process that began with 54 captive animals, all descendants of only 12 founders and currently is above 3,000 animals in about 200 captive and 31 free-roaming herds. The Action Plan contains a wealth of information regarding the biology, genetics, taxonomy, ecology, feeding, reproduction and population structure of the species. The most important threats for the species are also presented, namely, fragmentation, continued decrease of genetic variability, diseases recently appearing in several herds and lack of proper management. The overall aim of this Action Plan is to show the importance of international cooperation. Ultimately, the conservation and management of European bison should be aimed at increasing the number of animals, continuing the re-introduction process and saving genetic diversity in captive and free-roaming herds.

A key activity currently underway is the establishment of a meta-population of European bison in the Carpathian region of Romania, Ukraine, Slovakia, Poland, Hungary and the Czech Republic. Unlike the majority of European mountain ranges and lowland forests, this region remains comparatively under-developed, with relatively intact native deciduous and mixed forests. About 16% of the Carpathians area is protected as national, nature or landscape parks, excluded

from economic activities and therefore suitable as refuges for wildlife. In the Carpathians, European bison have been already introduced during the 1960s and 1970s in two sites in Poland, and three in Ukraine. The total number of free-ranging animals is slightly over 300 and growing. Unfortunately, these groups are geographically distant and there is no evidence of any contact or exchange of individuals.

The current project targets two of the current free-ranging populations, one in Polish Bieszczady Mountains and the other in the Zubrovica Reserve in the Ukrainian Bukovina region. Both populations are small (about 190 and 150 animals) and their genetic composition is strongly skewed towards over representation of two founder individuals. Efforts will be directed towards supplementation of those herds with animals from breeding centers in Western Europe. The project began with the release of four young European bison, selected from Scandinavian breeding centers, to Bieszczady. In June 2004, an additional five animals were moved to the Poloniny National Park, Slovakia and prepared for release into the wild. Thanks to the European Endangered Species Program (EEP), the Large Herbivore Foundation and the Amsterdam Zoo for their role in this project. Further introductions are planned along the Ukrainian Carpathians in order to clear links for natural exchange of individuals between herds. This should result in the creation of truly self-sustaining and wild population of the European bison in the centre of the continent. For such a wide program, international cooperation is essential. The situation seems to be promising thanks to the involvement and enthusiasm of many people, particularly the leading role played by BSG member, Dr. Kajetan Perzanowski.

North American Region

During 2000–2004, the North American Region of the Bison Specialist Group (BSG) ushered in a new Chair, Dr. Cormack Gates of the Faculty of Environmental Design, University of Calgary, Canada. Dr. Gates proceeded to restructure the North American BSG membership in anticipation of an active period for bison conservation.

A priority for the BSG was to produce a conservation status survey and action plan for North American bison. Delaney Burton, a graduate student with the University of Calgary Faculty of Environmental Design, and Officer of the BSG, coordinated the effort by gathering status information and drafting a conservation status survey document in collaboration with members of the BSG. The survey, which is now in the final stages of review, considers the historical and cultural significance of bison, bison ecology and conservation biology, legal status and listings, population descriptions and management, habitat, genetics, taxonomy, disease issues and recovery initiatives.

The BSG will use the status information to develop a recovery strategy for North American bison and to conduct a listing assessment using the *IUCN Red List Categories and Criteria* to develop listing recommendations for each subspecies of bison.

Some of the key threats to bison conservation identified in the survey include reduced genetic diversity in many populations, hybridization between subspecies, infiltration of cattle DNA, exotic diseases, habitat loss, increasing habitat pressure from industrial development, agricultural expansion, commercialization and domestication of bison, transboundary and inter-jurisdictional disputes and re-introduction difficulties.

The BSG launched its website at www.notitia.com/bison. The site provides information on bison and bison conservation for the general public and facilitates collaboration among BSG members and other partners across Canada, the United States and Mexico through the password-accessed Member Forum. On-line collaboration has enhanced the efficiency of the work of the BSG in drafting the status survey.

Dr. Gates has been active in bison conservation through his participation in the Canadian National Bison Recovery Team. As well, he is currently leading a team of researchers to review the state of knowledge of bison movements in the Greater Yellowstone Area. The Yellowstone National Park plains bison herd is the largest population of the subspecies in North America managed solely for conservation.

Ms. Burton presented the bison conservation status survey at the 2004 Prairie Conservation and Endangered Species Conference in Calgary, Alberta during February 2004 and will be presenting the information again in September 2004 at The Wildlife Society Conference, also in Calgary.

Looking forward, the BSG is focusing on several initiatives:

- **Recruiting new members to augment expertise in the group;**
- **Undertaking a Red List assessment for the plains bison and wood bison;**
- **Downlisting of wood bison under the US Endangered Species Act;**
- **Listing of plains bison in Canada**
- **Developing a continental recovery strategy focusing on a select number of flagship initiatives including re-introduction of wood bison to Alaska, re-introduction of plains bison in northern Montana and restoration of a transboundary population in Mexico and New Mexico.**

Wanda Olech-Piasecka, Co-Chair European Region
Cormack Gates, Co-Chair, North American Region
Delaney Burton, Officer, North American Region

Canid

Wild canids range in size from the tiny fennec fox to the mighty grey wolf and occur in every continent except Antarctica. Canids are special because they have, as perceived friend or foe, preoccupied the imaginations of mankind for millennia; because the breadth of their adaptations makes them enthralling to science and because the contradictory facets of their relations with people perplex the conservationist. Increasing human population, development, exploitation of previously little-disturbed wild lands, disease and direct persecution are threatening some of these canids with extinction. That is the chief reason for the 100+ members of the Canid Specialist Group (CSG), from more than 32 countries and organized in seven regional sections and 10 working groups, to be active worldwide.

Major Outputs

The CSG has seen major developments in the last four years, culminating with the recent publication of an Action Plan for canid conservation into the 21st century. In September 2001 the Wildlife Conservation Research Unit at Oxford University hosted the first international *Canid Biology & Conservation Conference*, which provided an opportunity for many CSG members to get together. On that occasion the first draft of the Action Plan was crafted in a series of workshops. The new plan synthesizes the current knowledge of all canid species, and outlines the conservation actions and projects needed to secure their long-term survival. It discusses major issues in canid conservation, namely systematics, canid society, conservation genetics, assessing and managing diseases, management of canids near people, impact of exploitation and trade, survey and census techniques, captive conservation, re-introduction and meta-population management, conservation education, setting priorities and measuring success. The detailed action section is the result of extremely wide consultation, and represents the views of the many experts around the world who suggested them and who debated them in our workshops. In parallel, we prepared an edited monograph entitled *The Biology and Conservation of Wild Canids* (Oxford University Press, 2004) which contains comprehensive reviews of the science underpinning this Action Plan, together with 14 case studies of wild canid biology.

Canid Red List

Nine of the 36 canid taxa are threatened (3 Critically Endangered, 3 Endangered and 3 Vulnerable), and one is considered Near Threatened. Six species (17%) were listed as Data Deficient, and 20 (56%) species as Least Concern. The threatened canids are:

- Darwin's fox (CR). Until recently, known only from the Chiloé Island in southern Chile, until rediscovered 600km away in the

coastal mountains, where domestic dogs threaten them with disease or direct attack.

- Red wolf (CR). Currently the subject of taxonomic debate, red wolves were declared Extinct in the Wild by 1980, but have been re-introduced into eastern North Carolina, where they are now locally common. Hybridization with coyotes is the primary threat.
- Island fox (CR). Restricted to the six largest of the eight California Channel Islands, each island population is considered a separate subspecies, and four have declined precipitously. Threats include hyperpredation by golden eagles and the introduction of canine diseases.
- Ethiopian wolf (EN). Less than 500 individuals remain, confined to eight locations in the Ethiopian Highlands. Previously listed as Critically Endangered, continuous loss of habitat due to high-altitude subsistence agriculture remains the major threat, along with disease (particularly rabies).
- African wild dog (EN). Formerly distributed throughout sub-Saharan Africa, excluding rainforests, wild dogs have disappeared from 25 of the former 39 range states. More than half of the mortality recorded among adults is caused directly by human activity.
- Dhole (EN). Formerly distributed across Asia, dholes have undergone widespread decline and are threatened by depletion of their prey base, habitat loss, persecution, competition and disease.
- Dingo (VU). Austronesian people transported the dingo from Asia to Australia and other islands in between 1,000 and 5,000 years ago. Pure dingoes occur only as remnant populations in central and northern Australia and in Thailand. They are threatened by cross-breeding with domestic dogs.
- Bush dog (VU). Despite a supposedly widespread distribution in South American forests, this species is perceived as rare and threatened by habitat conversion and human encroachment.
- Blanford's fox (VU). Present in arid mountainous regions of the Middle East and north-eastern Egypt eastwards to Afghanistan, where human development could pose a threat.

www.canids.org

The activities of the CSG center around our website, which contains relevant information on membership and *modus operandi*, Action Plans, species accounts, bibliographies, bulletins, short news and announcements. Other CSG resources also hosted at the site include:

Canid News Online, an electronic, peer-reviewed, scientific journal devoted to the dissemination of current research on all species of the Canidae, targeting all those concerned with the study, conservation and welfare of wild canids. Canid News includes high quality articles that not only convey the excitement of canid biology, but also provides information on conservation problems and hopefully contribute towards their resolution.

Canid Project Database (CPD), an on-line information resource for canid conservation, providing information of planned, on-going, or recently completed projects concerned with any aspect of canid biology and/or conservation. The CPD will be instrumental to the implementation of the new Action Plan, by seeking to facilitate exchange of information between field projects and develop contacts with potential sponsors and collaborators. This resource will soon be expanded to provide a searchable database of canid conservation practitioners.

Canids-L is a moderated mailing list providing a forum for discussion of emerging conservation topics. It is open to anybody actively involved in canid conservation and research as well as other wild canid enthusiasts. News items include reports of discoveries and rare events, comparison of experiences, discussion of methodologies and research equipment, inquiries regarding management and conservation strategies, abstracts of recent publications and news of forthcoming meetings.

The Canid Specialist Group has now celebrated its 23rd birthday. It has always sought to be innovative in the quest to advance the conservation of wild canids. This year, seeing the publication of both the new *Action Plan* and *The biology and conservation of wild canids*, has been a milestone in the CSG's development, and now we look forward to implementing the ideas developed in these two publications.

David W. Macdonald, Chair

Claudio Sillero-Zubiri, Deputy Chair

Caprinae

The Caprinae Specialist Group (CSG) organized two meetings, established a website, continued to produce a newsletter, contributed to updating the Red List and released position statements on trophy hunting and on Caprinae as exotics. Members contributed, individually or in small groups, to answering queries from individuals and organizations and provided their expertise in a number of conservation and research initiatives.

The III World Congress on Mountain Ungulates was held in Saragozza, Spain, in June 2002. A Workshop on Caprinae taxonomy was held in Ankara, Turkey, in May 2000. Inadequate knowledge and disagreements on taxonomy make it difficult to conserve distinct taxa and to enforce national and international regulations. Details about the activities of the CSG, including recent newsletters, are available on our web site, which receives about 2400 'hits' a year: <http://callisto.si.usherb.ca:8080/caprinae/iucnwork.htm>

The major challenges for the conservation of mountain ungulates include habitat loss, habitat degradation, competition and disease transmission from livestock and exotic ungulates, poaching for meat and tradable goods. These problems are global, but are particularly evident in Asia. Global change is increasingly of concern, as glacier melting, changes in vegetation composition, increasing nitrogen deposition and high levels of pollutant deposition at high altitude have effects on alpine ecosystem that are still largely unknown. In some low mountain areas, alpine ecosystems may disappear through climate change. Trophy hunting has substantial potential to have a positive impact on Caprinae conservation, but few tourist hunting programs have made a demonstrable positive contribution to conservation. Trophy hunting may lead to artificial selection for small horns and may remove certain alleles from heavily hunted populations. These effects are currently under investigation by several group members. Additional conservation problems include a poorly-understood taxonomy and a lack of information on the status and basic biology of species in remote areas.

The CSG set up two standing working groups, one on taxonomy and one on wildlife diseases. The need for a working group on diseases was made evident by the realization that disease transmission from domestic livestock (particularly domestic sheep, but also other species) is a worldwide threat to Caprinae. Government policies favoring ecologically unsustainable agricultural practices that lead to overgrazing or to the keeping of inferior, often diseased stock to obtain subsidies are an increasing problem. Members of both working groups were active in advising government and conservation organizations in many countries on the conservation and management of mountain ungulates. The group facilitated contacts among researchers and conservation practitioners. In

Nine of the 36 canid taxa
are threatened



addition, several group members directed or co-directed the research of graduate students on various aspects of mountain ungulate ecology in France, Switzerland, Italy, Canada, USA, Pakistan, India, Nepal, Mongolia and Yemen. We retain a wide diversity of members, in respect to geographical origin, scientific expertise, profession and involvement in different aspects of conservation.

Many CSG members worked hard to ensure that trophy hunting programs, particularly in Asia but also elsewhere, lead to tangible benefits for the conservation of mountain ungulates and their habitat. Different degrees of success were obtained in places such as Pakistan (where a limited markhor hunting program that allows the exportation of trophies has been very successful in conserving mountain habitat) and China. Trophy hunting of Caprinae in China appears to be biologically sustainable. It has provided highly motivated and capable staff, interested in wildlife, in areas which otherwise would almost certainly lack it. It has produced a tangible benefit by helping to curb poaching. Benefits to conservation derived from Chinese hunting have been far lower than could or should be the case, because the hunting areas lack control over land management, and the proportion of hunter funds reaching them is a small fraction of the total available. Inappropriate allocation formulas siphon off the majority of funding for unrelated, office-based tasks at higher levels. The trophy hunting system in China cannot currently mobilize the energy and funds potentially available to provide wildlife with economic or political power, which will ultimately be necessary because habitat is increasingly threatened by strong development forces. Similar problems exist in many other areas of the world.

We expressed our concern at the negative impact of exotic caprinae (particularly European mouflon (*Ovis aries*) and Barbary sheep (*Ammotragus lervia*), but also other species) in areas where they have been artificially introduced. We expressed our accord with hunting programs that are guided by scientific principles and whose revenues are partly used to fund conservation activities.

We contributed revised assessments of Blue sheep (*Pseudois nayaur*), now listed as Least Concern, and Punjab Uril (*Ovis vignei punjabiensis*), confirmed as Endangered, for the IUCN Red List of Threatened Species. We also made comments on proposals to list uril under CITES.

Marco Festa-Bianchet, Chair

Cat

By the end of the previous term, Peter Jackson, who had led the Cat Specialist Group (CatSG) for 17 years, stepped down and the SSC chair invited us to Co-Chair the group. To get started, we asked some recognized experts in cat conservation to meet in Switzerland in summer 2001 to discuss priorities in cat conservation. One result of this meeting was the establishment of a Core Group supporting the Co-Chairs. Core group members are Sarah Christie, Peter Crawshaw, Peter Jackson, Rodney Jackson, AJT Johnsingh, Ullas Karanth, Thomas McCarthy, Laurie Marker, Gus Mills, Dale Miquelle, Kristin Nowell, Steve O'Brien, Alan Rabinowitz, and James Sanderson. The Core Group represents different fields of expertise, regional experiences and specific knowledge of different cat species. It is the strategic body of the CatSG, which develops cat conservation concepts, identifies priorities and supervises the permanent tasks of the CatSG, such as the Red List assessment. Certain areas, for instance Asia with the exception of India, are under-represented in the group, but this is a consequence of the distribution of the CatSG members and of the fact that most cat conservation experts are North Americans and Europeans.

The CatSG has some 200 members from all over the world. We use international conferences to hold "plenary" meetings. One such session took place in South Africa, 2001. The Core Group intends to meet about every second year in a priority region for cat conservation, so that general CatSG business can be combined with the discussion of regional cat conservation issues. Such a meeting took place in October 2002 in southern Spain, where we organized, together with international and national partners, a symposium on the conservation of the Iberian lynx, *Lynx pardinus*, the first cat species ever listed as Critically Endangered. The CatSG has since been involved in the conservation of this medium-sized cat, of which no more than about 200 individuals exist and will co-organize a follow-up meeting in late 2004.

The Co-Chairs of the CatSG have been involved in the development of conservation strategies for several Critically Endangered sub-species of cats, such as the Amur leopard, the Arabian leopard or the Asiatic cheetah. For all these superb cats, the total number living in the wild has declined to 40-60 individuals. For the Amur leopard, a well-managed captive population exists, and for the Nimr, the Arabian leopard, one is being built up. Asiatic cheetahs, however, do not exist in captivity. Its survival depends fully on the conservation efforts taken in Iran, the only country still hosting a population.

Besides the many alliances with other organizations regarding the conservation of cats and cooperation with other specialist groups, such as the Re-introduction or the Conservation Breeding Specialist Group, we have decided to have two

forms of sub-groups. The first is a working group, dealing with a specific species, topic or region, and the second is a partner group which closely cooperates with the CatSG in certain fields. Whereas the members of a working group are all members of the CatSG, this need not to be the case with a partner group. The relation of a partner group and the CatSG is defined through a Memorandum of Understanding. The first sub-group recognized by the CatSG was the African Lion Working Group (ALWG), a very active group chaired by Sarel van der Merve. The ALWG is deeply involved in the assessment of the lion's status throughout Africa, including the ongoing re-assessment of its Red List status. A new formal sub-group is the Andean Cat Alliance (the former Andean Cat Conservation Committee), a group coordinated by Lilian Villalba and supported by the Wildlife Conservation Network. This working group is preparing a conservation Action Plan, but also running a field project on the Andean cat, a rare small cat species. In June 2004, the group managed to radio-collar the first Andean cat ever. The CatSG has established a close co-operation with the Snow Leopard Network, which was initiated by the International Snow Leopard Trust, a long-term partner of the CatSG in the conservation of this charismatic cat of Central Asia.

As a service to members, friends and all individuals and institutions working in cat conservation, the CatSG has established the Digital Cat Library. The library contains some 5,000 PDFs of papers and reports relevant to the conservation of wild cats. It is accessible under www.catsglib.org. Other services are the members' database and the cat conservation project database, generated in cooperation with the Zoological Society London. These services will all be available through the CatSG website, www.catsg.org.

Starting this year, for the Global Mammal Assessment, the CatSG has produced updated distribution maps for all extant 36 cat species. This exercise revealed how heterogeneous the available intelligence is. Whereas the status and distribution of some species in certain regions is a matter of ongoing systematic monitoring, the distribution maps for other areas still refer to the publications of Sven Hedin.

Edited by Peter Jackson, the CatSG's biannual newsletter *Cat News* has reached its 20th year of publication and issue 40 was mailed in July 2004. Every year, 600 copies of two issues are mailed to members and people interested in cat conservation around the world. All subscribers to *Cat News*, the *Friends of the Cat Group*, support the production of the newsletter.

The activities of the CatSG would not be possible without the support from other institutions. During the past quadrennium, we have gratefully received funding from WWF International, Conservation International, Wildlife Conservation

Network, Wildlife Conservation Society, Cat Action Treasury, Bosak and Kruger Foundation (through CAT) and the Karl Mayer Stiftung.

*Urs Breitenmoser and Christine Breitenmoser-Würsten,
Co-Chairs*

Cetacean

The 80 members of the Cetacean Specialist Group (CSG), from more than 30 countries, have been involved in a broad range of efforts to understand and conserve the world's 86 recognized living species of cetaceans, the whales, dolphins, and porpoises. Our current action plan, published in 2003, identifies several ongoing threats: whaling and other deliberate removals from wild populations, interactions between cetaceans and fisheries, ship strikes, altered productivity in marine and aquatic systems (e.g. due to climate change, land use practices or water development), offshore oil development, underwater noise, chemical contamination and the cumulative, non-specific effects of increasing human use of marine and aquatic resources. The Plan also lists 57 specific research and education initiatives and provides recommendations for conservation action on behalf of certain threatened species and geographical populations. Those conservation recommendations represent a relatively small fraction of what is needed globally to improve the status of cetacean populations.

The CSG's involvement in three of the most critical situations for cetacean conservation is summarized here – the threat to western Pacific gray whales posed by oil and gas development activities around Sakhalin Island, Russia; the precarious survival and continuing decline of the Yangtze River dolphin, or baiji; and the complex socio-economic issues standing in the way of protection of Mexico's highly endangered vaquita (Gulf of California porpoise).

Several CSG members have been conducting fieldwork on the Sakhalin gray whales since 1995. Their findings have forced the energy industry, financial lenders and resource managers to pay closer attention to the needs of this Critically Endangered whale population as development proceeds. Early in 2004, the CSG responded to a request for advice from Sakhalin Energy Investment Corporation, one of three main developers working in the Sakhalin area. Among other things, our response noted the inadequacy of oil spill contingency plans, the unreliability of existing collision avoidance procedures and the possibility that noise from transport and construction activities would keep the whales away from vital feeding sites. Another major CSG recommendation, that an independent scientific review of the industry's whale protection and mitigation program be conducted well in advance of further offshore drilling, pipeline construction, and seismic

profiling, was being implemented by IUCN's Business and Biodiversity Unit at the time of writing (July 2004).

The baiji may become an unintended casualty of China's drive for economic ascendancy. In spite of its iconic status, similar to that of the giant panda, this river dolphin has proven impossible to conserve. Incidental mortality in fishing gear, vessel strikes and extensive changes to its habitat as a result of human incursions, have caused the baiji's numbers to continue dwindling even after strict legal protection measures were imposed in the early 1980s. Large-scale, intensive surveys in the late 1990s reinforced everyone's worst fears: that only a few dozen baiji may survive. In 2003, Conservation International requested that the CSG take a lead role in a final attempt to save the baiji from extinction. At a brainstorming session in Washington, D.C., in April 2003, we were assured by Chinese participants that fishery management in the Yangtze was improving and that new opportunities existed for achieving *in situ* conservation. Although a controversial plan to catch and remove baiji from their natural habitat continues to hold sway in some circles, it remains unclear whether the capture and handling protocols are safe and whether the recipient facilities can meet the standards befitting the last living representatives of an entire family of mammals. At the time of writing, a strategy workshop in Wuhan was being organized by the Chinese Ministry of Agriculture, the CSG, and several international non-governmental organizations.

The vaquita, scientifically described less than 50 years ago, is endemic to the upper quarter of the Gulf of California. Its distribution is more restricted than that of any other marine cetacean, and its total population is estimated at only a few hundred. Mortality from net entanglement is a serious, longstanding threat to the species' survival. Mexican officials have tried for years to scale back the use of gillnets in the core area of vaquita distribution, most of which lies in and adjacent to a biosphere reserve, but their efforts have been strongly resisted by fishing interests that dominate coastal communities in the region. CSG members have conducted studies of vaquita abundance, life history, and mortality and been closely involved with the Mexican government's International Committee for the Recovery of the Vaquita. Our role is to help ensure that Mexican conservationists have a strong scientific basis for effective fishery management and by-catch mitigation measures.

Among the most dramatic, and alarming, "discoveries" of the last few years is the relationship between noise and mass strandings. In 1998 Alexandros Frantzis published his observations that mass strandings of Cuvier's beaked whales in Kyparissiakos Gulf (Greece) coincided with military exercises by NATO vessels in local waters. At

the time government officials, the military establishment, and many scientists were skeptical and unwilling to accept the inference of a cause-and-effect link. However, it is now generally accepted that certain types of sonar can have lethal effects on cetaceans, particularly on the deep-diving beaked whales. Our previous complacency about the conservation status of these offshore, often enigmatic species has changed as a result. A major challenge in coming years will be to determine whether, given the threats from both noise and entanglement in driftnets, at least some populations of beaked whales are in serious trouble.

Although progress towards meeting our Red List responsibilities has been slower than we would have liked, a number of key assessments have been completed thanks to the hard work of individual scientists. These include western gray whales (CR; Bob Brownell and Dave Weller), North Island Hector's dolphins (CR; Liz Slooten and Steve Dawson), Mediterranean short-beaked common dolphins (EN; Giovanni Bearzi and Giuseppe Notarbartolo di Sciarra), Rio Grande do Sul/Uruguay franciscana dolphins (VU; Eduardo Secchi and John Y. Wang), five small populations of Irrawaddy dolphins in Southeast Asia (all CR; Brian Smith, Danielle Krebs, and Isabel Beasley), and the Ganges and Indus river dolphins (EN; Gill Braulik and Brian Smith). Several other assessments were under CSG review at the time of writing, the baiji, sperm whales, and Mediterranean sperm whales. Red List assessments remain a top priority, and in the coming year we hope to step up the pace and increase our completion rate.

Key sources of financial or in-kind support of CSG activities over the past four years have included the International Fund for Animal Welfare, the U.S. Marine Mammal Commission, World Wildlife Fund-U.S., Wildlife Conservation Society, Conservation International, The Ocean Conservancy and the Whale and Dolphin Conservation Society. In addition, the Chair's involvement in the activity of a number of international organizations and agreements, specifically the International Whaling Commission (IWC), the United Nations Environment Programme (UNEP), ASCOBANS (Agreement on the Conservation of Small Cetaceans of the Baltic and North Seas), and ACCOBAMS (Agreement on the Conservation of Cetaceans of the Black and Mediterranean Seas), has been made possible by direct support from those bodies, and grants from the above organizations as well as the Convention on Migratory Species, Nature Conservancy, Ocean Park Conservation Foundation, Chicago Zoological Society, various WWF affiliates and governmental agencies. This has enabled CSG members to implement Action Plan projects around the world.

Randall Reeves, Chair

Chiroptera

Open meetings of the Chiroptera (bats) Specialist Group (CSG) were held at the 12th International Bat Research Conference in Kuala Lumpur in 2001 and at the 9th European Bat Research Symposium (EBRS) in Le Havre, France 2002.

The Chiroptera Specialist Group continues to encourage the establishment of regional groups. To date, Peter Lina (Netherlands), Chairman of a CSG European Coordinating Panel, has been assisting in the establishment of new national NGOs for bat conservation. Sally Walker (India) has established a South Asia group through the Chiroptera Conservation and Information Network of South Asia (CCINSA) and supports it with a newsletter and resource materials for bat education and conservation. A Western Indian Ocean group was established in 2004 by Dr W. Trehwella (UK) and is in the process of recruiting members. In addition, discussions have been held regarding the establishment of a Caribbean group, and as a first step, a workshop is planned in that region in November 2005, led by Dr. Allyson Walsh, director of the Lube Bat Conservancy.

Global Mammals Assessment

Anthony Hutson and other CSG members have contributed to the Global Mammal Assessment by participating in a bat workshop attended by 45 participants in Madurai, India and organized by Sally Walker of CCINSA, to assess the conservation status of 120 bat species of South Asia and to initiate a regional conservation Action Plan. Mr. Hutson also contributed to workshops to assess the distribution and conservation status of the bat species of Africa (220 species) and Southeast Asia (340 species) and is working with other specialists on approximately 70 species of bat found in Europe and the Middle East.

BatLife Europe

At the Le Havre EBRS meeting the CSG Co-Chairs and Peter Lina presented a proposal for the creation of BatLife Europe, as an association of those European NGOs concerned with the conservation of bats. The proposal has been developed further and the formal launch of BatLife Europe will take place during the open meeting of the Chiroptera Specialist Group at the 13th International Bat Research Conference at the Mazurian lakes, northern Poland, August 2004.

Convention on the Conservation of Migratory Species (CMS)

Anthony Hutson continues to represent the Chiroptera Specialist Group in the activities of the Agreement on the Conservation of Populations of European Bats (Eurobats), attending the Advisory Committee and sessions of the Meeting of Parties, and is involved in or convening intersessional working groups on a range of topics. He also participates in other initiatives of CMS, including discussions at its Conference of Parties and Scientific

Council on the development of further regional Agreements on bats, and in preparing proposals for additional bat species on CMS Appendices. He contributes to working groups on diseases in migratory animals and the impact of wind turbines and power lines on migratory species.

Other highlights

Microchiropteran bats – Global Status Survey and Conservation Action Plan compiled by A.M. Hutson, S.P. Mickleburgh and P.A. Racey was published in 2001. It is now the driver of much survey and conservation action for Microchiroptera, such as current surveys of Madagascar for the rare endemic sucker-footed bat (*Myzopoda aurita*), and surveys of the Seychelles for the rare endemic emballonurid bat (*Coleura seychellensis*).

Old World Fruit Bats – an action plan for their conservation, compiled by S.P. Mickleburgh, A.M. Hutson and P.A. Racey was published in 1992. Because the majority of the recommendations have been implemented and much new information is now available, the plan requires major revision. This may be carried out on a regional basis.

Paul Racey taught a workshop, organized by Sally Walker of CCINSA, on Methods for the Study of Bats, in Kerala, August 2003. Anthony Hutson taught on a one day course on Bats and Small Mammals for the BP Conservation Programme in 2001, 2002 and 2004.

As the Red List Authority for bats, the Group continues to work on assessing the status of bats.

The death of a Scottish bat worker, who had declined advice to be vaccinated, from European bat lyssavirus2 (rabies) increased surveys of seroprevalence of this virus in European bats. Peter Lina convened a workshop on European Bat Lyssaviruses held in association with a Eurobats Advisory Committee and Anthony Hutson has prepared a review of the occurrence of these two viruses.

CSG has dealt with local threats to bats such as threats to the Delfland bunker, The Netherlands, an important winter roost for the Pond bat (*Myotis dasycneme*) and the conversion of bat caves to tourist attractions in Slovenia and Turkey.

The Co-Chairs continue to support bat conservation projects through provision of advice. In addition, Paul Racey acts as chairman of the Conservation Committee of Fauna and Flora International, who recently launched a Global Bats program led by CSG member Simon Mickleburgh. Paul is also chair of the final assessment panel of the BP Conservation Awards 2004, project leader of two successive Darwin Initiative project on the bats of Madagascar and an advisor for Whitley-Rufford awards.

Anthony Hutson and Paul Racey, Co-Chairs



Deer

In the last four years we have focused the activities of the Deer Specialist Group (DSG) on:

- **Organizing and participating in ten workshops, nine in South America and one at the 5th International Deer Biology Congress, Quebec, Canada in 2002.**
- **Launching a small grant research program on endangered deer in South America, supported by the Wildlife Trust.**
- **Compilation of scientific and educational materials in CD format. The proceedings of four workshops are available in CD format**
- **Layout, maintenance and monthly updates to our web page: <http://www.iibce.edu.uy/citogenetica/deer>**
- **A listserv to increase communication within the membership and an online newsletter**

Asia and South America contain the highest deer biodiversity. Nowadays, the discovery of a new species of large mammal is an extraordinary event, however, in the last decade new species of deer in Asia and Latin America have been found. Arguably, these biodiversity rich regions have the greatest number of threatened deer species and the highest number of poor people. The DSG is aiming to develop a qualified membership focused on the regions where there are threatened species.

In Asia, conservation action is focused on habitat. Gono Semiadi updated us on research trends and the conservation situation at the 5th International Deer Biology Congress. The giant muntjac, (*Megamuntiacus vuquangensis*), and the muntjak (*Muntiacus putaoensis*), had just been discovered and described although information regarding their biology is scarce.

In November 2003, researchers and managers from all the historic range countries for Eld's deer (*Cervus eldi*), met in Khao Kheow Zoo outside Bangkok where an Eld's deer subgroup, coordinated by William McShea and Stefen Monfort, was created. This group will be organized around *in situ* and *ex situ* activities for the deer's conservation. An exciting development is that wild populations of one sub-species, *Cervus eldi siamensis*, have been located in both Cambodia and Lao PDR. A second meeting of the Thailand zoo community in May 2004 was held to reorganize its captive breeding of both *C. e. siamensis* and *C. e. thamin* and to support re-introduction activities in Thailand. The Wildlife Conservation Society and Smithsonian Institution are organizing community workshops in Lao PDR that focus on the recently discovered populations in that country. Researchers in Myanmar continue to monitor populations of *C. e. thamin* within two protected areas. The Eld's Deer Action Group is in the early stages of planning a follow-up meeting in Thailand in November 2004, possibly in conjunction with the World Conservation Congress.

William Oliver, DGS Regional Coordinator for insular Southeast Asia, reports on the region. Notably, the world herd of captive Philippine spot-

ted deer, (*Cervus alfredi*, Endangered) has increased. Due to successful breeding, commensurate overcrowding problems and Philippine Government restrictions on international breeding loans, a moratorium on the breeding of the world's only captive population of Calamian Deer, (*Axis calamianensis*), also Endangered, has been enforced at the Zoological Society of San Diego. This is especially unfortunate as increased levels of poaching and expansion of human settlements are also impacting on the last known viable population of this species in the Calauit Island Game Preserve and Wildlife Sanctuary; the fourth largest island in the Calamians Group, Palawan Province.

Recent major reviews of the taxonomy of cervids and tragulids of South and Southeast Asia performed by Meijaard and Groves are likely to have a profound impact on our understanding of the taxonomy and distribution, and hence the conservation status, of various species. Of particular importance in this context are the elevation of two former subspecies of greater Malay mouse deer (*Tragulid napu*); namely the Vietnamese mouse deer (*T. versicolor*), which is currently known from only a handful of specimens from central Vietnam collected nearly 100 years ago, but may still survive and is probably Critically Endangered, and the Balabac mouse deer (*T. nigricans*), which is known from only 3 small islands south-west of Palawan and must, therefore, have one of the smallest known ranges of any ungulate species.

Almost half of the Latin American native deer taxa are threatened to some degree. In particular, Dennis Aldridge and Alejandro Vila brought our attention to the critical conservation situation of the huemul (*Hippocamelus bisulcus*). In order to promote huemul conservation, the species is protected by law in Chile and Argentina, and since 1992, four Binational Workshops for its conservation have been held. Also, during recent years both countries have developed National Conservation Plans. However they have not been implemented because of funding constraints.

We have launched a small grant program, the Deer Specialist Group-Wildlife Trust, to promote research on endangered deer species in South America. Six grant applications were supported, four of them for research on species of the *Mazama* genus that deserves renewed attention due to the discovery of new species. In the field, Diego Varela surveyed and followed *Mazama nana* tracks in Argentina. In the mountainous forests of Carrasco National Park, Bolivia, Edilberto Pardo captured the first wildlife photos of the small rare and unknown brocket deer. Javier Sarria's research on the cytogenetic aspects of the red brocket deer complex (*Mazama americana*), from different locations in Brazil, discovered specific citotypes for these locations. Leticia Bidegaray analyzed with molecular tools the genetic variation of the brown brocket deer from

Argentina, Bolivia, Brazil, Paraguay and Uruguay. The other threatened species studied within this program were the pampas deer and the huemul. Fernanda Braga discovered a new genetically distinct population of pampas deer in South Brazil and Alfonso Jara has begun to screen the genetic variability of the last populations of Chilean huemul.

We are seeking support for future planned activities including workshops to train members in population estimation techniques, IUCN Red List Categories and Criteria in order to contribute to the deer status assessments for the Global Mammal Assessment, and to update the Action Plan. Funding is also needed to start a small grant program for endangered deer in Asia.

Edentate

The Order Edentata, encompassing the sloths, anteaters and armadillos, totals at most 31 species in 13 genera. Although not a speciose group, the edentates have an extraordinary depth of history which may extend to the basal radiation of placental mammals; and as such, they are not marginal, but rather pivotal to the phylogenetic diversity of the mammalian line. The conservation of the edentates is important not only for these unique species alone, but also for their embodiment of evolutionary history.

The oldest and most diverse lineage of edentates is the armadillo family, with 21 species in at least eight genera. They are also by far the most widespread; *Chaetophractus villosus* and *Zaedyus pichi* are known from southernmost Patagonia on the Strait of Magellan, while *Dasyurus novemcinctus* ranges throughout the Neotropics and has successfully colonized the United States as far north as Kansas and Illinois. The anteaters, or vermilinguas, are the most radically specialized in diet and morphology; they include four species in three genera, *Cyclopes*, *Tamandua* and *Myrmecophaga*, and are geographically far-flung, but often rare in any particular habitat. Their presence extends from northern Argentina and Uruguay to southern Veracruz in Mexico. The third group, the sloths, are the most recently evolved of the edentate lineages, with six extant species in the genera *Bradypus* and *Choloepus*, ranging from northernmost Argentina to southern Honduras. Phylogenetic analysis suggests that despite their similarities, these two genera have been distinct for over 40 million years, representing a remarkable convergence in morphology and metabolic design.

The most recent conservation assessment of edentates was sponsored by the Edentate Specialist Group (ESG) and carried out in December 2002, during a well-attended workshop in Belo Horizonte, Minas Gerais. This workshop, which focused only on those taxa found within Brazil, listed *Bradypus torquatus*, *Myrmecophaga tridactyla*, *Tolypeutes tricinctus* and *Priodontes*

maximus as Vulnerable, and additionally noted *Tolypeutes matacus*, *Cabassous tatouay*, *C. chacoensis* and *Dasyurus hybridus* as Data Deficient. The comprehensive IUCN Red List assessments include 16 species and list *Bradypus torquatus*, *Chlamyphorus truncatus*, and *Priodontes maximus* as Endangered, with an additional five species as Vulnerable, six as Data Deficient and two as Low Risk:

The Edentate Specialist Group works to disseminate current information about edentates to specialists working with wild and captive animals and actively supports field projects on threatened or unstudied edentate species. A main focus of the Edentate Specialist Group is the publication and distribution of its newsletter and journal, *Edentata*, which reports on original research and field observations, as well as sharing news and information on grants, meetings, husbandry practice and recent publications. *Edentata* 4, the June 2001 issue, contained 40 pages of articles and news, including: Armadillos del Noroeste Argentino by Sergio Vizcaíno and Andrés Giallombardo, New Records of the Yellow Armadillo in Maranhão by José de Sousa e Silva Júnior *et al.* and A Translocation Experiment for the Conservation of Maned Sloths by Adriano Chiarello.

Edentata 5, the December 2003 issue, covered 82 pages and included papers on: A Localidade Tipo de *Bradypus torquatus*, Sérgio Maia Vaz; Giant Anteater Health Care Survey, Scott Morford and Mary Ann Meyers; Datos Morfométricos de los Armadillos del Chaco, Argentina, Natalia Ceresoli *et al.*; Fitting Radio Transmitters to Giant Armadillos, F. H. G. Rodrigues *et al.*; and The Yellow Armadillo in the Northeastern Brazilian Coast, Adriani Hass *et al.*

The ESG is now accepting submissions for *Edentata* 6, scheduled for publication in December 2004, and has already received manuscripts on the conservation ecology of *Euphractus sexcinctus*, the yellow armadillo, and *Cyclopes didactylus*, the silky anteater. *Edentata* is received by over a thousand specialists in edentate research as well as a global sample of zoos with edentate holdings.

In addition to disseminating information about edentate biology and conservation, the ESG supports original research in range countries. To address the urgent need for baseline data on edentates in the wild, in October 2000 the ESG created the Edentate Conservation Action Fund, intended to quickly disburse small grants for field research. Projects funded by this grant include: Hematology, Parasite Load and Health Status of Wild *Zaedyus pichi* Populations in Mendoza, Argentina, undertaken by Mariella Superina, University of New Orleans (USD 3,000); A Preliminary Survey of the Edentates of the Dry and Wet Chaco of Argentina undertaken by

Eduardo Fernández-Duque, Fundación ECO (USD 1,715); and Health Survey and Normal Physiologic Values of the Wild Giant Anteater (*Myrmecophaga tridactyla*) in the Brazilian Highlands by Don Gillespie, Nashville Zoological Gardens (USD 1,455).

Additional projects will be supported on merit as funds become available. The Edentate Specialist Group is also involved in compiling information for the Species Information Service database and the Global Mammal Assessment, and ESG members have represented the Group at various meetings and conferences, including the Western Regional Conference of the American Zoological Association in April 2002.

Gustavo A. B. da Fonseca, Chair

John M. Aguiar and Jennifer Pervola-Fermin, contributors

Equid

The New Equid Action Plan

The new Equid Action Plan was published in 2002 and distributed to all range states, wildlife management personnel, and members of the Equid Specialist Group. The chapters on species provide new information and ideas on how to prioritize and activate conservation on threatened and endangered equids in their native habitats. The chapters on spatial-dynamic ecosystem modeling and disease are useful on a global scale and provide conservation and research practitioners with new paradigms. The new Equid Action Plan is available in PDF format from the new Equid Specialist Group (ESG) website (www.iucn.org/themes/ssc/sgs/equids).

Organization and Communication

The Equid Specialist Group has expanded to include more range state nationals. These new members have experience with the wild equids in their respective countries and are actively committed to their conservation. The Equid Specialist Group is helping them to get further training and funding for research and conservation. For each species, there are Equid Specialist Group coordinators: Patricia Moehlman for African wild ass, Dan Rubenstein for Grevy's zebra, Mace Hack for plains zebra, Guy Castely for mountain zebra, Claudia Feh for Asiatic wild ass, Nita Shah for kiang and Lee Boyd for Przewalski's horse. To improve communication within the group, the ESG held meetings and symposiums at international conferences in 2001 and 2002.

New Scientific Information on Equids

The African wild ass (*Equus africanus*) is the most endangered equid in the world. The ESG is working in cooperation with the national wildlife

authorities and local residents to develop management that will maintain ecosystem integrity, conserve this endangered species and provide long-term food security. Patricia Moehlman and Hagos Yohannes (Ministry of Agriculture) received a Whitley-Laing Award for Conservation of Nature and a Whitley-Laing Continuation Award for their work in Eritrea. This program has also received funding from the St. Louis Zoological Park Field Research for Conservation Programs. The Whitley-Laing Foundation also granted a PhD Award for the training of Simon Bisrat. Simon is currently a lecturer at the University of Asmara. He will enroll for his PhD in August 2004 at Utah State University. His research will focus on the African wild ass in the context of an ecosystems analysis of the Denkalia Desert. Hagos Yohannes wrote and distributed conservation education brochures to all military personnel in Eritrea. Funding for printing the brochures was provided by the American Zoological Association of Docents meeting in Houston (2003). In addition, the ESG produced 2,000 conservation posters on the African wild ass with a message in English, Tigrinia and Arabic. These posters have been given to all secondary schools, some primary schools, government offices, military personnel, radio stations, and local residents and distribution is continuing. In Ethiopia, Mr. Fanuel Kebede received a continuation grant from the Wildlife Trust for Research and Conservation of the African Wild Ass (*Equus africanus*). Fanuel has also received a grant from the St. Louis Zoo Field Research Conservation Program to support a country-wide survey of the African wild ass in 2004 and 2005.

Dr. Ann Oakenfull received funding from the Brookfield Zoo and the San Diego Zoo for analyses of African wild ass Mitochondrial DNA. These analyses indicate that the African wild ass populations in Ethiopia and Eritrea share some haplotypes and appear to be a continuous genetic population.

Dr. Dan Rubenstein received funding from the St. Louis Zoo to survey Grevy's zebra in pastoral areas. This program employs local men and women and supplies them with Global Positioning System units. Thus regular monitoring of the distribution of Grevy's zebra will be possible and the profile of this endangered species will be enhanced. Mr. Fanuel Kebede received a continuation grant from the Wildlife Trust for Research and Conservation of Grevy's zebra (*Equus grevyi*) in the Allideghi Plain, Ethiopia. Dr. Stuart Williams, Alistair Nelson and Fanuel Kebede completed a survey of Grevy's zebra in Ethiopia in 2003.

Dr. Dan Rubenstein is conducting research on potential competition between Plains zebra (*Equus burchelli*) and Grevy's zebra on the Laikipia Plateau, Kenya. He also has a large scale,

long-term research program on the mating systems and multilevel social organization of the Plains zebra on the Laikipia Plateau.

Dr. Nita Shah surveyed Kiang in the Himalayas in 2002 with funding from the San Diego Zoo and Wildlife Trust.

Dr. Nita Shah participated in the most recent survey (2004) of the Khur, a subspecies of the Asiatic wild ass, in the Little Rann of Kutch. Siva Sunderla is currently doing his PhD with Dan Rubenstein on the comparative mating systems of Khur and Grevy's zebra. The Equid Specialist Group provided funding to support the WWF Central Asia program that is led by Dr. Olga Pereladova. Funds have been provided for a 4-wheel drive vehicle and several motorbikes for Kulan Reserves.

Dr. Moehlman has participated in two international workshops on the re-introduction of the Przewalski's horse in Mongolia.

Professional Training and Education

Research and training in ecology and conservation science is fundamental for enabling committed individuals to pursue their careers and be more effective in managing their country's natural resources. To date, the Equid Specialist Group has secured funding for two PhD and three MSc programs for nationals from Range States. Congratulations to Almaz Taddesse PhD, studying Grevy's zebra, Ethiopia; Simon Bisrat PhD, Redae Teclai MSc and Hagos Yohannes MSc, working on African wild ass, Eritrea; and Fanuel Kebede MSc studying African wild ass, Ethiopia.

The ESG has also helped to secure funding for workshops and short-term courses including a conservation biology field course for University students in Turkmenistan, with assistance from WWF. Fanuel Kebede convened a workshop on African wild ass and Grevy's zebra for Regional and Ethiopian Wildlife Department personnel, researchers and local resource users.

Cooperation with NGO's and Specialist Groups

The Equid Specialist Group is working closely with the Wildlife Trust to raise funds for equid research, training and conservation. We are very grateful to Dr. Mary Pearl for her continuing support and encouragement. The Equid Specialist Group is closely allied with the Re-introduction, Antelope, Cat, and Pig Specialist Groups. We share members with all these groups and we have many concerns and goals in common. The Equid Specialist Group is in close communication with both the American and European Equid Taxon Advisory groups.

Patricia D. Moehlman, Chair

Hyaena

The Hyaena Specialist Group represents the interests of a small carnivore family of four species in Africa, with one species, the striped hyaena spilling over into southern Asia as far as India. Although no hyaena species is threatened, the three larger species, the spotted hyaena (*Crocuta crocuta*), the striped hyaena (*Hyaena hyaena*), and the brown hyaena (*Hyaena brunnea*), are classified as Lower Risk: Near Threatened and suffer persecution, often needlessly, through conflict, or perceived conflict, with humans.

During the last four years a number of initiatives have been undertaken by the Hyaena Specialist Group and its members. Attempts to expand the group have led to the addition of members in several range states hitherto not, or inadequately represented, on the group including Zimbabwe, Turkey, Georgia, Iran and India.

In an effort to change perceptions of hyaenas a conservation education poster was produced in English, French and Swahili and circulated widely to various stakeholders and educational institutions in many range countries throughout Africa.

Only one newsletter was published during the period under review, in early 2000. In its place a website has been set up (www.hyaena.ge) with the view towards placing articles on it at regular intervals, as a way of communicating the work of group members and issues and developments in hyaena conservation and research. Progress has unfortunately been slow due to the very busy schedule of those volunteers tasked in setting up the site and soliciting articles. A less ambitious but more practical program for soliciting articles and news needs to be developed. Ideally we would like to appoint a website editor, so if anyone has an interest and the time to devote to becoming editor and solicitor of articles for the hyaena webpage please contact Gus Mills at gusm@sanparks.org.

The Hyaena Specialist Group has completed its tasks for the Global Mammal Assessment program and updated the conservation status of all four species. A survey of the global perspective of hyaenas in captivity has also recently been produced.

Long-term behavioral ecology studies of spotted hyaenas continue in the Masai Mara Game Reserve, Kenya and the Serengeti ecosystem in Tanzania. In addition the ecology and management of spotted hyaenas in Laikipia District in Kenya, a livestock region, is being studied. A technique to census spotted hyaenas through playback recordings of hyaena calls and other sounds has been developed in the Kruger National Park and applied in a number of other areas. Over the last few years several spotted hyaenas have showed up in photographs from camera traps set in rain forests in West Africa. It appears that the hyaenas, which have always been absent from rain forests, have recently been able to penetrate

deep into the forests along logging roads. BBC News recently highlighted the Hyaena Man of Harar in Ethiopia who feeds pieces of meat by hand and mouth to some 30 or 40 spotted hyaenas outside the walls of this ancient city. They also featured a story about a traditional healer and pastoralist in Ethiopia who has trained a spotted hyaena to look after his livestock.

The striped hyaena, the one species in the family that has up until now been poorly studied, has in the last four years received quite a lot of attention with studies initiated in Kenya's Laikipia District, Lebanon and India and surveys are being conducted in Iran, Turkey, Georgia and Azerbaijan. Striped hyaenas appear to be quite widespread in Lebanon and Iran and a population in southeast Turkey also appears to be holding its own, although several animals were recently found to have been illegally caught and held in zoos in this region. A positive aspect to this was that, through the media and the efforts of conservationists in Turkey, it helped to highlight the presence of these animals in Turkey and raise conservation awareness for the species.

In Namibia a study of the brown hyaena along the Namib Desert Coast has shown that the hyaenas there prey on Cape fur seal pups. In the Makgadikgadi Region of Botswana a study has shown that brown hyaenas benefit from scavenging around cattle posts surrounding the national park and may in fact live at a higher density in the peripheral areas than in the national park. A brown hyaena was found living in a built up urban area near Johannesburg, South Africa. The old male was discovered living on a patch of natural vegetation on a hill which was used for recreational paint ball games. In the evenings after the games, the participants often held a braai (barbecue) and were visited by the hyaena. The hyaena was immobilized and fitted with a radio collar. He would spend the day in a small cave on the hill and in the middle of the night visit a dump close by at a large supermarket. Unfortunately the owner of the land decided that he wanted the animal removed and it was taken to a safari park. Evidence for other brown hyaenas living around Johannesburg and Pretoria has been found, but it has been decided not to pursue these cases at present as it is feared that pressure will also be mounted for them to be removed.

No new work has been done on the final member of the family, the diminutive and aberrant aardwolf.

Gus Mills, Chair

Insectivore

Werner Haberl, Chair

Lagomorph

The conservation and management of lagomorphs (rabbits, pikas and hares) runs the gamut of potential activities, thus the resulting activities of the Lagomorph Specialist Group (LSG) are correspondingly broad. Some of the most highly endangered animals on earth are lagomorphs, while many species are the primary game animals in some cultures. The European rabbit has been widely introduced (for example into Australia and New Zealand) where it has caused significant losses to biodiversity and local economies. The control of the European rabbit in these situations has been touted as a model of biological control, while within the native range of the species the control pathogen has caused massive declines. Many lagomorphs are keystone species or are considered ecosystem engineers. And an increasing body of literature indicates that the decline of some lagomorphs is a harbinger of the effects of global warming, or in some cases of the aftermath of intensified agricultural production techniques. This broad range of issues has been addressed by LSG members and other lagomorph specialists during the past four years.

A primary and ongoing activity of the group has been to complete new Red List Assessments of all lagomorph species and to fulfill the data entry requirements for the Global Mammal Assessment. This activity has been a challenge, as many lagomorph species are poorly understood taxonomically, and others live in some of the most inaccessible places on earth and have not been seen by scientists for a long time. New molecular techniques have greatly improved our understanding of lagomorph systematics, but have also introduced many new unresolved issues, and one cannot map a form if you don't know what it is! Many LSG and other specialists have accepted this challenge and we should look forward to enhanced understanding of the lagomorphs in the near future. The issue of faunal surveys to examine species and populations that are poorly known remains a problem, but one that we recognize and hope to overcome.

Approximately a quarter of the lagomorphs are threatened and many LSG members are active in their pursuit to better understand the causes and to engage in conservation remedies. A large number of Mexican lagomorphs are threatened (for example, the Omiltemi rabbit is known from only about 3 specimens and the extent of occurrence of the Tehuantepec jackrabbit is only 67 km² in three subpopulations in southern Mexico). AMCELA, the Mexican Association for the Study and Conservation of Lagomorphs (a LSG sister organization) continues to be very active in addressing the conservation needs of these and other Mexican lagomorphs. In South Africa, Victoria Ahlmann and Kai Collins have taken a leadership role in establishing a Riverine Rabbit Working Group, a consortium of local conservation organi-

Some lagomorph species live in the most inaccessible places on earth

zations and agencies, to address the pressing conservation needs of this species that was recently reclassified as Critically Endangered. In Japan, Fumio Yamada and Ken Sugimura have identified mongoose predation as a primary negative factor affecting the endangered Amami Island Rabbit, leading to recent culls of this alien invasive predator (although more still needs to be done). David Hayes is coordinating an effort to re-introduce the recently extirpated Columbia Basin population of the Pygmy rabbit, a form that literally disappeared overnight, and to address its habitat needs throughout the remainder of its range.

Some hot-button issues that the LSG has addressed in the past quadrennium concern the role that lagomorphs may play in natural ecosystems. Pikas may serve as the "canary in the mine shaft" to indicate how global warming may affect alpine species. Li Weidong has recensused all the populations of the Ili pika (a species that he initially discovered and named) in the remote Tian Shan of China, only to find that they had disappeared from half of their former localities. At the same time other reports on North American pikas were coming up with similar results; and David Hik was determining that warm winters were

responsible for significant declines in the pika population he is studying in the Yukon. All of these declines could be due to global warming and clearly more work needs to be done on this connection.

Andrew Smith has identified the plateau pika as a keystone species for biodiversity on the Tibetan plateau and increasing recognition of this relationship is leading to a decrease in poisoning of pikas in this ecosystem (although the practice remains widespread). Others have focused on rabbits as ecosystem engineers, constructing habitat for other wildlife, or the important role that they play as prey for endangered predators. It is clear that efforts to cast lagomorphs as pests and to control them can be short-sighted. Minimal cost and benefit analyses should be conducted prior to any control campaigns.

Focusing on the northern pika as a flagship species, the Pika Fan Club of Japan (founded by Toshimi Ichikawa) has saved many important protected natural areas on Hokkaido Island from unnecessary large-scale development projects.

An increasingly dominant topic within the LSG is the role of pathogens in populations of lagomorphs; this issue will be a central focus of the group during the next quadrennium. Many native rabbit and hare populations have been decimated by myxomatosis, rabbit haemorrhagic disease (RHD) or European brown hare syndrome (EBHS). Yet, these diseases are significant management tools in efforts to control invasive rabbit

and hare populations. There may be increased pressure to use genetically modified organisms to either control invasive rabbits or to immunize native ones, with serious potential repercussions should either attempt escape to non-target populations. The ethical and ecological issues raised by these scenarios are significant.

These topics skim the surface of the activities of the LSG, but show the breadth of issues that our group addresses in our pursuit to better understand, protect and manage the approximately 90 species of lagomorph worldwide.

Andrew Smith, Chair

New Word Marsupial

This report provides an update of the activities of the New World Marsupial Specialist Group (NWMSG) and our future plans. During the first two years of the quadrennium the NWMSG group was chaired by Ricardo Ojeda. After Ojeda's resignation in 2004, Adrian Monjeau was invited to be Chair. Under Ricardo's leadership, the group has been very active, compiling a checklist of new world marsupials, evaluating distribution ranges, assessing risk status and identifying major threats for each species. The group produced a draft Action Plan that is available online.

Since early 2004 the Group was reorganized according to regions within the New World with Deputy Chairs leading subgroups for North America, Central America and the Caribbean, Brazil, Tropical Andes and the Southern Cone. The species checklist and taxonomy were updated by consensus among specialists within the NWMSG, modifying several taxa from the earlier list. The distribution ranges mentioned in the new checklist were refined but still remain as compact polygons. The incorporation of GIS technology greatly improved this work. We re-evaluated the status of all the marsupial species, adding 12 more species to the list of threatened taxa. We contributed to the Global Mammal Assessment, providing information on taxonomy, Red List status, major threats, distributional ranges and upper-level habitat information. Collation of the information required is near completion. The final species distribution maps will be modeled to remove unsuitable habitat, including urban, agricultural, and other human-influenced areas, to remove non-viable habitat and include those elevational ranges that are ascribed to a species. Pending funding, we aim to have a detailed distribution map for each species, in the form of polygon range maps, which will be further refined using habitat models and an analysis of historical trends.

Future steps for the group are the creation of a listserv to improve communication among NWMSG members; to propose the creation of a



journal on marsupial conservation shared with our Australasian counterparts; the development of an online GIS database with updated information about marsupial conservation and recommendations for conservation action on the ground, mostly directed to stakeholders from protected areas; organize an internal workshop at least with the regional Deputy Chairs and the publication of an Action Plan for New World Marsupials. Depending on funds, we will print an Action Plan or provide most of the information online and on CD-Rom. A brief summary will be published, with emphasis on action required. We also hope to develop a captive breeding and artificial propagation program for endangered marsupial species.

As a tool for GIS analysis, we developed a quantitative, hierarchical nomenclature for IUCN's Red List categories for New World marsupial species (from 1 to 10) and for magnitude of threats (from 1 to 3). By overlapping marsupial species ranges we were able to calculate the conservation value per pixel; delimiting which areas of a given map have the highest concentration of threatened species. Then, by overlapping the distribution of threats and their magnitudes, we determined relatively local hotspots, as places with great conservation value coinciding with the presence of threats. With this method we prioritize decision making for marsupial conservation in the New World.

More than half of the species of New World marsupials inhabit forest biomes, harboring very high levels of species endemism. The remaining species of the group inhabit open habitats in tropical and subtropical South America. Most of the grasslands are subjected to agricultural use, and the forest biomes are suffering loss of native habitats due to a number of factors. Some of the pristine areas remaining as suitable for marsupials still survive, not as a result of conservation management, but as a result of underdevelopment or inaccessibility. Given this scenario, the best general action for marsupial conservation may be to strengthen the protected areas network, with emphasis in wilderness areas and in hotspots. Land restoration as compensation for environmental disturbances and the legal support to this specific action are crucial. Additionally, a captive breeding program in suitable habitats may greatly help the population recovery of most of the critically endangered and endangered species and species with highly restricted ranges.

Although we believe marsupials are among the most marvelous of the world's creatures, for most people they are far from charismatic. No species of New World marsupial is a "movie star" like pandas, gorillas, whales, bears, dolphins, lions, elephants and tigers. On the contrary, the common reaction to their encounter is rejection. This is not a trivial issue in terms of conservation education

and fundraising as it is difficult to convince donors to invest money in "these mice", as I have personally encountered. In six months we applied for more than USD 160,000. We were not successful with the first USD 60,000 but are still hopeful for the remaining USD 100,000. If we are successful, our work will be dramatically improved, but it is not easy. In the meantime, we are advancing with a limited budget but with great enthusiasm.

Adrian Monjeau, Chair

Otter

Without any doubt the last quadrennium was one of the most productive periods for the Otter Specialist Group and resulted in remarkable progress both internally and in otter research and conservation. The organizational structure of the group was completely revised; responsibilities are now distributed at four levels. At the moment, the group has 104 members from 48 countries, covering the 13 otter species currently known. For the first time the group's vision, goals, objectives and targets have been defined and described in a Manifesto.

Internal and external communication has been improved by establishing a listserv and by launching a website, www.otterspecialistgroup.org. It also includes an Otter Project Databank, which improves information access and helps establish cooperation for research and conservation projects. The other prominent information tool of the group, its bulletin, is still published twice a year. Two International Otter Colloqui, a key event for the exchange of knowledge and experience on otters, were held during this period, in Valdivia, Chile in 2001 and in Frostburg, USA in 2004.

One of the main tasks for the last quadrennium was to improve our knowledge on the distribution of the various otter species, not least to establish a more reliable platform for the Red List assessments. As a first step, great efforts were made to prepare standardized and comparable methodologies for field surveys. So far this has been successful for the Eurasian otter in Europe and for the giant otter in South America. Basic studies for some other species are under way. Additionally training courses for surveyors have been carried out in Europe, South America and Africa to enlarge the network of data providers. As part of this process, the ISOS (Information System for Otter Surveys) was developed. This GIS-based database system stores, processes and presents distribution data geographically. Thus far, the first digital Eurasian otter distribution map contains national survey data on 17 European and two Middle East countries. This information system was recently expanded to the global level and to all 13 otter species, working with the expert knowledge of the members of the Otter Specialist Group. Initial steps have been taken to improve

the system by developing an Internet based data entry module and a data presentation module. As became obvious by the first GIS analysis, this data source can make a remarkable contribution to the identification of hot spots for conservation needs.

Africa is still the most problematic region for otter conservation, especially due to a tremendous lack of information and the fact that interest in otters is quite low because of the high number of more charismatic mammal species. An important step to increase knowledge on the occurrence of otters on a wider scale was achieved by the publication of the leaflet, *Information wanted on African otters*, which was published in various languages. A workshop on African otters within the framework of the 8th International Mammalogical Congress, held in 2001 in South Africa, guided the interest of many people and institutions both inside and outside Africa towards otters. Intense efforts were, and continue to be made, to clarify the status of the Congo clawless otter, a species believed to occur in the Congo basin but on which there is no current information.

A similar situation in Asia regarding the hairy-nosed otter might be resolved. As a result of a training course on survey methods, carried out in Thailand by members of the Otter Specialist Group, and supported by seed money, evidence of occurrence of this species was confirmed in Thailand, Vietnam, Cambodia, Malaysia, and Brunei. Remarkable progress has also been made in public awareness and education. Several well attended meetings guided the interest of governments, NGOs, conservationists, scientists, and the media on otters and their role as ambassadors for wetlands. One of the most remarkable outcomes of these activities was the publication of *The Wetlands Ambassador: Education and Public Awareness Methodologies for Otter Conservation*, a collection of best practice examples worldwide, prepared by the Otter Research Group Japan in cooperation with the Otter Specialist Group. Additionally, various brochures on otters in local languages have been published by several members of the group.

The most remarkable progress in the recent past occurred in South America. The number of researchers working on otters is increasing continuously. The development of a standardized survey methodology for the giant otter is a milestone for the conservation activities for this species. As a side effect of the very cooperative preparation process, a well organized and very active giant otter sub-group arose, initiating an increasing number of studies, public awareness activities and practical conservation measures. Recently a similar movement began for the Neotropical otter. A survey standard for this species is to be expected soon, not at least as a result of the increasing number of research and field activities. The research and conservation efforts for the two

species with the most limited distribution range, the marine otter (coasts of Peru and Chile) and the southern river otter (small parts of Chile and Argentina) have been continued. However, the paucity of information and activities in Central America remains a challenge for otter work in Latin America.

In Europe, as well as in North America, research and conservation activities continued, resulting in noticeable and welcome recovery trends for the Eurasian otter and the North American river otter. Although it is also the focus of a high number of research and conservation activities, recovery has eluded the sea otter. Its southern population on the Californian coast shows an alarming decrease and in parts of its northern range, especially on the coasts of some of the Alaskan islands, the decline has been dramatic. Therefore, as with the above mentioned African, Asian and Latin American otter species, the sea otter will be given high priority in the new Otter Action Plan which was revised extensively during the last four years and is planned to be published in 2005 or 2006.

Claus Reuther, Chair

Pangolin

Jung-Tai Chao, Chair

Pig, Peccary, Hippo

The past four years were among the most active and productive, if sometimes frustrating, in the 23 year history of the Pigs, Peccaries and Hippos Specialist Group (PPHSG). The most positive achievements included the launching of our own website and newsletter and the conducting of various field studies, status surveys, systematic reviews and awareness campaigns. More active linkages with regional zoo associations also assisted fundraising efforts for several projects, including status surveys of babirusa (*Babirusa babirusa*) and Javan warty pig (*Sus verrucosus*); the latter species having undergone particularly worrying declines in range and numbers since the last survey in 1982.

Generally good progress was also made in the continued development of recovery programs for the two most threatened suids, the pygmy hog (*S. salvanius*) and Visayan warty pig (*S. cebifrons*); the latter including the first international breeding



Juvenile pygmy hog

loan extensions from founder stocks established in three local rescue and breeding centers. These extensions, which constitute part of wider-ranging strategies, were made possible through formal agreements with the Philippine Government. They may prove crucial to the survival of this species, which has been reduced to a few, small fragmented populations, each subject to continued habitat attrition, severe hunting pressure and genetic contamination through hybridization with free-ranging domesticates.

Similarly good progress in the Pigmy Hog Conservation Programme was marked by the renewal of the covering agreement with the relevant Indian governmental authorities and continuation of various field research, practical management and personnel training projects. However, planned re-introductions were hampered by funding shortfalls, which also exacerbated overcrowding problems in the only captive population. These frustrations were mirrored by recent developments in Manas National Park, which supports the only surviving wild population. Manas had been threatened by local insurgency problems, resulting in loss of control by the Park authorities, increased poaching and other factors. The recent easing of political tensions in the region and re-opening of the Park constituted major improvements, though sadly offset earlier this year by the worst levels of dry-season burning ever recorded in the Park; a catastrophe quickly followed by unprecedented flooding. These factors are certain to have drastically reduced numbers of these animals.

Regular updates on these and other projects will be published the Groups' newsletter, *Suiform Soundings*, which is freely available at <http://arts.anu.edu.au/awpn/awpn.htm>. The first edition of the newsletter, which appeared in November 2003, replaced the former *Asian Wild Pig News* (AWPN), which had been produced bi-annually since 2000. The AWPN was therefore expanded to incorporate original contributions on the biology and conservation of other suiformes, related news items, literature reviews, images and announcements. All credit for the newsletter goes to Erik Meijaard, who orchestrated its increasing length, quality and range of contributions; an editorial load now shared with Kristen Leus. The newsletter is also available on the PPHSG website: <http://iucn.org/themes/ssc/sgs/pphsg/home.htm>, created and managed by Susanne Plesner-Jensen, which also provides diverse information on all suiformes and an online version of the 1993 Action Plan.

The Group's reorganization into semi-autonomous subgroups during the last quadrennium continued to yield important dividends. The Peccary Subgroup, for example, was actively involved in a wide range of regionally-based research, awareness raising and practical management activities.

Collared (*Tayassu tajacu*) and white-lipped (*T. pecari*) peccaries are amongst the most commonly hunted species in the neotropics, both for meat and pelts. Recent activities therefore included projects aimed at assessing ways of managing hunting practices, utilizing peccaries in conservation priority-setting and implementing a new certification program to assist community-based wildlife management initiatives in Amazon rainforests.

In addition to contributing to the PPHSG newsletter and website, the Hippo Subgroup maintains its own website (<http://moray.ml.duke.edu/projects/hippos>) as a means of promoting conservation and information sharing within and outside the hippo research community. Concerns about the deteriorating status of these animals also spurred efforts to update the last (1993) population assessments via literature reviews and questionnaires sent to field researchers and national wildlife agencies. Based on evidence of a 7–20% decline in population numbers over the past decade, it was concluded that the Common hippo (*Hippopotamus amphibious*) should be upgraded to Vulnerable, whilst the Pygmy hippo (*Hexaprotodon liberiensis*) should be upgraded to Endangered following continued commercial logging and increased hunting pressure in logged areas.

Elsewhere in Africa, Group members were involved in important new studies on the behavior and feeding ecology of Forest hogs (*Hylochoerus meintertzhageni*) in Queen Elizabeth National Park, and further surveys on the distribution and status of Desert warthogs (*Phacochoerus aethiopicus*) in northern Kenya and southwestern Ethiopia. Data and photographs from the latter surveys highlighted the species' low population density, its ecological separation from the common warthog (*P. africanus*) and its distinctive external morphology.

Interestingly, these last aspects were complemented by recent molecular studies indicating deeply divergent lineages (perhaps originating in the late Pliocene) between these two warthogs. This work was pioneered by another member, Ettore Randi and his colleagues, who have developed mitochondrial DNA markers, which (together with morphologic and biogeographic information) are expected to elucidate a major new framework for the evolution of Suiformes. Other important findings included: identification of highly divergent mtDNA haplotypes in some *S. scrofa* populations in central and southern Italy; that populations of bearded pigs (*S. barbatus*) in Sumatra and Palawan are clearly divergent from other bearded pig populations; and that *S. cebifrons* is perhaps the genetically most distinct and ancestral member of the Genus *Sus*.

Ongoing reviews of the taxonomy of these and other Southeast Asian suids, by Colin Groves and Eric Meijaard, based largely on cranial morpho-

metrics, also concluded that Palawan bearded pigs were sufficiently distinct to merit species' status (i.e. *S. ahoenobarbus*). However, these authors have also proposed the elevation of the banded pig to full species status (i.e. *S. vittatus*), along with all three currently recognized babirusa subspecies, i.e. Sulawesi (*celebensis*), Togian (*togeanensis*) and Sulu (*babyrussa*) babirusas. Needless to say, these and other (as yet unpublished) revelations are bound to influence future conservation prioritization processes providing, as they do, crucial clarification (and useful ammunition) regarding the overall distribution and, hence, conservation status of these forms.

William Oliver, Chair

Richard Bodmer, Jean-Pierre d'Huart, Jeff Holland,
Kristen Leus, Rebecca Lewison, Erik Meijaard, Susanne
Plesner-Jensen and Ettore Randi, contributors

Polar Bear

Polar bears are the apical predator and symbol of the Arctic marine ecosystem. Positioned at the top of the food chain they are an ideal "indicator" of the status of the Arctic system. Polar bears also provide an important source of food and fiber to aboriginal Arctic peoples and they are highly visible public trust resources of each jurisdiction within its range.

Polar bears are the symbol of the Arctic ecosystem

Today, polar bears living throughout the ice-covered waters of the circumpolar region are facing unprecedented threats of habitat alteration in the form of climate change. The preferred habitats for polar bears persist along the continental shelf, where biological productivity is highest and the earliest impacts predicted by climate change models are expected to occur. Climate induced changes in sea-ice are predicted to alter trophic interactions and reduce the availability and abundance of seals, the main prey of polar bears. A sequence of interrelated and cascading impacts will become apparent, such as reduction in body fat, reduced condition, reduced reproductive rates, reduced survival, and challenges to immune systems. The effects of climate change are likely to be highly variable and show geographic and temporal differences thus posing difficulty in developing adequate monitoring and research programs.

The Polar Bear Specialist Group (PBSG), formed in 1968, consists of research scientists from the five circumpolar jurisdictions within the range of polar bears. This Group meets at three to five year intervals to exchange information regarding the research, management, and conservation of polar bears. Proceedings of these meetings are published as IUCN/SSC occasional papers and are available on the PBSG website, [http://](http://pbsg.npolar.no)

pbsg.npolar.no. The website also provides information on members and contacts, past working group meetings, polar bear FAQ, literature and recent publications.

A number of conservation initiatives have begun or continued since the last Group meeting. Members have focused research on the following general themes: population dynamics in a changing environment, population delineation, contaminant research, harvest monitoring and population modeling, polar bear-habitat-prey relationships, den ecology studies and other important aspects of the ecology of polar bears. You can find more information on these and other polar bear initiatives in the PBSG report on the SSC 2000-2004 Quadrennial CD-Rom.

On-going monitoring of long-term trends in condition and reproduction of polar bears in western Hudson Bay, in relation to climatic change, continued. This is of high priority since climatic warming is predicted to continue in northern areas and has the potential to have significant impacts on polar bears and other components of the marine ecosystem. The trend towards an earlier break-up of sea ice has continued through Autumn 2003, as has the overall downward trend in condition of adult males and females. Initial analysis suggests that similar trends in both ice break-up and condition are now also occurring in southern Hudson Bay.

A U.S. research priority in the southern Beaufort Sea will be to assess impacts to polar bears in a vanishing ice environment. This project proposes to examine polar bear habitat use, reproduction and survival relative to changes in the sea ice environment and has parallels to work conducted or underway in Hudson Bay, Canada. In particular, this research asks: "How is polar bear habitat availability and quality influenced by ongoing climate changes?", "How do polar bears respond?" and "Does the body condition of adults, litter size and weight of offspring, survival of offspring and population age structure change?"

Other research in the Beaufort Sea region has focused on the delineation of populations spatially and determinations of the probability of bears located in specific areas being associated with adjoining populations or stocks. This information is very useful for accurately allocating harvests and for forecasting potential population level effects from human perturbations such as an oil spill. New analytical techniques involving population estimation from mark and recapture data are being explored and have the potential to enhance the precision of abundance estimates.

Coordinated studies between various countries on the levels, types and effects of chlorinated hydrocarbons were conducted and continued during this quadrennium. Many of the studies focused on the highly polluted polar bears of Svalbard,



Norway. There are clear indications that these pollutants, polychlorinated biphenyls (PCBs) in particular, can affect hormone and vitamin levels in free-ranging bears. There are indications of endocrine disruption for testosterone, progesterone, cortisol, thyroid hormones, and vitamin A. In general, bears with higher pollution levels show abnormal levels of the circulating hormones or vitamin but the effects of such alterations remain unclear.

There are some indications that the PCB levels have declined slightly in polar bears and appear to have stabilized. While this is good news, recent studies have now confirmed the presence of polybrominated flame retardants in polar bears. The possible effects of these compounds are unknown and levels are predicted to rise in the coming years given the widespread use of these compounds. Polar bears appear very capable of breaking down these new compounds but there are concerns that the metabolites may also have endocrine disrupting potential.

In Chukotka, Russia, a study of the ecology of polar bears utilizing the Koluchin Bay area was begun by the Chukotka Branch of the Russian Academy of Sciences in 2003 and continues today. Long-term field monitoring on Wrangel Island, Russia, has documented the ecology of bears in the fall period using coastal areas for feeding and resting, as well as evaluating behavior aspects of bears aggregating at these sites. Another novel project completed in Chukotka in 2004, was the delineation of polar bear habitat associations based on the history of observations compiled by coastal dwelling indigenous people. This project resulted in original and useful maps of polar bear use areas which have been used to develop additional seasonal or location protection for polar bears.

In summary, members of the PBSG have remained active in developing meaningful polar bear research and management programs, within the resource constraints present within each jurisdiction. Members have been dedicated to enhancing the knowledge of the ecology of polar bears in order to meet the daunting challenges of the future that are becoming clearer with time.

Scott Schliebe, Chair

Primate

Over the last four years, the Primate Specialist Group (PSG) has focused its attention on finding financial resources for primate conservation, on achieving a clearer understanding of the taxonomy of the Order Primates and re-assessing the conservation status of more than 620 species and subspecies using the *IUCN Red List Categories and Criteria*. To this end, PSG has been involved in three important regional Conservation Assessment and Management (CAMP) workshops, besides numerous other meetings and committees. Networking has been achieved through the continued publication of four regional newsletters.

Considerable efforts have been dedicated to reviewing and studying primate taxonomy and systematics, effectively to scope the breadth of the challenge for the conservation of the Order. Advances in molecular and chromosome genetic studies, ongoing systematic revisions, and the discovery of new species have resulted in numerous adjustments and innovations in primate taxonomy. Inspired and encouraged by the modern taxonomy published by PSG member Colin P. Groves in 2001, the initiative began with the workshop "Primate Taxonomy for the New Millennium", sponsored by the Margot Marsh Biodiversity Foundation, Virginia, and the Disney Institute, Florida. The intention was to fully discuss and build on the taxonomy proposed by Groves. The workshop provided preliminary lists of primate species and subspecies in the four major regions, Africa, Madagascar, Asia and the Neotropics, but above all was successful in pinpointing problematic taxonomic groups and issues and as such focused research efforts over the following four years, which have resulted in the publication of major reviews for the African and Asian primates. Also resulting directly from this workshop was a major revision of the *hominid* langurs by Brandon-Jones, which has already played an important part in scoping primate conservation priorities for South Asia. A review of the Neotropical species was published by Rylands *et al.* (see the SSC 2000–2004 Quadrennial CD-Rom for list of publications) but, with further developments and discoveries over the last four years, an update is in preparation. Finally, there have been a number of changes in the systematics of the lemurs, including the discovery of a number of new species. The review of their taxonomy is near completion and will be submitted for publication in 2004. Of course not definitive, these revisions reflect changing perceptions of the value of diagnostic characters, incorporate new species and subspecies (12 have been described so far in this millennium) and new information, and give us a baseline to evaluate any proposed changes in taxonomy to be incorporated into the IUCN Red List. Currently the PSG recognizes 17 families, 70 genera, 350 species and 622 species and subspecies of primates.

Current assessments indicate 113 primate species are threatened

PSG membership has increased to 373 members. Of particular note was the creation in October 2003 of the Great Ape Advisory Panel and the appointment of Dr Rebecca Kormos, Research Fellow of the Center for Applied Biodiversity Science, Conservation International, as Vice-Chair for Great Apes. Also a South Asia section was created within the Asia region, and is being led by Dr. Sally Walker of the Zoo Outreach Organisation based in Coimbatore, India. William Konstant, who has served the PSG with extraordinary dedication as Deputy Chair since 1999, stepped down in 2004, although he is still very much involved in primate conservation activities through his role as

Program Assistant to the Advisory Committee of the Margot Marsh Biodiversity Foundation, and as such manages the grants, applications and awards. Since 2000, the PSG published 23 issues of the four regional newsletters, *African Primates* (editors Thomas M. Butynski, Debra L. Forthman and, latterly, Tara S. Stoinski), *Lemur News* (editors Jörg U. Ganzhorn, Ken Glander, Berthe Rakotosaminana and Michael Schwibbe), *Asian Primates* (editor Ardith A. Eudey) and *Neotropical Primates* (editors Anthony B. Rylands, John M. Aguiar and Ernesto Rodríguez-Luna), and one issue of its journal, *Primate Conservation* (editors Russell A. Mittermeier, Anthony Rylands and Stephen D. Nash). The Conservation International Tropical Field Guide series has seen the publication of *Primates de Colombia*, written and edited by PSG members Thomas R. Deffler and José Vicente Rodríguez-M.

The group has also held conservation symposia at the XVIIIth and XIXth Congresses of the International Primatological Society (IPS). The list of the World's Top 25 Most Endangered Primates, launched in 2000, was discussed and revised at an open meeting held during the XIXth IPS Congress, where the PSG also collaborated with the Education and Conservation Committees of the IPS in a pre-Congress workshop, "Developing Successful Conservation Initiatives for Primates: From Field Science to Conservation Programs."

The Great Ape Advisory Panel organized a major regional workshop in September, 2002, to review the status of the western chimpanzee (*Pan troglodytes verus*), and the Nigerian chimpanzee (*P. t. vellerosus*) and to build consensus on the action needed for their conservation. The results were published in both French and English the form of an IUCN Action Plan. The PSG were also major players in three CAMP workshops, one for Indonesian primates, a second for lemurs and a third for South Asian primates. The alarming findings of these workshops were that, of the 149 pri-

mates assessed overall, 87% were threatened (Critically Endangered, Endangered and Vulnerable) or Near Threatened.

The PSG serves as the Red List Authority for primates, and considerable progress has been made in the reassessment of all species and subspecies using the new IUCN categories and criteria (version 3.1, published in 2001). Current assessments indicate that 113 species and 243 species and subspecies are threatened: 52 taxa in Africa (10 Critically Endangered (CR), 34 Endangered (EN) and 8 Vulnerable (VU); 43 in Madagascar (10 CR, 20 EN, and 13 VU), 84 in Asia (18 CR, 38 EN, and 28 VU) and 64 in the Neotropics (21 CR, 15 EN, and 28 VU).

The Margot Marsh Biodiversity Foundation continues to provide invaluable and substantive support for research and primate conservation worldwide. Nearly USD 2.5 million were disbursed by the Foundation between 2000 and 2003. Part of this was given over to the Primate Specialist Group, for the Primate Action Fund, which supplies small grants of up to USD 5,000 and is managed by Conservation International, Washington, DC. Thanks to the Margot Marsh Biodiversity Foundation, the Primate Action Fund was able to support 33 projects, with an average of USD 3,630 per project, during the period March 2003–March 2004. Similar amounts were given out in previous years.

Russell A. Mittermeier, Chair

Anthony B. Rylands, Deputy Chair; William R. Konstant, Deputy Chair 1999–2004; Ardith A. Eudey, Thomas M. Butynski, Jörg U. Ganzhorn, Ernesto Rodríguez-Luna, and Sally Walker, Regional Vice Chairs; Rebecca Kormos, Chair, Great Ape Advisory Panel

Rodent

Giovanni Amori, Chair

Sirenia

All living species and subspecies in the Order Sirenia are classified as "vulnerable" to extinction according to the IUCN Red List of Threatened Species. The group, by definition, is facing a high risk of extinction in the wild in the medium term future. The status of the various taxa need to be formally reviewed by the Sirenia Specialist Group (SSG) before 2006, to avoid the default "out-of-date" listing in the IUCN Red List. In this default category, existing data are considered inadequate to assess risk of extinction. Should the listing for sirenians revert to this category, responsible agencies or governments may reassess protective measures and conservation actions.

The future of sirenians around the world is uncertain, due, in part, to the fact that they inhabit coastal and riverine areas where they are threatened by anthropogenic activities and the effects of intensive human population growth. Sirenian species and populations cross international borders requiring multi-lateral cooperation and coordination often making effective conservation actions difficult to achieve.

Though the overall status of sirenian species and subspecies is listed as "vulnerable", population assessments suggest that some are at greater risk of extinction and should be considered "endangered" or "critically endangered". Therefore, the SSG is working towards formally assessing the status of sirenian taxa and providing recommendations with supporting documentation to the IUCN, to evaluate their Red List classification and conservation needs.

In 2002, the SSG produced the *Dugong: Status Report and Action Plans for Countries and Territories*. This report, compiled by Dr. Helene Marsh, presents the most recent information on the dugong's status and the degree of management and protection within its range. The report is organized to provide comparative information to enable individual countries to develop their own, more detailed, dugong conservation plans. Dugong distribution and abundance, threats and legislation are given. Existing and suggested research and management initiatives for 37 countries and territories are also presented in the plan. The Ninth International Mammalogical Congress (IMC9) meets in Sapporo, Japan from 31 July–5 August 2005. The IUCN Species Survival Commission's (SSC) SSG will host a full day symposium and workshop. The Specialist Group has structured the symposium and workshop to gather the information needed to develop and justify recommendations regarding the Red List status of sirenian groups. In the morning, there will be formal presentations (some invited) to describe status of species, subspecies or populations, to the extent we know it, and to evaluate current and future threats to those groups. Among the invited speakers who plan to attend and provide broad (species or subspecies-level) overviews are Dr.

Charles Deutsch (USA, Florida manatees), Dr. Helene Marsh (Australia, dugongs), Dr. Antonio Mignucci (Puerto Rico, Antillean manatees), Dr. Miriam Marmontel (Brazil, Amazonian manatees), and Dr. James Powell (USA) and Dr. Kouadio Akoi (Ivory Coast, West African manatees). Dr. John Reynolds will chair the symposium. After the broad presentations of the invited speakers, there will be numerous, more focused poster and oral presentations describing status of and threats to particular populations of sirenians. Following the morning's presentations and discussions, the SSG will meet (open to others as well) to develop well-justified recommendations regarding status of the various sirenian groups for the IUCN. In doing so, we will identify some priority research and conservation actions for the various sirenian groups in order to address specific threats and otherwise enhance conservation status in the future.

These assessments will contribute to the Global Mammal Assessment, a comprehensive review of the Red List status of all the world's mammal species that is being undertaken by IUCN and numerous NGO partners. The Global Mammal Assessment is scheduled to be completed by the end of 2005.

James Powell and John Reynolds, Co-Chairs

Small Carnivore

After the sad and sudden passing of our previous Chair, and a short period of inactivity, the last few months have seen many changes in the Mustelid, Viverrid and Procyonid Specialist Group. Most obviously, we have changed the Group's name, both for taxonomic reasons, Herpestids and possibly some new families should be included in our mandate, and for practical ones. As one of our members pointed out, the old name was "quite a mouthful".

We have a new website, hosted by IUCN at www.iucn.org/themes/ssc/sgs/mvpsg/, which includes the table of contents for our newsletter, the list of species covered, members list, news and several scientific papers of interest, including our Action Plans. A new listserv, open to both members and non-members, is available and actively discusses relevant issues. You can subscribe via our website. The membership is being revised, with most of our old members re-confirmed and new members added, in order to have a better taxonomic and geographic coverage.

Now that our structure is more solid, we'll devote our attention to activities such as producing statements and informative material, building the Group, securing funding for the newsletter and special projects. We feel that, apart from ever-present funding problems, effective links with other groups (including related Specialist Groups) are crucial for the activities and future of the group. Please collaborate with us!



Contact us at cavallini@faunalia.it or check out our website for more information.

Paolo Cavallini, Chair

South American Camelid

Hernán Torres, Chair

Tapir

The last four years have been extremely busy for the Tapir Specialist Group (TSG). Major changes in structure, internal and external communication and strategies for action planning and fundraising mean that the group is not just about information exchange. It has become a powerful and proactive vehicle to disseminate results and experiences, promote discussions and provide policy- and decision-makers with information that can be used to justify the implementation of tapir research, conservation and management programs in Central and South America and Southeast Asia. The membership consists of 86 individuals from 25 countries worldwide. Most members hold positions that can influence environmental policy in their home countries. Several different TSG positions and committees have been created in order to share the workload and responsibilities and improve our group's effectiveness. Eight committees are now working on specific tasks: Action Planning, Education & Outreach, Fundraising, Genetics, Marketing, Red List, Veterinary and Zoo committees.

Important partnerships have also been established. The TSG has been working alongside the American Zoo and Aquarium Association (AZA) Tapir Taxon Advisory Group (TAG), European Association of Zoos and Aquaria (EAZA) Tapir Taxon Advisory Group (TAG), Houston Zoo Inc. and Tapir Preservation Fund (TPF). This alliance enhances the coordination and implementation of tapir conservation initiatives. Additionally, we have established partnerships with a number of local conservation organizations and governmental agencies in tapir range countries and with several tapir holding zoological institutions worldwide.

A significant part of our time has been spent on the organization of tapir meetings, especially the First and Second International Tapir Symposia. The main purpose of the International Tapir Symposium is to bring together a multi-faceted group of tapir conservationists and experts, including field researchers, educators, husbandry and captive management specialists, veterinarians, government authorities, non-governmental organization representatives, academics, and other key players in tapir conservation. It means that the TSG is able to conduct overviews of current tapir research (*in situ* and *ex situ*), conservation and management issues. This generates the

necessary information to promote the development and implementation of tapir conservation programs on a regular bi-annual basis. Conservation partnerships and a communication network of tapir conservationists worldwide have also been developed and maintained in this way so that conference recommendations can be carried out and then evaluated at future meetings.

The First Symposium was held in Costa Rica, in November 2001, and was a historic event for the Tapir Specialist Group and for tapir conservation as a whole. That conference was, without doubt, the moment when things started happening for the TSG and the group went through a visible and intense process of growth and improvement. The Second Symposium was held in Panama, in January 2004. Ninety participants from 19 countries (50% of the TSG membership) attended. The TSG, AZA Tapir TAG, EAZA Tapir TAG, Tapir Preservation Fund and Houston Zoo were responsible for the organization of both symposia. Major donors for the First Symposium were Houston Zoo, Los Angeles Zoo, Disney Wildlife Conservation Fund, and San Diego Zoo. The Second Symposium had the support of over 60 organizations and our largest donors were Houston Zoo, Conservation International, Disney Wildlife Conservation Fund, Peace River Center, Los Angeles Zoo, Brookfield Zoo, International Animal Exchange and Zoo Conservation Outreach Group.

During the Second Symposium, a TSG Plans for Action Workshop was facilitated by Philip Miller and Amy Camacho from the IUCN/SSC Conservation Breeding Specialist Group (CBSG). This workshop consisted of a full-day meeting dedicated to identifying and discussing TSG issues, developing short-term goals for TSG activities and developing a list of specific actions to be undertaken in order to reach those goals and be more effective in terms of tapir conservation internationally. The workshop outcome was a list of 27 goals ranked in order of priority and 55 specific actions for the TSG to put into practice between now and the Third Symposium to be held in Mexico, in January 2006. Each action has a deadline, an estimated cost, a person responsible for its completion, potential collaborators and indicators of success. The final version of the plan was widely distributed to all members and other interested people and organizations. Our TSG committees are already working hard on putting these actions into practice.

The Action Planning Committee continues working towards reviewing and updating the first version of the IUCN *Tapir Status Survey and Conservation Action Plan* (1997). Our membership has agreed that conducting Population and Habitat Viability Assessments (PHVAs), using the CBSG's framework, will be the most efficient method of developing updated versions of the Action Plans for each species of tapir. The first, in

a series of four PHVA workshops featuring the Malay Tapir was held in Malaysia, in August 2003. The EAZA Tapir TAG, the CBSG, and the Malaysian Department of Wildlife and National



Asian tapir

Parks supported the initiative. Thirty-five participants from Malaysia, Indonesia and Thailand attended. The outcome was an updated Action Plan, listing and prioritizing actions for the conservation of Malay tapirs. This document will be distributed to all interested parties in Southeast Asia and incorporated into the next version of the

IUCN Tapir Action Plan. The Mountain Tapir PHVA will be held in Colombia, in October 2004. Approximately 60 representatives from the three mountain tapir range countries – Colombia, Ecuador, and Peru – are expected to attend. The Baird's Tapir PHVA will be held in Belize, in the second semester of 2005. The venue and dates for the Lowland Tapir PHVA are still under discussion. As a result of the TSG Plans for Action workshop, local coordinators are being identified and appointed for each tapir range country. These Country Coordinators will be responsible for the process of developing National Action Plans for Tapir Conservation to be incorporated into the next IUCN Tapir Action Plan.

The Fundraising Committee established the TSG Conservation Fund (TSGCF) in January 2003. This works as a vehicle to raise and contribute funds towards tapir conservation initiatives. The organizations involved in the administration of the TSGCF are the TSG, Houston Zoo, AZA Tapir TAG, and EAZA Tapir TAG. The Fund consists of contributions from conservation organizations and tapir holding zoos worldwide, as well as personal donations from tapir researchers, supporters and enthusiasts. The TSG, in partnership with the American and European Tapir TAGs, runs annual fundraising campaigns and Houston Zoo collects, manages and distributes the grants. The TSGCF works like many other funding sources, in that there is an annual call for proposals, application guidelines and forms with a committee to review each application submitted. The criteria for successful projects include those targeted at research with wild and/or captive tapirs; projects targeted at restoration, protection and conservation of tapir habitat in South and Central America and Southeast Asia; education and capacity-building programs for local communities within tapir distribution; and the implementation of recommendations of the IUCN/SSC Tapir Action Plan.

During the 2003 Funding Cycle, the Conservation Fund awarded small grants to tapir researchers from Venezuela, Colombia and Mexico. We are about to conduct our 2004 fundraising campaigns and hope to run our next funding cycle in July. It is important to mention that the Fundraising Committee has been working closely with the recently created Marketing Committee, aiming to develop a marketing plan for the group to improve our fundraising effectiveness. Additionally, the Fundraising Committee reviews and endorses a growing number of tapir proposals, which helps tapir researchers to obtain the funds they need to conduct their activities.

Finally, our *Tapir Conservation* Newsletter Editorial Team should be mentioned. The publication has been restructured, the number and quality of articles has increased and country and species representation has improved. An Editorial Board made up of volunteers now reviews contributed articles falling within their specialist remit. Financial support from Houston Zoo enables us to publish two issues per year and distribute copies to approximately 300 people and organizations around the world. The most recent issues of the newsletter are also available in downloadable PDF format on the new TSG official website (www.tapirspecialistgroup.org), which was launched in January 2004.

Patricia Medici, Chair

Siân S. Waters and William Konstant, Deputy-Chairs

Wolf

L. David Mech, Chair

SSC Participation in Multilateral Environmental Agreements (MEAs)

Convention on Biological Diversity (CBD)

As well as adopting the Global Strategy for Plant Conservation, to which the SSC Plant Conservation Programme contributed significantly, the CBD Parties also adopted the Principles and Guidelines for Sustainable Use of Biodiversity, in which IUCN's Sustainable Use Initiative (now the Sustainable Use Specialist Group) played a leading role.

Ramsar Convention and the CBD

The SSC Freshwater Biodiversity Programme contributes to the work of the CBD on inland waters and the joint work plan between CBD and the Ramsar Convention, allowing Ramsar Parties to identify new sites of international importance. Through SSC and the Species Programme, IUCN is the lead organisation for freshwater biodiversity within a partnership of conservation organisations including Conservation International, Birdlife International and Plantlife, aimed at identifying "Key Biodiversity Areas."

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

SSC, through its Wildlife Trade Programme and Specialist Group network, has a key role as technical advisor and contributor to the operations of CITES. In the run-up to every CITES Conference of the Parties (CoP), the Trade Programme, together with TRAFFIC prepares the *Analyses of Proposals to Amend the CITES Appendices* which are sent to all Parties to help in their decision making. The *Analyses* aim to provide as objective an assessment as possible of the amendment proposal against the requirements of the Convention as laid out in the CITES listing criteria. As this issue of *Species* goes to press, preparations for CoP 13 were well underway with completion of the *Analyses* and the preparation of several briefing papers. For CoP 12, as well as the *Analyses*, IUCN/SSC/TRAFFIC briefing papers were produced on marine fish, sharks, timber, and bushmeat.

During the period, the Trade Programme also published the Occasional Paper *Guidance for CITES Scientific Authorities: Checklist to assist in making non-detriment findings for Appendix II exports*, and the guide *CITES: A Conservation Tool*, now in its eighth edition, and available in English, French and Spanish.

SSC, in close collaboration with the CITES Secretariat, was involved in efforts to strengthen regional cooperation on the conservation and management of hawksbill turtles in the wider Caribbean region. The Wider Caribbean Hawksbill Turtle Range States Dialogues worked towards improving understanding between the range states of the various approaches to hawksbill turtle conservation in the region and reaching consensus so that a regional management plan for the species

can be developed. SSC supplied much of the background information through its Marine Turtle Specialist Group.

Convention on Migratory Species

In 2002 the Convention on Migratory Species (CMS) adopted the IUCN Red List Categories and Criteria as a "decision support tool" when deciding on proposals to list species under Appendices I and II of the convention. Together with the Species Programme, SSC continued to lead IUCN's collaboration with the Convention on Migratory Species (CMS) and is an active member in the development and implementation of several of the agreements under the convention such as the African-Eurasian Migratory Waterbird Agreement.

Climate change

SSC established a Climate Change Task Force to enhance understanding of how ongoing changes in the global climate may threaten plant and animal species, and determine how best this understanding may be incorporated into key policy arenas. Activities for this group include raising the profile of likely impacts of global climate change on species within the Intergovernmental Panel on Climate Change.

Policy documents and guidelines

SSC Specialist Groups and Programmes developed the following policy statements and technical guidelines on species-related issues during the intersessional period:

Guidelines for Application of IUCN Red List Criteria at Regional Levels (Version 3.0. 2003), published in English, French and Spanish and available on the SSC website.

IUCN Technical Guidelines on the Management of Ex Situ Populations for Conservation were approved by IUCN Council in December 2002. These supersede the IUCN Policy Statement on Captive Breeding, and are available on the SSC website.

Reintroduction of African Elephants: in collaboration with the Re-introduction Specialist Group (RSG), the African Elephant Specialist Group developed translocation guidelines specific to elephants. The RSG also worked with the Primate Specialist Group on producing primate reintroduction guidelines.

Guidelines for the Reintroduction of Galliformes: best practice guidelines developed by the Reintroduction Specialist Group, the World Pheasant Association, and SSC's five Galliformes (game birds) Specialist Groups.

Guidelines on the Conservation of Medicinal Plants, published in 1993 by IUCN, WHO, and WWF, are being revised through an international consultation undertaken by the Medicinal Plant Specialist Group and the Wildlife Trade Programme of SSC on behalf of IUCN, together with WHO, WWF, and TRAFFIC.



Plant Specialist Groups

Plant Conservation Committee

The SSC Plant Conservation Committee (PCC) provides the focus for SSC's extensive plant conservation activities. Its objectives are to implement its five-year Plant Conservation Strategy 2000-2005, which has fed into both the SSC Strategic Plan as well as the Global Strategy for Plant Conservation, adopted by the Parties to the Convention on Biological Diversity in April, 2002. The Committee is comprised of 19 botanists and conservationists either from or representing 13 countries. Major botanical institutions such as Bogor (Indonesia), Royal Botanic Gardens (RBG) Kew (UK), National Museums of Kenya and the Missouri Botanical Garden and Smithsonian Institution (USA), as well as important plant conservation organizations such as Botanic Gardens Conservation International (BGCI), WWF,

International Plant Genetic Resources Institute (IPGRI) and Plantlife International are also represented. This group works with SSC Plants Officer, Wendy Strahm, based at Gland. The PCC also worked with Alain Mauric, the junior Plants Officer based at Cambridge, who was seconded from RBG Kew with joint support from Scottish Natural Heritage from 2001-

2003. Unfortunately funding was not secured to continue his position and a key priority will be to increase secretariat staff in order to address the many demands and activities which are placed on the plant program. Mike Maunder was appointed to Co-Chair the Committee early in 2004 following a period of ill-health on the part of David Given.

During the last quadrennium the PCC has worked to ensure that the program addresses the highest priorities and is being implemented satisfactorily; that activities in the work plan have clear, time-specific objectives; that important program targets are met; that the purpose, role and findings are communicated to appropriate audiences; and that funds are secured to implement the program.

Our activities have included supporting the development of the SSC plant conservation network, which currently consists of 36 plant Specialist Groups, although many new ones are waiting to form. Four new Specialist Groups (Cuban, Galapagos, Hawaiian, and Global Tree) were formed during the last quadrennium, although three Specialist Groups (Bamboo, Legume and Australasian Plants) are without a chair. The reports from each of the Specialist Groups presented in this issue represent the activity undertaken through the network. The PCC, in line with

the SSC Strategy, is looking at plant groups of high economic and social value: these include trees, medicinal plants and a proposed Crop Wild Relatives Specialist Group. The PCC has identified priority plant groups and geographical regions for SSC investment.

The PCC is supporting the production of SSC tools, guidelines such as the *Ex Situ Policy Guidelines*, and protocols including Action Plans (Bryophytes in 2000 and Cycads in 2003). The "Top 50" program has started with lists developed from the Mediterranean and Macaronesian islands, with the first pilot document to be published in 2004. Other Specialist Groups are drafting "Top 50" lists. The PCC also provides a strategic link to SSC CITES activities.

The PCC supports the IUCN Red List Programme and encourages plant Red Listing and the provision of technical support to practitioners. Major plant Red Listing initiatives include Hawaii, Madagascar, Central and South America, China and Ethiopia. The PCC is represented on the Red List Committee and is actively involved in Red List policy and procedure. Submissions have been made to major funding agencies, including the GEF, to forward the Global Plant Assessment.

The PCC is supporting the development, design and implementation of the Global Strategy for Plant Conservation (GSPC), with SSC identified as the lead agency in facilitating the implementation of two GPCS targets, one jointly with Plantlife International. Presentations on SSC contributions to the GSPC were made at the World Parks Congress, Durban, 2003. The PCC has been well represented at steering group meetings for the GSPC and at CBD meetings and played a significant role alongside other plant conservation organizations in ensuring acceptance of the Strategy by CBD Parties.

The Committee is represented by its Co-Chairs and Deputy Chair on the SSC Executive and Steering Committee and has met annually, with formal meetings in Montreal, Canada (2001), hosted by the Montreal Botanic Garden; Cartagena, Colombia (2002), hosted by Jardín Botánico "Guillermo Piñeres"; Durban, South Africa (2003), hosted by Durban Botanic Garden and held in conjunction with the IUCN Parks Congress. It is planning a meeting to be held in conjunction with the third IUCN World Conservation Congress in November 2004. In addition, an *ad hoc* meeting was held in Barcelona, Spain (2004), hosted by the Institute of Botany, Barcelona Botanic Garden and in conjunction with the BGCI Congress.

David Given and Mike Maunder, Co-Chairs and SSC Executive Focal Points for Plants

Jameson Seyani, Deputy Chair.



Adesmia pinifolia of South America



African Tree

Bienvenu Sambou, Chair

Arabian Plant

The Arabian Plant Specialist Group (APSG) objectives for this quadrennium were preparing and publishing the Red Data List for the endangered and threatened plants in the region; developing an Arabian Plants Database; and compiling and publishing the 'Flora of the Arabian Peninsula and Socotra'. Our two most significant achievements were the publication of the Arabian Flora and secondly the approval of the conservation status of the plant species found on Socotra (Yemen) by the regional Red List Authority. Credit must be given to the number of volunteers who, during the quadrennium, supported the activities of the APSG and submitted requested information.

Red Listing

A workshop was held on applying the new criteria for Red Listing, where a number of local botanists had the opportunity to learn more about Red Listing in general. A Regional Committee has been appointed to combine current country Red Data Lists into an amalgamated list for the region. In addition, the Arabian Plants Red List Authority has submitted a list of endangered and threatened plants for the Kingdom of Saudi Arabia for inclusion in the *IUCN Red List of Threatened Species*.

Assessing plants from Socotra

A significant achievement this quadrennium has been the submission and approval of the status assessments of the plants from the Socotra archipelago for inclusion in the *IUCN Red List of Threatened Species*. Most of this work was undertaken by Dr Tony Miller, Royal Botanic Garden, Edinburgh.

The conservation status of the 305 endemic species and seven endemic infra-specific taxa (varieties and subspecies) was assessed based on the *IUCN Red List Categories and Criteria* (version 3.1). Of the 313 assessments, 148 were found to be threatened (Critically Endangered, Endangered or Vulnerable). Four of the species assessed have not been seen for over 100 years despite repeated surveys and were thus considered Extinct. Threats to plants often included a decline in the quality of habitat due to over-grazing or climatic changes (decreasing rainfall in the region). A number of narrowly distributed endemic taxa were assessed as being vulnerable to the effects of human activities or stochastic events.

In addition, 14 taxa were assessed as Near Threatened including several trees which are abundant at present but are likely to suffer as a consequence of development. For instance there is minimal regeneration of *Maerua angolensis* var. *socotrana* in the more inaccessible areas of the

island, but, in the absence of alternative building woods, this straight-trunked and hardwood species continues to be under threat from demand for building material. Likewise *Acacia penninervis* and *Commiphora ornifolia*, whilst abundant at present, are both used as livestock fodder in dry periods (as is the evergreen *Maerua angolensis*). *Commiphora ornifolia* also suffers from lack of regeneration for reasons perhaps connected with the progressive dessication of the islands. If livestock numbers increase greatly, or a succession of drought years should occur, all three of these species would be greatly threatened.

The isolation of the islands and the strong traditional management practices employed by the indigenous population have both served to protect the vegetation and biodiversity of the Socotra Archipelago. However, with the building of the seaport, the development of the airport and building of roads on the island, Socotra is fast losing its isolation. An inevitable consequence of this is that traditional practices will be modified to adapt to these developments, with the risk that they may break down altogether. Identified threats to the flora of Socotra included infrastructure development, loss of traditional land management practices governing grazing, timber and fuel extraction, plant products and livestock management, introduction of exotic plants, collecting and climate change.

Flora of the Arabian Peninsula and Socotra

Upon finding a donor willing to fund the publication of the *Flora of the Arabian Peninsula and Socotra*, the Executive Committee of the APSG entered an agreement with the Royal Botanic Garden Edinburgh (RBGE) to write and edit five volumes that would represent the flora of the Arabian Peninsula and Socotra. The first volume was released during 2003, with the remaining volumes to be released over time ending with a final volume in 2008. Further details are available from the Chair of the APSG at the following address: Dr A. Abuzinada, Secretary General, NCWCD, P. O. Box 61681, Riyadh, Tel.; + 661 441 8700 Fax: + 661 441 0797 or at email: ncwcd@zajil.net

Other activities

Little progress was made on the development of the Arabian Plant Database (APDB) and it was decided the Species Information Service would be the tool used for an APDB.

Due to financial restrictions and to some extent the security situation in the region, it was difficult to organize meetings of the APSG. However, the Executive Committee met several times and other regional meetings were used to convene Steering Committee meetings with those members present. The APSG did have a general meeting in March 2004, in conjunction with the Gulf Countries Conference.

Following the adoption of the Global Plant Conservation Strategy, the APSG decided to prepare a similar strategy for the APSG region, based on the Global Plant Strategy. The IUCN WES-CANA Regional Conservation Forum in Kuwait, held from 12–18 September 2003 presented an opportunity for APSG to also convene a workshop on the development of the proposed regional strategy. Dr. Peter Wyse Jackson, Secretary General Botanical Gardens International; Dr Jane Smart, Executive Director, Planta Europa, Mr. Chris Willis, South African Botanical Gardens and several local botanists gave presentations. At the close of the workshop a small team of botanists from the APSG was appointed as an Action Committee to prepare the first draft of a Regional Plant Conservation Strategy. This Action Committee, chaired by Dr. Davud Eisawi, submitted a report on their progress at the APSG General Meeting.

In keeping with activities to identify important plant areas (IPAs) in other parts of the world, members of the Arabian Plants Specialist Group have started working on identifying IPAs in the region. At this stage the work is just starting, but considerable progress is anticipated in the coming quadrennium.

Abdulaziz H. Abuzinada, Chair

Australasian Plant

Vacant

Bamboo

Vacant

Bryophyte

During the period 2000–2004 the Bryophyte Specialist Group (mosses, liverworts, and hornworts) has consisted of approximately 20 members, covering liverworts, hornworts and mosses. We have members who are familiar with most of the bryophyte flora of major continents like Asia, Africa, North and South America, Australia, and not least Europe, including the status of the individual species.

Since the International Botanical Meeting in St Louis in August 1999, some important events have occurred. Firstly, *Mosses, Liverworts, and Hornworts. Status Survey and Conservation Action Plan for Bryophytes* was published in December 2000. This document included some new ideas that have already stimulated conservation activities among organizations and individuals outside the circle of the Specialist Group members, and we hope that this influence will continue in the future. Secondly, in 2001, members of the Specialist Group took part in the symposium, the 4th European Conference on the

Conservation of Bryophytes, which was held in the Czech Republic, arranged by Jiri Vana and the European Committee for Conservation of Bryophytes. The conference was an important step in bryophyte conservation. The focus was predominately on the European continent, but it was also attended by visitors from outside Europe. The proceedings were published in the scientific journal *Novitates Botanicae Universitatis Carolinae* volume 15/2001. The Bryophyte Specialist Group, headed by the local bryologist Dr. Yelitza Leon and her team, organized a workshop on International Bryophyte Conservation – Current Status and Future Work in Mérida, Venezuela, January 2004. The workshop was the first to be held in a South American country, and it was successful in all respects. Issues concerning bryophyte biology, research and conservation were addressed. The global IUCN Red List of bryophytes was discussed, and the need for assessment of additional threatened species for inclusion was stressed. Other topics included raising public awareness, training bryologists in biodiversity and conservation work, and using mosses and liverworts in the biomonitoring of rainforests as well as drafting guidelines on ethical, non-destructive collection of bryophytes. These can be found at: <http://www.artdata.slu.se/guest/SSCBryo/SSCBryo.html>. Some of the results will be published in the Journal of Hattori Botanical Laboratories.

The knowledge and conservation status of bryophytes differ greatly between different parts of the world. In 2003 we therefore decided to collect information about the current situation of the bryoflora in various geographical regions. A questionnaire on the *Status, Protection and Knowledge of Bryophytes 2003* was published in *Bryological Times* early in 2003. It was also distributed to about 500 bryologists in the electronic user group Bryonet. In total, representatives of 75 countries were targeted and 50 replies from 42 countries were received. The results present a useful overview of the current status of the global bryophyte flora. The questionnaire also provided new knowledge concerning bryophyte conservation measures completed and ongoing as well as desirable and urgent future projects. The bryophytes that seem to be most threatened globally belong to the group hepatics. Other endangered groups are the families Meesiaceae, Splachnaceae and Sphagnaceae, as well as members of the order Isobryales. Rainforests are the bryophyte rich biotopes currently undergoing the most extensive destruction, and the ecological groups declining most rapidly are epiphylls and epiphytes. Second to rainforests, wetlands seem to be declining most rapidly, especially peat bogs

There are now 83 bryophyte species evaluated and listed on the IUCN Red List



(ombrotrophic) and mesotrophic fens in lowlands. These are situated in the boreal and temperate zones of both the southern and the northern hemisphere. Hepatics occurring on decaying logs in old-growth forest constitute another severely declining ecological group. Some countries in Western Europe particularly mention calcareous grassland and oligotrophic heath lands as being threatened.

The Bryophyte Specialist Group will be involved in a workshop in China, December 2004, on the conservation and protection of Chinese bryophytes, entitled "Towards an Official Red List of Endangered Chinese bryophytes using the IUCN Criteria". The Bryophyte Specialist Group chairman has been invited to demonstrate the *Red List Categories and Criteria*, and offer advice on their application in China. Considering that China has a far greater number of bryophyte species than any other country in the world, a flora currently threatened by, for example, rapid habitat loss, I think this will be an important action!

Bryophyte conservation activities this quadrennium included Dr. B.C. Tan's expedition to Mt. Malindang on the island of Mindnao, the Philippines. The expedition was conducted in December 2001 aiming to train the local villagers to appreciate and recognize the local bryophyte diversity, so that they can serve effectively as forest rangers of Mt. Malindang National Park. A second example is provided by our member Dr. U. Drehwald who has developed a biomonitoring system in South America. The system is designed to measure the disturbance in neotropical rainforests using bryophytes as indicators. The method seems very promising, and should be used in the selection of forest stands in urgent need of protection. Finally, Dr. Lars Söderström, who has served as chairman of the European Bryophyte Committee (ECCB), has evaluated the latest European red list as well as preparing the data sheet on endangered bryophytes for the Bern Convention.

Last but not least, there are now 83 bryophyte species now evaluated and listed in the IUCN Red List, compared with no bryophytes listed before this quadrennium!

I invite you to visit two useful bryophyte websites: <http://www.artdata.slu.se/guest/SSCBryo/SSCBryo.html> and <http://rmbr.nus.edu.sg/worldbryo/WorldBryo.html>.

Tomas Hallingback, Chair

Bulb

The Bulb Specialist Group (BSG) of the SSC is dedicated to the conservation and sustainable use of geophytes (bulbs), a group of plants that exhibit extraordinary high levels of alpha diversity in a number of temperate, Mediterranean and tropical habitats. They are directly threatened by habitat loss (particularly the intensification of agriculture) and over-harvesting for trade. The BSG has focused on assessing the conservation status of particular bulb floras, using the role of molecular phylogenetics in identifying geophyte conservation priorities and promoting the sustainable use of bulb diversity in reducing damaging trade and supporting rural poverty alleviation. Dee Snijman has completed a re-assessment of the conservation status of many South African geophytes. Chair Alan Meerow is using molecular phylogenetics to identify lineages of high conservation value in the Amaryllidaceae and assessing the Amaryllidaceae for the *Red Book of Peruvian Endemic Plants*, edited by Dr. Blanca Leon. Julie Dutilh re-assessed the Red List status of many Brazilian geophytes, particularly Amaryllidaceae and Alstroemeriaceae. The *Galanthus* project in Turkey spear-headed by Sara Oldfield and Abigail Entwistle (Fauna and Flora International) is proving a successful exercise in local horticultural activities supporting sustainable trade. A notable conservation story for the BSG was the rediscovery of the Chilean blue crocus (*Tecophilaea cyanocrocus*), believed extinct as a result of uncontrolled commercial harvesting, found again in Chile.

Alan W. Meerow, Chair

Cactus and Succulent

The Cactus and Succulent Plant Specialist Group (CSSG) currently includes 86 members, ranging from plant amateurs, horticulturists and nursery owners to professional botanists. Members of the group have expertise in succulent plant taxonomy, ecology, conservation planning and legislation, information management, and propagation. Recently, four new members, all of them professional botanists, have been added to the group.

The CSSG calls for: field research to support understanding of the taxonomy and conservation status of succulent plants; increased *in situ* protection of succulent plant species through the development of protected area networks; coordinated *ex situ* protection of threatened succulent species to support the conservation of species in their natural habitats wherever possible; effective national legislation covering the conservation of all threatened succulent plant species; effective trade controls for all wild succulent plant species threatened by exploitation for international commerce; and education on the value of succulent plants and the need for their conservation and sustainable use.



During the last four years, activities of the CSSG have been concentrated on increasing participation in the IUCN Red List Programme and the construction of a website.

Red List Project

The CSSG has adopted participation in the IUCN Red List Programme as one of its top priorities and everyone in the group possessing field information on succulent plant species has been encouraged to contribute.

Thanks to the effort of the past group's Chairman, Dr. Edward F. Anderson, over 400 cactus species have been assessed so far. By the 2004 deadline for the Red List update, many succulent plant species were evaluated, including a substantial number of Malagasy Euphorbias, South African, Madagascan, and Socotran succulents, and Ecuadorian Cactaceae. However, there are a great number of species in all succulent plant families still awaiting to be evaluated against the IUCN Red List criteria.

Cactus and Succulent Plant Specialist Group website

The CSSG website (www.iucn-cssg.org) was officially launched during the group's meeting at the International Organization for Succulent Plant Study (IOS) Congress in June, 2004.

The website is conceived as an instrument to: create an Internet-based medium to enhance collaboration and communication among all group members, provide first-hand information to the general public on the biology and conservation status of succulent plants; and provide useful data to the organizations involved in the conservation and control of international trade of wild species of flora and fauna such as IUCN and CITES.

The CSSG website, which is hosted by the Instituto de Biología, National University of Mexico (UNAM), and the Department of Biology of the University of Padua, Italy, comprises various static pages and a very advanced, dynamic section. The static pages include several introductory sections on succulents, who we are, news, our Red List Project, CITES, publications, and so on). The dynamic pages include our Photo Gallery which is open to public and private (registered) users. The registered users are provided with a user ID and a password to access the tool that enables data upload. At this time there are no limits to the number of uploadable photos. All photos remain property of the respective authors. The graphic design and general management of the website is done by Group member, Andrea Cattabriga, who kindly offered his professional services to the CSSG free of charge. The creation and management of the Photo Gallery has been taken on by Fabio d'Alessi and the texts and concept were prepared by Héctor M. Hernández and Wolfgang Stuppy.

Besides the Red List Project, the further development of the CSSG website will be one of the main objectives of the group for the coming months. Members are invited to send their comments and especially help with the creation of an extensive photo gallery on cacti and succulents.

Héctor M. Hernández, Chair
Wolfgang Stuppy, Secretary

Carnivorous Plant

The small but ever evolving Carnivorous Plant Specialist Group (CPSG) continues to have a permanent base at the Conventions and Policy Section (CAPS), Royal Botanic Gardens, Kew, in London, UK. The CPSG has been in operation since 1987 and not only has the membership changed to a smaller, more manageable and active group of members but our Chair, Bertrand von Arx, has recently resigned to return to work in Switzerland. He steered the Group for over six years and we wish him luck in his new job and thank him for his hard work, dedication and enthusiasm at all times. One of the two Secretaries for the group, Madeleine Groves, works as the CITES Implementation Officer at CAPS and has over 10 years experience of working on plant trade projects, in particular on species listed on the Convention on International Trade in Endangered Species (CITES). In Bertrand's absence she has been leading the Group ad-interim, and along with Rosemary Simpson (the other Secretary for the CPSG), they will be reviewing its membership and the development of projects.

Projects

Given the home base of the Group at the CAPS, it is natural that the Group's major project over the last couple of years has been to address trade issues for those carnivorous plants species in trade. The Group contributed to information leading to a number of carnivorous plant species and genera being removed from the CITES Appendices (e.g. *Byblis* and *Cephalotus follicularis*). However, a number of high profile genera remain on Appendix I and II including all species of *Nepenthes* and *Sarracenia* and the Venus flytrap (*Dionaea muscipula*). To help enforcement agencies and CITES Management and Scientific Authorities implement these listings, the Group published the *CITES Carnivorous Plant Checklist* in 2001. A number of these Checklists have been produced following the 1992 CITES Conference of the Parties adopting the first Checklist, *CITES Cactaceae Checklist* as a guideline when making reference to the species of the genera concerned. These references have proved an important tool in the day to

**Carnivorous Plant Checklist –
an important tool for CITES
implementation**



day implementation of CITES for plant species and contain a comprehensive list of all accepted names and synonyms used in trade. The *CITES Carnivorous Plant Checklist* is the result of cooperation between the Royal Botanic Gardens, Kew, the CITES Secretariat, and over 22 members and contacts of the CPSG from over five countries. Financial support for completion of this Checklist was gratefully received from the Atlanta Botanical Garden, USA and the Friends of the University Botanic Garden, Bonn, Germany. Copies are available from CAPS.

The Future

Priorities for the next quadrennium include:

- **Renew membership** – as always we will strive to keep the Group small but active with an extended contacts database. This includes keeping in contact with the very active hobbyist groups dedicated to carnivorous plants found around the world;
- **Projects** – contacts with botanists, both professional and amateur, in priority areas for carnivorous plants such as Southeast Asia and the USA, are underway to discuss conservation priorities in these areas;
- **Fundraising** – lack of funds and an inactive membership are the main problems facing the survival of any Specialist Group. The CPSG will work to raise funds for projects and to allow the Group to continue to collaborate on existing projects;
- **IUCN Red List Categories** – The CITES Carnivorous Plant Checklist was the first to apply these categories to genera listed in a Checklist. A revision for these species using the latest version of the IUCN Categories and Criteria is necessary to ensure projects target those species in greatest need.

Many thanks to Kew for hosting the Group, in particular to Noel McGough, Head of CAPS, and to Wendy Strahm for her guidance. For further information on the CPSG please contact the CPSG Secretariat - Rosemary Simpson, CAPS, Royal Botanic Gardens, Kew, Richmond, Surrey, TW9 3AE. Tel:+44 (0)20 8332 5743 Fax:+44 (0)20 8332 5757; email: r.simpson@rbgkew.org.uk or Madeleine Groves CAPS, Royal Botanic Gardens, Kew, Richmond, Surrey, TW9 3AE. Tel:+44 (0)20 8332 5723 Fax:+44 (0)20 8332 5757; email: m.groves@rbgkew.org.uk

Madeleine Groves and Rosemary Simpson, CPSG Secretaries

China Plant

During the quadrennium, the China Plant Specialist Group (CPSG) focused on reconstituting the group, seeking members active in plant conservation and taking all opportunities to extend our influence in the plant conservation community of China.

Reconstitution

Reconstitution of the Group was not completed until early 2002. We invited new members based on guidelines provided by the SSC Chair and taking into consideration the individual's enthusiasm for voluntarism as well as their background in conservation, taxonomy and systematics, ecology and management. We also aimed for regional balance. We now number 58 members, of which 54 are new this quadrennium from China, the U.S., U.K. and Hungary. Our members, coming from scientific institutes, universities, botanical gardens, and government agencies, are the critical nodes of the network and experience shows the network is functioning well. For instance, the Chinese members have played a key role in conducting a national conservation assessment of agricultural wild plants, and the UK members have made significant suggestions for strategies to conserve Chinese orchids and medicinal plants.

First Members Meeting

After several months' preparation, we successfully held the first member meeting of the China Plant Specialist Group in November, 2002. About 25 members attended the meeting to get to know each other, to learn more about SSC its strategic targets, and to share ideas on expanding the Group's influence with the Chinese conservation community. Presented there were the results of the SSC Steering Committee meeting, June 2002 in Washington D.C. and SSC products such as the SSC Strategic Plan and the *IUCN Red List of Threatened Species*. We also discussed the group's mandate, current status and future plans. The participants noted the need to strengthen the evaluation process towards a China Higher Plant Red List and communicate with conservation authorities of central and local government to improve the conservation of these species. Strengthening network communications and expanding our fundraising efforts are also key priorities.

Compilation of an Action Plan

The Group committed to making the finalization of the *Status Survey and Conservation Action Plan: Plants of the Chinese Region* a key priority. This Action Plan will be instrumental in linking the Group to ongoing activities in China. Members continue to work hard at the compilation of the Action Plan and anticipate publication hopefully this year!

Compilation of the Action Plan was initiated in the previous quadrennium and has been a main focus in the current quadrennium. We are updating the

information and data to reflect the current status and are evaluating a China Higher Plant Red List. Through the compilation of the Action Plan, we have a chance to review every aspect of plant conservation in China in detail, which will help our understanding as well as implementation of the Plan.

China Higher Plants Red List Database

The creation of a China Higher Plants Red List Database is another focus of the CPSG. A draft database was established using the 1994 *IUCN Red List Categories and Criteria* and species are being re-evaluated with the current *Red List Categories and Criteria*. We are close to finalizing a draft list of 3,100 species, including 60 bryophyte species (mosses, liverworts and hornworts), 100 pteridophytes (ferns and their allies) species, 150 gymnosperm and 2,790 angiosperm species.

In the process of establishing a China Higher Plants Red List, we had the opportunity to introduce the 2001 IUCN Criteria to Chinese audiences by preparing an introduction paper, making presentations at relevant conferences and recommending that central and local government conservation agencies incorporate the Red List Criteria into their conservation plans.

Other activities

We reviewed and commented on proposals to amend the CITES Appendices proposed by the Chinese CITES authorities, completed evaluations of two World Heritage sites (Three River Join Valley, Yunnan, China, and Royal Botanical Garden, Kew, England), proposed the development and implementation of a China orchid Conservation Plan and submitted a proposal on the Biodiversity Conservation of the Limestone Region in Southwest China. Other activities included playing a key role in an eco-tourism education program in China, assisting in the evaluation of the national list of protected plants, submitting a report on Overseas Plant Conservation System and Lessons Learned and conducting a national conservation assessment of agricultural wild plants.

Communication

Communication is key for the group to gather, spread and exchange conservation information. We actively pursued information exchanges with other conservation societies during the past quadrennium. For instance, we have formed a cooperative relationship with agencies such as the Chinese Scientific Authority of CITES, China Landscape and Historic Sites Association and Biodiversity Working Group of the China Council for International Cooperation on Environment and Development. Moreover, representatives of the Group attended several related conferences and meetings held within and outside China. At each of these events we learned from other Groups, presented our work in China and made

recommendations for conservation. In other words, these opportunities were used to build awareness of the China Plant Specialist Group's activities.

Wang Xianpu and Qin Hain-ing, Co-Chairs

Conifer

The Conifer Specialist Group (CSG, not to be confused with the Crocodilian Specialist Group!) has been active on several fronts this quadrennium. During this period, a review of the membership was undertaken, resulting in a current membership of 36. An ongoing task has been the evaluation of data deficient and other conifers for the Global Red List of Conifers that feeds into the *IUCN Red List of Threatened Species*. It remains difficult to obtain information for data deficient species and we are wondering what incentives are needed to gather this information. These species occur largely in tropical countries with few resources available to undertake inventories. On the other hand, we are one of only two plant Specialist Groups with substantial numbers of species in their remit (Cycads are the other) who have evaluated all species, and the only one to have done it twice.

During the last few years, conifer conservation has been particularly strong in Asia, due to the involvement of several key members of the CSG. Highlights are provided here and in our report on this SSC 2000–2004 Quadrennial CD-Rom.

Taiwania cryptomerioides

Like *Sequoiadendron*, *Metasequoia* and *Ginkgo*, *Taiwania cryptomerioides* is one of the world's classic Tertiary relic gymnosperms. *Taiwania* was first discovered in 1904 and later named by Hayata in 1906. Evidence from fossil and pollen records shows that it was widespread in Eurasia and North America up to about two million years ago and has remained virtually unchanged morphologically. The world distribution of *Taiwania* includes China, Taiwan and Myanmar.

However, during a botanical survey of the Hoang Lien Mountain Range in northern Vietnam, October 2001, botanists from the Institute of Ecology and Biological Resources in Hanoi discovered a small population of this conifer. The trees were found in a forest remnant along a mountain stream at around 2,000m. On a second survey, trees were also found to grow near the houses of H'Mong village in an adjacent valley. The forest type in which the wild trees grow is largely identical to that in the other natural habitats, montane evergreen forest dominated by Fagaceae, Lauraceae and Magnoliaceae. The trees of *Taiwania* are tall emergents, scattered in the forest. There are only 90–100 mature trees in forest patches covering a mere 10% of an area of occurrence for the species of not more than 300ha. Extensive areas have been deforested and



burnt; local people almost continuously lit fires during the dry season, ostensibly to obtain land for grazing their buffalo. Many dead and charred trees, several of them belonging to *Taiwania*, attest to the destruction of the forest in recent times, a process that is continuing at present. On the edge of the fire zone, many of the living trees of *Taiwania* are deeply scarred. This species is Critically Endangered (CR) in Vietnam and plans for its *in situ* and *ex situ* protection are now being developed.

As well, early this year, a botanical inventory in southern Taiwan led by Dr. Yang, Kuoh-Cheng and his colleagues from Providence University, discovered what is thought to be the world's biggest population of *Taiwania cryptomerioides*. The discovery of an area of about 300ha of primary *Taiwania* forest was made in the so called "twin ghostly" lake district, which is located deep in primary cloud forest. At least 10,000 mature individuals were seen, some of which measured 60 to 70m tall with trunks more than 4m in diameter. Many trees have broad canopies of up to 50m in diameter with most of the branches confined to the upper part of the trunk. A random plot sampling within the region

concluded that many individuals are over 1,000 years of age. This new locality is the southernmost distribution of *Taiwania* in Taiwan.

The future conservation of this newly discovered location seems to be relatively secure due to its extreme inaccessibility and because this region is considered as a holy land by the local indigenous people. In the near future, it will be important to survey the entire world range of *Taiwania* in order to fully understand better its ecology, distribution and conservation status.

The rediscovery of *Thuja sutchuenensis*

The genus *Thuja* comprises five species, two of which occur in North America and three in Asia. One of these, *Thuja sutchuenensis*, was until very recently only known from a few herbarium specimens. These were collected more than a century ago by a French missionary, R. P. Farges, near the city of Chengkou in central China. No cultivated plants exist in Europe, but it was said to be in cultivation in China. Despite repeated efforts by Chinese botanists to find it in the wild, its status as the only conifer to have become extinct in the wild in historical times remained. However, in 2000 after a coordinated effort to inventory the region's biodiversity, field botanists came across *Thuja sutchuenensis* in Daba Shan, just north of Chengkou. According to the Chinese, there is abundant evidence that in Farges' time there must have been many more and much larger trees. Today, one has to climb up steep slopes and crags to almost inaccessible places, where only small

trees with curved stems clinging to the rocks remain. As with other species of Cupressaceae, the fragrant and rot-resistant wood of *Thuja sutchuenensis* is a very desirable resource in Asia and exploitation has far exceeded sustainable levels. Due to the fact that there are likely to be no more than a few hundred individuals left in the wild this species is considered Critically Endangered (CR).

A new Conifer genus

It rarely happens that a new conifer discovery turns out to be sufficiently distinct to be a new genus, yet in October 1999, a botanical survey team to the limestone karst mountains on the border with Yunnan (China) in the far north of Vietnam came upon an unknown conifer of which only the family Cupressaceae could be identified with certainty. The most striking feature was the presence of two very different types of foliage on the same tree. At first, not much material was collected, but a second visit to the site, high on a steep limestone ridge, yielded good herbarium samples and botanists set to work on its identity. The new genus and species, *Xanthocyparis vietnamensis*, was officially published in 2002. As was the case with the other newly discovered genera, by the time botanists had found this Vietnamese conifer, it seemed virtually on the brink of extinction. Similar to the Chinese *Thuja*, only small trees seem to remain high on steep rocks. It appears, that conifers, including *X. vietnamensis*, are naturally restricted to the high, steep ridges. There they occur in a botanically rich 'elfin forest' dominated by another conifer, *Pseudotsuga sinensis*. The ridges are extremely difficult to climb which seems to offer some natural protection. More recent inventories have given estimates of perhaps only 500 mature trees remaining. This new conifer is Critically Endangered (CR) with a limited range in only one mountain massif in the area.

Aljos Farjon, Chair

Discovery and rediscovery of Asian conifers



Cuba Plant

The Cuba Plant Specialist Group (CPSG) was created in June 2003 and is already very active in assessing the conservation status of Cuba's rich endemic flora. The first activity was the appointment of 30 members of the CPSG from all parts of the country. An important activity has been to consult with every national specialist to prepare a preliminary list of threatened endemic species that have not yet been assessed with the IUCN Red List Categories and Criteria.

During the first year, the proceedings of the Third Conservation Assessment and Management Plan (CAMP) Workshop, held in La Habana, National Botanic Garden were edited. At this meeting, assisted by the SSC Conservation Breeding Specialist Group, the status of 92 plant taxa was assessed.

In May 2004, a Red Listing workshop was held together with the Global Tree Specialist Group, in order to re-evaluate the conservation status of about 150 tree species, with the participation of 14 members of CPSG. In this workshop we had the financial support from the Global Tree Specialist Group and the kind advice of Sara Oldfield, Global Programmes Director of Fauna and Flora International (FFI) and Chair of the Global Tree Specialist Group.

In July 2004, another Red Listing workshop was held for assessing as well as re-evaluating the conservation status of 148 species of the threatened and extinct flora of Las Villas (Cuba) province, with the participation of 10 CPSG members.

A new project to support Cuban palm conservation is starting, with support from FFI through the Global Tree Campaign.

Angela Leiva Sánchez, Chair

Cycad

Putting the action plan to work

Activities of the Cycad Specialist Group (CSG) this past quadrennium can be divided into the pre-Action Plan phase and the post-Action Plan phase. At the outset, the main objective of the CSG was to complete the *Cycad Status Survey and Action Plan*, published in 2003. The Plan set the scene for further action, providing responses to the two clearest threats to cycad survival, habitat destruction and the unsustainable trade in wild collected plants. The 12 actions outlined in the Plan focused on five key areas: the conservation of cycad habitat, *ex situ* conservation, trade monitoring and control, research, and the provision of information.

Among the priority actions this quadrennium were completion of Red List assessments for cycads, the development of a consistent taxonomy, the extension of *ex situ* gene banks of the most threatened taxa, a review of trade and the effectiveness of CITES listings, actions to develop a conservation culture in cycad societies, the

promotion of research on key subjects such as the collapse of pollinator mutualisms, and disseminating up-to-date information on cycads and their conservation.

The review of cycad taxa for the IUCN Red List began as part of the action planning process and the assessments were first published in the Cycad Action Plan. The CSG was proud to provide one of the few complete assessments for plant groups in the 2004 *IUCN Red List of Threatened Species*. The results confirm that more than half of the world's cycad species are threatened with extinction and they remain one of the most threatened groups of plants. Sadly, it appears that one more cycad species has become extinct in the wild, with the removal of the last known plants of *Encephalartos brevifoliolatus* from the wild in South Africa.

Despite the relatively small number of cycads (around 300 species), there is considerable uncertainty about species boundaries, leading to frequent changes in taxonomy and classification and a fair amount of confusion in conservation assessments. Between 1983 and 2003, the number of recognized cycad species and subspecies rose from 137 to 297. As part of a process to reduce uncertainty about cycad classification, a workshop was held at the Montgomery Botanical Centre in the USA, which brought together cycad specialists from seven countries for three days of lively debate and discussion. The output was a book on cycad concepts and classification published in 2004.

Cycads were identified by the CITES Plants Committee as a group requiring a review of significant trade. This process within CITES examines the implementation of the convention and coincided with a CSG action to improve the effectiveness of CITES for cycad conservation. Currently, five genera as well as *Cycas beddomei*, are listed in Appendix I of CITES and the remaining species are listed in Appendix II. The CSG contributed to an assessment of cycads that was coordinated by TRAFFIC East and Southern Africa and submitted results to the 14th meeting of the Plants Committee held in Namibia, February 2004.

The CSG also undertook further work on trade in cycad seeds and pollen and the exchange of herbarium specimens. CITES regulations and, more specifically, the way CITES is enforced in many countries makes it difficult to trade in artificially propagated plants and to exchange herbarium material for scientific study. The CSG identified this as a problem that was contributing to both ongoing collection of plants from the wild and problems with scientific studies. A review of CITES regulations revealed that there are some inconsistencies in the way CITES is applied to cycad trade. The CSG has supported proposals to amend the regulations affecting trade in seeds and seedlings and is putting together an information sheet to assist range States with the implementation of CITES with respect to cycads.



All the world's cycads were
assessed – and more than half
are threatened

The high number of threatened cycad species means that *ex situ* collections are an essential component of the overall Action Plan and the focus has been on establishing genetically representative collections of the most threatened species. The gardens linked to the CSG network of *ex situ* collections are at the forefront of developing collecting protocols, databases, and maintenance programs for off site living collections. Off site collections have been enhanced by material collected in Mexico, Honduras, parts of Africa, and Southeast Asia. The value of garden collections has also been increased by ongoing research on pollination, genetic diversity, DNA fingerprinting, and reintroductions carried out by members of the CSG and associated institutions.

Providing high quality information on cycads remains a high priority. Members of the CSG have regularly published a world list of cycads, providing an up to date list of names. The list is published approximately every three years, but the

last list was delayed by the loss of manuscripts in the 9/11 tragedy. A list was nevertheless published as part of the cycad classifications book and an updated version is currently in press. Up to date information on cycads is also provided

on the PlantNet website. To highlight the precarious existence of many cycad taxa, the CSG also provided brief accounts of threatened cycad species for the Flora Mundi project being undertaken by Dorling Kindersley publishers.

During this quadrennium, the CSG took on greater responsibility for the international cycad conference that is held every three years. In the past, the conference has been organized on an *ad hoc* basis, but the CSG recognized the value of these meetings for promoting the science and conservation of cycads and decided to play a more active role. At its meeting in Thailand in 2002, the CSG agreed to appoint a contact person to help organize the conferences, starting with the next meeting scheduled for Xalapa, Mexico in January 2005.

This has been an active and exciting quadrennium. Most of the activities will continue into the next period with a greater focus on parts of the Action Plan that were scheduled to begin between 2005 and 2008. As a result, the next four years promise to be as busy as the last.

John Donaldson, Chair

East African Plant

The East African Plant Specialist Group (EAPSG) comprises plant specialists working on the Eastern Africa Flora of Kenya, Uganda, Tanzania and Ethiopia. Due to financial constraints, there has been limited group activity but a lot of emphasis has been put on strengthening the network and empowering the members to implement various activities. One of the achievements has been support to EAPSG members at the National Herbarium (Uganda) to host a Herbarium Techniques Course, with elements of plants conservation and training on Red Listing. Following-up, in partnership with the Royal Botanic Gardens, Kew and Makerere University and supported by the BAT Partnership Fund, an African Regional Course in Strategies for Plant Conservation is planned for late 2004.

In addition, selected EAPSG members in the region have contributed to the development of the Botanical and Zoological Networks for Taxonomy in Eastern Africa (BOZONET) proposal which has been submitted to the GEF for funding. This proposed ten year project focuses on capacity building for conservation planning and management, Red Listing and biodiversity informatics. It is anticipated that this process will leverage additional support for EAPSG activities. Through the expertise within the network, support has been given to various other networking and capacity building activities at national and regional level.

Members of the group are actively engaged in policy issues with the aim of raising the profile of plant conservation issues in the region. For example, the members in Uganda, Ethiopia and Kenya were actively engaged in garnering support for the CBD Global Strategy for Plant Conservation at national and African regional forums.

Also, the EAPSG expertise has been critical to the development and implementation of the Eastern Africa Network on Traditional Medicine and Medicinal Plants. This network, supported by IDRC Canada, had programmatic and policy elements that address medicinal plant conservation issues at community, institutional and national levels and illustrates regional implementation of some of the objectives of the Global Strategy for Plant Conservation. The group has contributed to the Red Listing process by evaluating species for inclusion on the *IUCN Red List of Threatened Species* and a proposal is being prepared to facilitate the development and publication of a Red List for Ethiopia in line with one of the targets of the Global Strategy for Plant Conservation.

The main challenge is to raise support for network activities and meetings. Due to the tight schedule of the members and the Chair, it is difficult to provide administrative support and have regular meetings. It is anticipated that the BOZONET project will provide the framework support to the group. In the short term, the group will continue to focus on capacity building and empowering its



members to implement project activities. A priority now is to stimulate the implementation of the Global Strategy for Plant Conservation at the national and regional level. Discussions are ongoing to raise support for the development of a Regional Strategy for Plant Conservation with the IUCN Eastern Africa Regional Office.

Stella Simiyu, Chair

European Plant

Klaus Ammann, Chair

Fungi

How many IUCN Specialist Groups address a whole KINGDOM of organisms? Recent recognition of the ecological importance of Kingdom Fungi and threats to species survival has elevated fungi in some conservation action plans to be on a par with plants and animals. The Fungi Specialist Group, in accordance with IUCN flora and fauna strategies, promotes conservation actions for threatened fungi, identifies threats to fungi, and develops conservation strategies. The European Council for the Conservation of Fungi (ECCF) serves as a framework for the Group, thanks to its history of achievement since 1984.

Most members of the Fungi Specialist Group met at the 7th International Mycological Congress (Oslo, August 2002). Agreement was reached that the Group's key specific tasks are to promote fungal inventories, advocate mapping programs that assess rarity of species and their decline, and prepare a Red List. This is in agreement with the Global Strategy for Plant Conservation and also with targets under the European Plant Conservation Strategy.

The idea that Fungi may be threatened and deserve special attention for their conservation is now very well established in many regions, if not globally. Botanists of the CITES Nomenclature Committee, for instance, agreed that the Convention applies to fungi. The recommendation was adopted, although with Japan reserving its decision.

In Europe, the ECCF together with Européennes des Cortinaires Association (JEC) proposed fungi as important threatened organisms within the Bern Convention. A document listing 33 significant European macro-fungal species, with accompanying data on habitats and geographical distribution, was compiled in 2001, and again in 2003 for the European Union's DG Environment in Brussels. European mycologists have also been involved in the network of Planta Europa/Plantlife International. The European Plant Conservation Strategy (EPCS), jointly developed by the Council of Europe and Planta Europa, considers 'plants' to include lower plants and fungi, and is recognized as part of the Global Strategy for Plants adopted by the CBD.

Exciting new initiatives in fungal conservation include the first recognition of the need to include fungi in North American endangered species lists (Oregon Natural Heritage Foundation and Nature Reserve). In addition, members of the Fungi Specialist Group in both New Zealand and Australia have recently lifted the profile of fungi. Despite relatively few collections for a majority of Australasian fungi, a pragmatic stance was advocated using a combination of literature and herbarium records and current professional knowledge. Fungal conservation initiatives appear to be lacking in other regions of the Southern Hemisphere with the exception of southern Argentina where threat status has been considered for wood decay corticioid species.

Most tasks promoted by IUCN members are at national or regional level. For example, fungal distribution data is being accumulated throughout Australia by mycologists and community groups as part of Fungimap (<http://www.rbg.vic.gov.au/fungimap/>). Among more than 12,000 records of 100 distinctive target fungal species, accumulated since 1996, are a few apparently threatened species represented by less than 10 records. ECCF has also established a mapping project addressing the distribution of 50 European macromycetes.

Application of IUCN Red List criteria to fungi is difficult, and comments from a mycological perspective were provided to IUCN. Fungi, for example, have many different life-histories, and are predominantly cryptic, visible only through periodic and capricious sporocarp production. Fungi are often not amenable to numerical assessment of mature individuals, and thus in New Zealand, the Government's Department of Conservation recently established revised criteria for assessing fungi in New Zealand. They noted "only those criteria that are appropriate for assessing a particular taxon need be used. For instance, for fungi it would be difficult to assess population size because of the problem of defining the boundary of an individual. In this situation an estimate of area of occupancy may be easier." By applying these newly agreed criteria, a team of New Zealand mycologists conducted the first ever assessment of the threat status of New Zealand fungi. Altogether, 49 fungal species, mostly macrofungi, were listed in the highest threat category, representing 14% of the country's most endangered organisms. In neighboring Australia, 10 species and one community of fungi are listed under various pieces of legislation at the Federal and State level. The Australian Heritage Commission's register of the Australian National Estate includes Lane Cove Bushland Park in urban Sydney, a recent listing primarily on the basis of the *Hygrocybeae* (waxcap) community of more than 20 species.

At the ECCF meeting in Katsiveli, Ukraine, September 2003 (part of the European Mycological Congress), commitment was made to



compile a European Red List of macrofungi by 2005. The Swedish Species Information Centre promised to assist ECCF in the first stage. While the assessment of threat status of all European taxa is untenable due to inadequate knowledge, a pragmatic and scientifically acceptable agreed alternative is to start using all existing official and unofficial national Fungal Red Lists in Europe. Pending financial support, the second phase will be to evaluate European locally listed threatened species following the IUCN criteria.

The most important tool for fungal conservation is conservation of habitats by identifying key habitats and advocating mycological reserves. On the ECCF agenda (<http://www.wsl.ch/eccf/>) are action plans by some countries to identify fungal IPAs (important plant areas). Both in habitat conservation and in Regional Red Listing, some modifications to the IUCN criteria are necessary. In the U.K., the results for Important Fungus Areas have recently been published, and in France, The Netherlands, Finland, and Estonia, similar initiatives are in progress.

While the Fungi Specialist Group has yet to achieve representation in some regions such as Africa and Asia, fungal conservation is gaining momentum and profile in various parts of the world. Conservation is as relevant for fungi as it is for fauna and flora.

Regis Courtecuisse, Chair

Anders Bohlin, Peter Buchanan and Claudia Perini

Galapagos Plant

This group was constituted in October 2001 with a specific objective in mind, to assess the status of Galapagos plants for the *IUCN Red List of Threatened Species*. Between 1998 and 2002 the entire endemic flora of the archipelago was Red Listed at the infra-specific level. Evaluations that had been made before its publication in 2000 appeared in the first edition of the Ecuadorian national Plant Red Data Book (Valencia, R., Pitman, N., León-Yáñez, S. & Jørgensen, P.M. (eds), *Libro Rojo de las Plantas Endémicas del Ecuador 2000*. Herbarium of the Pontificia Universidad Católica del Ecuador, Quito). Some of these first assessments have since been found to be inaccurate following field investigations, and we plan to revise all assessments and publish a Galapagos Plant Red Data Book, hopefully in 2005. We also plan to publish the revised evaluations in the second edition of the Ecuadorian national plant red data book. As for most oceanic island groups, the proportion of the endemic flora that is threatened is high, at 60%, and with 20 of the 230 endemic taxa Critically Endangered. The biggest part of the 60% is made up of Vulnerable taxa (40% of the 230), mainly owing to their naturally small ranges, often restricted to a single island of the archipelago.

Many of the Group's other activities coincide with the work plan of the endangered species program of the Charles Darwin Research Station's Botany Department (see www.darwinfoundation.org/articles/botany1997-2003.pdf). Projects include field survey, which focuses on rare and threatened endemics to bring up to date our knowledge of their status and distribution, "lost" species, and parts of the archipelago that have not previously received botanical survey or have not been visited in recent decades. Monitoring and biological studies of selected threatened plants are also undertaken. In collaboration with several international research groups we are examining molecular phylogenies and population-level variability in different Galapagos plant radiations. Finally, we are beginning experimental management and restoration of certain species, where removal of a threat factor (usually introduced goats and other herbivores) has not been followed by their adequate regeneration.

Alan Tye, Chair

Global Tree

The Global Tree Specialist Group (GTSG) was established in 2003 to promote and implement global Red Listing for trees as part of IUCN's comprehensive effort to document the conservation status and threats to biodiversity worldwide. The Group has been very active in its first year of operation and plans to update the conservation status of trees worldwide as a contribution to the implementation of the CBD Global Strategy for Plant Conservation. Information collection will be linked to conservation action for globally threatened tree species through the Global Trees Campaign, a joint initiative of Fauna and Flora International (FFI) and UNEP-WCMC. The Global Tree Specialist Group is currently comprised of over 70 members. The Secretariat for the Group is provided by FFI and Sara Oldfield, Director of the FFI/UNEP-WCMC Global Trees Campaign, acts as Chair of the Group with Dr Adrian Newton of Bournemouth University as Vice Chair. Paul Mathew, FFI's Global Trees Campaign Projects Manager acts as Secretary for the Group. Simon Mickleburgh, FFI's Senior Research Officer is managing global tree Red List assessments for major plant families.

The aims of the GTSG are:

- **to promote and implement global Red Listing for trees**
- **to act in an advisory capacity to the FFI/UNEP-WCMC Global Trees Campaign**

In 2003 the Group selected initial priorities for Red Listing in consultation with its members, the IUCN Red List Programme and other experts. Initial taxonomic priorities are the families Magnoliaceae, Fagaceae and Dipterocarpaceae. FFI is currently undertaking a desk review and

Indian Ocean Island Plant

updating conservation information for the first two of these families. As part of the work on Magnoliaceae, a workshop was held in China in June 2004, bringing together over 20 Chinese experts in the family, including GTSG member Dr. Weibang Sun of the Kunming Botanic Garden. Information on 42 species was compiled and used to make assessments, and 13 priority species were identified, for which conservation action will be developed.

A workshop on assessment of Mexican oaks was held in Puebla in May 2004 and a workshop on Chinese Fagaceae is planned for later in the year. Information is also being compiled by correspondence on all the currently Red Listed oak species and other species which have limited distributions. During 2004, various members of the Group are involved in re-evaluating the conservation status of Dipterocarpaceae, an important Southeast Asian family of around 500 tree species, many of which are traded as timbers. Work is underway, for example, at the Forest Research Institute of Malaysia with funding from the Malaysian Ministry of Primary Industries. There are about 160 species of dipterocarps in Peninsular Malaysia. About half of these are of commercial value while the remaining are rare with little ecological information. Initially the project is concentrating on the rarer endemics. A research project, Conservation of Forest Plant Genetic Resources in Vietnam, supported by the Ministry of Science and Technology is reviewing information for Dipterocarpaceae of Vietnam. A BP Conservation Programme team is reassessing the status of the endemic dipterocarp genus *Stemonoporus* of Sri Lanka, with support from the Global Tree Specialist Group. Remaining priorities are to reassess the dipterocarps of the Philippines and Indonesia.

Initial regional priorities identified are the Caribbean, Mesoamerica, Russia and Central Asia. Work in the Caribbean is being undertaken in collaboration with Fairchild Tropical Botanic Garden, which acts as coordinator for the Caribbean botanic gardens network. A successful Red Listing and action planning workshop was held in Cuba in May 2004, in collaboration with Havana Botanic Garden, and a Red Listing workshop is planned for Jamaica later in the year.

The Cuban Red Listing workshop, held jointly with the SSC Cuba Plant Specialist Group re-evaluated the conservation status of over 150 tree species. This information supplements the evaluations carried out at three previous workshops on Cuban plants. Unfortunately all the excellent information compiled by Cuban botanists could not be processed in time for inclusion in the 2004 IUCN Red List but it will make a very valuable contribution to the 2005 List, highlighting the urgent need for sustained conservation of Cuba's rich flora. The importance of Cuban palms as conservation "flagship species" was highlighted. As a

consequence of this, a new project has been developed to support palm conservation in the country with support from FFI through the Global Trees Campaign.

To assist the Red Listing of trees in Mesoamerica, information has been collected on the oaks of Mexico and Guatemala. A broader tree Red Listing initiative has been launched in Guatemala organized by Specialist Group member, Jose Luis Vivero in association with local botanists Juan Jose Castillo, Michelle Szejner and Estibalitz Morras. CONAP (the governmental institution for biodiversity conservation and natural areas in Guatemala) has selected this group to take the lead for national plant Red Listing. The tree Red Listing exercise will be the pilot group where the IUCN categories will be applied, as a test for all threatened species in the country. At the same time an assessment of the conservation status of dry forest trees in Central America (Honduras and Mexico) is being facilitated by access to field data collected over the past five years by a DFID Forest Research Programme project managed by the Oxford Forestry Institute. This assessment is being undertaken by Jamie Gordon and Adrian Newton on behalf of the Group.

Apart from these priority geographic areas and taxonomic groups, we are also undertaking a broader process of revising the tree conservation status information in the IUCN Red List. The general approach to tree Red Listing involves completion of a standard IUCN Red List assessment form on the current status and trends relating to each taxon. Assessment forms, relating to specific taxonomic groups or geographical areas, are being provided by FFI to appropriate specialists. In some cases members of the Group's Secretariat are traveling to specific countries to facilitate data exchange. In April 2004, for example, Adrian Newton traveled to New Caledonia and is facilitating the updating of tree Red List information for that country.

The Global Tree Specialist Group also acts as Red List Authority for trees and reviews evaluations of tree species submitted by others to the IUCN Red List Programme. Adrian Newton acts as the Group's preliminary contact point for the Red List Authority role. More broadly, the Secretariat of the Group is monitoring the progress of tree Red Listing, working closely with the IUCN Red List Programme, through national and regional initiatives and aims to fill in major gaps in tree Red Listing wherever possible. In our first year of operation we have contributed to the conservation assessment of over 1,000 tree species and we have contributed to the development of priority conservation projects which will help save endangered tree species from extinction.

In year one we have contributed to the assessment of over 1,000 tree species



For more information on the Global Trees Campaign and the work of the Global Tree Specialist Group please visit www.globaltrees.org

Sara Oldfield, Chair

Hawaiian Plant

The Hawaiian archipelago is one of the most isolated island chains in the world. The large diversity of habitats found here has resulted in the evolution of an extremely unique biota, exemplified by 90% endemism of the Hawaiian flora. However, following human contact, starting approximately 1,500 years ago, many of the Hawaiian ecosystems have been altered and more than 50% of the native flora has either gone

More than 50% of Hawaii's native flora is extinct or at risk

extinct, is listed as endangered or threatened, or appears to be declining. Conservation of Hawaiian plant diversity requires the implementation of an integrated

strategy of species recovery and ecosystem management that is well coordinated among the various agencies, organizations, and individuals.

The informal coalition of the Hawaii Rare Plant Restoration Group (HRPRG), which acts as the Hawaiian Plant Specialist Group (HPSG), is working to prevent the extinction of native Hawaiian plants and provide for their recovery through integrated *in situ* and *ex situ* efforts by its diverse and committed membership. Partners work collaboratively to sample, propagate, and reintroduce rare plants, and to advance the preservation of native plants and their habitats through effective communication and public education.

In particular, the Group focuses on emergency actions needed to keep species from going extinct. This group has developed guidelines for rare plant monitoring, collection, and reintroduction tailored to the Hawaiian flora. HRPRG-HPSG has long been focused on the emergency actions needed for the rarest of the rare plants in Hawaii. Currently, HRPRG-HPSG has initiated an island-based "genetic safety net" (GSN) initiative to capture and restore the botanical diversity of Hawai'i's most endangered plants. These island-based subgroups focus on GSN species from each island to determine the exact management needs and how to accomplish each action. Funding efforts for additional facilities and staff for the botanical gardens and other organizations propagating and storing genetic safety net species, now totaling approximately 150 species, are included in this initiative.

The HRPRG-HPSG has contributed to the U.S. Fish and Wildlife Service's Hawaii and Pacific Plants Recovery Coordinating Committee (HPPRCC) which is facilitating the development of a conservation strategy to help define and implement con-

servation programs to stabilize and restore this unique flora. Major components of the strategy are: to initiate emergency actions to keep species from going extinct, implement species and community maintenance and/or restoration efforts to recover the species and the habitats the native plants depend upon, and conduct other activities, such as research, database management, monitoring, and public education and outreach programs, in support of plant conservation.

HRPRG-HPSG has also begun the process of IUCN Red Listing for the 50% of Hawaii's flora that is at risk. In 2003, the group completed assessments for 125 at risk species. These rankings and the extinction risks on island ecosystems were a focus of the news release for the November 2003 Red List launch. Since then, we have drafted rankings for 55 additional species.

HRPRG-HPSG is composed of many public and private agencies, as well as interested private citizens. This group, which includes over 60 participants from over 30 organizations (including several individuals who are also members of the HPPRCC), meets regularly to share information about monitoring, collection, *ex situ* propagation, reintroduction and restoration projects, and to plan new initiatives. The Hawaii Department of Forestry and Wildlife and the U.S. Fish and Wildlife Service host and facilitate this work group, coordinate mailings, and furnish meeting minutes.

Marie Brueggemann and Vickie Caraway, Co-Chairs



Indian Ocean Island Plant

The Indian Ocean Plant Specialist Group (IOPSG) includes 25 members coming principally from the four small island states of the Indian Ocean, Mauritius (including Rodrigues), La Réunion, Seychelles and Les Comores, and also from countries outside the region. Dr Ehsan Dulloo and Dr Dominique Strasberg were nominated as the Co-Chairs of the group for this quadrennium. There have been some staff changes in the region during this period, with members changing positions and moving abroad. Ehsan Dulloo moved to Rome as the coordinator of the conservation project of the International Plant Genetic Resources Institute (IPGRI) and John Maureemootoo, an active member of the group, moved to work with CABI on their African invasive species program. These changes meant that coordination within the region was somewhat disrupted and was hard to maintain. Nevertheless, significant progress was achieved in the region on plant conservation, as described briefly below.

Red Listing activities

Most of our activities have focused on the assessment of the conservation status of threatened plants in the region. Sixty plant taxa from the Mascarene region (Mauritius, Rodrigues and La Réunion) were assessed. Additionally, national plant diversity assessments were undertaken through multiple agency participation and many surveys have been conducted by members, some of which has yielded very interesting discoveries.

Rediscoveries

In the year 2001, Vincent Florens, a member of the Group, and Jean-Claude Sevathian made the sensational re-discovery of *Trochetia parviflora* (Sterculiaceae) on the flanks of Corps de Garde Mountain in Mauritius. This species was thought to be extinct having last been seen in the wild in 1863. A proposal to rescue this species was supported by the Chicago Zoological Society which allowed the site to be further explored and a total of 79 plants found. The site was weeded, protected and a restoration program was initiated. Young fruits were bagged and seeds obtained were propagated successfully. Some seedlings were replanted in the wild and others plant-

ed in arboreta, botanical gardens and other suitable places where some have already reached maturity and flowered.

Just recently, a population of at least 30 plants of the endemic *Dicliptera falcata* (Acanthaceae), previously considered as extinct, was re-discovered by Vincent Florens and his wife Claudia Baider on a ledge down a stretch of steep cliff south west of the Gunner's Quoin, a small islet off the north coast of Mauritius. The last collection of this species was made 139 years ago. This very beautiful plant was found flowering at the time of its re-discovery with 3cm long purple flowers. Developing fruits were also found on the plants.

Jean Yves Lesouëf, Group member, reported on the successful propagation of *Cylindrocline lorencei* at the Conservatoire Botanique National de Brest, France (CBNB). This species is believed to be extinct in the wild, but collections exist at the CBNB. For the first time the plants have flowered and seeds produced. They will be propagated and a project is being developed between the Conservatoire and the IOPSG for the repatriation of the seedlings back to its native land in Mauritius.

Collaboration

In collaboration with many agencies, Mauritian Wildlife Foundation, Mauritius National Parks and Conservation Service, Mauritius Herbarium of MSIRI, more than 20 recovery plans have been developed for threatened plant species. IOPSG members are also represented in many National Committees and provide advice to the Government on matters relating to plant conservation issues.

Members of the group were also active in regional collaboration work. With support from the Indian Ocean Commission, Mauritian Wildlife Foundation and Seychelles Forest and Conservation department (Ministry of Environment), a workshop on terrestrial ecosystem rehabilitation was organized in the Seychelles. It aims to identify priorities for terrestrial ecosystem restoration within the small island states of the southwestern Indian Ocean and elements within these priorities that can be implemented at a regional level. It also aims to establish the basis of a regional invasive alien species network linking resource persons, institutions and conservation bodies that are active in the management of invasive alien species and the restoration of ecosystems of biodiversity importance.

Global Strategy for Plant Conservation

Members of the group have been active in implementation of the Global Strategy for Plant Conservation. Ehsan Dulloo (Co-Chair and the focal point for the Strategy at IPGRI) and Vishnu Bachraz (Group member and Research and Development officer at the Mauritius National Parks and Conservation Service), participated at



Flowers of *Trochetia parviflora*

the liaison expert group meeting to review the progress and the way forward on the implementation of the Global Strategy.

A new mission

The Indian Ocean Plant Specialist Group also reviewed their activities during the period and developed a new mission statement, which is to *promote and support the sustainable conservation of indigenous plant diversity in the small islands of the Western Indian Ocean.*

The IOPSG will play a strategic role as a catalytic organization to help in-country agencies in carrying out their conservation mandates and to channel information on in-country plant conservation activities to IUCN.

IOPSG has defined an action program based on the following guidelines:

- **To facilitate the assessment of the conservation status of native plant species and ecosystems of the Indian Ocean islands;**
- **To help improve and integrate current knowledge on the species, ecosystems, threats, protected areas and people involved in conservation;**
- **To facilitate the identification of conservation priorities, and development of appropriate conservation strategies and tools;**
- **To help define, promote and support the implementation of Conservation Action Plans for species, ecosystems, sites, or entire islands, and the monitoring of results;**
- **To promote the importance of island ecosystems in development and help sensitize decision-makers and the public on plant conservation issues.**

Development issues

The IOPSG in collaboration with the Mauritian Wildlife Foundation also raised awareness on the impacts of a new highway on the east coast of Mauritius, which would pass through an area of native forest, home to many threatened species. A letter of concern was sent to several ministries involved including the Ministry of Agriculture, Ministry of Environment, Ministry of Public Infrastructure, and Prime Minister's office. The IOPSG requested the Government to take mitigation actions to help safeguard plants and help to restore the forest being affected. The Ministry of Agriculture of Mauritius reacted promptly to our request and asked the group to advise the Government through their National Parks and Conservation Service on measures that could be taken. As a result, the Government of Mauritius has now been decided to allocate a significant amount of money for ensuring the protection of biodiversity in the affected area.

Ehsan Dulloo and Dominique Strasberg, Co-Chairs

Indian Subcontinent Plant

Members of the Indian Subcontinent Plant Specialist Group (ISPSG) based at New Delhi have been actively engaged in a number of conservation projects. Dr. Babu helped set up the Yamuna Biodiversity Park, which is located upstream of the Yamuna River near Wazirabad. The Park aims to replicate some threatened or locally extinct biotic flora communities of the Yamuna river basin, which has about 2,000–3,000 species of plants and animals. It will have a field gene bank with about 1,000 land races of crops that were reportedly grown in the river basin, an arboretum that will have different varieties of fruit-yielding tree species of the river basin and about 1,000 horticultural plant varieties. Two wetlands have already been developed in the park. A Nature Interpretation Centre has also been developed as a tool for imparting conservation education. Dr. Babu also helped set up the Aravalli Biodiversity Park at Vasant Kunj area in Delhi. This Park will also hold an estimated 40 threatened or locally extinct biotic communities consisting of 3,000–4,000 species of plants and animals characteristic of the Aravallis, which are the oldest mountain range in the subcontinent. It will have an insectivorous plant house and grasslands characteristic of semi-arid and arid regions. A number of water bodies will support the characteristic aquatic flora and fauna of the Aravallis. It is relevant to note that in the Indo-Gangetic biogeographical region of the Indian subcontinent, the Yamuna river basin and the Aravallis, are two major landforms that provide ecosystem services and ecological goods.

Dr. C.R. Babu and Dr. N. Natesh helped set up the Institute of Bioresources and Sustainable Development (ISBD) at Imphal, Manipur. The objective of ISBD is to facilitate sustainable use of biological resources of Indo-Burmese region for the benefit of local communities using biotechnological tools and thus also ensure conservation of many threatened plants of socio-economic value.

Dr. M. Ahmedullah helped set up the Botanic Garden of Indian Republic (BGIR), which is the first conservation oriented botanic garden in the country. The BGIR will facilitate *ex situ* conservation and propagation of threatened plants of the country, serve as a centre of excellence for conservation research and training and also build public awareness through education about plant diversity and conservation needs. The Government of India approved the project proposal in January 2002 and the BGIR project begun in April 2002. Until now, no botanic garden with BGIR's unique mandate - the conservation of endangered plants through research and recreation of the different ecosystems of the country through cultivation of representative species, existed. BGIR is thus expected to address the conservation needs of the country. As part of the Investment in Nature Programme, the BGIR has

signed a Memorandum of Understanding (MoU) with Botanic Gardens Conservation International (BGCI), UK, under which BGCI will provide advice on policies, practices, procedures, technologies and international linkages. BGIR will play an active role in the international botanic garden community and in the development and implementation of the Global Strategy for Plant Conservation at the regional level.

An Action Plan for the conservation of *Meconopsis* of the Himalayan region is being revised in light of some recent field studies. An identification manual of Indian plants included in the CITES Appendices is in preparation. Dr. M. Ahmedullah is actively engaged in the Red List assessments of endemic plant species of the country and Red Listing is part of conservation and monitoring work being carried out at the Conservation, Research and Education Division of BGIR. Linked to the Red Listing program is the mapping of all endangered species of the country using a GIS platform. He is currently editing a volume of a Red Data Book of Indian Plants, which will be released early next year.

An ISPSG supported team from the Centre for Management of Degraded Ecosystems (CMDE), Delhi University, carried out an expedition to Mount Thullier, Great Nicobar Biosphere Reserve, during which 26 new distributional records of flowering plants were made.

The conservation activities of Prof. S.R. Yadav, Department of Botany, Shivaji University, Kolhapur, Maharashtra (India), in the 12 acres of botanical garden has resulted in the introduction of a number of threatened plants. Activities of the ISPSG group at Kolhapur include the development of a conservatory for certain plants of northern Western Ghats. Over 50 rare and endemic species such as *Dipcadi concanensis*, and *Amorphophalus commutatus*, are maintained in the conservatory. Over 200 endemic species have been introduced in the garden and studies on their propagation, cultivation and conservation are underway. A Critically Endangered grass species, *Hubbardia heptaneuron*, which was earlier presumed to be extinct, is being successfully grown and maintained in the garden. Similarly, *Frerea indica*, representative of a monotypic endemic genus, which is Critically Endangered, is being propagated in the garden. An assessment of endemic plant species of Maharashtra has been made and the field report is being drafted. An action plan for the conservation of the Ceropegias of the Western Ghats hotspot region has been initiated.

Prof. K.S. Manilal, our member from Calicut University, was awarded the Janaki Ammal National Award for Taxonomy by the Government of India in recognition of his meritorious work in plant taxonomy of the region. Prof. M. M. Bhandari has contributed to the establishment of

the Desert Biosphere Reserve in Rajasthan; his vast field knowledge on the threatened desert plants has been of great help.

The ISPSG is poorer by the sad demise of two eminent members: Prof. Salar Khan, who contributed immensely to the conservation of rare plants of Bangladesh, and Fr. (Dr.) K.M. Mathew, whose long years of sustained field work resulting in the monumental *Flora of Tamil Nadu Carnatic*, 1983, has been of tremendous help in assessing the status of plants of that region.

Problems with fundraising continue to plague the ISPSG. Plans for development of a fundraising program within the membership network are ongoing with the intent to help the Specialist Group publish the outputs of its conservation efforts. Extension of the existing conservation programs and development of more recovery programs for endangered species are being planned for the future.

C R Babu, Chair

M. Ahmedullah, Vice Chair

Japanese Plant

The Japanese Plant Specialist Group is now working in cooperation with the Threatened Species Committee of the Japanese Society of Plant Taxonomists (JSPT-TSC) to revise the Red Data Book of the Japanese vascular plants. The latest version of the book was compiled by the Group and published by the Environment Agency of Japanese Government in 2000. Within this volume, 1,665 taxa were assessed as threatened (564 as Critically Endangered, 480 as Endangered and 621 as Vulnerable) with an additional 20, five and 145 taxa listed as Extinct, Extinct in the Wild or Near Threatened. Assessment of extinction risk was done for approximately 2,000 candidate taxa using quantitative data on current population size and decline, gathered by about 400 amateur botanists. Since publication of the Red Data Book in 2000, the volume and the quantitative data contained has been widely referred to in Japan. In addition, status assessments extended to an assessment of the impact of the Japanese 2005 World Exposition project on vascular plants. In 2003, we again organized about 400 amateur botanists to gather data needed to revise the Red Data Book. This project is ongoing and new data is expected to be compiled by 2005.

Recently, the Group published *Red Data Plants* in which 841 threatened or near threatened taxa are illustrated with color photographs and brief species accounts. This book has successfully appealed to Japanese readers, informing the public on just how many Japanese vascular plants are threatened.

On a sad note, Dr. Ken Inoue, who served as chair of JSPT-TSC as of 2001, passed away last summer in Sachalin where he was killed by an accidental



electric shock while in the field. He was a well-known orchid biologist, and an active member of the Orchid Specialist Group. Since 1997, he chaired Orchid Network Japan, a NGO he organized to promote orchid conservation in Japan. The Group hopes to continue his enthusiasm for plant conservation by completing the revision of the Red Data Book, a project he initiated.

Tetsukazu Yahara, Chair

Korean Plant

The Korean Plant Specialist Group (KPSG), formed in 1997, works to support the conservation of Korean plant diversity for present and future generations, through interdisciplinary collaboration, and the use of applied conservation biology and professional development.

The KPSG is working together with the Korea National Arboretum in preparing the plant conservation strategy for the National Arboretum. The programs include recovery management for three threatened endemics, *Abeliophyllum distichum*, *Kirengeshoma koreana* and *Cotoneaster wilsonii*. Using funds from a variety of sources, including Yeungnam University, Ministry of Environment and the Chicago Zoological Society, the program is undertaking field and molecular studies to survey new populations and assess possibilities for species recovery. A major discovery was the location of a new population of *Abeliophyllum distichum*, in a previously unknown population near the original habitat which has since been destroyed. This is the largest extant population so far recorded. The KPSG is planning to survey the wild population and restore the original population using the DNA fingerprinting and modern restoration ecology techniques with support from the Ministry of Culture, Korea National Arboretum and the Jincheon-gun, local administration office. Another successful conservation project was undertaken for *Cotoneaster wilsonii*. This species is endemic to Ulleung Island, off the east coast of the peninsula. Like *A. distichum*, the species is conserved as a Natural Monument, but unfortunately the original habitat was totally destroyed. Also, for *Kirengeshoma koreana*, the KPSG team has developed a detailed distribution map with the habitat status and genetic analysis of this species. These three species exemplify the role of the KPSG in the conservation of threatened plants in Korea.

KPSG members participated in national seminars and workshops, with representation at the IUCN Sri Lanka regional meeting and the World Botanic Garden Congress at Barcelona in April 2004. The KPSG Newsletter has been published four times a year with support from the Korea Forest Service. It has helped the Korean readers with relevant information about Korean plant conservation and

has facilitated discussion with the Korea National Arboretum on jointly working to assess the status of plant species in Korea for the IUCN Red List.

KPSG members are widely recruited from academic institutions, botanical gardens and arboreta, government agencies such as the Ministry of Environment, Ministry of Culture and Ministry of Agriculture and NGOs including the Korean Association of Nature Conservation. Members act as the essential backbone or support for plant conservation in Korea. One of the most outstanding outcomes for the KPSG, our biggest success in promoting plant conservation in Korea, was the introduction of the interdisciplinary approach to plant conservation research and activities, as is outlined in our mission statement.

Yong-Shik Kim, Chair



Abeliophyllum distichum

Legume

Vacant

Lichen

The Lichen Specialist Group consists of a small team of lichen conservation biologists, whose mandate extends to about 16,000 species. We have no direct funding for our activities. During the past four years priority has been given to the IUCN Red List Programme. Lichens demand specific conservation strategies and approaches to monitoring owing to their symbiotic nature and the frequency of asexual reproduction. Key parameters of the IUCN Red List Criteria, such as the concept of "number of individuals" had to be clarified for lichens before the assessment of the Red List status of selected species could begin.

Two conferences related to lichen conservation biology were organized during this period – the first international conference on lichen conservation Biology (LICONs) held in Birmensdorf (Switzerland) and the international advanced research workshop on lichen monitoring (Limon) held in Orielton (Wales, UK). Both meetings have resulted in a collection of papers, where the methodology for undertaking Red List assessment at the global and regional level, conservation and restoration strategies for endangered populations and conservation strategies for threatened species and their habitats were discussed.

The first two lichen species were then documented for the 2003 *IUCN Red List of Threatened Species*. Both species, *Erioderma pedicellatum* and *Cladonia perforata* were intensively studied during the past few years, which allowed detailed documentation of their status. We are optimistic that we can document many additional taxa in the years to come, especially endemic species, for which the documentation can be completed with a single field trip.

However, one of our main concerns is for widespread taxa that are threatened in some but not in all parts of their area of occurrence. For these taxa, a global assessment of the Red List status would generally result in a Least Concern classification. However, the Red List status greatly

depends on the taxonomic status of the regional populations. The present species concept in lichens is mainly morphological, supplemented by the presence of secondary compounds, the so called lichen acids. Only recently have molecular studies revealed different evolutionary lineages and a high genetic differentiation among regional populations in the forest lichen species *Lobaria pulmonaria*. It is likely that more complex

taxonomic structures than presently known occur in a great number of widely distributed lichen species. A treatment of such regional populations at the species level would substantially influence the conservation status of many taxa, which suffered a tremendous decline in the 20th century due to air pollution and habitat transformation.

Christoph Scheidegger, Chair

Macaronesian Island Plant

Julia Perez de Paz, Chair

Madagascar Plant

The Madagascar Plant Specialist Group (MPSG), also known also as GSPM or Groupe des Spécialistes de Plantes de Madagascar, was established in January 2002. Professor Charlotte Rajeriarison, plant biology professor at the University of Antananarivo, was appointed to lead the group. Currently the group has around 40 national and international members from a variety of disciplines. Since its establishment, MPSG

has been very active, and despite the fact that it is the youngest group working on Malagasy plant conservation matters, its contribution has been felt and welcomed by the plant conservation community in Madagascar.

In 2002, despite political turmoil in Madagascar, the MPSG organized a workshop in March to define its mission. Furthermore, it was an opportunity for the Chair of the group to discuss links between the MPSG and the SSC as well as the IUCN Red List Programme. As a first priority, the group decided to focus on amending the Madagascar Plant Red List, published in 2001. This prioritization was based on available literature, which revealed two facts: first, it was clear that the 196 listed plant species did not represent the true number of threatened species in Madagascar, and second, the categories of some of the listed species were no longer accurate. Thus, in December 2003, MPSG submitted to the Red List Programme a list containing 28 previously listed species reassessed into new categories. More recently, 60 species were submitted to add to the list and another 128 species are still under review and will be submitted by April 2005.

In addition, the Group also validated an assessment submitted by Dr. Thomas Hearverman concerning Malagasy species of *Euphorbia*. The categories assigned to the 167 *Euphorbia* species were reviewed and accepted by the Group for inclusion in the *IUCN Red List of Threatened Species*.

More broadly, the MPSG has been collaborating with national and international conservation institutions working in Madagascar to make sure that all aspects of plant species conservation are considered. For example, in November 2002, the MPSG contributed to the production of the CITES Madagascar commercialized plant list for CITES COP 12. In January 2004, the group facilitated seeking approval from the Malagasy government to include Madagascar as one of the 10 country pilot zones for the Global Strategy for Plant Conservation plan. Currently, several members of our Group are involved in the process of putting in place additional conservation sites in Madagascar. This process, known in Madagascar as the Durban Vision, started right after the President of the Republic of Madagascar announced during the Park Congress in Durban, South Africa, that Madagascar's protected areas would be increased three-fold by 2008. In the near future, Madagascar will enter the third phase of its environmental plan, which is a national program supported by the World Bank. During this phase, MPSG will be part of the scientific group tackling issues regarding Madagascar's biodiversity, particularly advising CORE (Committee Overseeing Research in Madagascar) on decisions regarding Madagascar plant biodiversity conservation.

Charlotte Rajeriarison, Chair



Lobaria pulmonaria,
a model species in lichen
conservation biology



Medicinal Plant

The Medicinal Plant Specialist Group (MPSG) has made good progress on its objectives, particularly on developing projects, training opportunities, and sources of funding, restructuring the group and its membership, and establishing a website.

Projects and Funding

In October 2001, the Global Environment Facility (GEF), through the United Nations Environment Programme (UNEP), awarded a grant of USD 750,000 to TRAMIL to support a three-year Medium Size Project on *Biodiversity Conservation and Integration of Traditional Knowledge on Medicinal Plants in National Primary Health Care Policy in Central America and Caribbean*. The project was developed by enda-caribe, with technical assistance from the MPSG, and is coordinated by the MPSG Vice-Chair for Latin America, Dr Sonia Lagos-Witte.

With support from the Conservation Breeding Specialist Group (CBSG) and the SSC Red List Programme, the MPSG has contributed substantially to the organization and facilitation of two conservation assessment and Red List training workshops focused on priority medicinal plant species on the island of Hispaniola (Dominican Republic), and in the Central American countries Panama, Nicaragua, and Honduras. These workshops trained local scientists on the application of the *IUCN Red List Categories and Criteria* and the Conservation Assessment and Management Plan (CAMP) process. They resulted in the compilation of relevant information for Red List assessments, based on survey results, and on the knowledge and experience of the participants, and the assignment of IUCN Red List Categories to the priority species selected for assessment. In addition, priority conservation and resource management activities were identified, including a time frame and key partnerships.

Between 2000 and 2004, members of the MPSG in South Asia (especially D.K. Ved, Vinay Tandon, N.K. Bhattarai, and Madhav Karki) have led the organization and facilitation of six CAMP workshops for medicinal plants in the region, applying the IUCN Red List and CBSG CAMP processes. In India, these workshops are a central component of a project on *In situ* Conservation and Sustainable Utilization of Medicinal Plants. One application of this project is to identify priority medicinal plant species and habitat to be included in an existing network of Medicinal Plant Conservation Areas (MPCAs). You can find more information on the outcomes of these six workshops in our report on the SSC 2000–2004 Quadrennial CD-Rom.

Canadian members of the MPSG are currently collaborating on a project to document the status of medicinal plants in Canada as a contribution towards the Global Strategy for Plant Conservation. The principal outcome of the project will be a book that summarizes the broad range of scientific research, conservation, traditional and commercial use, policy, and education issues related to medicinal plants in Canada. This project expands on a paper presented by E. Small and P.M. Catling to the *Symposium on Biodiversity and Health: Focusing Research to Policy*, in Ottawa, Canada, October 2003. This symposium was co-sponsored by the MPSG with the Tropical Conservancy, numerous Canadian Government departments and agencies, the Canadian Museum of Nature, the International Development Research Centre (IDRC), the University of Ottawa, and the World Bank, amongst others.

Two significant global projects begun during this intersessional period are described in greater detail in *Species 41*. The first is the revision of the 1993 WHO/IUCN/WWF *Guidelines on the Conservation of Medicinal Plants*, a collaborative undertaking of MPSG on behalf of the IUCN (together with the SSC Wildlife Trade Programme), with the World Health Organization (WHO), WWF, and TRAFFIC. The 1993 *Guidelines* have provided a *de facto* Action Plan for the MPSG since the group was established in 1994, and are now being updated and revised through a broad international consultation process. Secondly, a review and revision of the CITES annotations for medicinal plants is underway, a consultancy undertaken by the MPSG for the CITES Secretariat to identify problems that may arise because of unclear annotations regarding medicinal plant species included in the CITES Appendices.

Membership and Group Structure

In 2000, Uwe Schippmann stepped down as Chair (a position he had filled with exceptional commitment). He remains an active member of the MPSG, particularly as Editor of the group newsletter, *Medicinal Plant Conservation*. The MPSG was reconstituted in 2000 with Danna Leaman as Chair. There are currently 80 members and the priority for this intersessional period has been restructuring the MPSG into regional sub-groups. A sub-group was established in South Asia in January 2001, led by Vinay Tandon as regional Vice-Chair. This sub-group has been able to meet twice, most recently in Kathmandu, Nepal in conjunction with a workshop on Wise Practices in the Conservation of Medicinal Plants of the Himalayan region organized jointly by WWF-UNESCO's People and Plants Initiative, the Medicinal and Aromatic Plants Program in Asia (MAPPA), IDRC, Canada, and the Ministry of Forest and Soil Conservation, HMG, Nepal. This meeting enabled the group to discuss progress on

Anticipate revised *Guidelines*
for the Conservation of
Medicinal Plants



the formation (with a focus on national representation) and work of the South Asia regional sub-group. Winrock International India has supported the sub-group in improving its networking capacity with a grant of USD 3,000 over two years.

A regional MPSPG sub-group in Southern America was launched at the VII Latin American Botanical Congress / II Colombian Botanical Congress held in November 2002. Regional Vice-Chair Sonia Lagos-Witte and MPSPG Chair Danna Leaman coordinated a Round Table on Medicinal Plant Conservation, and hosted an open satellite meeting of MPSPG members and others to discuss the role of an MPSPG sub-group for Southern America. In this region the focus is less on national representation, and more on linkages with a variety of research communities working on medicinal plant conservation and sustainable use. One key linkage is with the Latin American Botanical Association (Asociación Latinoamericana de Botánica), of which Sonia Lagos-Witte is the current President.

Communication

MPSPG now has a website, <http://mpsg.org>, designed by Dr Reza Azmi, an MPSPG member who manages a network supporting natural history research and eco-tourism and community conservation efforts in Malaysia. Relevant publications of MPSPG members and MPSPG publications including our newsletter, *Medicinal Plant Conservation*, are found on the site.

Future Plans

The MPSPG plans to establish regional sub-groups in the Pacific, Europe, North America, Southeast Asia, North Asia, and Africa and identify regional Red List Authorities for medicinal plants, in collaboration with other SSC Specialist Groups. We will begin an evaluation of existing Red List assessments for medicinal plants, and expansion of training and assessment to other regions. We also anticipate the publication and distribution of the revised *Guidelines for the Conservation of Medicinal Plants*. Finally, we will develop practice standards and performance criteria for sustainable use of medicinal plants, a project currently being developed in collaboration with the IUCN Canada Office and WWF Germany, with support from Bundesamt für Naturschutz, Germany.

Danna Leaman, Chair

Vinay Tandon, Vice-Chair South Asia and

Sonia Lagos-Witte, Vice-Chair Latin America

Mediterranean Island Plant

Les activités du Groupe de Spécialistes des Plantes des Îles Méditerranéennes (GSPIM) se sont essentiellement focalisées sur la campagne "TOP 50" du Comité pour la conservation des plantes de la Commission de la sauvegarde des espèces (CSE). Le GSPIM a en effet été sélectionné pour mettre en oeuvre un projet pilote afin de lancer le concept du "TOP 50" qui sera ensuite étendu à d'autres groupes de spécialistes.

La campagne "TOP 50" des plantes menacées est un outil de communication pour la sauvegarde des plantes confrontées à un risque majeur d'extinction au niveau mondial. Elle a pour but d'informer et de sensibiliser le public, les professionnels de la conservation et les décideurs. La mise en valeur d'une sélection de 50 espèces représentatives permettra la prise de conscience du problème de la conservation des plantes ainsi que la sensibilisation aux actions nécessaires à la sauvegarde de milliers d'espèces à travers le monde.

Le GSPIM est sur le point de finaliser une brochure qui contiendra les fiches descriptives de 50 espèces endémiques menacées dans les îles méditerranéennes. Chaque fiche, illustrée par une photographie ou un dessin, comprendra une description de l'espèce ainsi que des informations sur son statut, sa répartition, son écologie, les menaces qui pèsent sur elles, les causes de son déclin, les actions de conservation en cours ainsi que celles requises pour la sauvegarder. Cette brochure contiendra également des informations générales sur la flore des îles de la Méditerranée, sur les principaux types de menaces ainsi que sur les outils et les mesures de conservation.

La plupart des données de base ont été transmises bénévolement par la trentaine de membres du GSPIM. Elles ont été compilées par deux stagiaires de la CSE encadrées par Wendy Strahm, responsable de la flore à la CSE.

Cette brochure sera publiée cette année en anglais puis rapidement traduite et éditée dans différentes langues méditerranéennes dans le but d'être largement diffusée. Son contenu sera également disponible sous la forme d'un CD-Rom ainsi que sur le site internet de la CSE.

Ce projet est financé par la fondation MAVA qui soutient également trois projets de conservation sur le terrain dans le but de concrétiser les actions proposées dans les fiches du "TOP 50". Ces actions de conservation concernent les espèces suivantes: *Horstrissea dolinicola* en Crète, *Apium bermejoi* et *Naufraga balearica* dans les Baléares ainsi que *Biscutella didyma* en Corse. D'autres actions de conservations seront entreprises au fur et à mesure que des moyens financiers seront trouvés.

Le GSPIM participe activement au programme Important Plant Area (IPA) de Plantlife International en Méditerranée, en collaboration avec le Centre UICN de coopération pour la Méditerranée et la CSE. L'objectif de ce pro-



gramme est d'identifier les sites les plus importants pour les plantes, puis de veiller à ce qu'ils bénéficient de la protection voulue et soient gérés de manière appropriée. Un atelier préliminaire a été organisé en 2003 à Malaga qui a réuni des représentants de nombreux pays méditerranéens. Il est suivi depuis 2004 par des ateliers nationaux dans le but de lancer le processus dans les pays méditerranéens. On peut souligner le rôle précurseur et exemplaire de la Turquie qui a terminé l'identification de ses Zones importantes pour les plantes.

Enfin, le GSPIM continue d'évaluer le degré de menace des plantes insulaires méditerranéennes dans le but d'intégrer leur statut dans la base de données des Listes rouges de l'IUCN.

Summary

The Mediterranean Plant Specialist Group's activities focused on the TOP 50 campaign of the SSC Plant Conservation Committee. The Group was selected as the first pilot case for initiating this campaign. The TOP 50 campaign is designed as a communication tool to promote the conservation of threatened plants through informing the public, conservation professionals and decision-makers. Selection of a top 50 representative species will focus awareness on the threats facing plants and the actions needed to conserve them globally. The Group is about to finalize an information booklet describing 50 threatened species endemic to the islands of the Mediterranean. Aside from information on the species highlighted, the pamphlet will have general information on Mediterranean island flora, including the principle threats and proposed conservation actions. We anticipate publication of the booklet, and the accompanying TOP 50 website and CD-Rom, by 2005. The Mediterranean islands TOP 50 project is supported by the MAVA foundation, which is also supporting three conservation projects with the intention of implementing the actions proposed by the TOP 50 project.

The Group is also active in the Important Plant Areas (IPA) program, whose objective is to identify sites important for plant conservation. A preliminary workshop was held in 2003, providing the opportunity for representatives of Mediterranean countries to meet and discuss the initiative. This has been followed with country based workshops, launching the initiative at a national level. A leader in this initiative is Turkey, who has identified important plant zones nationally. The Group also continues to assess Mediterranean island plants for the IUCN Red List Programme.

Bertrand de Montmollin, Chair

North American Plant

Peggy Olwell, Chair

Orchid

The Orchid Specialist Group (OSG) celebrates its 20th anniversary this year and now has more than 200 members from over 50 countries, including many leading specialists, each with expertise in various disciplines that are vital in implementing effective orchid conservation strategies. More than 150 organizations and societies with conservation interests are represented.

The OSG developed a detailed five year Strategic Plan in 2000. Our mission is "to assist in international efforts to conserve plant diversity, by providing technical support and encouragement for the development and execution of programs to study, document, save, restore and manage wisely orchids and their habitats." The group believes that it has, and continues to achieve the goals laid out in the plan. In fact, the last two years have been particularly productive with many achievements as a direct result of the hard work and enthusiasm of its members. Although it works as a whole to achieve its objectives, the OSG has a number of regional and thematic teams which drive forward its agenda. The members of each of the groups work specifically on issues pertinent to their group.

One of the most significant achievements has been the development of the OSG website (<http://go.to/orchid-specialist-group>). Thanks to the hard work of Graham Smith and Ian Parsons our web developers, who donate their time and skills free of charge, the excellent OSG website went live in 2003, and most pages are available in French and Spanish as well as English. The website continues to evolve, and currently the group is striving to publish profiles on each of its 200 members.

The OSG *Orchid Conservation News* (OCN) newsletter has been published four times, the latest edition was published on the OSG website in May this year. A fifth will appear later this year. OCN contains a variety of articles contributed by OSG members, including reports on events, meetings, workshops as well as scientific papers which focus particularly on orchid conservation, and notices of upcoming events.

Another major achievement for the OSG has been the publication of *Orchid Conservation*, thanks to the determined hard work of its authors and editors. This book resulted from the first International Orchid Conservation Congress in 2001, and provides a comprehensive account of currently available techniques for integrated orchid conservation. Chan Chew Lun of Natural History Publications (Borneo) is gratefully thanked for the superb production which includes numerous colour illustrations throughout the text.

The OSG has successfully organized two International Orchid Conservation Conferences (IOCC) in the past three years. The conferences have been a successful way of gathering members of the OSG and others interested in orchid conservation from all over the world to exchange infor-



mation and to learn. The latest conference was a resounding success, attracting over 130 participants from 22 countries and from a variety of backgrounds. It was also encouraging to see such a high attendance of students, indicating that a new generation of orchid conservationists are already carrying out essential scientific investigations. These conferences provided the invaluable opportunity for the thematic and regional groups within the OSG to meet face to face and discuss activities past, present and future. The third IOCC is being planned for late 2006 or early 2007.

Marilyn Light of the University of Ottawa, Canada is a particularly active and enthusiastic member of the OSG, and is Chair of both the Education Committee and the North American regional group (NAROSG). The activities of individual members of NAROSG include population and species surveys, development of long-term population studies, international collaborative projects, funding projects and consultation. Over the 2002-2003 period, the Chair has prepared letters to support requests for project funding although only one of these has been successful so far in securing funding.

The Education Committee currently has three members, Greg Steenbeeke (Australia), Yoshitaka Ueda (Japan) and Marilyn Light (Canada). A Code of Conduct for hobbyists has been revised by Marilyn and she has responded to queries concerning the public attitude to conservation. Additionally, this committee developed *Communication beyond groups: Conservation through Education*, which was published in *Species* 40.

The *In situ* Group, chaired by Raymond Tremblay of the Department of Biology, Puerto Rico has also been particularly active. The group has its own website and newsletter, of which three editions have been produced. The University of Puerto Rico paid for the publishing costs and all of the newsletters have been sent to all of the orchid associations registered by the American Orchid Society, which included more than 250 associations. The group has also carried out various workshops on population dynamics, which have been extremely well received.

The *Ex situ* Group, under the Chair of Phil Seaton is currently working on a book - *Micropropagation and Seed-banking*, which will replace Peter Thompson's booklet, first published in 1972. It will be a water resistant manual and will lie flat when open, perfect for use in the laboratory. Phil Seaton, Hugh Pritchard and Margaret Ramsey are currently completing the manuscript.

The Indian Subcontinent Regional Group has held four conferences, in South India, Deragam, Butan and Nepal. The Nepali government has even issued a set of stamps bearing the OSG logo, which is a magnificent achievement. The Southeast Asian Regional Group has helped the

Chinese government to produce a conservation strategy, which advocates using an integrated approach, and it has been adopted by the Chinese General Assembly.

In 2001, the Japanese branch of the OSG was started by six specialists in taxonomy, propagation technology, ecology, as well as officers for the Ministry of Environment. A major problem for Japanese orchid species is the reintroduction of orchid plants to the field. Therefore, the Japanese OSG has discussed the issues and produced guidelines for reintroduction for hobbyist groups.

One of the other major tasks already underway is establishing a firm funding base for the OSG. As a result of Shelagh Kell's (former OSG Executive Officer) exploration, the Group decided to establish a charitable organization and the OSG hope to announce the establishment of Orchid Conservation International (OCI) shortly. A small development team have driven OCI forward over the past few months and once the charity is up and running, there will be an official launch. In the meantime, funds have already been raised by the OCI Development Team, particularly through the efforts of Phil Seaton.

Although much has been achieved by the OSG there is still plenty to do and the future of the group looks bright and busy. The group will be reconstituted in November this year, with the aim of renewing membership and strategically added to it.

Currently a disproportionate number of members live in the temperate world compared to the tropics, which is in direct contrast to orchid distribution. We need to address this issue, especially as the group needs active members in these countries.

The key will be to build on our success and keep up our enthusiasm for orchid conservation.

Dr Phillip Cribb, Chair

Lucy Ellerbeck, Secretariat

The future of the Orchid Specialist Group looks bright and busy



Palm

The Palm Specialist Group (PSG) focuses on promoting the conservation and sustainable use of palms, one of the defining plant groups of the tropics. Palms are among the most familiar of tropical plants and are a recognizable growth form for many people. Today, over 3,000 species of palms have been described, and new species are still being discovered in South and Central America and island hotspots such as Madagascar. The PSG recognizes palms as a test case for developing biodiversity assessment protocols for tropical trees given their economic, ecological, and evolutionary importance.

During the last quadrennium the PSG has worked in supporting and encouraging the Red Listing of various species of palms including reviews of threatened palms from China, Costa Rica, Colombia, Cuba, Ecuador, Hawaii, Madagascar, and the Mascarenes. In addition, the Specialist Group has worked with conservationists in Hawaii undertaking a conservation status review of the genus *Pritchardia*.

The PSG is assessing the status of cultivated palm collections as a contribution to the Global Strategy for Plant Conservation; a survey was undertaken in association with 20 major palm collections around the world.

PSG is supporting recovery management of threatened palms such as the threatened *Pseudophoenix sargentii* populations in Florida that are being managed by Fairchild Tropical Botanic Garden (www.fairchildtropicalgarden.org). In addition the PSG has worked with trade groups to assess the CITES listing of threatened palms. It has provided practical guidance to support the management of threatened palms in Southeast Asia, the Mascarenes and the Caribbean.

The PSG has contributed to the development of relevant conservation policy including the IUCN/SSC policy document on *ex situ* conservation. We have worked on building capacity for palm conservation and science. Students from various tropical countries are pursuing palm conservation related PhD thesis projects with PSG members at several US and European institutions including the New York Botanical Garden, Fairchild Tropical Garden/Florida International University, and the Royal Botanic Gardens, Kew.

The PSG is preparing for the next edition of the Palm Action Plan and a global assessment of palm conservation needs. Using the Global Strategy for Plant Conservation as a template, the group is preparing a global review of palm conservation needs.

Phylogenetic studies based on morphological and molecular data have been published by several Specialist Group members with a number of these studies including rare or endangered species of palms. A team led by John Dransfield (Royal Botanic Gardens Kew) and Natalie Uhl (Cornell

University) is working on a revision of *Genera Palmarum* which will make use of the increasing level of phylogenetic resolution now available for the family. Conservation genetic studies on *Chamaedorea*, *Phoenix*, *Pritchardia* and other genera of palms are currently underway and promise to add significant insights into the conservation status of these taxa.

William Hahn, Chair

Michael Maunder, Red List Authority Focal Point

Philippine Plant

The Philippine Plants Specialist Group (PPSG), formed in 2000, is composed of botanists, conservationists, academicians, public officials and plant enthusiasts from the Philippines and abroad who are interested and actively involved in conserving the threatened plants of the Philippines.

Some of the primary objectives of the PPSG are to review the conservation status of Philippine plants currently in the IUCN Red List of Threatened Species and evaluate the conservation status of other threatened plants for inclusion in the Red List. To that end, the Group acts as the SSC/IUCN Red List Authority for plants of the Philippines. We also serve as an advisory group on matters pertaining to plant conservation in the country, in partnership with the Philippine Plant Conservation Committee, Department of Environment and Natural Resources, National Museum, and other organizations. We identify conservation priorities and develop appropriate strategies and tools, including Action Plans; we coordinate with national and international organizations in promoting and disseminating information on the importance of plant conservation; and we serve as a focal point in the establishment of Important Plant Areas in the Philippines, in coordination with SSC, IUCN, national government agencies and international organizations.

Since its formation the PPSG has undertaken several projects and activities. We have conducted a training workshop on Red Listing of Threatened Plants and Animals in the Philippines using the IUCN Criteria. Organized by Dr. Madulid, the workshop attracted more than 50 participants. It was co-organized by the Protected Areas and Wildlife Bureau and received support from the IUCN Regional Office in Asia, WWF-Philippines, National Research Council of the Philippines, Haribon foundation and Conservation International Philippines. The workshop also received technical assistance from IUCN, IUCN Asia Program, and ZOO (India).

PPSG Expert Sub-groups for algae, orchids, palms, ferns, gymnosperms, and others were formed and will evaluate and review the conservation status of the species under their remit. Sub-group Chairs are now in the process of gathering data for evaluation and assessment.

Dr. Madulid, as chair of the PPSG, organized a training workshop on Important Plant Areas in partnership with the ASEAN Regional Center for Biodiversity Conservation. The workshop was attended by 25 participants from nine countries in the ASEAN region. Proceedings of the workshop will be published by the end of the year.

The Orchids Expert Sub-group headed by Dr. Maribel G. Agoo assessed more than 18 species of threatened orchids and submitted the list to the Red List Programme in May, 2004.

PPSG helped organize a consultation workshop, National Summit on Philippine Teak, attended by stakeholders, local officials and scientists interested in the conservation of Philippine teak (*Tectona philippinensis*).

Supported by Flora and Fauna International's Flagship Species Program, and with help from Dr. Sara Oldfield, Dr. Madulid was able to conduct field investigation to study the phenology, flower biology, distribution, and population size of the plants in San Juan, Batangas on April, 2002. Seeds were collected from a population in Hugom, Batangas.

In addition, the Group conducted field investigation of the Philippine date palm (*Phoenix loureiroi*) in Batanes and organized a consultation workshop among local stakeholders, local officials, teachers, and conservation NGOs to promote the conservation and sustainable use of the date palm. The research involved a study of the distribution of the species on the islands of Sabtang and Itbayat, and the biology and ecology of the species. Dr. Madulid received financial assistance from the Chicago Zoological Society for this project.

Field surveys of *Rafflesia speciosa*, a rare and endemic species in Panay Island, were conducted to assess their conservation status and propose measures for its protection. The species is about 40-75 cm in diameter with a wart pattern similar to *R. keithii* and ramenta structure similar to *R. patma*. It is however distinct from these two species based on the absence of white spots on the inner surface of the diaphragm. The species, occurs at different stages of its life cycle in Sibalom Natural Park, San Remigio, and in the southern to the central parts of Antique as well as western Iloilo.

PPSG helped in the development of a Strategy and Action Plan for Plant Conservation in the Philippines and the formation of a National Committee on Plant Conservation by the Department of Environment and Natural Resources.

The PPSG and Biodiversity Information Center, Plants Unit, hosted a round table discussion on the issues and application of CITES. After a short presentation on CITES and plants, participants discussed the various implications of the Philippine Wildlife Act on CITES implementation,

accreditation of nurseries, designation of a rescue center for plants, CITES export permits, and research permits.

You can find more information on our website, hosted at www.pnh.com.ph.

Domingo A. Madulid, Chair

Pteridophyte

In July 2001, the Pteridophyte Specialist Group, in conjunction with the British Pteridological Society, held a symposium on fern conservation, Fern Flora Worldwide: Threats and Responses. The event, attended by over 80 people from 20 countries was a great success. Thirty-eight papers were read and 34 posters presented. Many of the posters described fern conservation in various parts of the world. Papers elaborated on regional and national projects in hand or proposed, and several demonstrated the fundamental use of molecular techniques for conservation. Several papers described how major databases were being programmed to guide conservation priorities. The symposium was a rare opportunity for all Specialist Group members to meet.

Pteridophyte Specialist Group members have reviewed the IUCN Red List status of *Asplenium schweinfurthii* from the Soqotra Archipelago, *Elaphoglossum* spp. from St. Helena, and various species of Chinese ferns. Regional and tree fern specialists also provided input into the status of several tree fern species for potential shortlisting for the CITES Significant Trade review process.

Tom A. Ranker and Clive Jermy, Co-Chairs

The Philippine Plant Specialist Group is hard at work since forming in 2000



South Atlantic Island Plant

The South Atlantic Island Plant Specialist Group (SAIPSG), which links the disparate, far-flung and remote Islands (including two of the world's most remote inhabited islands) of St Helena, Ascension, Tristan da Cunha and the Falkland Islands, was constituted in October 2002 with the aims of assessing the status of the floras, identifying conservation priorities, providing support for local action and sharing and disseminating knowledge and experience to promote conservation of the floras. The islands' biodiversity face many pressures from tourism, invasive alien species and development.

The Falkland Islands are home to a native vascular flora of 171 species. Grazing and agricultural practice over the last 200 years has altered the entire Falklands ecosystem with the result that many species of native herbs and small flowering plants have declined. Research by Broughton and McAdam in 2002 led to a substantial increase in our knowledge of the status and distribution of this flora. The first Red Data List for the Falkland Islands flora recognized 23 species as being threatened and whilst it was published prior to the formation of the SAIPSG, the assessments were later verified by the Red List Authority.

Ten species of endemic plant; six ferns, two grasses and two flowering plants are known to have existed on Ascension Island. The decline of Ascension's indigenous flora, and the extinction of four of the 10 species, is attributed to the introduction of alien species. The Conservation Office, which was formed in 2001, is working towards ensuring that the remaining six species do not meet the same fate. Attempts to conserve them include propagation, protection from grazing in the wild, removal of plants that are out-competing endemics, increased public awareness, annual population census, and exploratory trips to attempt to discover new colonies. Assessments for all 10 species were made for the 2003 *IUCN Red List of Threatened Species*.

St Helena, like Ascension is one of the few places in the world where we are actually witnessing species going extinct. St Helena was home to 49 endemic species of plants. Six have become extinct since settlement of the Island in 1659 and one, the St Helena Olive (*Nesiota elliptica*) only last year. Two species are extinct in the wild and seven are Critically Endangered. Twenty species were assessed for the 2003 Red List and a further four for the 2004 Red List. Today on St Helena, whilst habitat destruction and modification no longer take place on the scale they once did and herbivore pressure is significantly reduced, the conservation of the flora is primarily threatened by alien species, habitat fragmentation and genetic and reproductive problems associated with low population numbers.

Tristan da Cunha, is the most remote Island of this group. Research by Gerhard Jakubowsky, from the University of Vienna, Institute of Botany,

Systematics and Evolution of Higher Plants, primarily for genetic analyses led to the first Red List assessments of 17 species in 2003.

The Red List assessments have provided a springboard for the promotion of the floras on a local and international stage. Their plight was highlighted in the November 2003 Red List press release and the small number of requests for the use of photographs that ensued will have spread the word still further. Reaching out to the wider conservation communities is important if we are to raise awareness and attract new sources of funding. Local resources available for plant conservation, both in terms of personnel and funding, are limited. Linking into the IUCN network provides valuable information and experience and, while we have not yet been successful in securing new sources of funds, perhaps more importantly for us, the formation of the SAIPSG has established contact and communication between the islands enabling a sharing of experiences and diminishing feelings of isolation.

Rebecca Cairns-Wicks, Chair

Southern African Plant

A great deal of plant conservation work is being undertaken in Southern Africa, and the Southern African Plant Specialist Group has remained the same network as the Southern African Botanical Network (SABONET) for the past quadrennium. Christopher Willis initially led the group, and Janice Golding became Chair thereafter. Janice has since moved on, although Janine Victor continues to serve as the Red List focal point for the group. Wendy Foden, a member of the group, reports on the many activities that have taken place in the region.

While Southern Africa remains one of the poorest regions on the planet, its natural assets are amongst the greatest in the world. Collectively, its 10 countries (Namibia, Botswana, South Africa, Zimbabwe, Mozambique, Swaziland, Lesotho, Zambia, Malawi and Angola) contain over 30,000 plant species, including almost half of the world's succulent flora. Approximately 80% of these species are endemic to the region. Conserving Southern Africa's exceptional plant biodiversity assets involves addressing five major challenges.

Conserving biodiversity in priority areas

Through the production of a regional Red Data List, SABONET has highlighted crucial conservation priorities and established a network of botanists in each country. Following from this, South Africa launched the Threatened Species Programme which will update the country's Red Data List every five years and deals specifically with sustainable use, threat and policy issues relating to plant biodiversity.



Southern Africa's two biodiversity hotspots have been specifically targeted for conservation action. The Cape Action Plan for People and the Environment strives to conserve and restore the natural environment of the Cape Floral Kingdom, while delivering significant benefits to the people of the region. The Succulent Karoo Ecosystem Plan targets the Succulent Karoo Hotspot, a previously under-conserved and under-funded region. The Succulent Thicket biome, which overlaps with the soon-to-be-proclaimed Pondoland-Tongaland hotspot, is the focus of the Succulent Thicket Ecosystem Plan. Each of these initiatives has involved both scientific experts and as many as 300 local stakeholders. Data- and target-driven conservation planning methods have been used to systematically identify priority conservation areas. This pioneering participatory approach has enabled the development of exceptional conservation strategies, though the challenge continues as the projects' implementation phases commence.

Key members of the Southern African scientific community met in Pretoria to discuss the implementation of the Global Plant Conservation Strategy. Participants agreed that the identification and conservation of Important Plant Areas (IPA's) is a priority in the region, but the lack of current, consistently scaled vegetation mapping is a problem. South Africa has produced a National Spatial Biodiversity Assessment as part of its National Biodiversity Strategy and Action Plan and this serves as an excellent compliment to the IPA selection process in the country, as well as integrating conservation planning with priorities for other organisms.

Using biodiversity resources sustainably

Community Based Natural Resource Management (CBNRM) has received excellent support and, in many cases, past lessons have been integrated with innovative solutions to local challenges. Examples include Namibia's ecotourism projects and partnerships between South African authorities and local communities to create Community Nurseries supplying the medicinal plant trade and to manage ecotourism on land reclaimed by communities following Apartheid land confiscation. The political turmoil in Zimbabwe has sadly caused the decline of the majority of Zimbabwean CBNRM projects.

Strengthening governance, institutional and individual capacity

The Southern African community has placed large emphasis on the development of skills in the region, recognizing that in order to conserve biodiversity, individuals must have the capacity to do so. A significant portion of conservation funding is being directed to creating skills and developing specialist scientists and conservationists, particularly from previously disadvantaged groups. In

several countries, environmental education has been introduced to the school syllabus, though access to natural and conservation areas remains a problem throughout the region, thereby hampering the recruitment of natural scientists and particularly botany students from poorer socio-economic groups.

The Custodians of Rare and Endangered Wildflowers (CREW), a project of the Threatened Species Programme, is involving private landowners, community interest groups and underprivileged communities in South Africa in the monitoring and conservation of rare and threatened plants in their local areas. This volunteer-based approach has generated a large amount of awareness and enthusiasm about threatened plants, while providing valuable data, and it is hoped that CREW and similar projects will expand in the future.

All of the countries in the region are signatories to the Convention on Biological Diversity (CBD), and are using these global targets to guide national strategies. Southern Africa's IUCN Presidential Nominee, Valli Moosa, was responsible for the development of South Africa's Biodiversity and Protected Area Acts. These recently-signed acts have been welcomed as comprehensive and progressive and they empower local government and nongovernmental organizations, including the newly formed South African National Biodiversity Institute (SANBI) and public stakeholders to action ambitious conservation plans.

Adapting to climate change

International research by the South African National Botanical Institute suggests that 10–35% of taxa are 'committed to extinction' by 2050. A recent study of the impacts of climate change on *Aloe dichotoma*, a giant desert succulent occurring in Namibia and South Africa, shows that climate is impacting on Southern African flora, causing species ranges to shift pole-wards and upwards. South Africa and Namibia have prepared country studies on the potential impacts of climate change and are incorporating these into conservation planning. Detailed assessments are lacking, as yet, for the Southern African subcontinent and for each of the region's other countries.

National Botanical Gardens, within the subcontinent and internationally, are playing an important role in the *ex situ* conservation of threatened Southern African plants. The Southern African branch of Kew's Millennium Seed Bank are cryogenically storing a representative subsample of Southern African plants both in Kew and in their country of origin. Likewise, the GeneBank and Plant Genetic Resources projects have initiated the collection and storage of genetic material representative of every plant genus on the subcontinent. While these initiatives endeavor to provide a safeguard against the extinction of our flora,



South Atlantic Island Plant

insufficient attention is being paid to adapting current conservation practices and to mitigating the region's contribution to climate change.

Mainstreaming biodiversity

Even though biodiversity provides invaluable ecosystem services to the subcontinent, biodiversity conservation is often regarded as a luxury and private landowners are indirectly discouraged from conserving natural vegetation by perverse financial incentives. The IUCN- South Africa and The Botanical Society of South Africa are launching a Landowner Incentives Working Group to assist the South African government to implement environmentally sound financial policies, including providing tax incentives where important conservation areas are conserved. This will hopefully provide a template for the application of these methods throughout the subcontinent.

As well as direct threats to plant biodiversity, the Southern African conservation community battles poverty, poor infrastructure and a shortage of expertise and funding. Underpinning each of the region's conservation goals remains the aim to convey the benefits of our exceptional biodiversity assets to all inhabitants of the region. Despite the great challenges Southern African plant conservation encounters, considerable ground has been covered over the last four years and much of this will form the foundation of sound conservation over the next four years and for decades to come.

Wendy Foden, Member

Temperate South American Plant

The last years have been unstable for the countries of the region and plant conservation activities have been, in general, seriously limited due to severe financial restrictions. Nevertheless, individual or institutional actions undertaken by the Temperate South American Plant Specialist Group (GEPSAT) members have been achieved.

Argentina

Several Group members affiliated to research institutions have conducted studies specifically aimed at determining the degree of threat for native plant species. Basic research is being conducted on the impact of exotic woody species on protected areas of the Pampean grassland. A database on biological invasions in Argentina has been created as a result of international cooperation (www.uns.edu.ar/inbiar).

Actions were taken to develop *ex situ* conservation practices in the country. Among them, the creation of the Pillahuincó Botanic Garden aimed to educate the general public on the value of biodiversity, and encourage research on cultivation methods and conservation techniques for *ex situ* conservation of Pampean threatened plant species. The Oro Verde Botanic Garden, whose main targets

are education and research for conservation, has been declared of "legislative interest" by the province of Entre Ríos and selected by Botanic Gardens Conservation International (BGCI) to participate in the Investing in Nature International Programme. The Ezeiza Garden continues to increase its collection of Argentine and Uruguayan geophyte germoplasm, and pollination studies are conducted, jointly with the Facultad de Agronomía de Buenos Aires, as a way to alliviate habitat destruction associated with the growing demand for arable lands. Members participated in the Workshop on Conservation in Botanic Gardens organized by the Red Argentina de Jardines Botánicos and BGCI.

GEPSAT members participated in numerous activities in relation to formal and informal education and building awareness about threatened plants. Students and the general public were informed about the Global Strategy for Plant Conservation and the Convention on Biodiversity, and the importance of conserving the flora.

Group members have taken part in the preparation of legal tools such as the National Biodiversity Strategy and the national Flora Law,



Pavonia cymbalaria,
endemic to the Pampas

both still in progress. Legal actions were promoted by NGOs, with the advice of Specialist Group members, in defense of the integrity of natural ecosystems. The action resulted in the suspension, by order of the judge, of the native Entre Ríos forest destruction, which marks an important precedent in the country.

Chile

The contribution of Chilean scientists to conservation has been significant and important work has been done in relation to plant species and ecosystem conservation. Among others, the following electronically accessible contributions deserve special mention. The Libro Rojo de la Flora Nativa y de los Sitios Prioritarios para su Conservación: Región Coquimbo, preparado en la Universidad de La Serena (www.mnhn.cl/Botanica2/index.html) and Flora de Chile Mediterráneo y su Estado de Conservación (www.uls.cl/biologia/conaf/lrojo)

The creation of the Chagual Botanic Garden, aimed to protect Chile's Mediterranean vegetation, is, perhaps, the country's most ambitious project in relation to *ex situ* conservation (www.chlorischile.cl/portada8.htm). Members of the Group have also taken important action in raising awareness of projects such as the creation of a bank of germoplasm to conserve the regional flora (www.chlorischile.cl/portada9.htm).

Paraguay

Basic research about the floristic diversity of the country continues to be done on species and ecosystems. The conservation status of native species is being evaluated. In addition to routine work done at the higher education institutions such as the Universidad de Asunción, the First National Forum of Wetlands counted with the participation of Group members (www.ramsar.org/outreach_Paraguay_meeting.s.htm). Group members associated with official agencies have made a significant contribution to the preparation of the National Biodiversity Strategy and Action Plan (www.biodiv.org/doc/world/py), and participated in other international workshops.

Uruguay

Basic research on the flora and woody vegetation of the country, relevant to conservation, continues. In the Facultad de Agronomía, Universidad de la República, studies on grassland ecosystems (phytogeography, grazeland ecosystems) are emphasized. In official research centers such as UDELAR, the Museo de Ciencias Naturales and the Jardín Botánico de Montevideo and in NGO activities, short courses and workshops on conservation issues (dendrology, native flora) were regularly offered. Specialist Group members have taken part in basic studies on protected natural areas, including state and private forests and pro-

tected wetlands run by the Ministerio del Medio Ambiente. Members have also collaborated with the inclusion of new native species into the Bank of Germoplasm of the Faculty of Agronomy (UDELAR).

The GEPSAT has continued with the task of writing a general overview of plant conservation in Temperate South America, attempting to include in a regional Action Plan, the strategies needed to prevent biodiversity loss. So far, the revision of the Action Plan has involved over 50 scientists, public servants and conservationists from the four countries of the region plus the Brazilian state of Rio Grande do Sul.

It is important to emphasize that all the activities carried on by the GEPSAT reflect the personal efforts of the individual members or their mother institutions. The Group has no independent financial resources for planning or implementing conservation projects for the plants in the region.

Read our full report in English and Spanish on the SSC 2000–2004 Quadrennial CD-Rom.

Carlos Villamil, Chair

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Reptile & Amphibian Specialist Groups

Crocodile

The Crocodile Specialist Group (CSG) consists of 392 members with diverse expertise in different aspects of crocodilian conservation, management and sustainable use. The Group is organized into ten regional and thematic subgroups, each coordinated by a Vice Chairman and Deputy Vice-Chairman. A recently created Veterinarian subgroup, under the direction of Dr. Fritz Huchzermeyer has provided a forum for veterinary and husbandry specialists within the CSG. The Deputy Chairs, Vice-Chairs and Deputy Vice-Chairs form the CSG Steering Committee which usually meets at least once per year, primarily during the biennial CSG Working Meetings. A full time, paid CSG Executive officer (Dr. Perran Ross) has been in place for most of the quadrennium, coordinating the CSG's activities from the University of Florida, USA.

The CSG is supported financially by donations from a wide variety of members and sources. Annual revenues of USD 65,000–80,000 have been donated for general operations. This has been augmented by special project grants, with the annual income exceeding USD100,000 in some years. An assessment of the value of voluntary work carried out by CSG members for the IUCN suggested a figure of USD 0.5 to 2 million per year.

The CSG continues to publish a quarterly newsletter, which is distributed to all members, with over an additional 500 sent to interested individuals and institutions worldwide. This magazine has become a major forum for the rapid dissemination of news, views and discussion on crocodilian conservation, management and sustainable use around the world.

The 16th and 17th Working Meetings of the CSG were held in 2002 and 2004. The latter, in May 2004, attended by 230 participants from 34 nations including David Brackett, SSC Chair, who took the opportunity to award Professor Harry Messel with the prestigious Sir Peter Scott Medal, for his more than 30 years of dedicated service to conservation action with crocodilians.

During the 17th Working Meeting, the current Chair (Professor Harry Messel) announced he would be retiring in November and the current Executive Officer (Dr. Perran Ross) announced he would also be standing down. These are significant changes within the CSG, as this leadership team has operated for 15 years. The Steering Committee elected Dr. Grahame Webb as Chairman-Elect and the executive office will shift to Darwin, Australia.

The CSG website (www.flmnh.ufl.edu/natsci/herpetology/crocs.htm) hosted by the Florida Museum of Natural History has continued to operate throughout the quadrennium. It includes general accounts of the Group's activities, a crocodile photo gallery, the revised Action Plan, recent newsletters and is the entry point for a wide network of linked sites on crocodilians.

The Group has begun a number of new initiatives during the quadrennium. In 2002 a CSG Tomistoma Task Force (TTF) was established to enhance the conservation of false gharials in Southeast Asia. The TTF has so far raised USD 9,000, with matching funds from National Geographic and an Indonesian NGO (Peoples, Resources and Conservation Foundation) to initiate surveys in Kalimantan. A long term CSG survey program for Tomistoma in Sumatra was continued in 2001, largely by Mark Bezuijen, which included a workshop with all key Government representatives to improve conservation of the Merang River area. Implementation has proved problematic and logging in the area is now a serious threat to the remaining swamp forest, the most important Tomistoma nesting site so far identified.

In January 2000, the Group established a Chinese Alligator Fund to raise funds for the conservation of Chinese Alligators. At the 2nd IUCN World Conservation Congress, the CSG assisted China with a resolution concerning Chinese Alligator conservation, and assisted with two follow-up meetings to help China refine its management program, which led directly to the first re-introduction of Chinese alligators to the wild in 2003. The Chinese Alligator Fund, Wildlife Conservation Society (WCS) and others assisted with the funding.

The second meeting in China was combined with a CSG Regional Meeting (Eastern Asia, Oceania, Australasia), which updated members on regional status and problems and afforded an opportunity to get Fauna and Flora International (FFI) and WCS to form a CSG working party to focus

attention on Siamese crocodiles, particularly in Cambodia where only a remnant wild population now remains. The group has continued to be active at CSG meetings this quadrennium.

During the quadrennium, workshops on *Caiman yacare* and *Crocodylus acutus* were held with funding from the US Fish and Wildlife Service and State of Louisiana. A DNA Symposium was held which resulted in a special issue of *Journal of Experimental Zoology* on Crocodilian DNA. A workshop on conservation of the Orinoco crocodile in Colombia and Venezuela was held, with proceedings in Spanish and English published in 2002. Crocodiles are serious predators on people and a crocodile conflict working group was established under the direction of Dr. Rich Fergusson.



The CSG has continued to assist in special projects including: review and advice on an Australian code of practice for crocodile production; review and advice on a survey of Morelets crocodile in Mexico; an OECD report on *Using the Market to Create Incentives for the Conservation of Crocodilians*; *International Trade in Crocodilian Skins: Review and Analysis of the Economic Issues for Conservation*, by James McGregor; representation in California over a law which restricted the commercial use of crocodilian products in that State; and efforts to get *Caiman latirostris* down-listed on the US Endangered Species Act.

The CSG has continued to be involved in CITES issues, giving comments on amendment proposals at CoP 12 and CoP 13. The CSG participated in reviews of captive breeding of reptiles for the Animals Committee, crocodilian ranching, crocodilian management generally and of wildlife management practices and principles. They have also assisted the CITES Secretariat in improving implementation in Paraguay and Bolivia. CSG review missions were carried out in Paraguay and in Colombia, where major changes in crocodilian management have been announced, and the CSG will assist in implementation as requested. The CSG contributed to the revised draft of the national recovery plan for the Philippine Freshwater Crocodile. A remnant population of Philippine crocodiles was discovered on Luzon.

The CSG supported a mission to Bangladesh, where the last few wild muggers in the country no longer breed and where a captive breeding and restocking program from the Madras Crocodile Bank Trust, India, is in progress. In Vietnam, a successful re-introduction program has been releasing Siamese crocodiles back into protected areas. New studies in Guyana and French Guyana have reported healthy populations of black caiman.

The quadrennium has been an active one for the CSG. It is now well-established that crocodilians, despite being long-lived, slow maturing reptiles which are vulnerable to serious population declines through unregulated harvesting, can, through controlled management and sustainable harvesting, rebuild their populations, providing tangible economic benefits to people and governments for investing in crocodilian conservation. But it is not a panacea. The last quadrennium saw a greatly increased CSG effort on species without commercial value and species where insufficient management capability is in place to use it as a conservation tool. The next quadrennium will continue that effort.

Harry Messel, Chair
Grahame Webb, Chairman-Elect

Global Amphibian

The Global Amphibian Specialist Group (GASG) is proud to announce the completion of the Global Amphibian Assessment (GAA) through the partnership of the IUCN/SSC, Conservation International's Center for Applied Biodiversity Science, and NatureServe. This assessment was spearheaded by Simon Stuart, Janice Long, and Neil Cox of the IUCN/SSC/CI-CABS Biodiversity Assessment Unit and Bruce Young of NatureServe. The GAA depended upon the close cooperation and collaboration of over 500 herpetologists worldwide to assess all 5,743 amphibian species.

The message of the GAA is alarmingly clear. Over 32% (1,856) of the world's amphibians are globally threatened. At least 2,648 species (43.2%) are thought to be declining in some form, while only 28 (0.5%) are increasing, 1,552 (27.2%) are stable, and 1,661 (29.1%) have an unknown trend. Extinction is imminent for many species if swift conservation action is not taken. This claim is supported by the listing of 427 species (7.4%) as Critically Endangered (CR). The level of threat to amphibians has probably been underestimated because so little is known about 1,294 species (22.5%) that they have been listed as Data Deficient (DD).

The GAA identified 435 species that qualified for a higher IUCN Red List threat category than they did in 1980. These species are considered to be in serious decline and are threatened by heavy exploitation (55 species mainly in East and Southeast Asia), serious habitat loss (198 species, especially in Southeast Asia, West Africa, and the Caribbean), and a single or not well understood combination of factors that may act synergistically even where suitable habitat remains (189 species, mainly in South America, Mesoamerica, the Caribbean, the United States and Australia).

This last threat is most commonly cited as being attributable to disease in combination with climate change. It presents the greatest challenge to conservation efforts because solutions have not yet been developed. Unfortunately, species facing these declines are also our highest priority because the factors that comprise this threat drive species rapidly to extinction.

The GASG is now using the findings of the GAA to identify conservation priorities throughout the world. We are taking a proactive approach to implementing conservation action for priority species at critical sites. Our focus is within regions where amphibian diversity and threat are greatest. Examples of actions being undertaken in response to the priorities identified by the GAA include focused research projects designed to improve the efficacy of specific conservation tools, rapid response surveys to identify the spread of disease and to refine how new protected area establishment can be optimized for amphibian conservation, systematic studies to improve

The message of the Global Amphibian Assessment is alarming – over 32% of the world's amphibians are globally threatened

our knowledge of where amphibian diversity hotspots reside, and networking of captive assurance colonies to assure that critically endangered species are not lost forever.

These actions are being undertaken through close collaboration with many important partners. For instance, together with Rohan Pethiyagoda, a representative of both GASG and Declining Amphibians Population Task Force, and associated colleagues, we are initiating a project to restore rainforest habitat critical to the protection of endangered and critically endangered frog species endemic to Sri Lanka. Forest restoration is vital for the conservation of these species because many are hanging on within small forest parcels where remnant populations are highly vulnerable to an increasingly drier climate and other factors exacerbated by edge effects. Expanded forest buffers

will, for example, mitigate the impact of climate change by reducing the rate at which the forest interior dries following rains, thereby improving recruitment of threatened frog species that breed in the forest's leaf litter and are dependent on a threshold number of days with moisture for their eggs to hatch.

This project in Sri Lanka exemplifies our strategy in that we are adaptively managing projects from their onset to ensure that necessary adjustments are made rapidly and investments continue to be made wisely.

We gratefully acknowledge the work of the network of scientists that conducted the first comprehensive assessment of the world's amphibians. We look forward to working closely with those who took part and newcomers in maintaining the assessment process on a more continual basis so that priorities and outcomes can be continually updated, thereby keeping conservation actions focused on those species in greatest need.

Claude Gascon, Chair

Iguana

In 2000, the IUCN/SSC West Indian Iguana Specialist Group expanded its mandate to become the Iguana Specialist Group (ISG). Our group now covers not only the iguanid genera found in the West Indies (*Cyclura* and *Iguana*), but also the other large, *herbivorous iguanids*, including the South Pacific iguanas (*Brachylophus*), the spiny-tailed iguanas (*Ctenosaura*), the Galapagos marine (*Amblyrhynchus*) and land (*Conolophus*) iguanas, the desert iguanas (*Dipsosaurus*), and the chuckwallas (*Sauromalus*). The major benefit to broadening our mandate has been the increased coverage we are now able to provide for iguanid taxa in need of conservation attention. To meet this challenge we have broadened our membership to include 86 members from 24 countries.

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

The ISG meets annually in an iguana range country in order to review programs and set priorities for the following year. Regional, taxonomic, and research updates are provided by members and invited experts. At each meeting, we also include working sessions in order to share knowledge on key topics relevant to iguana conservation. To date, these sessions have focused on trade, veterinary issues, population monitoring and radiotelemetry design, husbandry techniques, education, public outreach, and fundraising.

In 2000, we published *West Indian Iguanas: Status Survey and Conservation Action Plan*, a document that continues to guide our priorities and efforts in the Caribbean region. In the same year, we initiated a series of Species Recovery Planning Workshops in conjunction with our annual meetings targeted at the most critically endangered Caribbean iguanas. The first workshop was held on San Salvador Island in the Bahamas (2000), followed by workshops in the British Virgin Islands and Grand Cayman (2001), in the Dominican Republic (2002), and in the Turks and Caicos Islands (2003). A 2004 workshop in Fiji is planned. Participants in the workshops include educators, research scientists, developers, protected area planners, park wardens, and natural resource managers. The content of recovery plans reflect the broad and varied expertise of the participants, resulting in well-rounded strategies for conservation that delineate

objectives, specific results, action steps, responsibilities and timelines for completion. These plans, which are published under the auspices of the ISG, serve as the primary documents to guide iguana conservation activities over the next five years. In-country institutions have primary responsibility for carrying out implementation of the plans. Species Recovery Plans are periodically reviewed and updated and ISG-sponsored working meetings for both Ricord's iguana (Dominican Republic) and the Anegada iguana (British Virgin Islands) convened for this purpose in 2004. Species Recovery Plans can be downloaded from our website, www.iucn-isg.org.

As part of our expansion, the ISG has also been actively involved in updating the IUCN Red List for the taxa under our purview. Three new working groups have been formed to undertake new red list threat assessments for the Galapagos marine and land iguanas, the South Pacific iguanas, and the spiny-tailed iguanas. An additional group is reviewing and updating existing assessments for West Indian rock iguanas. The ISG continues to maintain and administer a blanket U.S. CITES import permit covering biological samples from all taxa of West Indian iguanas. This permit, which has been renewed annually since 1998, has facilitated important genetic research and other areas of scientific study relevant to iguana conservation. In 2001, the ISG formed a key partnership that has proven critical to advancing our group's program and mission. The idea for a non-profit foundation to address the need for iguana conservation funding was first proposed at the ISG's annual meeting in 2000. The concept became a reality a year later, when the International Iguana Foundation (IIF) held its organizational meeting and was officially incorporated as a non-profit corporation. ISG Co-Chairs Allison Alberts and Rick Hudson serve as President and Program Officer of the foundation, respectively.

The mission of the IIF is to actively support conservation, awareness, and scientific programs that enhance the survival of wild iguanas and their habitats. The IIF takes its funding priorities from the ISG and serves as the group's funding arm. The IIF Board is composed of three sectors – zoo, corporate, and private – all with potential to significantly contribute to iguana conservation programs. A series of promotional materials have been developed, and a donor database is being established. To date, over USD 236,000 has been raised for iguana conservation, with USD 138,780 awarded through IIF's competitive grant program. ISG-endorsed programs receiving support from IIF to date include the Grand Cayman Blue iguana (headstarting and education), the Anegada iguana (headstarting and population surveys), the Jamaican iguana (headstarting and predator control), the St. Lucia iguana (ecological studies), Ricord's iguana (population and habitat surveys),

and the San Salvador iguana (translocation program). Four of these species are listed as Critically Endangered on the IUCN Red List, and all are high priority for the ISG. Integral to the success of these fundraising efforts has been the Disney Wildlife Conservation Fund, which has awarded the IIF three grants totaling USD 43,750 between 2002 and 2004 for projects in Grand Cayman and the Turks and Caicos Islands.

In the future, we plan to continue the species recovery planning process until all Endangered and Critically Endangered taxa under our mandate have been covered. In 2004, 2005, and 2006, the Fiji banded and crested iguanas, the Andros Island iguana, and the Galapagos marine and land iguanas will be addressed. We plan to significantly expand our use of the internet as a public awareness and fundraising tool. Finally, we will continue our invaluable partnership with IIF, as we work together to advance the cause of iguana conservation worldwide.

Allison Alberts and Rick Hudson, Co-Chairs

Marine Turtle

The Marine Turtle Specialist Group (MTSG) has undergone sweeping changes since the World Conservation Congress in Amman, Jordan. Noteworthy have been changes in our leadership. Chairman Alberto Abreu stepped down in October 2002 after a tumultuous period of debate over the MTSG's inputs to the CITES Wider Caribbean Range State Hawksbill Turtle Dialogue meetings which nonetheless produced a valuable compendium of available information on ranching and captive rearing, status and biological characteristics of the hawksbill turtle (<http://www.cites.org/eng/prog/HBT/intro.shtml>). An Interim Administrator, Perran Ross, was appointed by the SSC Chair and tasked with spearheading a broad consultation to select new leadership. Subsequently, in May 2003, Nicolas Pilcher of the Marine Research Foundation, Kota Kinabalu, Malaysia, and Roderic Mast of Conservation International (CI), Washington, D.C., were appointed Co-Chairs. By August 2003, a full time Program Officer, Brian Hutchinson, based at CI, rounded out the leadership team. The new arrangement has proven highly satisfactory. Other structural changes within the group, including the dissolving of the Executive Committee, have been adopted to create a more horizontal, field-driven focus for the MTSG in which Regional Vice-Chairs represent their local membership and work to develop locally appropriate Action Plans

A first cut at global priority setting for conservation action

and strategies for their respective areas of influence. After a thorough review of MTSG membership by the Co-Chairs, some new members have been added to reflect gaps in regional and thematic coverage of the MTSG, and Terms of Reference for membership have been carefully reviewed and re-drafted, to serve as the basis upon which members will be re-appointed in the following quadrennium.

The Co-Chairs have begun to travel to each of the key regions and meet with the Vice-Chairs and members to build consensus and gain further insight into local members' needs and strengths. Moreover, strategies have been launched to address critical Group issues such as communications, advancing the Red List Process, validating the MTSG Vision and Mission, and deriving a series of "Burning Issues" in sea turtle research and conservation. Partnerships have been developed with other institutions, including the Chelonian Research Foundation for financial management; the Marine Turtle Newsletter for Communications (MTSG publishes a quarterly update in this widely read publication), with Seaturtle.org for managing our website and list-serves (www.iucn-mtsg.org), and with CI, Duke OBIS-SEAMAP (mapping marine megavertebrates) and the International Sea Turtle Society

(ISTS) on a program called *State of the World's Sea Turtles* (SWoT) that is developing a permanently evolving, consensus driven, geo-referenced data set on the global status of sea turtles. SWoT was launched at the 24th Sea Turtle Symposium in San Jose, Costa Rica in March, 2004 (learn more at <http://seamap.env.duke.edu/apps/swot/>).

A seminal event for the Group was a Vision Retreat that took place in December 2003 at the National Conservation Training Center in Shepherdstown, West Virginia. The retreat was aimed at realigning members with their new leadership, re-validating the Vision and Mission and tackling some lingering issues. Over 30 MTSG members and relevant non-members from nine countries participated in the retreat, as did SSC Chair, David Brackett. Among the outputs were a new Vision Statement, a revised Mission Statement, and an expert opinion-based, ranked list of burning issues for global sea turtle research and conservation. In short:

Vision

We envision marine turtles fulfilling their ecological roles on a healthy planet where all peoples value and celebrate their continued survival.

Mission

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.

Burning issues in marine turtle conservation (prioritized)

Reducing/eliminating fishery by-catch, outreach to all stakeholders, protection of habitats, scaling up investment in sea turtle conservation, monitoring conservation (does it work?), use (sustainable or otherwise), interdisciplinary approaches to conservation and population and habitat mapping.

Burning issues in marine turtle research (prioritized)

Bycatch and direct take, migration routes, population dynamics/demography, foraging ground assessments, socio-economic issues, what constitutes a successful program, interdisciplinary research, nesting beach assessments, adaptive management, ecological roles of turtles, compiling data and global warming.

Regional/Species Burning Issues (not prioritized) include, but are not limited to:

Pacific leatherbacks, Eastern Pacific hawksbills, Pacific loggerheads, Western Atlantic olive ridleys, all East Atlantic / West African sea turtles, all Southeast Asian turtles, Mediterranean green turtles, Orissa olive ridleys, and Southern Indian Ocean leatherbacks.

These burning issues lists represent expert opinion and did not result from detailed analysis; they cannot be considered as final, comprehensive or representative of the opinion of all the world's

experts. They are intended only as a first-cut at global priority setting for the purposes of fundraising and directing effort and resources toward those areas and populations in gravest need of conservation attention.

The MTSG Annual General Meeting was held on the final day of the 24th Annual Sea Turtle Symposium in San José, Costa Rica. Minutes have been circulated via the MTSG-L email listserv and are posted on the MTSG website: <http://www.iucn-mtsg.org/meetings.shtml>. Highlights from this meeting included a partial report of the Vision Meeting, a presentation from Michael Coyne on member information sources, and the new MTSG "Personality of the Month" feature. The Annual General Meeting in Costa Rica left us all with feelings of renewal and revitalization, and they have helped us maintain strong momentum in recent months. We took the opportunity to personally welcome several new members.

The revision of the Green turtle (*Chelonia mydas*) Red List assessment was finalized by Jeff Seminoff and was submitted for review to the IUCN Red List Standards & Petitions Subcommittee and subsequently accepted. The full version is available for downloading from the MTSG website, www.iucn-mtsg.org. MTSG has taken an active role in a number of recent issues relevant to marine turtle conservation. In May 2004 comments were submitted to the US Commission on Ocean Policy in response to their Preliminary Report, requesting improvement of sections pertaining to marine turtles and the threats they face. In response to public comments, a new section on marine turtles was added to the Report, and the MTSG was consulted in its development.

With the coming of the new quadrennium, our vision and mission redefined and a streamlined working strategy in place, we remain optimistic for the future of the Group and in turn the global conservation of marine turtles. Come see us at our website, read about us in the Marine Turtle Newsletter every quarter, visit us at the ISTS' Annual Sea Turtle Symposium and other regional and local gatherings around the globe, and stay tuned for the upcoming SWoT publication, *State of the World's Sea Turtles 2004*.

Nicolas J. Pilcher and Roderic B. Mast, Co-Chairs
Brian J. Hutchinson, Program Officer, J. Perran Ross,
Interim Administrator (Oct 2002 – May 2003),
Alberto Abreu-Grobois, Chair (Mar 1998 – Oct 2002)

North Eurasian Reptiles

The North Eurasian Reptile Specialist Group (NERSG) was officially established in 2003 and activities began with the discussion of an Action Plan among the 15 NERSG members.

Identified key actions were:

Results of survey and monitoring of rare and endangered species were published in a number of regional monographs authored by NERSG members. Conservation aspects of herpetological research were underlined in the Proceedings of the first Meeting of the Nikolsky Herpetological Society (published in 2001) and in the Proceedings of the 4th Asian Herpetological Meeting in China (July 2000). Several regional methodology publications were published in 2000–2002. Finally, updated Red Data Books of the Russian Federation, Turkmenistan, and Kazakhstan were published in 2001.

We are in close and productive contact with the Conservation Committee of the European Herpetological Society and Committee on Important Herpetofaunal Areas (IHAs). Our first priority is to provide data on target species: *Lacerta clarkorum*, *L. dryada*, *Natrix megalocephala* and *Vipera kaznakovi*. We consider as IHAs, Dunai Delta in the Ukraine and Sary-Kum area in Daghestan.

Organization of DNA collections in herpetology was initiated but is proceeding slowly due to lack of funds. However, the organization of a special Conservation Symposium was successfully conducted jointly with the Conservation Committee of the European Herpetological Society, held in August 2003, in St. Petersburg, Russia.

The *Colored Atlas of Reptiles of North Eurasia* was published in July 2004. The monograph includes data on taxonomic diversity, distribution and conservation status, as well as a description of IUCN Red List species and species covered by the Council of Europe Convention on the Conservation of European Wildlife and Natural Habitats (the Bern Convention). This monograph contributes information on the distribution of North Eurasian reptile species and will be a good first step towards a Global Reptile Assessment.

Natalia Ananjeva

South and Southeast Asian Reptiles

The activities of the South and Southeast Asian Reptile Specialist Group during this quadrennium focused on research and training. We organized training workshops for students and other interested individuals in Southeast Asia on herpetofaunal research and conservation, in collaboration with La Sierra University (under the co-supervision of Prof. L. Lee Grismer) on Pulau Tioman, Pahang, West Malaysia. Staff training for Sarawak National Parks was also organized, under the patronage of DANCED, the Danish Aid Agency, at Niah National Park.

The Chairman represented the Group at several meetings within the region and outside, presenting both results of his research and the activities of the Group members, as well as generally highlighting the role of the Specialist Group. These included: a workshop on Ecoregion-based Conservation in the Eastern Himalayas; developing a Biodiversity Vision, December 1999; the fourth Asian Herpetological Conference, July 2000; an IUCN workshop on Asian Turtle Conservation in January 2001; the fourth World Congress of Herpetology, December, 2001 and the seventh Borneo Research Council Conference, June 2002. Other meetings included a Global Amphibian Assessment Meeting for Southeast Asia, the 23rd Annual Symposium on Sea Turtle Biology and Conservation, a seminar on Limestone Biodiversity, and a joint meeting of the Conservation Breeding Specialist Group, South Asia and the Re-introduction Specialist Group, South and East Asia. The most recent meetings attended include a Population and Habitat Viability Assessment Workshop for the Sri Lankan star tortoise, a Conservation Assessment and Management Plan Workshop for Sri Lankan turtles and tortoises and a conference on Bornean Herpetology in 2003 and a workshop on Sea Snake Biology in Vietnam, March 2004.

Research has been undertaken on the herpetofauna of Sabah (Crocker Range and Batu Tengar), the natural history and systematics of the herpetofauna of peat swamp forest of Sarawak, East Malaysia, the herpetofaunal communities of Pulau Selurong Forest Recreation Park, Brunei Darussalam, the systematics, biogeography and ecology of the montane herpetofauna of Malaysia, the herpetofauna of Gunung Murud, Sarawak, an inventory and biodiversity of the frog fauna of East Malaysia (Borneo) with emphasis on their larval forms (Amphibia: Anura) and the herpetofauna of Loagan Bunut.

Other activities included contributing to *The Red Book: The Extinction Crisis Face to Face* and acting as the amphibians and reptiles editor for the Center for Biodiversity Informatics, National Chemical Laboratory, Pune, India.

Indraneil Das, Chair

Tortoise and Freshwater Turtle

Since 2002, membership in the Tortoise and Freshwater Turtle Specialist Group (TFTSG) has grown from 105 to 163 members and, in addition to the current Co-Chairs, Anders G.J. Rhodin and John L. Behler, Kurt A. Buhlmann and Peter Paul van Dijk have joined the Group as Deputy Chairs, with Peter Paul also serving as Program Officer.

Publication activities of the TFTSG have continued in partnership with Chelonian Research Foundation, including several issues of *Chelonian Conservation and Biology*, the peer-reviewed professional scientific journal of international turtle and tortoise research, and Turtle and Tortoise Newsletter (see www.chelonian.org). Progress has also been made in the series *Chelonian Research Monographs*, where multi-authored volumes on the *Conservation Biology of Freshwater Turtles* and another on the *Turtles of Florida* are currently under preparation.

In 2001 the TFTSG helped create and launch the Turtle Survival Alliance (TSA), an official and largely autonomous IUCN/SSC Task Force of the TFTSG focused on captive care of endangered turtles and tortoises (www.turtlesurvival.org). Co-chaired by TFTSG members Rick Hudson and Dwight Lawson, the TSA has forged new and unique partnerships among zoological parks and aquariums, serious and dedicated private herpetoculturists, and other interested individuals and organizations, to build a structured network of linked captive management and breeding programs into turtle and tortoise conservation efforts. The TSA has embarked on a program of coordinating existing *ex situ* collections of turtles into viable conservation management programs, known as Assurance Colonies. The TSA has attained recognition for its ability to build partnerships with government regulatory authorities and to help move otherwise doomed, illegally traded, and confiscated turtles and tortoises into Assurance Colonies, particularly from the food and medicinal markets of Southeast Asia and China. The mission of the TSA is to develop and maintain an inclusive, broad-based global network of collections of living tortoises and freshwater turtles with the primary goal of maintaining chelonian species over the long term to provide maximum future options for the recovery of wild populations.

In 2002 the TFTSG also helped create the Turtle Conservation Fund (TCF), a partnership initiative between three separate organizations, Conservation International's Center for Applied Biodiversity Science, the TFTSG, and the TSA, to serve as a funding and strategizing mechanism for global turtle conservation efforts. Several members of the TFTSG have played a central role in the establishment and continued success of this venture and the TCF is chaired by TFTSG Co-Chair, Anders Rhodin. The TCF was created to provide a framework for working partnership alliances with

a wide variety of associated independent resource and funding partners. These TCF Alliance Partners provide either financial or in-kind resource support to facilitate and aid the mission, strategy, and actions of TCF.

The mission of TCF is to ensure that no species of tortoise or freshwater turtle becomes extinct and that sustainable populations of all species persist in the wild. The mission will be achieved through facilitation and funding of coordinated global turtle conservation initiatives, including strategic partnership alliances and directed conservation action. This will include support for *ex situ* captive breeding and management programs both in-range and out-of-range, *in situ* protection and management of native populations, field-based conservation biology and applied research, field and trade surveys, threatened status and regulatory needs determinations, protected areas evaluations and development, and capacity building and other conservation endeavors as needed.

The TCF has produced *A Global Action Plan for Conservation of Tortoises and Freshwater Turtles: Strategy and Funding Prospectus 2002–2007* (available as a PDF file at www.turtlesurvival.org) and helped stimulate and support ongoing global turtle conservation efforts. To date, several high priority turtle conservation projects have been funded worldwide through TCF fundraising efforts (information available at <http://www.chelonian.org/tcf>). Since 1999 the TFTSG has become increasingly focused on the turtle survival crisis caused partially by the Asian Turtle Trade. In that regard the TFTSG has been particularly active in helping the CITES Parties to develop and implement improved regulatory protection for the most endangered species. The TFTSG has helped promote the opinion shared by most Asian range states that all freshwater turtles of Asia should be listed on at least Appendix II of CITES.

Working within CITES through its Animals Committee, and in cooperation with other partner organizations and government contacts, the TFTSG has been instrumental in helping to achieve critically needed CITES Appendix II listings for over 20 Asian turtle species at the 12th CITES Conference of the Parties (CoP), with, at time of writing, several additional species being considered for listing at the 13th CITES CoP. If we are to bring Asian freshwater turtles to the levels of trade documentation and protection already afforded to all tortoises and marine turtles, then we need to consider listing them all on the CITES Appendices.

Partly as a result of the heightened awareness of the plight of Asian turtles as documented by the TFTSG and other organizations, a number of countries, among these China and Vietnam, have developed, implemented, and enforced stricter regulations and legislation aimed at reducing trade in wild-caught tortoises and freshwater turtles.

The ultimate goal is not immediate and total protection of all turtles against all forms of use; many cultures of the world have time-honored traditions of utilizing turtles and will probably continue to do so for a long time. Rather, the goal should be to deflect unsustainable trade pressures away from wild populations of turtles and redirect them towards potentially sustainable alternatives, while hopefully slowly changing cultural preferences for turtles. The answers may lie in severely regulated, if not prohibited, harvest and trade of wild turtles and turtle parts, but with encouragement and further development of large-scale farming efforts and captive breeding facilities to meet the demands of the current marketplace, be it the consumptive food trade, the medicinal markets, or the pet trade.

Based on the TFTSG involvement so far in CITES, TCF, and TSA—where enthusiasm, insight, knowledge, and the desire to work together are shared by all participants—we believe we have the ability to effect lasting change and a brightening outlook for the threatened turtles of the world.

Anders G.J. Rhodin and John L. Behler, Co-Chairs

In 2000–2004 the African Reptile, China Reptile and Amphibian, European Reptile and Amphibian, Madagascar and Mascarene Reptile and South American Reptile Specialist Groups were also operational.

SSC Building Capacity and Partnerships

Specialist Groups

SSC's membership grew from approximately 6,000 to nearly 8,000 between 2000 and 2004. New Specialist Groups and Task Forces were created to fill critical gaps in regional and global knowledge and technical expertise such as Global Tree, Freshwater Fish, Cuba Plant and North Eurasian Invertebrates, and to address emerging priorities such as climate change.

Voluntarism Study

In 2001 a Task Force of the SSC Executive Committee commissioned a study of voluntarism, recognizing that the expansion of the Commission's work and membership is placing an ever greater burden of work and responsibility on its volunteer expert network. The study recommended Commission responses in structure and organization to better support and engage the membership, a need for more resources and capacity building, greater recognition of the contributions of the Commission members, and more effective communication about the work of SSC among Commission members. A summary of the major findings of this study are available on the SSC website.

Following this, SSC has created a regional level of governance and engagement. Feedback from the network shows that members feel they can be most effective when they are able to interact with other members from their region, or preferably their own country. A series of Regional Vice-Chairs of SSC was created to act as focal points. SSC's new Freshwater Fish Specialist Group is being developed on a regional basis and many other Specialist Groups are moving to a regional structure to increase their impact.

Shadow Resources Study

In 2002, SSC commissioned a study of Specialist Group "shadow resources" – the funds that Specialist Groups raise for themselves, that do not appear in the IUCN budget. These are the resources that fundamentally support the work of the SSC network. The results of the study show the SSC network of Specialist Groups contribute more than USD 38 million in resources each year towards supporting SSC goals.

Sir Peter Scott Fund – small grants for Specialist Groups

The Sir Peter Scott Fund for Conservation Action was launched in 2004 to provide small grants to SSC Specialist Groups to carry out conservation work on the ground. This marked a significant step on the road to providing much needed support for SSC members. The first grants are due to be awarded at the IUCN World Conservation Congress.

Communications and Publications

During the period, the Species Programme continued its significant publishing output.

The Red Book: The Extinction Crisis Face to Face, published jointly by IUCN/SSC, cement company CEMEX, and Agrupación Sierra Madre, a Mexican conservation organisation, broke new ground for SSC. Packed with stunning images of species, *The Red Book* communicates the issues of extinction and conservation to broad audiences and a portion of the proceeds of sales supports the new SSC Sir Peter Scott Fund for Conservation Action.

In 2003 the *SSC Directory and Information Resource* CD was sent to all SSC members containing contact and affiliation information on all members as well as key documents such as policy statements.

Species, the SSC newsletter, was redesigned and re-launched in 2001 as a more concise, news-based, and more effective primary news vehicle for the Commission, and has led to a greater flow of submissions from members.

Development of the SSC website was ongoing with many new additions including policy statements, publications in PDF, project descriptions and news releases.

In January 2001 the monthly SSC E-bulletin was launched as a supplement to *Species*. The Bulletin keeps staff, members, partners and the wider IUCN network informed of SSC's latest activities.

Also in 2001, an edition of IUCN's magazine *World Conservation* was dedicated to the Red List while a special edition was prepared on CITES in the run up to the 12th Conference of the Parties in 2002.

The Species Programme also commissioned an evaluation of the impacts of its Action Plan series, which now numbers more than 65. This involved analysing the types of recommendations made in

Several new Action Plans and Occasional Papers were published:

- **African Elephant Status Report 2002:** An update from the African Elephant Database
- **Dolphins, Whales and Porpoises: 2002–2010 Conservation Action Plan for the World's Cetaceans**
- **Cycads: Status Survey and Conservation Action Plan**
- **West African Chimpanzees: Status Survey and Conservation Action Plan** (also in French)
- **Turning the Tide: The Eradication of Invasive Species**
- **Links between Biodiversity Conservation, Livelihoods and Food Security: The sustainable use of wild species for meat** (also in French)
- **Elasmobranch Biodiversity, Conservation and Management. Proceedings of the International Seminar and Workshop, Sabah, Malaysia, July 1997**
- **Polar Bears: Proceedings of the 13th Working Meeting of the IUCN/SSC Polar Bear Specialist Group, Nuuk, Greenland**
- **Guidance for CITES Scientific Authorities: Checklist to assist in making non-detriment findings for Appendix II exports**
- **Equids: Zebras, Asses and Horses. Status Survey and Conservation Action Plan**
- **Dugong Status Report and Action Plans for Countries and Territories**
- **Antelopes Part 4 (North Africa and the Middle East and Asia)**
- **Microchiropteran Bats: Global Status Survey and Conservation Action Plan**

the plans, and the extent to which these recommendations have been implemented. Eventually it is hoped to determine the role that Action Plans play in the identification of conservation priorities, initiation of projects, and the sourcing of funds. The report is helping to shape guidelines for the "next generation" of Action Plans.

Comings and goings

The period saw several changes in Species Programme staff. Simon Stuart who led the Programme for almost a decade, left to head the SSC Biodiversity Assessment Unit at the Center for Applied Biodiversity Science at Conservation International, and was joined by Neil Cox and Janice Chanson. Simon was replaced by Sue Mainka who had been deputy coordinator of the Programme for nearly four years. Her post was filled by Jean-Christophe Vié who is now acting

Programme head until the vacancy is filled. In July 2004, Sue was promoted to a new position as Senior IUCN Programme Officer for IUCN's Global Programme and the search is on for her replacement. Stuart Salter was appointed Manager of the Species Information Service on secondment from the Canadian International Development Agency. Carolina Caceres, assistant to SSC Chair David Brackett, took up a new job with the Canadian CITES Scientific Authority. Mandy Haywood, SSC's Wildlife Trade Programme Assistant for several years left for a round-the-world adventure and was replaced by Petra Crofton. Will Darwall joined the team as Freshwater Biodiversity Assessment Programme Officer while Amie Bräutigam was appointed Executive Officer for SSC's Marine Programme. Camille Soulié replaced Isabelle Weber as finance assistant and Nathalie Velasco replaced Gabi Allen as database and membership secretary.



Disciplinary Specialist Groups and Task Forces

Conservation Breeding

As one of the disciplinary specialist groups within the SSC, the Conservation Breeding Specialist Group (CBSG) works to provide expertise, tools and assistance to other organizations, both within and outside the IUCN SSC network, in accomplishing species conservation. The core base of finances, expertise, and people supporting the work of the CBSG has always come from the zoo and aquarium community, but the specific focus of CBSG activities has evolved over time. The areas of expertise within the CBSG staff and our extensive network of members include: scientifically sound management of zoological collections in the service of conservation; effective linkages of ex situ and in situ strategies for species conservation; application of risk assessment tools and methodologies; knowledge-based assistance where experts provide neutral facilitation to help others reach their conservation goals.

Among the services that CBSG provide are: expert advice from CBSG staff and/or teams assembled from the CBSG membership, to assist institutions with specific analyses or assessments; facilitation of multi-stakeholder workshops for conservation assessments and planning; development of new technical and process tools for conducting species-risk assessments and conservation-planning in collaborative frameworks; and training of others in the methods developed or utilized by the CBSG.

CBSG has experienced a great deal of both growth and loss during this quadrennium. We lost our leader, mentor and friend, Dr. Ulysses Seal, and we grew in productivity and programs.

Much of this past four year period was overshadowed by the illness and death of Dr. Ulysses Seal. Ulie Seal, who served as CBSG's chairman from 1979, was diagnosed with cancer in March of 2001 and he died March 19, 2003. Although it was tremendously painful to watch him slowly leave us, we did our best to help him go. We assured him that CBSG was strong, with a secure and vital future. We celebrated his life with him, as many of you did through the beautiful things you wrote to him in the months after his diagnosis. We kept him involved until it became apparent that there were other, more important things he needed to attend to, and then we just held his hand and told him we loved him. It was an honor to be a part of this man's life and his death, and we learned as much from him in his dying as we did in his living. Our work will always be a tribute to him.

The transition in CBSG leadership was as smooth as we could have hoped for. Our transition team stepped up to the plate with an inspirational show of commitment to both Ulie and the future of CBSG. The new chairman of the CBSG, Dr. Bob Lacy, is a respected population geneticist from Brookfield Zoo in Chicago, IL. The selection of Bob Lacy as CBSG Chair has resulted in an enormous outpouring of support from around the

world, and the staff, Steering Committee, strategic associates, and regional networks are enthusiastic about continuing our work under his leadership.

With the help of our strategic associates and regional networks, CBSG remained extremely productive through this quadrennium. We conducted 103 workshops or meetings: 32 Population and Habitat Viability Assessment (PHVA) and Species Conservation Planning Workshops, 13 Conservation Assessment and Management workshops (CAMP), 21 Organizational Conservation Planning Workshops, six Disease Risk Meetings, 14 Training Workshop and 17 Special Interest Meetings. A total of 79 documents were produced, including a book entitled, *Experiments in Consilience: Integrating Social and Scientific Responses to Save Endangered Species*, edited by F.R. Westley and P.S. Miller and published by Island Press. New regional CBSG networks were established, CBSG Europe and CBSG Brasil. Currently, we maintain a membership of 841 individuals from 92 countries.

One area of significant research and development over the past few years has been enhanced approaches for the integrated study, understanding, and management of biocomplexity – environmental issues that reside at the intersection of biological, physical environmental, and human social processes. A "Biocomplexity Network" of CBSG staff and associates has explored social and professional systems that promote effective communication, understanding, and collaboration among people from different disciplines, with divergent frameworks for analysis, and historically disconnected systems of knowledge and data. Parallel to and synergistic with our work on methods for promoting collaboration among people, we are exploring a meta-modeling approach for linking together quantitative analyses from diverse fields of study – including Population Viability Analysis models of wildlife population dynamics, epidemiological models of infectious disease, GIS models of landscapes, simulation-based models of animal distribution and movements on landscapes, and models of human demography and environmental impacts. The goal of both our social processes and our modeling approach is to make full use of the knowledge provided by each discipline while providing mechanisms for the sharing of information that is necessary to provide understanding of issues that result from complex interactions between systems.

Another programmatic achievement of this quadrennium is the development of the Comprehensive Conservation Planning process for the United States Fish and Wildlife Service (USFWS). There are over 500 Refuges in USFWS's National Wildlife Refuge System and all are mandated to develop management plans by the year 2012. However, there was no systematic, accepted procedure for producing these plans. CBSG was

asked to develop a process to assist them. We designed a series of workshops, adhering to the CBSG principles of stakeholder inclusion, participatory process and rapid production of a product, to develop a vision for the refuge, a set of management goals, and detailed objectives. This programmatic development is significant for CBSG in many ways, but its potential for application to protected areas in other parts of the world makes it particularly exciting.

Areas of focus for CBSG work in the coming few years include a further expansion and strengthening of our regional networks (currently in Mexico, MesoAmerica, Brasil, Europe, Southern Africa, South Asia, Indonesia, and Japan), combining local knowledge and energy with CBSG processes and techniques to better catalyze conservation action by more people and organizations around the world. We intend to provide more training in facilitation methods, population analysis and risk assessment techniques, and management of *ex situ* wildlife populations. We aim for increased collaboration with the other disciplinary and taxonomic specialist groups of the SSC, bringing more of their expertise into CBSG processes and providing more CBSG services to the other Specialist Groups to help them achieve their goals as well as providing more CBSG services of knowledge-based facilitation and expert risk assessments to governmental agencies with responsibility for wildlife conservation.

Robert Lacy, Chair

Onnie Byers, Phil Miller, Kathy Traylor-Holzer,
Programme Officers

Invasive Species

The Invasive Species Specialist Group (ISSG) was established in 1993. It currently includes around 160 voluntary members from over 40 countries and is chaired by Prof Mick Clout at the University of Auckland, New Zealand. The ISSG office employs seven permanent staff. The mission of ISSG is to reduce threats to natural ecosystems and the native species they contain, by increasing awareness of alien invasions and of ways to prevent, control or eradicate them.

Invasive Alien Species (IAS) are found in all taxonomic groups and have affected native biota in virtually every ecosystem on earth. They are a major global threat to biodiversity and to livelihoods that directly depend upon it. For this reason, ISSG not only advocates special attention to IAS management, but also for consistent mainstreaming of invasive alien species-issues into activities that aim to stem the loss of biodiversity and ecosystem services or aim to support livelihoods dependent upon them.

Assisting IUCN and IUCN Members or Partners

ISSG, on behalf of IUCN, organized the IUCN scoping workshop (May 2002), in which representatives from Programmes, Regional and National IUCN offices and external advisors confirmed the significance of Invasive Alien Species issues for IUCN's work, and planned for IUCN's further involvement. ISSG also prepared materials and/or participated on IUCN delegations to Convention on Biological Diversity (CBD) meetings. We also facilitated an IAS component in the Global Biodiversity Forum on environment and trade, (September 2003) and contributed to the IUCN briefing document on IAS and Trade.

We work in close cooperation with a number of IUCN Programmes and Offices. For example, we co-organized a workshop on IAS at the World Parks Congress (Durban, September 2003) which resulted in the recognition of IAS management needs as an emerging issue. We also assisted with the inclusion of IAS issues into IUCN's World Heritage Convention work, including a feasibility study on IAS management on Cocos Island (Costa Rica) and missions to other sites like Djouj (Mauritania, Senegal) and the Galapagos (Equador).

We have contributed to the Council of Europe IAS strategy, an IAS component at the World Summit on Sustainable Development (WSSD) and assisting and contributing to the Global Invasive Species Programme (GISP).

Publications

Our publications this quadrennium include: *Turning the Tide: The Eradication of Invasive Species*. (eds. C.R.Veitch and M.N. Clout), an IUCN/SSC Occasional Paper; 100 of the *World's Worst Invasive Alien Species* (2000); *Aliens*, our bi-annual newsletter and *Aliens-L*, a listserv dedicated to invasive alien species that threaten biodiversity, which allows users to freely seek and share information.

The Global Invasive Species Database

The Global Invasive Species Database (GISD) provides a broad audience with easy access to authoritative information on invasive alien species. It disseminates globally sourced information, including good practice, case studies, specialist knowledge and experience. The database has a dual aim: to raise awareness about invasive alien species, their impacts, and the opportunities to fight back; and to be a management tool assisting decision makers, practitioners and communities to address their IAS problems. The database has undergone a series of enhancements thanks in part to a Memorandum of Cooperation that ISSG and the US National Biological Information Infrastructure (NBII) signed early in 2002. Now the GISD contains profiles of more than 250



species that threaten biodiversity, ranging from microorganisms to plants and animals. Future plans include ongoing development of the database with more profiles and the production of a CD-Rom version of the database for those who have poor, or no access to the Internet, thus bridging the digital divide. We are also developing a global master list of invasive species, focusing on biodiversity impacts, which will assist with early warning and prevention. In addition, we are cooperating with the Island Conservation and Ecology Group in the development of an Eradications Register to increase the exchange and sharing of practical expertise. The GISD will become a key contributor to the new Global Invasive Species Information Network which is under development. The GISD project has been remarkably successful thanks to the voluntary work of invasive species specialists from all over the world who either create or review the information it contains. Check it out at: <http://www.issg.org/database>.

Cooperative Initiative on Invasive Alien Species on Islands

The ISSG is hosting and coordinating the Cooperative Initiative on Invasive Alien Species on Islands (CII), which aims to facilitate cooperation and build capacity to manage IAS on islands. This initiative followed calls from the Small Island Developing States and was developed (under the umbrella of GISD) as a joint initiative involving the New Zealand Government and the ISSG. It was launched in April 2002 at the CBD sixth Conference of Parties and activities started in June 2002 with seed funding from the New Zealand Agency for International Development (NZAID) and the Pacific Development and Conservation Trust (New Zealand).

Achievements to date include the development of the Pacific Ant Prevention Plan (PAPP) and coordinating further efforts, resulting in endorsement by the Pacific Island Countries and Territories in March 2004. Jointly with the Secretariat for the Pacific Community (SPC) Secretariat for the Pacific Environment Programme (SPREP) and the Pacific Invasive Ant Group, we are now actively seeking to secure funds for a full-time coordinator. Two courses in IAS management and three publications (best practice manuals for Prevention and for Early Detection/Rapid Response and a Toolkit for Managing IAS on Islands) have been developed. Feasibility studies on: the eradication of cane toads and rats from Viwa Island (Fiji) to alleviate threats to the endangered Fijian ground frog (*Platymantis vitianus*); the eradication of a suite of invasive mammals and weeds for biodiversity gains on Cocos Island, Costa Rica; and the control of a suite of invasive mammals on Mont Panié, New Caledonia. Finally, we have developed the Pacific

Programme of the CII, with NZAID into a WSSD Type II partnership, with NZAID providing three year funding for coordination.

You can find out more by emailing issg@auckland.ac.nz or visiting our website at: www.issg.org

Mick Clout, Chair

Re-introduction

Introduction

The IUCN/SSC Re-introduction Specialist Group (RSG) is one of the Species Survival Commission's (SSC) disciplinary specialist group. The RSG, since 2000, has been hosted and funded by the Environment Research & Wildlife Development Agency (ERWDA), Abu Dhabi, United Arab Emirates (UAE).

Planning the future

The RSG held a meeting at the 2nd IUCN World Conservation Congress, Amman, Jordan and during this meeting it was identified that the RSG needs a Strategic Plan to guide its activities for the next 5 years. This then culminated in a Strategic Planning Workshop which was held in March 2002 at the RSG Secretariat, hosted by ERWDA. This meeting was attended by RSG Chairs and a representative from the IUCN Species Programme.

The main outcome of this workshop was the positive impact of the Group through the development of IUCN policies and re-introduction literature. The Group also provides the necessary expertise on re-introductions through its extensive network and by reviewing re-introduction proposals. It also plays an advocacy role in stopping inappropriate releases. It was also recognized that the Group needs to focus more on developing countries and provide expertise to other SSC Specialist Groups, policy-makers and re-introduction practitioners. The final product was considered an ambitious and visionary strategic plan, but in a rapidly changing world, one the Group can readily adapt to changes and remain viable in the long-term.

Organizational structure

The RSG has an organizational structure comprising of a Chair, Vice-Chair, Regional and Taxon Chairs, Program Officer and over 300 members worldwide. There are six Regional Chairs and five Section Chairs. The RSG Secretariat includes our Chair (and West and Central Asia Regional Chair), Frédéric Launay, the Vice-Chair and Plants Section Chair, Mike Maunder and Program officer, Pritpal S. Soorae. Regional Chairs include: Mike Jordan for Europe and North Asia, Carlos R. Ruiz-Miranda for Meso and South America, Devra Kleiman for North America and the Caribbean, Doug Armstrong for Oceania, and Sanjay Molur

and Sally Walker for South and East Asia. Section Chairs include Philip Seddon for Birds, Heather Hall for Fish, Luke Hunter for Mammals and Pritpal S. Soorae for Reptiles and Amphibians.

Our Policies

IUCN Guidelines for Re-introduction

The RSG developed the *IUCN Guidelines for Re-introductions*, which became official IUCN Policy in 1995 and were printed and extensively distributed in booklet form in five languages (French, Spanish, Russian, Chinese and Arabic) during 1998. During this quadrennium the RSG has been mainly involved in further evolving the *IUCN Guidelines for Re-introductions* by producing species and taxon specific guidelines.

Guidelines for Non-human Primate Re-introductions

In 2002, the RSG drafted and produced these guidelines to assist primate re-introduction efforts worldwide. They were printed in a special issue of the RSG newsletter and distributed worldwide.

Guidelines for the in situ Translocation of the African Elephant for Conservation Purposes

The RSG in conjunction with the African Elephant Specialist Group (AfESG) and Veterinary Specialist Group (VSG) created a task force that has produced these guidelines in 2003 to help guide sub-Saharan African nations to secure, enhance or establish viable populations of African elephants (*Loxodonta africana*). These guidelines have also been produced in French and Portuguese versions and a CD has been produced with versions in all three languages. They have been widely distributed to sub-Saharan African elephant historic and current range States.

Guidelines for Galliforme Re-introductions

There is an increasing interest in many parts of the world in using re-introductions as a conservation tool for Galliformes. Of the re-introductions carried out thus far, not all have been successful. As there is likely to be an increasing need to re-introduce Galliformes to the wild as part of efforts to preserve biodiversity, there is also a need to develop best practice guidelines to help guide such efforts. To address this need, the RSG and the World Pheasant Association (WPA) (with the five Galliformes Specialist Groups) are proposing to develop Guidelines for the Re-introduction of Galliformes. This project is currently underway.

Reaching the world

Re-introduction NEWS

Over the last quadriennium, the RSG has produced six issues of its newsletter, *Re-introduction NEWS* (issue number 19–24). There was one special bird issue, number 19, which was funded by the National Commission for Wildlife Conservation and Development, Saudi Arabia. The special primate issue, number 21, was funded

jointly by the American Society of Primatologists, International Primatological Society, Margot Marsh Biodiversity Foundation and the Primate Society of Japan.

RSG resource CD

The RSG developed and distributed a CD in January 2003 to its members and relevant wildlife organizations. This CD has all of RSG newsletters, information on the group and policy guidelines. This CD can be accessed from the RSG website at: www.iucnsscrrsg.org

RSG website

The RSG launched its own website, www.iucnsscrrsg.org, in August 2003. This website includes the latest news, provides access to the RSG resource CD and access to the latest issue of the RSG newsletter and other policies and guidelines mentioned in this report. The website also provides access to other RSG products, Section Chairs and other useful information. As of August 2004, the site had recorded over 2,760 hits.

Conclusion

The RSG would like to thank ERWDA for hosting the RSG Secretariat over the past quadriennium and to other donors mentioned in this report for their generous support. The RSG would also like to thank its extensive network of dedicated volunteers without whom the group would not be able to achieve its objectives.

Frédéric Launay, Chair

Pritpal S. Soorae, Program Officer

Sustainable Use

The 2nd World Conservation Congress in Amman was a momentous occasion for the Sustainable Use Specialist Group (SUSG). The IUCN Policy Statement on Sustainable Use of Wild Living Resources was finally adopted, incorporating sustainable use into the IUCN's official policy portfolio with a view to their integration into IUCN programs and activities. Immediately following the Amman Congress, several tools were developed to assist the implementation of the Policy including a brochure, providing background information and emphasizing the fundamental importance of sustainable use to the Union. A multi-disciplinary team, headed by our vice-president Maria-Elena Zaccagnini, developed an Analytical Framework providing an overview of the different issues, economic, ecological, socio-political, and institutional, that must be considered when assessing use-practices. Thirdly, a CD-Rom comprising over 50 technical papers relating to sustainable use throughout the regions was produced.

Unfortunately, two years after his election to the SUSG Chair at the Amman Congress, Leif Christoffersen stepped down from Chair for per-

sonal reasons, and in March 2003 he was succeeded by Dr. Jon Hutton of Resource Africa and Fauna & Flora International. In May 2003 funds ran out for the group's Secretariat in Washington, DC so Jon employed a Technical Assistant, Lizzie Wilder, based in Cambridge, UK, to manage the administrative burden and to help reinvigorate the group.

The SUSG has since undergone considerable restructuring, and while it still has a decentralized structure of 15 Regional Sustainable Use Specialist Groups (RSUSGs) each with a Chair and a membership of expert practitioners, membership and

communications are managed from the centre. Some regional groups have always been very active. The Southern Africa group (SASUSG) continued to tackle issues such as com-

Three Strategic Focus Areas: policy, science and practice

munity based natural resource management and protected area management, and it produced several publications on the subject. The European SUSG has also been notably motivated and well-organized with members divided into three Working Groups: Fisheries, focusing on the reform of the Common Fisheries Policy; Agriculture, recently completed a three year project on agri-environmental schemes and Wild Species Resources, working on the sustainability of hunting in Europe. Naturally, some RSUSGs are more active than others, but under new leadership the previously dormant East Asia and Andes groups are being revived. The Australia and New Zealand group recently merged with the dormant Pacific Islands group to form a new Oceania group. Further adjustments are being planned.

These and the other RSUSGs are engaged in practical issues pertinent to their region. However, sustainable use is a global issue and, to achieve a significant impact within important forums such as the Convention on Biological Diversity (CBD), it is essential that it has a firm intellectual underpinning. Therefore a new Global Concepts group, comprising many of the leading conceptual thinkers around issues of sustainability, human livelihoods, and the exploitation of natural resources, has been established. Their work will complement that of the decentralized regional groups, helping develop the core concepts within sustainable use, and create advice and guidance which can be used in the design and implementation of field interventions.

Whilst the SUSG encompasses a wide range of expertise, we recognize that, even with the addition of the Global Concepts group, some important sustainable use issues are not addressed by the membership. However, rather than duplicate work already being done, we are compensating for the deficiencies in our network by forming partnerships with better-equipped organizations.

So, in the spirit of the IUCN's drive to increase cooperation throughout the Union, we have started developing partnerships within the SSC network, such as the Global Trees Specialist Group, and with the commissions on Ecosystem Management (CEM) and Environmental, Economic and Social Policy (CEESP). Links are also being formed with other organizations outside the IUCN, such as the Swedish Foundation for Science, People and Plants International and the Poverty and Conservation Working Group, a UK-based discussion forum examining the interaction between conservation and poverty reduction organizations.

With sustainable use now prominent in official IUCN policy, the SUSG has a responsibility to satisfy the targets set in the IUCN Key Result Areas (KRAs) and, in particular, the SSC Strategic Plan. Accordingly, the SUSG has developed a Strategic Focus for 2004-2008 which highlights how the work of the SUSG contributes to these wider IUCN plans and helps to promote the practical implementation of the Sustainable Use Policy.

The wide-ranging expertise of the group is reflected by the three Strategic Focus Areas, Policy, Science and Practice, which contribute to specific KRAs and SSC targets.

Policy

The SUSG is already influencing global policy through its interaction with the CBD and the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES). SUSG played a central role in the development and adoption of the Sustainable Use Principles and Guidelines by the CBD Conference of the Parties earlier this year. Several SUSG members, including the Chair, participated in a recent workshop examining synergies between CITES and CBD in order that these two globally influential conventions can cooperate in promoting sustainable use of natural resources.

Science

SUSG is a major partner in a project analyzing case studies of use to provide quantitative information on the factors which influence resource-use outcomes.

A proposal to examine the mainstreaming of biodiversity in productive landscapes of South America and Southern Africa is being developed. The SUSG was also involved in a workshop to assist the Monitoring and Evaluation unit of the Global Environment Facility to develop a tool for assessing indicators of sustainable use in their projects.

Practice

Through the work of our members, SUSG is also involved in the practical application of the policies and theories of sustainable use in many different ways. In recent months, much time has

been dedicated to planning for the 3rd World Conservation Congress in Bangkok. Fortunately, many of our members plan to attend the Congress, and we are hosting an event at the World Conservation Forum entitled: "Implementing the Addis Ababa Principles and Guidelines: Sustainable Use & Human Livelihoods".

This is just a small selection of the SUSG's work over the last quadrennium. Much more information is available in the quarterly electronic newsletter 'Sustainable' and on our regularly updated website, <http://www.iucn.org/themes/ssc/susg/>

Jon Hutton, Chair

Lizzie Wilder, Technical Assistant

Vet

Successes, Challenges and Plans for the Future

The IUCN Veterinary Specialist Group is a collaborative multidisciplinary network supporting and promoting the health of wildlife and wildlife management as core components of ecosystem and biodiversity conservation.

The Veterinary Specialist Group (VSG) is a network of experts in various aspects of wildlife health. In early 2001, Drs Richard Kock and William Karesh were appointed to cooperatively chair the group after the departure of Dr. Michael Woodford, who led the organization since its inception in 1984. In June 2002, the Co-Chairs organized a VSG Futures Search Workshop. Participants at this meeting helped to define a new vision for the VSG, identify strategies to work toward this vision, and to design a new organizational structure suited to achieve the group's goals by involving more members in decision-making and appointing regional coordinators to focus members on relevant issues. The following summer, the VSG Advisory Board (formed at the Futures Meeting) met in Saskatoon, Canada where concrete objectives were developed. These early meetings provided VSG members with their first opportunity, under the new leadership team, to discuss the evolving role of wildlife health in conservation.

Since the group's re-structuring in 2002, Veterinary Specialist Group membership has doubled to over 300 members in 50 countries, allowing the SSC to draw upon new areas of expertise and reach out to scientists in previously under-represented regions. To support this emboldened network, the VSG launched a new website <http://www.iucn-vsg.org> that provides SSC members and the public open access to directly contact specialists for advice via a searchable database, and see updates on recent VSG activities and recommendations on wildlife health and conservation issues.

With the momentum of a renewed vision, the VSG played a key role in helping to lay the scientific foundation for an international animal health and natural resources management initiative called AHEAD – Animal Health for the Environment And Development. This initiative, launched during the IUCN World Parks Congress, was started by The Wildlife Conservation Society (WCS), VSG, the South African region of the Sustainable Use Specialist Group, and other partners in recognition of the importance of animal health to both conservation and development interests.

With increased membership, VSG has also increased its capacity to advise on both broad and species-specific health issues that arise across the globe. In the South Pacific Ocean, the Cetacean Specialist Group and VSG members conducted a site visit and prepared a report in response to widespread public interest in the recent live-capture and export of dolphins from the Solomon Islands. In Latin America, the VSG assisted the Deer Specialist Group in responding to the needs of the pampas deer in Uruguay, and in North America, VSG members contributed to a WCS produced guide for USAID project evaluators entitled: *Animal Health Matters: Improving the Health of Wild and Domestic Animals to Enhance Long-Term Development Success in USAID-Assisted Countries* (available on our website). To help manage the recent outbreak of Avian Influenza in Asia, VSG members assisted the UN Food and Agriculture Organization in developing recommendations for controlling the outbreak and posted additional guidelines on the VSG website. A short list of significant disease events that VSG members were involved in can be found on the SSC 2000–2004 Quadrennial CD-Rom.

Challenges

Although the VSG network is a valuable resource for wildlife health information and advice, many Specialist Groups are unaware of VSG's vast expertise and therefore overlook opportunities for collaboration. VSG members are striving to bridge this gap by reaching out to other SSC groups and encouraging members to take a closer look at projects that may include often-neglected issues of wildlife health.

In the past, the Veterinary Specialist Group has primarily filled a network-response role. As we move forward with a more diverse group, we envisage taking on a more pro-active role in identifying problems, helping to design conservation projects and finding funding for them.

Plans for the future

Capitalizing on its expanding technical expertise, the Group anticipates being increasingly involved with conservation and health projects that assess the impact of disease on targeted wildlife populations. Additionally, VSG is seeking to directly sup-

port pilot studies to examine the health implications of wildlife and livestock interactions that are becoming increasingly common as agriculture and development expand around the globe.

Moving forward, the VSG will continue to disseminate important health information through traditional publications, the VSG website and other web-based systems. This year, the VSG and the African Rhino Specialist Group will begin producing translocation guidelines that will be made available on the web and in print. In 2005, the proceedings from the AHEAD Animal Health Forum, convened at the 2003 World Parks Congress, will be published as an IUCN *Occasional Paper*, bringing important wildlife health and development issues to the forefront. Additionally, VSG is seeking to provide short symposia for government ministries on wildlife health issues in their region, helping to connect management to on-the-ground conservation.

A regional disparity in project funding often hinders health professionals in developing countries from conducting health projects. In the coming years, VSG members with success in donor relations and grant writing will assist other country members in aligning wildlife health projects with potential sources of funding. The VSG aims to hold its first Grantmanship workshop in Addis Ababa, Ethiopia where there is increasing support for strengthening the veterinary infrastructure of wildlife conservation programs but where there is little access to funds for local veterinarians and health specialists. If successful, the training program could serve as a model for funding workshops across the region.

Drawing upon the multi-disciplinary capability of the group, the VSG will be co-organizing a session at the World Conservation Congress devoted to mapping out the links between animal health, conservation and human security. This forum will be presented in the context of a global synthesis workshop in the stream; *Health, Poverty and Conservation – Responding to the challenge of human well-being*. The forum, entitled; “One World, One Health: The Threat of Emerging Diseases to Human Security and Conservation, and the Implications for Public Policy” is jointly organized by the Veterinary Specialist Group, the Wildlife Conservation Society, the IUCN Commission on Environmental Law, the IUCN Commission on Environmental, Economic and Social Policy, the International Institute for Sustainable Development, and the Center for Environmental Legal Studies of Pace University School of Law. This symposium will emphasize one of VSG’s main tenets, that animal health and human health are fundamentally connected.

Richard Kock and William Karesh, Co-Chairs

Climate Change Task Force

In February 2001 and January 2003, the SSC working as part of the IUCN climate change group, facilitated two workshops looking at the issue of climate change and its impact on species. This work was undertaken because the existing literature on global change, and in particular the reports of the Intergovernmental Panel on Climate Change (IPCC) paid scant attention to biodiversity generally and none to species specifically. In recognition of this clear niche for the SSC, the workshop participants recommended formation of the Climate Change Task Force under the chairmanship of Dr. Camille Parmesan of the University of Texas. The Task Force was charged with exploring in more detail the impact of climate change on species diversity, providing selected studies on such impacts and providing tools and assistance with incorporating biodiversity concerns into climate change adaptation and mitigation programs and raising the profile of the issue as a global problem.

Although the Task Force was formed fairly late in the intersessional period there has been some progress on activities that were identified as priorities. One of the most visible spin-offs from the workshops was the publication of a paper by Thomas *et al* in *Nature* in January 2004 in which the precarious situation of numerous species was highlighted. The paper has stimulated much discussion and argument but certainly raised the profile of climate change as a species conservation issue. Other activities that have been undertaken include: incorporating climate change as a threat within the context of the Global Species Analysis that is being completed as part of the 2004 *IUCN Red List of Threatened Species*; and inclusion of conservation-related issues into the Fourth IPCC Assessment through a separate section on biodiversity impacts. Both of these actions will bring global attention to the issue and promote recognition of species conservation as part of the solution.

The work of the Task Force is far from complete and the group looks forward to further work in the next intersessional period.

Camille Parmesan, Chair

Declining Amphibian Populations Task Force

The Mission of the Declining Amphibian Populations Task Force (DAPTF) is to determine the nature, extent and causes of the decline in amphibians throughout the world and to promote means by which these declines can be halted or reversed. The DAPTF was established in 1991 in response to amphibian declines throughout the world, which were first noted by the herpetological community in 1989. The Task Force Office, headed by the International Director, is located at the Open University in the UK. We operate through a network of Regional Working Groups. Currently, around 90 of these represent different regions of the world and collect data on amphibian declines and their causes. Other, issue-based Working Groups are concerned with specific topics, including disease and pathology, monitoring techniques, chemical contaminants, climatic and atmospheric change and captive breeding.

The DAPTF is a non-profit organization with only one regular paid employee, the International Coordinator. It derives its operating budget from grants, awards, institutional contributions and personal donations. A Board of 16 international experts oversees the work of the DAPTF Office and determines our overall strategy.

The DAPTF allocates a substantial proportion of its budget to an annual program of Seed Grants. These are small awards (typically USD 500 to 2,000) given to support projects that further our mission, with the intention that they will not only yield results that further our scientific understanding of the amphibian decline phenomenon, but will also lead to recipients setting up new lines of research that will attract further, more substantial funding from conventional sources. Between 1993 and 2004, we received 454 applications, from 76 different countries; we have funded 157 projects in 45 countries, for a total outlay of USD 272,951. The Seed Grant program has yielded a large numbers of papers in leading, peer-reviewed journals and, on average, seed grant recipients have attracted an additional USD 20 from other sources for every US dollar granted by the DAPTF.

We also maintain a Rapid Response Fund to investigate mass mortality events and disease outbreaks in the field. Since 1998, we have received 14 bids, of which we have funded six, for an outlay of USD 8600. We have just been awarded a substantial grant by the Critical Ecosystem Partnership Fund to enable us to award larger grants to amphibian conservation projects in specific biodiversity 'hotspots'.

The DAPTF is working with IUCN/SSC and Conservation International to complete a Global Amphibian Assessment (GAA), determining the Red List status of all the world's 5,500 amphibian species. We have also developed a Declining Amphibian Database (DAD), which currently contains data for 3,020 amphibian populations, covering 1,170 species, at 529 sites in 61 countries.

We are currently looking at ways to develop DAD as an open-access web-based resource that can be continually updated. We also plan to link it to other, complimentary databases, such as AmphibiaWeb and AmphibiaTree.

The DAPTF publishes a free, bi-monthly newsletter, *FROGLOG*. It is posted on our web site and is distributed in hard copy to 3,000 recipients worldwide. In August 2004 we will publish issue No. 64. Our web site (www.open.ac.uk/daptf/) also provides a monthly update of relevant scientific publications, details about Seed Grants and other developments and links to relevant web sites.

The DAPTF has organized or sponsored a number of symposia at conferences in recent years. We are currently organizing a symposium at the 5th World Congress of Herpetology, to be held in South Africa in June 2005. We are producing a multi-author book, entitled *Amphibian Population Declines*, to be published by Cambridge University Press.

James Collins, Chair

Tim Halliday, International Director

Declining Pollination Task Force

The Declining Pollination Task Force is expected to be able to provide the scientific capacity by which the sustainability of pollination systems can be achieved. This scientific capacity depends upon inter-disciplinary scientific expertise that combines botany, zoology, ecology, ethology and environmental sciences with economics, social sciences and, extension education methodologies in synthesizing and appraising information, both old and new, through modern approaches in information technology.

Pollination requirements for most plants worldwide are unknown. For some plants the pollination requirements are variously misunderstood and only for a few species is information adequate for addressing the issues of conservation. Thus, there is an astoundingly broad potential for the expansion of the application of pollinator ecology into plant and animal conservation. The zoological side is perhaps even less properly understood. A major constraint to the expansion of the pollinator base for conservation, as for agriculture, is the immense lack of biological information on potentially valuable players. The lack extends from the taxonomic constraint through to basic knowledge about biology and ecology as required for encouraging and conserving the pollinators.

In natural systems, as in managed, semi-managed, and exploited ecosystems the situation with respect to pollination requirements and the nature of the pollinators is all but unknown from the view point of ecosystem function. Some very recent research indicates that pollinator assemblages provide more pollination services than the

**Pollinator assemblages may
provide more pollination services
than the individual species**

individual species themselves, even if in large numbers. The diversity and abundance of pollinator assemblages, and their temporal stabilities may be useful as measures of ecosystem function, but data are only recently accumulating to test these ideas in the context of ecosystem conservation.

Overcoming Taxonomic Constraints, Zoological & Botanical

Because of the inadequacy of the knowledge base in pollinator taxonomy and biology, the unreliability of much of the published literature in pollination and the lack of information on the pollination biology of many economically important plants, the incomplete understanding of floral biology and plant breeding systems, and so on, it is unrealistic to expect conservationists to be able to convey thoroughly considered and inter-disciplinarily valid information without scientific assistance. The Task Force aims to provide that assistance.

Overcoming Ecological Methodological Constraints

Conservation and protection of pollination in agro-ecosystems and in nature recently has become a major concern internationally and worldwide after decades of neglect. Thus, there is little information in the literature on conservation

and habitat management that relates directly to pollination. In fact, the conservation movement has progressed from endangered species to endangered spaces, but is only now starting to embrace

endangered processes. Similarly, habitat management has tended to concentrate on specific problems afflicting particular situations. The Task Force intends to address conservation and habitat management from the levels of species (animals and plants), to spaces (as in specific habitats), to ecosystemic processes that are the keystones of biodiversity, abundance, and the interactions of life-forms with each other and with the physical components of their environments.

Overcoming Economic and Educational Constraints

Biology and ecology alone will not allow us to accomplish our aims. One of the main messages that must be made to justify a major, globally active, program in sustainable pollination is economic. The value of pollination to agriculture cannot be questioned, but economic analyses that explore the effects of pollination deficits on food security and prices have not been made in respect of the globalization of the economy, nor in respect of local and national markets. Socio-economic benefits of sustainable pollination could be

demonstrated for specific crops or cropping systems, or at various geographic scales. The Task Force intends to embrace economic and societal studies as part of its program, especially towards the integration of biology and ecology into the horizontal component of knowledge sharing. Because of the overall inter-disciplinary nature of the Declining Pollination Task Force, and its holistic approach in embracing people as part of the agro-ecosystem, special and imaginative approaches to extension education and technology transfer are required.

Contributing to the Information Highway

Modern information technology will be central to the Declining Pollination Task Force's operational approaches. Results of studies and critical reviews must be made available as rapidly as possible, as well as archived for future reference and updating. A web-based library will serve that purpose. The database will include extended inventories of pollinators with respect to particular crops, cropping systems and regions. Coupled to that will be taxonomic keys to pollinator identification, including computer-based expert and graphic systems. Databases on agricultural production and trade would be accessed for economic analyses, through collaborative efforts with other initiatives in pollination conservation. From this technical base, information can be shared and recommendations for priority actions can be identified.

Teamwork

The Task Force requires teamwork; from biologists to economists and policy analysts. Members will work together to address pollination concerns globally. Partnerships with INESP (International Network of Expertise for Sustainable Pollination), various global and regional initiatives in Pollinator Conservation (International Pollinators Initiative (IPI), North American Pollinator Protection Campaign (NAPPC), the African Pollinators Initiative (API) and others coming online, the International Commission on Plant-Bee Relations (ICPBR) and the electronic bulletin board POLPAL-L will be particularly useful. The Task Force will organize workshops and expert consultations as well as special symposia at various appropriate meetings at national and international levels. We also hope to hold Declining Pollination Task Force congresses from time to time. Learn more from our website: <http://www.uoguelph.ca/%7Eiucn/>

Peter Kevan, Chair

Regional Reports

Central Asian Region

The highlight of the last quadrennium has been the development of the national and regional threatened species and ecosystem protection initiatives. SSC members worked closely with other IUCN Commissions to re-invigorate the IUCN Central Asia Programme. In particular, projects such as: the Identification of Important Plant Areas in Uzbekistan and Kazakhstan and the development of Action Plans for their Protection; Capacity Building of the Snow Leopard Network (SLN) in Central Asia and the development of an Action Plan for Snow Leopard conservation in the region; an Informational Guide of the Protected Areas System in Central Asia; the North Eurasian Red List Information Service (NERIS); the wise use of nature resources in the Southern Aral Sea Region and the Development of a Management Plan for the Sudochie Wetland (Uzbekistan) were included in the portfolio of IUCN's Central Asian Programme.

As a member of WESCANA Regional Advisory Group, the SSC Regional Vice-Chair for Central Asia, Dr. E. Kreuzberg-Mukhina, participated in a number of meetings and initiatives and championed the inclusion of biodiversity conservation items in the Central Asian Programme.

An INTAS-IUCN Red Listing project begun in 2000 and was completed in 2003. The project included training of a Central Asian young scientist, Ms. E. Bykova, to conduct the Red Listing workshops

and training at regional and national levels. In September 2001, an International Workshop on Red Listing and Red Books took place in Tashkent, Uzbekistan. More than 60 specialists from nine countries, including representatives of zoological and botanical institutions from the region, attended this meeting.

As a result, Central Asian experts were involved in the compiling of a Central Asian threatened species database, where information on 163 vertebrate species was included. The results of this project were disseminated in over 20 papers and various seminars and workshops at national, regional and international level. Success is due to the enthusiastic input of all participants and to the leadership of Dr. Eleanor Milner-Gulland.

One of the challenges that came out of this process was how to undertake status assessments of regional populations of widely distributed species. Also, it became clear that species information for the region is out of date, owing to an absence of species monitoring and species conservation programs. Species assessments were only done for vertebrates, assessments of plants and invertebrates are still needed.

Uzbekistan Zoological Society prepared and published a Russian version of the 2001 IUCN Red List Categories and Criteria, version 3.1. A *Red Book of Uzbekistan*, designed by members of Uzbekistan Zoological Society and Academy of Science, was published in 2003 and a multimedia version is currently being produced. In addition, a 2005 calendar containing information on 12 bird and mammals species highlighted in the *Red Book of Uzbekistan* will be distributed thanks to the sponsorship of Havo Youllary (Uzbekistan Airways).

The State Committee of the Nature Protection of Uzbekistan has proposed the preparation of a second edition of the national Red Book. In conjunction, the national Commission on the Red Book is being restructured to include two subcommittees. An Executive Committee of scientists and national-level decision-makers, and a Steering Committee or national Red List Authority, which will include a team of experts responsible for collecting and presenting information on threatened species to the conservation community.

A list of threatened invertebrates has been prepared as part of the Kazakhstan *Red Data Book of Threatened Animals*, developed using the new IUCN criteria. In addition, a series of posters depicting some of the invertebrates listed in the Kazakhstan Red Data Book have been produced.

The SSC Regional Vice-Chair also participated in assessments of Central Asian ecosystems for the Millennium Ecosystem Assessment, in a Challenges for Drylands in the New Millennium: A Cross-Cutting Approach for Assessment workshop; in the preparation of proposals for the development of a Programme on the Assessment of the Mountain Ecosystems in Central Asia; and presented Biodiversity Assessment and Redlisting Process at the National and Regional Levels in Central Asia to an international workshop on Global Change, Sustainable Development and Environmental management in Central Asia.

Members of Uzbekistan Zoological Society presented an analysis of the critical situation regarding freshwater biodiversity in Central Asia at an IUCN Regional Conservation Forum in Amman, Jordan (2004).

Elena Kreuzberg-Mukhina, Regional Vice-Chair for Central Asia



SSC Steering Committee

Southern Cone Region

As Regional Vice-Chair for the Southern Cone of South America, I carried out a series of activities covering relationships and collaboration with different organizations within and outside the IUCN, technical assistance in the areas of population dynamics, conservation, resource management and represented IUCN and SSC initiatives in a number of different forums.

These included participating in a workshop on the Application of the New IUCN Categories of Threat to the Central American Fauna and Flora: Theory and Practice, as well as in several meetings of the Sustainable Use Specialist Group (SUSG) including developing a paper on Operationalizing the sustainable use of wild renewable resources. I presented the SUSG perspective during an international workshop on Science, Technology and Sustainability: Harnessing Institutional Synergies, in February, 2002.

I also contributed to Convention on Biological Diversity (CBD) workshops on Sustainable Use of Forest Biological Diversity and Sustainable Use of Marine Biological Diversity in 2002. I collaborated with the Precautionary Principle Project coordinated by Dr. Rosie Cooney by providing a Latin American contribution based upon the incorporation of uncertainty and resilience in conservation in relation to the Precautionary Principle as applied to renewable natural resource management.

I made a presentation on the contribution of the Red List Programme to species conservation at the Latin American Workshop on Science and Technology for the Sustainability of Development, in 2002.

A key function was to provide an SSC contact for the IUCN Argentinean and IUCN South American Regional Committee. I attended meetings of these committees whenever possible. In addition, I provided the IUCN South American Regional Office with names and contacts of South American specialists to participate in the South American Forum on Protected Areas.

In July 2003, I helped to IUCN South American Regional Office update an SSC Specialist Group database for South America. I found that of the 192 existing entries of South American experts in the database, approximately 35% of them had outdated email addresses, and were unreachable.

I also served as a liaison between SSC and the IUCN Regional Office to promote the inclusion of South America in the IUCN Freshwater Biodiversity Initiative, and in matters related to the SSC Red List Programme as well bringing the IUCN Regional Office in contact with the Society for Conservation Biology in Latin America.

Finally, I have had excellent contact and coordination with IUCN staff on current Species Programme initiatives including the Global Mammal Assessment (GMA), Red List training and identifying potential Specialist Group Chairs in the region.

Jorge Rabinovich, Regional Vice-Chair for the Southern Cone

Northern Africa

Although limited by scarce funding, in North Africa activities undertaken included: preparing a Red List of the endangered species of Morocco; undertaking a study on migrating birds as game in order to provide decision-makers with appropriate information for determining the hunting season and participating in initiatives examining the sustainable use of a number of species in the area.

Brahim Haddane, Regional Vice-Chair for North Africa

SSC must strive to show that preserving biodiversity is an insurance for the future

SSC In Short

During the period, the Species Programme faced the ever-growing challenge of finding sufficient funding for its broad activities. Despite this, as in previous years, countless activities were undertaken, new partnerships formed and real progress made against the Strategic Plan.

Realising that it cannot achieve its ambitious targets alone, throughout the inter-session period, SSC has looked to form closer ties with established partners, as well as forge new ones. The Red List Consortium that is expanding its strength and outreach, is an example of the new strategic alliances that SSC is working towards. Challenges that lie ahead include developing closer working relationships with IUCN Regional and Country Offices, providing funding for Specialist Groups to carry out critical conservation work in the field, and securing the financial resources needed to carry out key biodiversity assessments.

An emerging challenge is to cement SSC's position as central to monitoring progress against the European Union target of halting the loss of biodiversity by 2010, and the "Countdown to 2010" initiative.

SSC's Strategic Plan 2001-2010 has already had an impact on the global debate surrounding biodiversity loss and has helped increase the level of acknowledgment of the problem of biodiversity loss although there is still a long way to go in getting the necessary resources in place.

SSC must strive to show that preserving biodiversity is an insurance for the future of humankind and that without proper biodiversity information and monitoring systems, we cannot tell if we are making the right management decisions that affect our natural resources.



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On Our Cover

Chlorea sp. (Orchidaceae), a Patagonian orchid species.

Credit: V. Delhey

Pygmy hog (*Sus salvanius*) at the Pygmy Hog Research and Breeding Centre in Basistha, India

Credit: Roland Seitre

A male Brazilian Merganser (*Mergus octosetaceus*) at Serra da Canastra National Park

Credit: Robson Silva e Silva

Yellow-crowned butterflyfish (*Chaetodon flavocoronatus*) endemic to the Mariana Islands

Credit: Robert F. Myers

Dlinza Forest pinwheel snail (*Trachycystis clifdeni*) a recently red-listed snail

Credit: Dai Herbert

Shark Specialist Group member, Peter Kyne, measuring a smalltooth sawfish (*Pristis pectinata*)

Credit: Colin Simpfendorfer

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TEAM SPECIES would like to thank all the SSC members who have contributed to the success of Species. We also thank Travis Gobeil, the talented artist behind the new look of Species this quadrennium.

Contributions to *Species 43* should be sent to Team Species by **25 April 2004**.

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