

# Species

Newsletter of the Species Survival Commission

Number 46, July – December 2006



The World Conservation Union

# Species 46

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**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 to technical and scientific counsel to biodiversity conservation projects throughout the world. They provide advice to governments, international conventions, and conservation organizations.

**Team Species** - Andrew McMullin with assistance from Sarah Webborn

**Layout** - NatureBureau

**Cover Photo** - Chris Gomersall/rspb-images.com

Opinions expressed in this publication do not necessarily reflect official views of IUCN/SSC

ISSN 1016-927x

*Species* is printed on recycled paper

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# One Programme, One Voice

## A joint message from the SSC Chair and Head of the IUCN Species Programme

Another whirlwind year has passed and we have reached the mid-way point in IUCN's 2005-2008 Quadrennium. The Species Survival Commission (SSC) and the Species Programme (SP) have, despite some huge challenges, also celebrated some important successes.

At a recent meeting of the SSC Steering Committee, the floor was opened for our standing agenda item on SSC success stories. Over 12 examples were shared within the space of 10 minutes - just off the top of our heads! Among these were stories of new species being discovered, successful reintroduction programmes, persistence of exploited species and conservation initiatives that are working to snatch species from the brink of extinction. It certainly is an exciting time to be part of the species conservation team.

Administratively, the year has been quite challenging. Network support has suffered due to the cutting of two positions in the SP. Faced with this network support challenge, fundraising has been a priority for all of us. Unfortunately, sometimes being the biggest and arguably the best known of IUCN's Commissions is accidentally equated with having the most resources to hand and this often undermines our fundraising efforts. On the positive side of administration, however, is the recruiting and restructuring that is on-going following a programmatic review of in the SP early in 2006. Current recruitments include an administrative support position in Cambridge and a replacement communications person for Gland. A Senior Commission Officer for the SSC Chair's Office in Cape Town is also being recruited. The SP is developing a fundraising strategy and priority list, and a number of interesting and modern fundraising approaches are being explored. One of our agreed priorities is to recapitalize and revitalize the Sir Peter Scott Fund, with the aim of making small but immediate funds available to Specialist Groups on a competitive basis.

Governance-wise, IUCN has appointed a dynamic new Director General, Julia Marton-Lefèvre, who will take up the position in January 2007. She is no stranger to IUCN (as a former Deputy Chair of the Commission on Education and Communication), and has excellent skills in inter-national relations and development as well as an extensive environmental and governmental network. In the

meantime, constructive meetings have been held between the Commission Chairs and IUCN Senior Management - ensuring that the Commission issues and inputs are considered at a high level and in the implementation of 'one' IUCN programme.

The SSC's Restructuring Task Force has been working diligently to address the conclusions of several external reviews that highlighted the need to renovate our 60 year-old model to enhance its relevance and impact. So far, our energies have focused on clearly articulating the main functions required of the SSC and its membership in order to formulate a more efficient structure for delivery. To this end, the Task Force was mandated to continue their consultations and planning with a view to having a firm strategy in place for a roll out in the next Quadrennium.

One governance issue that is not progressing as fast as hoped is the Commission Online Registration System (CoReg). By comparison to the other Commissions, SSC is very large and therefore the registration of all our members is proving to be a complicated and lengthy task. We urge you to go online and update your information as soon as you receive your passwords - this is to ensure that we have your correct contact details and that you are officially considered a member of the SSC.

Though we would all love to spend our time in the field doing what we enjoy most, every year important conservation meetings require our undivided attention. At the Eighth Meeting of the Conference of the Parties to the Convention on Biological Diversity (CoP 8) we hosted two side events, participated in others and worked to secure a mandate for the development, testing and delivery of biodiversity indicators for measuring progress towards the CBD's 2010 target. CITES continues to be a focus, and we participated in the 'CITES and Livelihoods Workshop' (which deliberated the impact of CITES regulations on local livelihoods) and the 54th CITES Standing Committee meeting. SSC also continues to work with the Convention on Migratory Species and recently co-hosted a successful series of meetings on the saiga antelope. We are working to refine our relationships with

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TRAFFIC, our Red List partners, the Alliance for Zero Extinction, the Consortium for the Barcode of Life and others. There is an almost endless flow of individuals and organizations seeking partnership with the SSC, and we are grateful for their continued interest.

Some other important initiatives began or came to fruition in 2006. One is the joint SSC/WCPA Conservation Planning Initiative – an important step towards systematic, landscape level conservation planning taking biodiversity values and assets into account. Another was the successful

Within IUCN, the SSC has been involved in a number of initiatives. The SSC and SP joint input to the Mangroves for the Future (MFF) Initiative (a US\$62 million project that is being developed by the IUCN, UNDP and partners as a follow up to the 2004 tsunami and subsequent restoration efforts) was well received and incorporated into the final strategy document. Through a process of consultation with our network we also provided impressive input to the IUCN Situation Analysis, which will help set the groundwork for IUCN's next intersessional programme. This and our participation in the programme planning meeting for 2009–2012 are first steps in the development of a new SSC Strategic Plan.

Every year has its highs and lows and 2006 was no exception: We celebrated the brand new Indianapolis Zoo Prize, which was awarded to SSC Crane Specialist Group Chair, Dr George Archibald, for his life-long work with cranes. Sadly, we mourned Dr Rod East, Dr Ralph Daly, Dr Tirtha Man Maskey, Baron Bertrand des Clers, Dr Tom Foose, and most recently Mary Rabb (wife of former SSC Chair, Dr George Rabb).

We now move into 2007 with a full agenda and exciting initiatives. Some of the aims for next year include:

- ■ Furthering the SSC's work on climate change by strengthening species assessments to include the characteristics of vulnerability to climate change – essential work that will allow biodiversity conservation strategies to incorporate means of addressing climate in a more targeted and meaningful way.
- ■ Finalising important discussions regarding IUCN's policies on data ownership, control and use, with specific attention also being paid to attribution and authorship of individual species assessments.
- ■ Contributing to the World Commission on Protected Areas Summit on the IUCN Protected Areas Categories and their specific relevance to the conservation of biodiversity.
- ■ Preparing the IUCN/TRAFFIC Analyses of the proposals to CITES and providing technical advice and inputs to the CITES CoP 14 in The Hague (June 2007).
- ■ Ensuring a SSC presence at the Society for Conservation Biology's 21st Annual Meeting, to be held in July 2007 in South Africa. The theme is *One World, One Conservation, One Partnership* and supports our own belief in the need for a joint effort to conserve the world's biodiversity.
- ■ Accelerating the SSC's work on Indicators by fundraising and initiating the development and testing for each group of CBD 2010 indicators (e.g. IUCN Red List, Sampled Red List Indices, Sustainable Use, Alien Invasive Species, and Food and Medicine).

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*All through the year, the SSC Specialist Groups have been instrumental in bringing pressing species issues to the attention of IUCN's senior management*

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Recreational Hunting Symposium, which was important for the sustainable use fraternity and others engaged in the contribution of sport hunting to achieving broader conservation aims.

Assessment and indicators work still continues at the usual fast pace, with many Specialist Group members putting a lot of time into assessing their species for entry to the IUCN Red List. At the regional level, interest is also growing for the Red Listing process, and some wonderful publications have surfaced from the Mediterranean region. The Global Mammal Assessment continues (completion targeted for 2007), and other assessment work is coming together to feed into the second edition of the Global Species Assessment – due to be released at the 4th World Conservation Congress.

To assist with this process, the development of the Species Information Service (SIS) has progressed substantially over the past year, with the much-needed upgrade to the Data Entry Module (DEM) now complete. Work is now proceeding swiftly on the specifications for Version 2. Specialist Groups will be contacted to input into the design of the system. To the greatest extent possible, SIS will link to existing Specialist Group databases, but the details of such integration will need to be investigated on a case-by-case basis.

All through the year, the SSC Specialist Groups have been instrumental in bringing pressing species issues to the attention of IUCN's senior management and, in fact, the world. While we are not always successful, it is heartening to see that IUCN really can influence decision-makers to help with species-specific matters. Even larger-scale matters, such as the global amphibian crisis, the impacts of seismic survey work on cetaceans or interactions with the pharmaceutical industry regarding various detrimental drugs, are being tackled head-on by Specialist Groups.



- ■ Planning a SSC Specialist Group Chairs' Meeting (hopefully funds can be secured to hold this meeting early in 2008). The meeting would be unprecedented and an excellent opportunity for the Specialist Group Chairs to meet with the SP staff and higher-level IUCN management, an opportunity to showcase the Specialist Groups' work, and an opportunity to discuss issues such as the SSC restructuring and our input to the WCC.
- ■ Conducting one-on-one telephone consultations with Specialist Group Chairs to bring various issues to their attention as well as to ask for their feedback and ideas on activities, communication tools, and the 'shadow' resources contributed through the SSC network to IUCN.
- ■ Partnering with Botanic Gardens Conservation International on the new GEF plants project, which aims to carry out species assessments and identify important plant areas in six countries: Costa Rica, Morocco, The Philippines, Cameroon, Sri Lanka and Madagascar.

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Holly T. Dublin

**Chair – IUCN Species Survival Commission**

- ■ Working to develop both fund-raising and communication strategies to strengthen the contributions of SSC and the SP.

The very biggest event on SSC's 'radar screen' is the next World Conservation Congress, 5-14 October 2008. The SSC actively pushed for a theme that takes us directly back to IUCN's heartland and our core mission – the conservation of biodiversity. At the November 2006 meeting of the IUCN Council, an overarching theme was approved for the Congress: 'A diverse and sustainable world'. It has three central strands: Safeguarding the Diversity of Life; Shaping Sustainable Solutions; and Healthy Environments Support Healthy Communities, each of which will provide the SSC network ample opportunity to contribute.

With a busy year behind us and two more busy years ahead, we once again thank all of you: SSC members, friends, staff and partners. Without you, the SSC could not maintain its place in the constellation of conservation super stars.

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Jane Smart

**Head – IUCN Species Programme**



# Spotlight on SSC's Unsung Heroes – Part III

In this issue of *Species* we close the march on the series dedicated to profiling the men and women who drive SSC and the global conservation agenda. All are Chairs of SSC's Specialist Groups, Task Forces or Working Groups covering species from bats to molluscs. They devote their time and energy on a voluntary basis to coordinate the work of their respective groups of experts, ensuring their collective knowledge and expertise feeds into the broader conservation agenda. All are committed to reversing the extinction crisis by providing the science and knowledge needed for sound conservation action, for species and their habitats.

These profiles aim to highlight the expertise, enthusiasm, and commitment shown by these leaders who have an immense impact at all levels, from running grass-roots projects to influencing global conservation policy decisions. Among the profiles emerges a fascinating range of work on, amongst others; bats, primates, molluscs and otters.

The Chair profiles will be placed on the SSC website on the Specialist Group pages over the coming months. The Amphibian and Reptile Specialist Group Chair profiles are already available (click onto the Chair's name for the link).

## Chiroptera (Bats)

### Co-Chairs: Rodrigo Medellin and Paul Racey



The Chiroptera Specialist Group (CSG) was reconstituted in 2006 with the re-appointment of Paul Racey, Regius Professor of Natural History at the University of Aberdeen, and the new appointment of Rodrigo Medellin, Professor of Ecology at the Institute of Ecology at the National Autonomous University of Mexico (UNAM), as co-chairs. Both Paul and Rodrigo are recipients of the Gerritt S. Miller award from the community of bat researchers of North America for distinguished services to chiropterology and are the only non-Americans to receive this award. In addition Rodrigo received a Whitley Award in the UK in 2004 and the National Conservation Award from Mexico's President Vicente Fox for his long-standing work in conservation; and Paul is a recipient of the UK Mammal Society's Medal for his work on bats.

Paul and Rodrigo have now selected the majority of their representatives in most African and some Asian countries, although some remain to be identified.

Some priorities of the group remain unchanged, such as addressing some of the recommendations of the action plans for Micro-chiroptera (2001) and Old World Fruit Bats (1993). The latter is urgently in need of updating and this too will be a priority; as is a new assessment of the status and threats affecting New World bats.

One of the compilers of these action plans, Simon Mickleburgh, has also compiled a report on Bats as Bushmeat and a high priority is to complete and publish this report online, so that it can be updated as more information becomes available. A website for this purpose has been established by Dr Allyson Walsh and hosted by the Lube Bat Conservancy, Gainesville, Florida. It will also provide contact details of CSG members, for whom an electronic newsletter will be published early in 2007. Paul and Rodrigo will continue to use their extensive networks to identify and build the capacity of young bat conservationists throughout the world, through

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*Threats are being addressed with tailored environmental education and promotion of bats' good image*

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teaching on training courses (such as those organized by Sally Walker in South Asia) and by helping them to apply for funding for their research. The most important threats affecting bats in the New World are vandalism in caves and other roosts, habitat destruction and misdirected vampire bat control. These and other threats are being addressed with tailored environmental education and promotion of bats' good image. Understanding the needs and biology of migration in threatened bats has advanced significantly and this will contribute towards the recovery of those species.

## Cuban Plant

### Angela Leiva Sánchez



Angela Leiva Sánchez has been working as director of the National Botanic Garden of the University of Havana, Cuba, for 35 years. She has been directly involved in the establishment of a Cuban plant collection, especially Cuban palms, in the Botanic Garden. A graduate of the University of La Habana, she completed her PhD in Biology at the same university in 1980. Angela has spent 20 years working for the conservation of threatened plants and has been a contributor to BGCI in the preparation of a conservation strategy for the botanic gardens of the Caribbean and Latin America.

Since its founding in 1990, Angela has presided over the Asociación Latinoamericana y del Caribe de Jardines Botánicos. The same year she organized the Cuban network of botanic gardens and has co-ordinated it since its creation. Angela participated as a member of the Gran Canaria group that prepared the first ideas for the Global Strategy for Plant Conservation (GSPC). She has helped to organize three CAMP workshops in the National Botanic Garden under the guidance of personnel of CBSG/ SSC/ IUCN for the conservation assessment of Cuban endemic plants. She has also

been Chair of the Cuban Plant Specialist Group of SSC since its creation in 2003.

Angela is now co-ordinating the efforts and commitments of the Cuban Network of Botanic Gardens to accomplish Target Eight of the GSPC and is conducting a project on the reintroduction to the wild of five threatened Cuban plants. She is a member of the Palm Specialist Group of SSC/ IUCN. Nowadays, the Cuban Plant Specialist Group is very concerned with the accomplishment of Target Two of GSPC, to produce a preliminary assessment of the conservation status of about 5,000 species of vascular plants not yet categorized or data deficient by 2010.

## Mollusc

### Mary Seddon



Mary Seddon is currently the Chair of the SSC's Mollusc Specialist Group. This group of invertebrates is the largest, most diverse group of animals within SSC's current group structure, as it covers 85,000 species, as well as perhaps another 30% remaining to be described. This represents a great challenge in terms of delivering a programme of activity with the world's malacologists (the name given to those who study snails, slugs, clams, mussels and the other smaller groups that make up the Phylum Mollusca). Fortunately there are about 400 people worldwide who are currently working mainly on Mollusca, with about 100 actively working on conservation issues. These people provide the vital input to questions posed by members of IUCN.

Mary is currently Head of Mollusca at Amgueddfa Cymru - National Museum Wales, based in Cardiff, UK. She's been working there on the taxonomy, biogeography and systematics of European and

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*Mollusc are the largest, most diverse group of animals within SSC's current group structure*

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African landsnails since 1990. The collections at Cardiff have international perspective, holding types and reference collections for about 40% of the world's molluscan fauna, with particular concentrations from the former British Colonies. She became interested in conservation issues when working on the landsnail fauna of the Madeiran Islands, a unique archipelago in the North Atlantic, which has a very high number of endemic range restricted species. This fauna has protected species that are listed on the appendices of the European Habitats and Species Directive and this led to involvement with the Threatened Species Assessment programmes of IUCN. Since 1994 Mary has served as a member of the Mollusc Specialist Group and since 1995 has directed volunteer activity on Red Lists.

At the Museum Mary has been actively working on Capacity Building projects in Africa, mainly funded by the UK's Darwin Initiative. This has established molluscan specialists at National Museums of Kenya and National Museums of Tanzania and these scientists have also become actively involved in research programmes looking at the impact of forest programmes on molluscan biodiversity in the region.

Mary's interests also extend to developing educational interactive programmes on Molluscs in the Museum. Five years ago a programme started tracking the Alien Girdle Snail in the UK; this introduces children to simple keys identifying snails in their gardens, the online mapping tool allows them to send their records of this species which is expanding its range in the UK, possibly as the result of climate change. Her interest in climate change stems from her PhD which used fossil snails to reconstruct Pleistocene Environments during the last glacial period in the UK.

In addition to threatened species assessments, the range of conservation activity on Molluscs worldwide can be seen through the newsletter, *Tentacle*. This is produced on an annual basis and is available electronically from Rob Cowie's website in Hawaii. With her colleagues, Mary provides advice on Invasive Species, Ex-situ Breeding of Freshwater Mussels and Landsnails, status for species proposed for CITES and trade in Mollusc species.

## Otter

### Jim Conroy

After graduating from the University of Aberdeen, Jim was employed by the British Antarctic Survey where he studied seabirds. After 11 years, he joined the Institute of Terrestrial Ecology, now the Centre for Ecology and Hydrology. Initially based at Monks Wood, near Cambridge, Jim moved to Banchory, north-east Scotland, in 1980 where he began his study of otters. Research projects on the species have included work on pollutants, monitoring, population structure, breeding, status, etc. With the International Otter Survival Fund, where he acts as Scientific Advisor, Jim has organized two international conferences on the Eurasian otter. He joined the Otter Specialist Group (OSG) around 1990. In addition to the publication of over 100 papers, reports and articles on otters, Jim has also edited the Proceedings of the OSG 1996 Otter Colloquium and those of the two Skye Conferences.



As well as his work on otters, Jim has been involved in several other projects, many relating to the oil industry. These include the development of contingency plans to deal with oiled wildlife and the examination of the environmental impacts of large-scale oil spills.

Jim sees the Specialist Groups as key components of the SSC. Regarding the Otter Specialist Group, his aim is to ensure that the problems associated with the world's otters are clearly identified. Where possible, plans can be made to try and address these problems successfully. Research forms an important part of any management tool so, through task forces, research priorities will be identified. Attempts will be made to determine funds to undertake these projects. Specialist Groups are selective by their very nature, but should not be inward looking. Rather, they should liaise with other Groups with related species or interests.

Ultimately, Jim sees the role of Chairman as that of facilitator/manager, to bring the membership together through an effective communication system and make them more fully aware of what has been happening in the world of otters.

## Primate

### Russell A. Mittermeier



Russell A. Mittermeier has been President of Conservation International since 1989. A primatologist and herpetologist by training, he has travelled widely in over a hundred countries and conducted fieldwork in more than 20 – much of it focused on Surinam, Madagascar and the Amazonian and Atlantic Forest regions of Brazil.

In addition to his work at Conservation International, he also serves as Chairman of the IUCN/SSC Primate Specialist Group, which he has led since 1977. For the past 27 years he has held the position of Adjunct Professor at the State University of New York and since 1996 he has also been the President of the Margot Marsh Biodiversity Foundation. Since 2001, Russell has served as Special Envoy for Great Apes with the United Nations Environment Programme (UNEP) and in November 2004 he was elected as IUCN's Regional Councillor for North America and the Caribbean.

He has published more than 400 scientific and popular articles and 15 books, including the trilogy *Megadiversity, Hotspots and Wilderness*, as well as the recent titles *Wildlife Spectacles, Hotspots Revisited, Pantanal and Transboundary Conservation*. Among the awards he has received are the Gold Medal of the San Diego Zoological Society (1988), the Order of the Golden Ark of the Netherlands (1995), the Cincinnati Zoo Wildlife Conservation Award (1997), the Brazilian Muriqui ABD Prize (1997), the Grand Sash and Order of the Yellow Star of the Republic of Suriname (1998), the Order of the Southern Cross of the Brazilian Government (1998) and the Aldo Leopold Award from the American Society of Mammalogists (2004). In December 1998 he was selected by Time magazine as one of its Eco-heroes for the Planet.

In addition to English, Russell is fluent in Portuguese, Spanish, German, French and Sranan Tongo, the Creole language of Surinam.

He graduated from Dartmouth College (Summa Cum Laude, Phi Beta Kappa) in 1971 and received his PhD in Biological Anthropology from Harvard University in 1977.

## Seaduck

### Chair: Stefan Pihl

Despite its small size, Denmark supports more wintering seaducks than any other country in Europe. It was thus natural that a Dane, Karsten Laursen, from the National Environmental Research Institute, set up the Wetlands International (IWRB it was then) Seaduck Database and became the first Seaduck



Specialist Group Co-ordinator in 1989. A few years before, Stefan had been hired and soon assumed responsibility for the co-ordination of the Danish aerial surveys, becoming the Danish national co-ordinator for the International Waterbird Census (IWC), a responsibility that he holds to the present day. In 1990, Stefan organized a course in aerial count techniques in Denmark (repeated in Estonia in 1993) which resulted in the Manual for Aeroplane and Ship Surveys of Waterfowl and Seabirds.

Stefan took over as Seaduck Database Co-ordinator in 1993 and was functioning co-ordinator of the Seaduck SG from then on until formally appointed chair of the Seaduck SG in 1995. The group has published nine issues of the Seaduck SG Bulletin in the period 1992 to 2002.

During the winter of 1993, a major survey of all the Baltic marine areas was carried out in co-operation between the national co-ordinators of the countries. Stefan co-ordinated the aerial counts and later presented the results and new estimates for most European seaduck species at Anatidae 2000 Conference in 1994.

The Seaduck SG has mainly been active in Europe although regional co-ordinators have been appointed for North America and Asia. The group has been living through many ups and downs, sleeping through extended periods of inactivity unlike most other groups. Monitoring of seaducks is vital, but being based on aerial and ship surveys is very expensive and cannot be carried out annually. In the coming winter of 2007 a comprehensive survey of the Baltic region is planned. It is feared that it will reveal serious declines in a number of European Seaduck species.

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## Wind energy and wildlife: the effects of wind farms on birds

As a benign source of energy generation in relation to pollution and the production of greenhouse gases, the attraction of wind farms is obvious. However, a review of studies of their impact over the past 10 years shows that wind turbines in sensitive areas can have a negative impact on wildlife, particularly birds. As the industry is set to expand, it is strongly recommended that robust environmental assessments are undertaken for all new wind farms, and a precautionary approach is advocated to minimize the impact of future wind farms on wildlife.

### Introduction

Most commentators and governments now accept that climate change is a reality, with all of its attendant risks to our way of life and the environment. Renewable sources of energy offer an opportunity to minimize the deleterious environmental effects of climate change, arising from over reliance on fossil fuels. Of the most advanced renewable technologies, wind energy, is set to make a substantial contribution to energy generation.

In Europe alone, by the end of 2005, over 6,000 MW of wind power capacity was added to the European electricity grids, bringing the installed capacity (as distinct from energy output) from wind in Europe to more than 40,500 MW ([www.ewea.org](http://www.ewea.org)). Spain, Germany and Denmark currently lead the way in installed capacity from wind energy.

The industry is still relatively young and so is the study of its impact on wildlife. However, after the compilation of information by BirdLife International and its partners from over 10 years of studies, the impact of poorly sited wind farms on wildlife is now beginning to be more widely recognized.

### The impact of wind farms on birds

The potential hazards to birds can be divided into three main categories:

- **Disturbance** leading to displacement or exclusion, including barriers to movement.
- **Collision mortality.**
- **Habitat loss and damage** from wind farms and associated infrastructure.

#### Disturbance

The negative impacts due to wind farms are variable and are very species, season and site specific. Disturbance can lead to displacement and exclusion from areas of suitable habitat, effectively loss of habitats for the birds.

Several reliable studies have clearly shown a negative effect up to 600 m from wind turbines for some species, with a reduction in use or total absence from the area close to the turbines. Birds most affected included whooper swan (*Cygnus cygnus*), pink-footed goose (*Anser brachyrhynchus*), white-fronted goose (*A. albifrons*) and Eurasian curlew (*Numenius arquata*). In a large wind farm, or cumulatively across several wind

farms, even a small exclusion area or area of reduced use may amount to a significant loss of available habitat. Other species have shown less marked or no changes in behaviour, highlighting the species specific impact of wind turbines.

There is also the risk that disturbance from increased human activity around the wind farm and the presence/noise of the turbines may also deter birds from using the area close to them. Few studies are conclusive in their findings, and few studies provide an indication of habituation to the presence of turbines, often because of a lack of well-designed studies both before and after construction. Golden eagles (*Aquila chrysaetos*) in California, for example, showed little sign of habituation after several years, but few studies have been long enough to demonstrate it one way or the other.

Offshore wind energy is in the early stages of development and there has been little research on its impacts, but several useful studies are underway, notably in Denmark. These indicate that there is a variable site and species response offshore just as onshore, raising concerns that proposals for large wind farms in shallow sea areas may conflict with the feeding distributions of seabirds, particularly seabirds. Results to date indicate that, at least in some species, e.g. eider (*Somateria mollissima*), many individuals adjust their flight to fly around wind farms (Desholm and Kahlert 2005). Inappropriately located and designed wind farms have the potential to be barriers to bird movement if they disrupt ecological links between feeding, breeding and roosting areas. This problem may not be insurmountable, as sensitive design at the planning stage, by leaving wide corridors between clusters of turbines, may alleviate the barrier effect, but this requires testing.

### Collision risk and mortality

High collision mortality rates have been recorded at several large, poorly sited wind farms in areas where large concentrations of birds are present, especially migrating birds, large raptors or other large soaring species. Examples include Altamont Pass in California, USA (especially golden eagle *Aquila chrysaetos*) and Tarifa and Navarra in Spain (in particular griffon vulture *Gyps fulvus*) and several other Important Bird Areas (IBAs).

The species that have been found to be particularly susceptible to fatal collisions, which include the transmission lines as well as the turbines, include hawks, vultures, eagles *Accipitridae*, falcons *Falconidae*, terns *Sternidae*, and owls *Strigiformes*. The importance of wind farm location and micro-siting of turbines is well-illustrated by a recently published study from Belgium. Four turbines that intercepted foraging flights by breeding terns accounted for most of their associated collision mortality (ca 50 birds found dead in each of two years) at the port of Zeebrugge, where a wind farm of 25 turbines is situated (Everaert and Stienen 2006).

Although collision mortality rates per turbine are low in most studies, this does not mean that it is insignificant, particularly wind farms made up of hundreds or even thousands of turbines, or cumulatively across multiple wind farms. Even small increases in mortality rates may be significant for populations of some birds, especially long-lived species with low annual productivity and slow maturity.

It also is recognized that the actual rate of collision is likely to be under-recorded, owing to limitations of corpse searches which underestimate the actual mortality rates. At one wind farm in Spain, two-thirds of the corpses found, but left in place, were removed by scavengers within 24 hours.

The risk of collision is affected by weather conditions and is greatest in poor flying conditions, such as strong winds or low wind speeds, when the birds' ability to control flight manoeuvres is impaired; or in rain, fog and dark nights when visibility is reduced. Although wind turbines do not operate in very low or very high wind speeds, they are operational at wind speeds that coincide with conditions that affect bird flight.

Lighting is another important factor that can cause a marked rise in collisions, particularly in bad weather when it has the potential to attract birds. This was clearly demonstrated by the large number of collisions recorded in just one night in Sweden when a single turbine was out of operation but illuminated for repair work.

### Habitat loss or damage

Loss or damage to habitat is not generally considered to be a major concern to birds outside areas of national or international importance, but the cumulative loss or damage to sensitive habitats of large wind farms in locations such as sandbanks on peatlands may have impacts well beyond the wind farm, as illustrated by the landslide at Derrybrien.

## Minimizing the impact of future wind farms on wildlife

There is considerable support for wind energy as an environmentally benign source of electricity. As the industry is set to expand, with major initiatives announced to stimulate offshore wind development in the UK and elsewhere, lessons need to be learnt from the impact of existing sites to avoid repeating the same mistakes.

There is a clear and strong consensus that the location of wind farms is critically important to avoid damaging impacts on birds. There should be

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*The location of wind farms is critically important to avoid damaging impacts on birds*

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a precautionary avoidance of locating wind farms in statutorily designated or qualifying international sites (such as Natura 2000 in Europe, Ramsar sites and IBAs), or national sites for nature conservation, or other areas with large concentrations of birds such as migration crossing points, or species identified as being of conservation concern. Any development should not be detrimental to these sites, but the weight of evidence so far shows that wind farms within high bird use areas, especially by protected species, have had an adverse impact.

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*The negative impacts of wind farms are very species, season and site specific*

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Many studies have shown, inappropriately sited and designed wind farms can have a negative impact on the environment and stringent environmental impact assessments (EIAs) are just as important for wind farms as for other developments. A rigorous EIA is an essential prerequisite to ensure that they are optimally sited and to avoid or minimize their impacts. Poor quality EIAs or lack of information should not be permitted to lead to planning approval on the grounds of no demonstrable effect.

In addition, there is a clear need for best practice guidance on standard study methods. Ideally, a minimum one-year baseline study (longer in some cases) should be undertaken before construction. Post-construction monitoring should be an

obligation to enable short-term and long-term effects to be identified and provide information to enable them to be addressed, as well as to improve our understanding for future wind farms. Further research and monitoring should also be undertaken by governments and the wind energy industry, as initiated under COWRIE ([www.offshorewind.co.uk](http://www.offshorewind.co.uk)). This needs to be an interactive process that will inform decision making, appropriate site selection and wind farm design.

*Footnote:* The information in this article is based largely on the report 'Windfarms and Birds: An analysis of the effects of windfarms on birds, guidance on environmental assessment criteria and site selection issues' by BirdLife International on behalf of the Berne Convention. A copy of the report is available from:

[http://www.coe.int/t/e/Cultural\\_Co-operation/Environment/Nature\\_and\\_biological\\_diversity/Nature\\_protection/sc23\\_inf12e.pdf?L=E](http://www.coe.int/t/e/Cultural_Co-operation/Environment/Nature_and_biological_diversity/Nature_protection/sc23_inf12e.pdf?L=E)

The draft recommendation, included in the above report, from the Bern Convention was changed to that at the following link Recommendation No. 109 (2004) on minimizing adverse effects of wind power generation on wildlife:

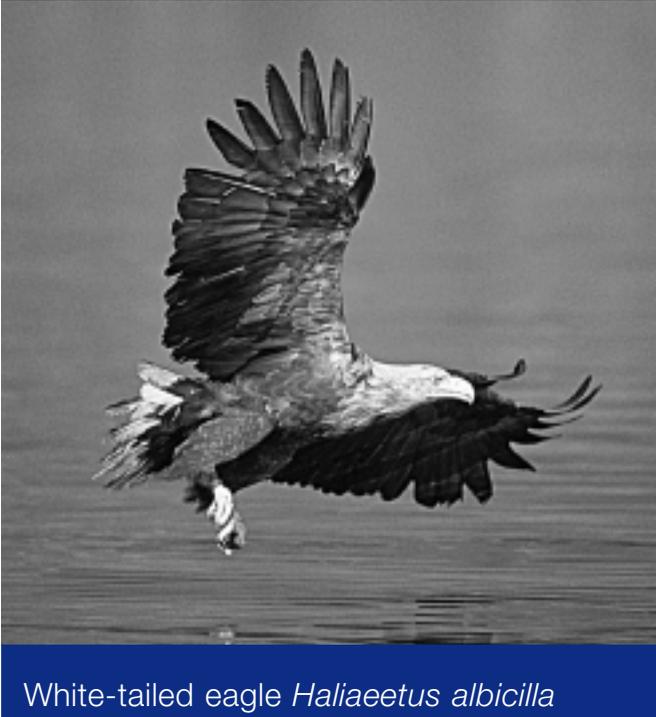
<https://wcd.coe.int/ViewDoc.jsp?id=847241&BackColorInternet=9999CC&BackColorIntranet=FFBB55&BackColorLogged=FFAC75>

*For more information contact Rowena Langston on: [Rowena.Langston@rspb.org.uk](mailto:Rowena.Langston@rspb.org.uk)*



Wind turbines on Smøla

## Case study: the effects of wind turbines on white-tailed eagles on Smøla, Norway



White-tailed eagle *Haliaeetus albicilla*

### Background

The recent decision to build a wind farm in the Smøla islands, an Important Bird Area (IBA) off the west coast of Norway, has had serious consequences for the islands' white-tailed eagles (*Haliaeetus albicilla*). The Environmental Impact Assessment for the development highlighted that it could cause problems for birds, in particular for the high breeding density of white-tailed eagles found there (min. 65–70 birds). Despite this warning, the Norwegian government took the view that any impact would be limited and local in character and granted permission. BirdLife International took the case to the Berne Convention but was unsuccessful in getting the necessary support to overturn the decision.

The Smøla wind farm consists of 68 turbines occupying 18 km<sup>2</sup> and was built in two phases. In phase one, 20 turbines became operational in September 2002 and in Phase two, 48 turbines became operational in August 2005. There were approximately 14 to 16 white-tailed eagle territories in the wind farm area pre-construction.

### Impact on territory occupancy and breeding productivity

There were no successful breeding attempts within the wind farm in 2003 or 2004. In 2005, there were just two successful nests within the wind farm area (three young fledged), one within 30 m of the nearest turbine on an existing nest, whilst there was an additional successful nest (two young fledged) within 2 km of the wind farm. In 2006, there was just one successful nest (one fledgling) within the wind farm. Set against high inter-annual variability in productivity, it is too soon to know whether the reduction in breeding activity in the wind farm is a long-term change and to what extent it may affect overall productivity on Smøla, or beyond.

### Collision mortality

There have been ten fatal collisions recorded between August 2005 and September 2006. Four fatalities were recorded in just one week during the 2006 breeding season. Breeding adults and fledged juveniles are among the deaths, including three of the five young fledged in 2005 within the wind farm plus 2 km buffer. In reality, the total is likely to be more than 10 as, prior to February 2006, there were no formal searches for corpses; dead birds were incidental finds.

Discussions are underway in Norway to identify possible remedial action.

### Conclusions

With a low reproduction rate, white-tailed eagles are likely to be more sensitive to small changes in adult mortality and may not be able to compensate by increasing productivity (*i.e.* density dependent response).

White-tailed eagles are generally long-lived and do not need to breed successfully each year in order to replace themselves. However, it is too early to know what might be the long-term effects on the population if the observed reduction in breeding activity and increased adult and juvenile mortality associated with the Smøla wind farm continues. The wind farm could become a sink if vacated territories are re-occupied but collision fatalities continue to affect mature birds and young birds produced within the wind farm area.

In addition to the worrying situation on Smøla, perhaps of greater concern are plans for more wind farms along the Norwegian coast, including areas of similarly high density of breeding white-tailed eagles. Norway has a special responsibility for this species owing to the high proportion of the biogeographical population of eagles found there, but the cumulative impacts of multiple wind farms could lead to a population reduction.

# From the Specialist Groups

## African rhino

**The African Rhino Specialist Group (AfrSG) re-assessed the overall status and management of Africa's rhinos at its eighth meeting held in Swaziland from 27 June to 2 July 2006, and while continued progress was reported at the species level for both white and black rhinos, the status of two subspecies is extremely critical**

White and black rhino numbers had grown to 14,540 and 3,725 respectively by the end of 2005, representing increases of 92.3% (white) and 54.6% (black) since 1995 - the year that the decline in black rhino numbers had plateaued at an all-time low of 2,410. This represents a net per annum increase of 6.6% and 4.5% respectively for white and black rhino over the last decade.

However, recent trends vary between subspecies, with the two rarest rhino taxa faring particularly badly. A recent survey within the last known range of the West African black rhino (*Diceros bicornis longipes*) in northern Cameroon has failed to locate any sign of their continued presence although many signs of rhino poaching were recorded. Dr Isabelle and Jean-Francois Lagrot spent four months in early 2006 covering 2,500 kms on patrol without success, and enquiry amongst 21 hunting guides also drew a blank. While Paul Bour of Association Symbiose

will be in Cameroon till the end of 2006 checking reports from the field, the outlook for the subspecies does not look good. In a similar vein, recent intensive surveys of the last remaining wild northern white rhinos (*Ceratotherium simum cottoni*) in Garamba National Park, DR Congo, have located only four individuals (two

adult males, one adult female and one sub-adult of unknown sex). Modelling should give a realistic assessment of the probability of this remnant population surviving in the long term and this will be an important consideration at the strategic planning workshop being planned by DRC's Institute Congolaise pour la Conservation pour la Nature (ICCN) and African Parks Foundation for sometime after DRC's follow-up elections in late 2006.

The trend in numbers for the other subspecies is up, with black rhinos increasing in the wild to 1,865 southern-central *D.b. minor*, 1,220 south-western *D.b. bicornis* and 640 eastern *D.b. michaeli*; and the southern white rhino (*C.s. simum*) increasing rapidly to almost 14,540. There are also a further

760 white rhino (750 southern and 10 northern) and 240 black (171 eastern and 69 southern-central) in zoos and other intensively-managed facilities worldwide.

In addition to numerous presentations and discussions on international initiatives, recent successful rhino introduction and management strategies, rhino support programmes and new management techniques at the AfrSG meeting, a series of workshops was held. Good progress was made towards developing a framework and terms of reference for the proposed East African Community Rhino Management Group to enhance the metapopulation management of the eastern black rhino; and also a format and process for drafting IUCN Species Survival Commission guidelines for rhino translocations. Agreement was also reached on the process and content for the delivery of reports on the status and management of African rhinos required by CITES Standing Committee 54 and CoP 14. Further progress with examining community-based rhino conservation models was made.

*Martin Brooks, Chair*

## Amphibian

**Important amphibian habitat safeguarded and launch of ASG website**

The Amphibian Specialist Group (ASG) has built upon a recent success safeguarding critical amphibian habitat in Colombia through the protection of another important site in the Central Cordillera. La Forzosa is home to seven vulnerable, four endangered and five newly discovered amphibian species and represents the largest forest fragment in the Central Corillera, an area ravaged by rampant gold-mining in the early 20th century and largely devoid of suitable forest habitat. Although 150 ha of the forest fragment were purchased by the local environmental authority in 1999, this has not been expanded and remains unprotected. The ASG has teamed up with the American Bird Conservancy to help ProAves, a local NGO, secure the remaining 1,250 acres to consolidate the protection of this critical site and establish a research station, forest guard and reserve director, trail network and an amphibian research and monitoring programme.

The ASG has launched a website ([www.amphibians.org](http://www.amphibians.org)) which serves as a portal for information relating to global amphibian conservation, research and assessment. The bi-monthly newsletter *Froglog* is available for free on the website.

*Robin D. Moore*

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*A recent survey within the last known range of the West African black rhino in northern Cameroon has failed to locate any sign*

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## Bison (North America)

**The goal of the North American Bison Specialist Group (NABSG) is to contribute to the development of comprehensive and viable strategies and management actions to improve conservation and achieve ecological restoration of plains bison and wood bison, where feasible within their original range**

The US Department of Interior (National Park Service, Fish and Wildlife Service) and Parks Canada, along with state and provincial agencies and academic institutions throughout North America (Canada, US and Mexico) are represented in the Specialist Group. Several major conservation organizations are working together with the NABSG, including the World Wildlife Fund, the Wildlife Conservation Society and The Nature Conservancy. The Canadian Bison Association and National Bison

Association, representing commercial bison producers, are also engaged with the NABSG to develop guidelines for managing some captive populations for conservation. Aboriginal North Americans are also involved, including the Council of Athabaskan Tribal Governments, The Intertribal Bison Cooperative and others.

The NABSG is drafting a status and conservation

action plan. It will provide a concise, authoritative overview of the history, biology and ecology of the two modern North American bison subspecies and their current numeric and geographic status in Canada, Mexico and the United States. It will offer science and practice-based guidelines for management and restoration of populations and for genetic conservation. The document emphasizes the importance of maintaining the wild nature of bison and restoring populations, where feasible, as an integral element of intact ecosystems, interacting with other native species, playing other ecological roles and behaving as bison would under natural conditions.

*C. Cormack Gates, Co-Chair*



Wood bison *Bison bison athabasca* and Plains bison *B. b. bison*

## Conifer

**Towards the first plant group to be used as global headline indicator for trends in biodiversity: conifers**

The Convention on Biological Diversity (CBD) needs indicators by which to measure trends in global biodiversity in order to evaluate whether or not progress is being made towards the target of reducing the rate of biodiversity loss by 2010. One of these indicators can be provided by IUCN-SSC in the form of twice-assessments of whole taxonomic groups with a global distribution. Amphibians and birds provide such tools already, but plants are lagging behind. The most completely assessed are Conifers and Cycads. This article will assess the current status of conifers and make a case for conifers to be the first global headline indicator among plants for trends in biodiversity.

Conifers are among the best-evaluated groups of plants in the world. A first attempt at a comprehensive assessment by the Conifer Specialist Group resulted in the publication of 'A preliminary world list of threatened conifer taxa' in 1993. This evaluation of species was done prior to the publication of the IUCN criteria in 1994, but with knowledge of the issues discussed in the formulation of those criteria. A few years after that publication and with the new criteria in hand, the Conifer Specialist Group revisited all conifer taxa from species to variety. The result was the Global Red List of Conifers, published in 1999 in the IUCN Action Plan for conifers. The subcategory Least Concern, later elevated to a full category (LC) was not listed. A substantial number of taxa, 80 in total, remained technically Data Deficient (DD) even though a good number of them had been identified as Vulnerable (VU) or even Endangered (EN) in the 1993 list. Since 1999, only incidental assessments were made using the 2001 criteria, sometimes of species already assessed, because better information had become available. Early in 2006, a concerted effort was made by a small committee that was brought together to assess all the remaining DD conifers. New developments in electronic data processing had made it possible to use data obtained from herbarium collections in a structured way to help the assessments. At present, only 22 DD cases remain. Many of these are problematic because they are often based on one-off collections which were described as new species while they cannot be relegated to synonymy off-hand. To revisit their localities to find out how rare, or distinct, they really are is easier to propose than accomplish. The conservation status of conifers in August 2006 is presented in the Table over.

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*Conifers could become the first major group of plants to be used in a Red List Index*

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All accepted taxon names (species and lower ranks)	812
All accepted species names	627
All accepted subspecies names	31
All accepted variety names	153
All accepted forma names	1

IUCN categories	all taxa	sp.	ssp.	var.	forma
NE	2	2			
DD	33	22	1	10	
LC	389	287	16	84	1
NT	112	99	5	8	
VU	162	120	6	36	
EN	84	71	3	10	
CR	30	26		4	
	812	627	31	153	1
Threatened (VU, EN, CR)	276	217	9	50	

The present situation (August 2006) is that 34% of all conifers are threatened with extinction in the wild if current trends continue.

It is very important that several non-related taxonomic groups of organisms with worldwide distributions (geographically and ecologically) are being assessed as completely as possible and as soon as possible. The only taxonomic groups of plants with suitable baseline data at present are the Cycads and the Conifers. Conifers are more valuable for this purpose than Cycads, of which the distribution, although wide, is much more restricted both in terms of geography and of ecology. Conifers occur indeed worldwide and occupy nearly all the major biomes of the terrestrial world. With their complete first assessment we have provided a baseline against which a second assessment in 2009–10 would provide data to estimate a trend. The Conifers could then become the first major group of plants to be used in a Red List Index.

For a second assessment to be made, the data collected for the first assessment, including criteria used, will be the baseline. Methods have recently been developed by which in most cases collection data from herbarium specimens can be transformed into a database providing information to assist in the assessment. Gaps still to be filled in this database have been identified and the amount of work involved to fill these gaps has been estimated. Modest funding is required to have this essential work done, as it falls outside the normal activities of the Conifer Specialist Group, and a request for fundraising has been made to IUCN-SSC. Once the data have been completed, the Conifer Specialist Group can do the second assessment of the

Conifers. With an average interval of 10 years, these two assessments will give us the first real time global Red List Index based on plants.

*Aljos Farjon, Chair*

## Conservation breeding

### Amphibian Ark: keeping threatened amphibian species afloat

The Global Amphibian Assessment revealed that one-third to one half of the world's 6,000 amphibian species are threatened with extinction and over 120 have already disappeared in recent years. To achieve the vision of "A world that values and conserves present levels of biodiversity" and prevent the extinction of hundreds of additional species, captive management is required as a stopgap component of an integrated conservation effort, as called for in the Amphibian Conservation Action Plan developed at the Amphibian Summit convened by the Amphibian Specialist Group (ASG) in 2005. The Amphibian Ark, or **AArk**, is a joint effort of the World Association of Zoos and Aquariums (WAZA), the Conservation Breeding Specialist Group (CBSG) and the ASG. It is being formed to guide short-term *ex situ* management to help ensure the long-term survival in nature of amphibian taxa for which adequate protection in the wild is not currently possible. The AArk will coordinate *ex situ* programmes implemented by partners around the world, with the first emphasis on programmes within the range countries of the species and with a constant attention to our obligation to couple *ex situ* conservation measures with necessary efforts to protect or restore species in their natural

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*The outcome of AArk will be that we will have saved hundreds of species from imminent extinction*

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habitats. AArk will lead a 2008 globally co-ordinated, zoo-based awareness and capital campaign, 'Year of the Frog', to help zoos raise the funds to support rapidly developing programmes for *ex situ* rescue efforts, *in situ* conservation, research and communication about the amphibian extinction crisis. The outcome of AArk will be that we will have saved hundreds of species from imminent extinction so that effective long-term measures to restore and protect their populations in the wild can be devised; developed capacity globally to provide amphibian species with care and protection when needed; formed effective partnerships between *ex situ* and *in situ* components of conservation and established a model framework for responding to future species conservation crises.

*Kevin C. Zippel, CBSG/WAZA Amphibian Program Officer*

## Crane

**Notable work in crane conservation in 2006 was the development of a plan to study the trade of cranes in several African nations; steps towards conservation of wetlands vital to Siberian cranes in China, Iran, Kazakhstan and Russia; and progress toward restoration of Siberian cranes in west Asia**

Populations of grey-crowned (*Balearica regulorum*), wattled (*Bugeranus carunculatus*)

and blue cranes (*Anthropoides paradisea*) are subject to increasing levels of trade. Preliminary evidence suggests these levels of harvest are unsustainable. Under the direction of Ms Kerry Morrison, information is now being collected during investigative studies on the supply of cranes from areas in Kenya, Uganda, Tanzania and South Africa. She is also studying the demand for

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*Two captive-reared Siberian cranes are to be released with wild cranes this spring with the hope they will migrate north to the area where they fledged*

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cranes both regionally and inter-nationally. Based on this information, the project aims to determine the impact that trade is having on the long-term survival of cranes in Africa and to put in place the relevant and most effective mitigation measures to secure the future of these species.

The first three years have been completed of a six-year UNEP-GEF funded project to protect wetlands vital to Siberian cranes and other waterbirds in China, Iran, Kazakhstan and Russia. An independent Mid-term Review was conducted and endorsed by the project's Steering Committee and UNEP. Workplans for the second phase have been revised based on lessons learned. Highlights of the project's numerous achievements include: allocation of critical water supplies to Zhalong Nature Reserve;

progress with research on the relationships linking water levels, water plants and waterbirds at Poyang Lake Nature Reserve in China; increase in number, size and status of protected areas; establishment of a non-shooting area in wintering areas in Fereydoon Kenar in Iran and development of eco-agricultural guidelines; initiation of community-based site management plans for several project sites and improved cooperation involving governmental agencies and other partners.

Through support from the oil and gas company, ITERA, and the Strehk Foundation, Russian conservationists from the All-Russian Institute for Nature Conservation and the Oka Nature Reserve led two Siberian cranes and two Eurasian cranes on a test flight following ultra-light aircraft 1,500 kms from the former breeding grounds of the Siberian cranes on the basin of the Kunovat River to Belozerski Nature Reserve in southern Russia. After the migration, the four cranes were taken back to Oka. They are to be released with wild cranes this spring with the hope they will migrate north to the area where they fledged on the basin of the Kunovat River. Eventually the Russians hope to lead flocks of juvenile Siberian cranes to winter with Eurasian cranes in Uzbekistan.

This project is inspired by a programme in the USA, underway since 2001, to establish a migratory population of whooping cranes that breeds in Wisconsin and winters in Florida. To date there are about 63 Whooping cranes in the new population. In 2006, one pair nested in the wild and fledged two juveniles.

*George Archibald, Chair*

## Crocodile

**Strengthening Siamese crocodile conservation through community participation in Lao PDR**

The Siamese crocodile (*Crocodylus siamensis*) is considered one of the world's most endangered crocodylians and is considered a high priority by the IUCN-SSC Crocodile Specialist Group (CSG). Recent initiatives by CSG and its partner organizations include a review of crocodile management and conservation in Cambodia, reintroductions and ongoing monitoring of *C. siamensis* in Thailand and Vietnam (Cat Tien National Park) and habitat surveys in the lower Mahakam River in East Kalimantan, Indonesia. Little was known on the status and distribution of *C. siamensis* in Lao People's Democratic Republic, until preliminary surveys were carried out in 2003 and 2005 (reported in *Species* 43).

These surveys confirmed the presence of small remnant *C. siamensis* populations, including within the Champhone District, Savannakhet Province (central Lao PDR). Most crocodile populations occurred in wetlands outside of national protected areas, indicating the importance of community-based



Whooping cranes *Grus americana* following ultralight aircraft

wetland management for crocodile conservation. All wetlands where crocodiles were documented are threatened by drainage for rice cultivation, fire, clearance or weed invasion.

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*Most crocodile populations occurred in wetlands outside of national protected areas*

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Champhone District is located in the centre of the Xe Champhone River system, a tributary of the Xe Bang Hieng River. The Xe Bang Hieng catchment includes one of the largest lowland wetlands in

central and southern Lao PDR, where seasonally flooded forests provide important habitat for fish production and aquatic biodiversity. Recommendations of the 2005 surveys conducted by the Government of Lao PDR, Mekong Wetlands Biodiversity Conservation Programme and Wildlife Conservation Society-Lao Programme, included follow-up activities in Champhone District to strengthen community awareness of crocodiles and initiate wetland management where crocodiles occur.

On 19-21 October 2006, a 'Crocodile Conservation Workshop' and field trip were organized by WWF and the national Department of Livestock and Fisheries (DLF) in Champhone District. Funded by the WWF Lao 'Community Fisheries Project' and the WWF Living Mekong Programme, the workshop aimed to promote awareness of the 2005 crocodile survey results, including the importance of the district for global conservation of *C. siamensis*, and to initiate planning for crocodile-related wetland management. Thirty-eight people from four districts in Savannakhet Province attended the workshop, including provincial and district government staff (fishery, agriculture and forestry departments) and the heads of eight villages. Three government staff from Attapeu Province (southern Laos, where crocodile breeding was also confirmed in 2005) also attended the workshop. A fact sheet about crocodiles in Champhone District was prepared and distributed to participants.

The workshop enabled participants to discuss management of local wetlands for the benefit of communities and biodiversity conservation. Village heads presented information on the occurrence of crocodiles, community-managed wetlands and 'sacred' wetlands in their respective lands. The head of Tansoum Village, close to a site where crocodile hatchlings were documented in 2005, reported that crocodiles had been seen again since then. Discussions resulted in a short-listing of key wetland sites in Champhone District, which could be used to plan and implement follow-up crocodile population surveys.

The two days spent by workshop participants visiting six wetlands in Champhone District gave them the opportunity to discuss crocodile conservation in the field and observe threats to wetland and crocodile habitats. Crocodile dung collected at one previously unvisited site extended

the confirmed occurrence of adult *C. siamensis* in Lao PDR to a new locality. The workshop raised considerable local interest and was reported in national newspapers. The Governor's Office of Champhone District attended and requested support to develop a strategy for wetland management and crocodile conservation in Champhone District. The National Department of Livestock and Fisheries and WWF are now planning further activities in Champhone District, including baseline crocodile status surveys in sites not visited in 2005.

The CSG is currently providing technical advice to the Mekong Wetlands Biodiversity Conservation and Sustainable Use Programme for the preparation of a Siamese Crocodile Conservation Strategy and Action Plan, to provide a framework for the recovery of *C. siamensis* in the Lower Mekong Basin (LMB). It is hoped that the Plan will facilitate the development of recovery plans within countries in the LMB (Thailand, Vietnam, Lao PDR and Cambodia) and outside the LMB. The recent workshop in Lao PDR highlights the need to involve local communities in the conservation and management of the Siamese Crocodile.

*Mark R. Bezuijen*

## Deer

### **Two recent venues have allowed deer specialists to meet and exchange ideas, while new faces have joined the Deer Specialist Group (DSG)**

The 6th International Deer Biology Congress, hosted last August in Prague, Czech Republic, had the theme of 'Deer in a Changing World'. Sessions covered topics relating to management, diseases, ecology of invasive species, antler biology, behaviour and welfare, reproductive physiology, etc. Meanwhile, in September 2006 the VII Conference for International Management of Fauna in Amazonia and Latin America was held in Ilhéus, Brazil. Mr Fernanda Braga organized and led a deer symposium which covered topics on ecology, endangered species and management measures implemented by state government and national organizations.

In 2006 the focus is on reorganization of the DSG by improving regional co-ordination. The aim is to promote deer research, conservation of endangered and focal deer species. New co-ordinators will be collaborating to improve DSG network skills. Dr José Maurício Barbanti Duarte, well known by many among our membership as a conservation leader in neo-tropical deer species, will be vice chair of the DSG. The European region is co-ordinated by Dr Alberto Ferreira, a well known field ecologist who is heavily involved in management and ecology methodologies for sustainable deer species use. In the North America region, Dr Sonia Gallina is the co-ordinator specialist for white tailed deer. In the Asian region Dr Orus Ilyas is the co-ordinator who

will be establishing a special link to promote knowledge of endangered species and populations in Asia. New Red List authorities Dr Patricia Black de Decima and Dr Mariano Gimenez Dixon are preparing submissions for the Red List Team. Active collaboration is the means to achieve DSG goals.

*Susana González, Alberto Ferreira, Fernanda Braga, Sonia Gallina and Orus Ilyas*

## Flamingo

### **An African-Eurasian Waterbird Agreement/Convention on Migratory Species (AEWA/CMS) single-species action plan is being developed for the Near-Threatened lesser flamingo of Africa and Asia**

The workshop was organized by the Flamingo Specialist Group of the IUCN Species Survival Commission and Wetlands International, with the assistance of the BirdLife Africa Partnership Secretariat, the hosts in Nairobi. It was conducted by Dr Szabolcs Nagy of Wetlands International, Baz

Hughes of Wildfowl and Wetlands Trust (WWT) and Sergey Dereliev of the UNEP/AEWA Secretariat.

Dr Geoffrey Howard, Regional Programme Co-ordinator in the IUCN Eastern Africa Regional Office, opened the workshop with lesser

flamingo (*Phoenicopeterus minor*) action planning comments from the past and for the future. This was followed by presentations on workshop expectations and a biological assessment of the Lesser Flamingo by Szabolcs Nagy, Paul Ndang'ang'a, Africa Species Co-ordinator for the BirdLife Africa Partnership Secretariat, and Brooks Childress, Chair of the IUCN-SSC/Wetlands International Flamingo Specialist Group.

Lesser flamingo status and distribution data for 21 range states from India to Senegal, and from Djibouti to Namibia were presented. There were four additional presentations concerning the likely causes of the recent lesser flamingo die-offs in East Africa; a new technique for conducting aerial census counts and the building of an artificial breeding island for lesser flamingos.

The delegates agreed that the three most important threats to the future survival of the species were habitat degradation at the key breeding and feeding sites, disruption of breeding colonies and the mass die-offs occurring in East Africa. The Wildfowl and Wetlands Trust will co-ordinate the development and implementation of the action plan, with the first draft being available for review and comment by the range states early in 2007.

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*There were presentations on the likely causes of recent lesser flamingo die-offs in East Africa*

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## Grouse

### **Applying IUCN Red List categories and criteria to the Endangered subspecies: Cantabrian capercaillie (*Tetrao urogallus cantabricus*)**

The IUCN Red List of Threatened Species plays a major role in conservation policy and practice. All bird species, but not subspecies, are regularly assessed for their conservation status by the Species Survival Commission (SSC) of the World Conservation Union (IUCN) based on its Red List categories and criteria. Subspecies are unfortunately left out of the List because of capacity limitations.

The Grouse Specialist Group has recently assessed the Cantabrian capercaillie (*Tetrao urogallus cantabricus*), a subspecies of the western capercaillie, endemic to the Cantabrian Mountains of northwest Spain, according to the IUCN Red List categories and criteria. As expected, the subspecies qualifies as Endangered due to rapid population declines, small population size and severely fragmented range. The implementation of a range-wide recovery plan is vital for the survival of this subspecies. Assigning an IUCN Red List category to this subspecies may strengthen the attention it receives in conservation policy in Spain and the EU and thus the chances of implementing urgent conservation action.

*Ilse Storch, Chair*

## Iguana

### **Exciting news comes from several Iguana Specialist Group (ISG) recovery programmes for critically endangered rock iguanas (*Cyclura*) in the Caribbean**

The Blue Iguana Recovery Programme in Grand Cayman has experienced a landmark event, recording the first wild nest to hatch successfully from the repatriated population established in the Cayman Islands National Trust owned Salina Reserve. In 2004 and 2005, 95 two-year old juvenile captive-bred *Cyclura lewisi* were released into the Reserve. In September 2006 a nest containing three recently hatched eggs was discovered, conclusive evidence of natural reproduction. In the British Virgin Islands (BVI) a group of 29 headstarted Anegada iguanas (*Cyclura pinguis*), were released in October 2006, bringing the total number of repatriations to 101 since 2003. Overall survival from



Cantabrian capercaillie  
*Tetrao urogallus cantabricus*

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*Introduced exotic mammals are the primary threat to Caribbean iguana populations and continue to confound recovery efforts for most species*

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the first three years is roughly 85%. Also in October, 27 newly hatched juveniles were collected from marked nests and placed into an on-site headstart facility. In total more than 50 of the 2006 hatchlings will be headstarted for future release in an effort to overcome the suspected 100% juvenile mortality rate from feral cat predation.

The Jamaican iguana recovery programme reports that 125 hatchling *Cyclura collei* emerged from wild nests in September 2006, 20 of which were taken to Kingston's Hope Zoo for headstarting and the remainder tagged with passive integrated transponders (PIT tags) and released. Post partum females were radio tracked for the first time in 2006 and reliable habitat use and home range data were



Biologist Kelly Bradley applies a visible paint mark to an Aneгада iguana *Cyclura pinguis* prior to release; assisting is a secondary student from the Aneгада School

recorded on 20 adult iguanas. Unfortunately, incursions of charcoal burners and tree (*Lignum vitae*) cutters into the Hellshire Hills are increasing and moving closer to the core iguana area. Enforcement efforts have resulted in misdirected threats from forest users to the iguana field team and security has become a serious concern. On a positive note, the Indianapolis Zoo welcomed the first US hatching of 22 Jamaican iguanas last month, a milestone for the captive effort that supports the overall conservation and recovery programme. Updates can be found on the International Iguana Foundation's website at [www.iguanafoundation.org](http://www.iguanafoundation.org).

Introduced exotic mammals (mongoose, cats, dogs, rats) are the primary threat to Caribbean iguana populations and continue to confound recovery efforts for most species. To begin to address this issue, the ISG is developing a collaborative relationship with Island Conservation (IC), of Santa Cruz California, one of the leading invasive species control groups in the world. To date, IC staff members have conducted eradication assessments in the BVI, Turks and Caicos Islands

and Jamaica (Goat Islands). This new partnership will be highlighted at the upcoming annual ISG meeting to be held in Puerto Rico 10–12 November 2006.

*Rick Hudson and Allison Alberts, Co-Chair*

## Invasive species

**The Global Invasive Species Database (GISD) is a free, online searchable source of information about species that negatively impact biodiversity. Managed by the IUCN SSC Invasive Species Specialist Group (ISSG), the GISD aims to increase public awareness about invasive species and to facilitate effective prevention and management activities**

An attractive new GISD interface with additional features has recently been launched in September 2006. Please view <http://www.issg.org/database>.

With more than 400 invasive species profiles completed, the database currently receives an average of 900 unique visitors per day (58,000 hits per day). GISD profiles are powerful awareness raising tools. They can tell you about the harm an invasive species has done elsewhere, how it is spread, its uses and how it is being controlled. GISD profiles complement the '100 of the world's worst invasive alien species' booklet, in that they have both succeeded in increasing the profile of invasive species issues around the world.

Feedback from users shows the database is being used for practical invasive species management and awareness raising activities as well as school projects, training and assessments.

Some recent GISD developments include deep links to the Red List and Ramsar databases where invasive species are identified as threats, support for initiatives on weeds of Mediterranean-type ecosystems and invasive species in French overseas territories. We have renewed our longstanding agreement with the US Geological Survey's National Biological Information Infrastructure to review and upload invasive species profiles they create. The GISD has been included in the New Zealand/USA bilateral climate change programme.

None of this would be possible without the support of ISSG members and other invasive species experts around the world who create or review content for the GISD.

## Marine turtle

**The Marine Turtles Specialist Group (MTSG) Burning Issues 3 (BI-3) Workshop was convened at the Headquarters of Conservation International in Washington, DC, to revisit, revise and expand the 'Burning Issues' priority-setting process. Five main objectives were identified for the BI-3 meeting:**

- Review and validate the BI Mission and progress to date, address concerns voiced by MTSG members and sketch-out a tentative multi-year work plan.
- Review progress and procedure for *Red List* assessments and other types of risk assessments and priority-setting techniques.
- Develop an internet survey tool (and a strategy, timeline and work plan for its use) that will allow the MTSG regularly to access the collective wisdom, knowledge and expert opinion of our far-flung membership.
- Discuss ways to communicate BI Results broadly.
- Create a list of 'Top Un-Answered Questions/ Mysteries' about sea turtle natural history, the understanding of which will better guide conservation and management efforts.

### Red Listing and other Assessments

One of our most important mandates from the IUCN is the timely and accurate assessment of all sea turtle species. Dr Jeffrey Seminof, who has headed the Red Listing efforts for 18 months, made a compelling presentation at BI-3, including a preliminary review of the results of the recent survey sent to MTSG members. His talk led to a discussion from which important decisions on the future directions of Red List and other types of priority assessments within the MTSG were made.

As the group concluded that managing Red Listing is a greater burden than a single volunteer can handle, an Assessments Steering Committee (ASC) will be created. The ASC will be responsible for the timely completion of Red List Assessment; will ensure they reflect the highest degree of accuracy and scientific rigor and that they have the maximum involvement from the MTSG membership. It is envisioned that this body will be functional prior to the end of 2006.

The ASC will steward a process that begins with the selection of qualified Assessors who will prepare preliminary species Assessments, based on the IUCN criteria. These will be distributed for peer review by other leading experts and necessary changes will be made before posting on the MTSG website. Members will be given time to comment, question the Assessors and add anything pertinent to the data. Red List species assessments are perhaps the most publicly valuable contribution that the MTSG can make to the conservation of sea turtles and they must serve as examples of the group's professionalism and commitment.

It was agreed that the MTSG would commit in earnest to undertaking **regional sea turtle status assessments** in each of the world's four major ocean basins for sea turtles (Atlantic, Pacific, Indian, and Mediterranean). These exercises will be scheduled with the assistance of the Regional Vice-

Chairs, and will also serve as fora for team-building and technical training among members.

It was agreed that the ASC would draft an overview to include the reasons why the IUCN Red List Criteria are not perfectly suited to globally-ranging, long-lived, slow-reproducing creatures; and how complementary methodologies, such as regional assessments, can help round-out our understanding of sea turtle status.

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*Red List species assessments are perhaps the most publicly valuable contribution that the MTSG can make to the conservation of sea turtles*

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### MTSG Member Surveys

The group discussed the development of an internet survey tool to engage the membership, harness the collective knowledge of the group to identify priorities and make the BI meetings and outputs more transparent. The group decided that surveys should be undertaken a few times a year, take no longer than 10-15 minutes and should be in English, French, and Spanish. Each survey will have a theme and results will be reported to the respondents and to the MTSG as soon as possible. Results from surveys will be used to set priorities and act as an early warning mechanism for crises. Peter Schireson (of Schireson Associates, www.schireson.com), has agreed to work with the group to implement the survey.

Questions were drafted for the first two surveys, to be completed before, and have results tabulated and analyzed by, the MTSG Annual General Meeting at the 27th Annual Sea Turtle Symposium in Myrtle Beach, SC, USA in February of 2007.

### The major unanswered questions of sea turtle natural history

One of the objectives of BI-3 was to develop a list of 'the major unanswered questions about sea turtle natural history, the knowledge of which will help us to better conserve these animals and their habitats'. The purpose of this list is to guide the MTSG membership, students, researchers, conservationists and donors towards a focus on the highest priority issues. While not exhaustive, the list can also be used for public outreach and awareness and will aid the MTSG in fulfilling its mission.

Arising from the results of the most recent survey the seven Key Unsolved Mysteries are:

- Where do sea turtles spend their first years of life?
- What are the ecological roles of sea turtles and how many do we need to fulfil those roles?
- What proportion of male sea turtles is necessary to maintain a healthy population?
- How do sea turtles sense their environment?
- How do sea turtles navigate?

- How will global warming affect sea turtles?
- What causes fibropapillomas?

*Brian Hutchinson, Program Officer, Roderic Mast and Nicolas Pilcher, Co-Chairs*

## Medicinal plants

### Progress on the International Standard for Sustainable Wild Collection of Medicinal and Aromatic Plants (ISSC-MAP)

There has been substantial progress on the development of an International Standard for Sustainable Wild Collection of Medicinal and Aromatic Plants (ISSC-MAP), an undertaking initiated in 2005 by MSPG through IUCN Canada, in partnership with WWF/TRAFFIC, and the German Federal Agency for Nature Conservation / Bundesamt für Natur-schutz (BfN).

The development phase of the standard has involved consultation with a broad-based advisory group on two preliminary drafts; field consultations and completion of an implementation study; stakeholder consultations and refinement of the text of the standard in the first public working draft. Most recently, initial steps have been taken with key partners to establish a governance and management structure that will move the ISSC-MAP from development to implementation.

Four priority strategies have been identified that will provide a broad range of models and practical experience in applying the ISSC-MAP: certification (with a focus on organic, in partnership with the International Federation of Organic Agricultural Movements/IFOAM); resource management, legal adoption and policy (e.g., through CITES non-detriment assessments); and voluntary codes of practice. Implementation projects in several regions are currently being developed.

Information on the status and activities of this initiative is available via the project website (<http://www.floraweb.de/map-pro>).

*Danna J. Leaman, Chair*

## Mollusc

### The Global Freshwater Mollusc Assessment, working closely with the IUCN Freshwater diversity Programme, aims to evaluate all 5,500 freshwater species by 2010. Work in Africa is almost complete. A new initiative to work on threatened marine species is underway

#### Global freshwater mollusc assessment: 2006–08

In 2001, a review of the IUCN Red List showed that within the diverse Phylum Mollusca (c. 85,000 species), the freshwater species (c. 5,500) appeared to be the most severely threatened; in some countries over 60% of the bivalve fauna are under threat of extinction. The freshwater molluscan fauna

divides into the Gastropods (Prosobranchs and Pulmonates: c. 4,400 taxon) and the Bivalves (c. 1,100 taxon). The bivalves are particularly important to the continued health of freshwater ecosystems, as they provide the vital services of water filtering and cleaning. In contrast the gastropods provide food for humans, as well as birds, mammals and fish that live in the freshwater systems. However, the IUCN Red List presently only documents Threatened Species, so the other freshwater species are being gradually assessed, to present a more balanced view of the threats to freshwater systems.

This programme aims to evaluate the 5,500 species that live in freshwater systems by 2010. At present, most activity is part of the IUCN Freshwater Biodiversity programme and workshops and species assessments have now been carried out in East Africa, South Africa and West Africa. The current status suggests that about 28% of the fauna in the region meets the Threatened Criteria status. Further research is ongoing to delimit areas with a high percentage of threatened species, using criteria adapted for molluscs (like those developed for birds), to identify Key Biodiversity Areas in Africa.

The region to be evaluated over the next six months will be North Africa, a fauna with most similarity to the European and Mediterranean Fauna. This will run in parallel with a programme on the Mediterranean Europe, based from IUCN's Mediterranean Office. This will provide the greatest challenge to date, as this region has one of the higher diversities of freshwater faunas in the world, with an estimated 1,200 species to be assessed.

In addition, a random selection of additional freshwater molluscs from other regions of the world will be assessed as part of a new programme established by SSC, to provide an insight into the Threatened Status of species; this is part of the Sample Red List Indicator research programme funded by a grant to the Zoological Society of London.

The next open meeting will be held at the World Malacological Congress in Antwerp, Belgium (21–22 July 2007). The main subject for debate at this meeting will be Freshwater Molluscan faunas: threats and future research needs.

By the next World Congress in 2008, it is hoped there will be a more complete picture of the threats to freshwater faunas in North America, Europe and Africa, as well as some indications of the species used by different societies, the percentage which provide ecosystem services and those that may be at risk from climate change. Funding is currently

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*The current status suggests that about 28% of the fauna in the East Africa, South Africa and West Africa region meets the Threatened Criteria status*

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being sought, in conjunction with IUCN Freshwater Programme, to accelerate the rate of species assessments in other regions.

#### Threatened marine mollusc assessments

New initiatives are starting on threatened species assessments in the marine realm, with Abalone, an exploited group of marine gastropods, being the first project, lead by Dan Geiger working in partnership with Kent Carpenters Global Marine Assessment programme. Two species have already been assessed and placed on the IUCN Red List and so the proposal to place some species on CITES, lead to the identification of a group where a comprehensive assessment was appropriate.

Mary Seddon, Chair

## Sustainable use

### London Symposium and Workshop finds strong links between recreational hunting, conservation and rural livelihoods

Organized by the IUCN SSC Sustainable Use Specialist Group (SUSG) and attended by over 200 people, the Symposium, *Recreational Hunting, Conservation and Rural Livelihoods: Science and Practice*, took place at London's Zoological Society on 12 and 13 October. Opening the meeting SUSG Chair Jon Hutton said "This meeting breaks new scientific ground because for the first time we have

brought together leading experts and practitioners from around the world to examine in depth the claims that recreational hunting makes a significant contribution to conservation and rural livelihoods."

For the purposes of the Symposium recreational hunting was given a working definition of 'hunting where the hunter or hunters pursue

their quarry primarily for recreation or pleasure'. From an economic perspective it was recognized that there are two broad but not exclusive types: local hunting, where the hunter originates locally to the hunting area, and hunting tourism, where the hunter travels a considerable distance, often abroad, and pays a substantial amount of money for the hunting experience.

Some 35 contributors made 26 presentations which ranged from the origins of modern conservation in the initiatives taken by some famous hunters, through global overviews of recreational hunting, angling and falconry to regional models from North America and Southern Africa, scientific studies of the effect of trophy off-takes on population

dynamics for species such as lion, red deer and bighorn sheep and the interactions of game management and agricultural policy. Case studies demonstrated how controlled hunting, involving decision-making by local people, had assisted the acceptance of restored populations of wood bison in the Yukon; had played a critical role in the recovery of markhor goat and urial sheep numbers in the Torghar area of Pakistan and provided vital incentives for the revival of the Lake Mburo Park in Uganda.

Other presentations identified the circumstances allowing or inhibiting photographic and hunting tourism to be combined in relatively small protected areas in South Africa; examined what rights and benefits villagers in Zambia and Namibia see as important to their own well-being in relation to hunting tourism by foreigners and the application of the Nunavut 'IQ' (all inherited, present and future knowledge of the community) to wildlife management and hunting by themselves and others. Cases were presented of over-exploitation by hunting of antelopes in African arid lands and of corruption by a few key individuals preventing the revenues from tourist hunting being maximized for conservation and community benefit. The need for good governance at all levels was a theme echoed by many speakers.

The application of the CITES regime to import and export of hunting trophies was outlined. When examining new approaches to improving the governance of hunting, various initiatives were described defining principles, guidelines, criteria and indicators for sustainable hunting in Europe; as was an outline code of conduct derived from an analysis of sport hunting in Southern Africa. Possibilities for certifying hunting at a local level on the lines of forestry schemes were considered, but something much simpler was advocated. In her concluding remarks to the Symposium, SSC Chair Holly Dublin set out the challenges of a rapidly evolving international agenda, while affirming that "a common passion for conserving wildlife unites everyone who has taken part in this meeting".

Immediately following the symposium, on 14 and 15 October, the SUSG held a workshop attended by some 70 people to examine a range of possible tools for enhancing the sustainability of recreational hunting, including standards, certification, principles, codes and charters and to determine whether there were topics on which it could work within IUCN, as well as those managing and participating in recreational hunting. Among the outcomes to be further considered by the SUSG are work on broad principles of global relevance and examples of best practice relating to them, as well as the need for wider understanding of the contribution which hunting makes to biodiversity land management and livelihoods.

Robin Sharp, Chair European Regional Group, SUSG

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*Case studies demonstrated how controlled hunting, involving decision-making by local people, had assisted the acceptance of restored populations*

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## Syngnathid (seahorses and their relatives) Red List Authority

### Data, resources and tools to enhance seahorse conservation

A new initiative to advance seahorse conservation has been started by Project Seahorse ([www.projectseahorse.org](http://www.projectseahorse.org)), the IUCN Red List Authority for syngnathids (seahorses and their relatives) with financial support from the Whitley Fund for Nature.

The project will produce a web-based resource for researchers, fisheries managers, and other interested parties. Its main audience will be national agencies responsible for ensuring that all export in seahorses is sustainable, under CITES regulations implemented in 2004 ([www.cites.org](http://www.cites.org)).

The website will have three main components and will use simple, intuitive interfaces. The first section will include documents on the status of seahorse populations, their biology and trade, plus general topics that may be useful to seahorse conservation, such as survey protocols. The second section will provide country-specific information, initially for the major seahorse trading nations, but with expansion to other countries in due course. The

third section will offer tools to consider and compare potential management options for seahorses. It is hoped to include evaluations of risk and uncertainty, so that policy-makers and managers can examine different scenarios for seahorse conservation.

Project Seahorse will be consulting interested parties extensively on the content, appearance and navigation of the website. It should be on line in mid-2007. The CITES Secretariat is supportive of the project and shares hopes that this might become a model for providing species-specific information

and capacity building resources of use to CITES Parties.

For more information please contact the Project Co-ordinator, Dr Keith Martin-Smith ([Keith.MartinSmith@utas.edu.au](mailto:Keith.MartinSmith@utas.edu.au)) or Dr Amanda Vincent, Director of Project Seahorse ([a.vincent@fisheries.ubc.ca](mailto:a.vincent@fisheries.ubc.ca)).



Seahorse *Hippocampus abdominalis*

## Tapir

The updated Baird's Tapir Action Plan is complete and the Tapir Specialist Group (TSG) Fundraising Committee is currently working on the development of a list of 'Top Ten Tapir Conservation projects'

The new, updated 'Baird's Tapir Action Plan', developed during the 'Baird's Tapir Population and Habitat Viability Assessment (PHVA) Workshop' held in Belize in 2005, has been finalized and made available online on the Tapir Specialist Group (TSG) website. Three of four tapir species have been the focus of previous PHVA workshops - Malay Tapir (Malaysia, 2003), Mountain Tapir (Colombia, 2004) and Baird's Tapir (Belize, 2005) - and one last species is left to work with - the Lowland Tapir. The 'Lowland Tapir PHVA Workshop' will be held from April 15 to 19, 2007, at the Sorocaba Zoo, São Paulo State, Brazil.

The TSG Fundraising Committee has just finalized the 2006 Funding Cycle of the TSG Conservation Fund. Twelve proposals were received and six of them were selected to receive a grant of US\$1,000 each. Selected proposals included conservation projects on Baird's tapirs in Guatemala and Mexico, mountain tapirs in Colombia and lowland tapirs in Argentina, Brazil and Paraguay. A TSG List of Endorsed Projects has been created which is a menu of 55 tapir conservation initiatives worldwide. The List has been made available on the website and will soon be distributed to potential funding sources, including zoos in North America, Europe, Latin America and Asia, as well as conservation organizations and other funding institutions. Additionally, the TSG Fundraising Committee is currently working on the development of a list of 'Top Ten Tapir Conservation Projects', very much in the same way the IUCN Primate SG developed a list of 25 Most Endangered Primates. This initiative is listed as a priority action on the TSG Strategic Planning 2006-2007, developed during the Third International Tapir Symposium held in Argentina in January 2006, and comes from our need to focus our fundraising efforts to raise funds for priority projects. The list will be a living directory which will be re-evaluated every two years during the Symposium.

*Patricia Medici, Chair William Konstant, Deputy Chair*



TSG member Diego Lizcano radio-collaring a mountain tapir *Tapirus indicus* in Los Nevados National Park, Colombia

# From the SSC Steering Committee Sub-groups

## Invertebrate Conservation Sub-Committee (ICSC)

This has been a very busy time for the SSC/ICSC relative to following through the SSC Strategic Plan and taking into account the plans for restructuring. Invertebrates are still very much on the agenda for SSC, even though currently there are only two extant Specialist Groups. These are the Mollusc SG and the Odonta SG, both of which have been highly active in Red Listing species in their respective groups. Much discussion has also taken place on the development of a Global Dragonfly Assessment to follow along the lines of the very successful Global Amphibian Assessment. The dragonflies of Africa have already been assessed under the auspices of the African Freshwater Assessment, where data on Freshwater crabs and Molluscs have also been captured. The aim is to continue, at least with dragonfly assessments, in other continents, with funding to do this now being sought.

Marine and terrestrial (including aquatic) invertebrates are being considered separately but not necessarily completely mutually exclusive. This separate consideration is because the issues and threats surrounding marine invertebrates are mostly different from those facing terrestrial invertebrates. In the marine realm, issues such as overexploitation and bycatch are of paramount importance, while on land, problems facing invertebrates include landscape fragmentation and habitat loss. It is likely that the Marine and the Terrestrial invertebrates will

each have their own Global Red List Authorities. Under for example, the Terrestrial Invertebrate Red List Authority will be a range of Focal Points (i.e. scientific experts) engaged in the Red Listing process. Supplementing the taxonomic FPs/RLAs will be Geographic FPs/RLAs to deal with regional issues across many taxa.

These restructuring plans are still being discussed and all comments are welcome. Even more important at this stage is to welcome on board any potential FPs. So, if you are interested in promoting Red Listing and conservation of a

particular taxonomic group, or if you are interested in promoting invertebrates in a particular geographical area, the ICSC would very much like to hear from you. Quite simply, there is such a huge amount to do to stem the tide of extinction of the rich tapestry of life that any volunteer activity is most welcome indeed.

*Michael Samways*

## Marine Conservation Sub-Committee (MCSC)

The need to strengthen and focus marine work within the SSC, as well as link it with complementary activities both within and outside of IUCN, has grown as marine issues attract ever more attention and concern. Specifically, the importance of integrating existing efforts and initiatives, prioritizing marine work and increasing SSC representation in a wide range of species-focused marine conservation forums is recognized. To meet these needs a new Marine Conservation Sub-Committee (MCSC) is being created. The SC reports to the Steering Committee of the SSC. ([http://www.iucn.org/themes/ssc/our\\_work/marine/indexmarine.htm](http://www.iucn.org/themes/ssc/our_work/marine/indexmarine.htm))

Priority targets were identified following two preparatory meetings (below) and will include a focus on species representative of key pressures, direct and indirect threats to species from overexploitation, 2010 indicators and possible cross-taxa implications of bycatch mitigation measures. Species issues that emerge as a result of mariculture and stock enhancement activities are also of considerable interest to this new SC.

Two preparatory meetings were conducted; the first in Puerto Madryn, Argentina, in December 2005 with the Chairs of all marine Specialist Groups, and a later planning meeting with other marine experts and partners (including the IUCN Marine Programme, WCPA, the Global Marine Species Assessment project, TRAFFIC, etc.) in Wattens, in August 2006. The Wattens meeting was for strategy planning, to prioritize and structure target activities and areas and to shape the work and membership of the MCSC. This SC will be constituted shortly and will update members on activities. Reports from both meetings are available on the website: [http://www.iucn.org/themes/ssc/our\\_work/marine/governance.htm](http://www.iucn.org/themes/ssc/our_work/marine/governance.htm)

*Yvonne Sadovy and Claudio Campagna*



The Ochre Presba, a remarkable new discovery in the Cape Floristic Region, S. Africa

# News Features

## Review of the definition and selection of protected areas for species conservation

**It might seem obvious that protected areas aim to protect species. But in fact there are particular types of protected area designed specifically for conserving species and IUCN is currently reviewing how these and other protected areas will be defined in the future. Species Survival Commission members need to engage in these debates if the Commission's voice is to be heard**

During the late 20th century there was an unprecedented upsurge in the creation of protected areas so that over 10% of the world's land surface is now under protection; almost certainly this was the fastest and largest conscious change in land use in history. Yet the phrase 'protected area' covers many management regimes from areas so highly protected that no-one is allowed to enter, to

cultural landscapes containing large and settled human communities. In 1994, after years of debate and several false starts, IUCN agreed to divide protected areas into six or seven categories based on management objectives. Initially

these were conceived mainly as a statistical tool, but have been adapted for other tasks including setting legal and policy frameworks, planning protected area systems and providing advice to managers. The categories are as follows (abbreviated from the 1994 guidelines):

- **Category Ia:** area managed mainly for science or wilderness protection – possessing some outstanding or representative ecosystems, geological or physiological features and/or species, available primarily for scientific research and/or environmental monitoring.
- **Category Ib:** protected area managed mainly for wilderness protection – large unmodified or slightly modified area retaining its natural characteristics and influence, without permanent or significant habitation, which is protected and managed to preserve its natural condition.
- **Category II:** protected area managed mainly for ecosystem protection and recreation – natural area designated to (a) protect the ecological integrity of one or more ecosystems, (b) exclude exploitation or occupation inimical to the purposes of designation and (c)

provide a foundation for spiritual, scientific, educational, recreational and visitor opportunities.

- **Category III:** protected area managed mainly for conservation of specific natural features – area containing specific natural or natural/cultural feature(s) of outstanding or unique value because of their inherent rarity, representativeness or aesthetic qualities or cultural significance.
- **Category IV:** protected area managed mainly for conservation through management intervention – area subject to active intervention for management purposes so as to ensure the maintenance of habitats to meet the requirements of specific species.
- **Category V:** protected area managed mainly for landscape/seascape conservation or recreation – area where the interaction of people and nature over time has produced an area of distinct character with significant aesthetic, ecological and/or cultural value and often with high biological diversity.
- **Category VI:** protected area managed mainly for the sustainable use of natural resources – area containing predominantly unmodified natural systems, managed to ensure long-term protection and maintenance of biological diversity, while also providing a sustainable flow of natural products and services.

Protected areas in all six categories also need to meet the criteria laid out in IUCN's definition of a protected area: 'An area of land and/or sea especially dedicated to the protection and maintenance of biological diversity, and of natural and associated cultural resources, and managed through legal or other effective means'.

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*Over 10% of the world's land surface is now under protection*

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Wilderness in Namibia



Of all the categories, number IV is currently the one most closely associated with protection of species, indeed its current name is 'Habitat/Species protected area'. (There is a proposal to drop names altogether in the new guidelines because of the confusion caused - for instance 'national parks' are found in every category and some are not even protected areas as recognized by IUCN.) The original aim of this category was to include areas set aside to protect a single species or a fairly narrow habitat; thus being different from a category II protected area which aims to contain larger ecosystems containing many species. Examples of 'typical' category IV protected areas familiar to SSC members would be, for instance, individual meadows protected because they contain particular rare flower species, small mire habitats set aside within managed forests, wintering areas for cranes where supplementary feeding is required, or abandoned quarries that are valuable because they contain scarce cliff habitats.

The inference is that because these protected areas are not fully functioning ecosystems (usually because of their small size) they will therefore require continuing human intervention if they are to maintain their values. But there is an anomaly in that currently the detail of the category defines it by the need for intervention, rather than by the end result as in the case of all other categories. There are currently many small nature reserves that are not actively managed, but do not easily fit into other categories - they are not strictly protected, or ecosystems, or natural monuments, or cultural landscapes and are not being managed for sustainable use. It is therefore proposed to change the definition of category IV slightly, to bring it more closely in line with the original intention of encompassing areas set aside to protect particular species, groups of species or habitats: the classic small nature reserves that fulfil a vital function in protecting nature in highly populated landscapes such as those of much of Europe.

The primary objective would therefore become:

- Conservation of habitats and species in parts of ecosystems.

With other objectives (which must not undermine the primary objective) being:

- To secure and maintain the habitat conditions necessary to protect significant species, groups of species or biotic communities
- To preserve culturally-important management approaches and vegetation patterns
- To facilitate scientific research and environmental monitoring
- To develop public education and appreciation of the characteristics of the habitats and/or species concerned
- To eliminate, where necessary, and then prevent occupation or exploitation inimical to the purposes of designation

- To deliver benefits to people living in or near to the designated area.

The area should usually play an important role in the protection and survival of [1] important habitats, [2] species of nationally or locally-important flora and/or [3] resident or migratory fauna. Size should depend on needs of the habitat or species but will often be relatively small. Management approaches could differ. Protection may sometimes be sufficient, but, since category IV only includes part of an ecosystem, it may not be self-sustaining and thus require active intervention. Three broad management approaches may be suitable:

- Protection of natural or semi-natural ecosystem fragment: e.g. small protected wetlands in Scandinavia or rainforest fragments protecting particular lemur species in Madagascar
- Active management of natural or semi-natural ecosystem fragment: e.g. wetlands maintained by controlled cattle grazing in India
- Active management of culturally-defined ecosystems: e.g. olive groves in the Mediterranean and tembawang fruit gardens in Borneo.

'Active management' is taken here to mean that the overall functioning of the ecosystem is being modified by, for instance, halting natural succession, providing supplementary food sources or artificially creating microhabitats - in other words something more than removing artificial threats, such as anti-poaching measures or even in most cases removal of invasive species. Category IV protected areas can be generally open to humans for management itself, recreational visits, or the sustainable use of natural resources compatible with the conservation of the species of reference. As for all other categories, examples of category IV areas can be found within all governance types (state and privately owned protected areas, community conserved areas and co-management arrangements).

Category IV protected areas frequently play a role in 'plugging the gaps' in conservation mosaics by protecting key species or habitats in ecosystems that have otherwise been substantially altered. They can be used, for instance, to protect fragments of remaining habitat and associated species, secure stepping stones or breeding sites for migratory species or provide management strategies in buffer zones around, or corridors between, more strictly protected areas.

However, none of this is fixed in stone and even the co-authors of the paper examining category IV are still debating between themselves. How to distinguish between 'ecosystem' and 'habitat'? When does a category IV protected area become so heavily influenced by human activity that it is better defined as a category V cultural landscape or seascape? If sustainable use of various species can be compatible with the conservation of the species of reference for the category IV protected area,



what distinguishes it then from a category VI? If the IUCN's assumption is taken that category is determined primarily by the main management objective; then the fundamental aim of protecting species and habitats may be distinguishing feature enough. Your views would be welcome.

A more detailed paper on category IV can be found on a special section of the WCPA website along with many other papers from the task force. The categories will be debated at a major summit in Spain in March 2007 and the new guidelines prepared later in that year. For further information contact Nigel Dudley at [equilibrium@compuserve.com](mailto:equilibrium@compuserve.com)

Nigel Dudley and Grazia Borrini-Feyerabend

## Ramsar adopts a new site-selection criterion: implications for Specialist Groups

**The adoption of new site-selection criterion by Ramsar's Conference of Parties (CoP) last year provides a major new opportunity for Specialist Groups to contribute to the conservation of wetland habitats**

One of the longest-standing of the criteria for identifying Ramsar sites is the so-called '1% Criterion' (actually numbered Criterion 6). This indicates that:

*'A wetland should be considered internationally important if it regularly supports 1% of the individuals in a population of one species or subspecies of waterbird.'*

Since its adoption in 1974 the criterion has applied just to waterbirds. Its application is simple and it requires just an estimate of numbers of waterbirds at a particular wetland to be proportionately related to the total numbers of individuals in the relevant bio-geographic population. It is also intuitive - easily understood by non-scientific decision makers - and easily applicable. Indeed, by September last year, 516 of the 1462 Ramsar sites (>35%) had been designated using Criterion 6; more than any other of the 'specific' criteria.

The suggestion that the applicability of the waterbird 1% Criterion could be broadened to other taxa is not new and has been discussed at several previous Ramsar CoPs as far back as CoP 3 in 1987. Indeed IUCN-SSC had made previous presentations to technical sessions at CoP 4 (1990) and CoP 5 (1993) exploring how such an approach might work for a range of non-avian taxa and urged its uptake.

In 2004 Ramsar's Scientific and Technical Review Panel (STRP) once again posed the question as to whether, given the wide application of Criterion 6, a similar approach might be adopted for non-avian wetland animals. This also coincided with a request to Ramsar from the Biodiversity Convention that

quantitative approaches to the identification of Ramsar sites might be considered for non-avian taxa. As a result, STRP undertook a wide consultation with valuable input from several Specialist Groups.

This review concluded that there seemed to be no fundamental reasons why a 1% criterion should not also be applicable to non-avian taxa. Whilst there will always be limitations on the applicability of a quantitative approach to site selection - for example, data on population sizes that is poor or lacking or ineffectiveness of application for species which do not aggregate at high densities - these are no different to similar constraints in the application of Criterion 6 for many waterbirds.

### A new criterion

In November 2006 Ramsar's CoP 9 formally adopted the new criterion, the first addition to its suite of site selection criteria for almost a decade. Criterion 9 states:

*'A wetland should be considered internationally important if it regularly supports 1% of the individuals in a population of one species or subspecies of wetland-dependent non-avian animal species.'*

At the same time the parties also adopted the long-term target:

*'to have included in the Ramsar List all wetlands which regularly support 1% or more of a biogeographical population of one non-avian animal species or subspecies.'*

Its application will rely both on site-related data (local population assessments) as well as information on the sizes of international or biogeographic populations. The effectiveness of

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*In November 2006  
Ramsar's CoP 9  
formally adopted the  
new criterion*

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Wetlands in Latvia

Criterion 5 relies on a triennial publication *Waterbird Population Estimates*<sup>1</sup> (*WPE*), published by Wetlands International, which collates 'best' estimates of the sizes of biogeographical population sizes. It does this following consultation with the waterbird Specialist Groups. Ramsar has recommended to its Parties that *WPE* be used as a definitive source of population estimates and 1% thresholds for the application of Criterion 6.

The work already being undertaken by IUCN-SSC Specialist Groups to assess and report estimates of population sizes clearly now also has a major potential role in supporting the application of the new criterion. In this way it will assist in the identification of wetlands of international importance that will qualify for national listing under the Convention. Particular groups to which it is envisaged that Criterion 9 may be applicable include a range of aquatic 'mega-fauna' including some crocodiles, river dolphins, turtles, seals and wetland cervids.

### Next steps

Following the formal endorsement of the new criterion, STRP have been charged with developing processes to collate the relevant data and information needed to allow its application. An initial listing of estimates and derived 1% thresholds has been collated from the literature, including from many IUCN Action Plans. STRP will be consulting with relevant Specialist Groups as to the applicability of these.

Ramsar envisages the publication of best population estimates of relevant taxa on a triennial basis, probably in a similar format to *WPE*. These will be made widely available online as an issue of the new *Ramsar Technical Reports* series.

The new criterion provides a major opportunity to advance the conservation of many wetland dependant species through use of existing count data to highlight the international importance of critical wetland habitats.

*David Stroud, Scientific and Technical Review Panel*

## Tributes to two of SSC's champions – Ralph Daly and Bertrand des Clers

Ralph Hinshelwood Daly OBE

**Ralph Daly, who died on 24 September aged 82, spent the greater part of his life in the Arab world including his last 37 years in the Sultanate of Oman. His work helped Oman to become a regional leader in biodiversity conservation and he developed a particularly close relationship with the SSC. He will be best remembered for the early success of the Arabian oryx project and his key role in the Sultanate's generous support of the**

### SSC's Sir Peter Scott Fund for Conservation ensured a lasting legacy for future conservationists

In 1974 Daly was appointed by Sultan Qaboos Bin Said as the Adviser for Conservation of the Environment. He immediately embarked on organizing the first of three ambitious multi-disciplinary surveys: the Oman Flora and Fauna Survey of the northern mountains (1975), the Oman Flora and Fauna Survey of Dhofar (1977) and the RGS's survey of the Wahiba Sands (1986). In 1975 he helped Oman become a State Member of IUCN and later obtained IUCN and WWF backing for surveys of the endangered Arabian tahr, marine turtles and sooty falcons as well as for studies to develop a System for Protected Areas and for a Coastal Zone Management Plan. The results of these surveys, many of which were published in the *Journal of Oman Studies*, another of Daly's initiatives, became the principal reference for future conservation and development programmes.

However, it was for his work to restore the Arabian oryx to the desert of central Oman that Daly was best known. Daly himself recalled 'In 1974 Sultan Qaboos bin Said said to me: "And what shall we do about the oryx?"' Daly now had a wonderful opportunity to continue the remarkable story that had started in 1963 with 'Operation Oryx', which resulted in the establishment of a breeding group in Phoenix Zoo, Arizona to save the species from extinction. Reintroduction was, at that time, largely untried and so Daly sought the advice and support of the world's conservation community working closely with WWF and, what was then, the Survival Service Commission of IUCN.

In 1979 the first oryx were brought home and, after a lengthy preparation period, released back to the desert on 31 January 1982. Under the watchful eye of the local tribesmen the wild oryx prospered and by 1996 the wild population had grown to nearly 450 and roamed freely over the vast 'Arabian Oryx Sanctuary': Oman's first protected area and inscribed on the UNESCO World Natural Heritage list, the first in the region. Sadly, the success was such that it attracted the interest of the illegal regional trade in wildlife and a new outbreak of poaching greatly reduced oryx numbers. Deeply saddened by this Daly continued to fight for the oryx.

Daly's work helped Oman to become a regional leader in biodiversity conservation. On the international stage Daly worked closely with IUCN, WWF and FFI and he developed a particularly close relationship with the Species Survival Commission of IUCN where he will be best remembered. The Reintroduction Specialist Group was created after the early success of the oryx project in Oman and



Ralph Daly



in 1990 the Sultanate's generous support of the Sir Peter Scott Fund for conservation ensured a lasting legacy for future conservationists. In 1975 Daly had taken an Omani delegation to the IUCN General Assembly for the first time and in 2000, at the age of 76, he attended his last global congress in Amman, Jordan. Leaving Amman he left behind an international family of friends and supporters of Oman.

Daly's outstanding work in the field of conservation won him the Order of Oman (Civil) in 1980, the Order of the Golden Ark in 1985 and was later honoured by the Royal Geographical Society, the Flora and Fauna Preservation Society and the University of Durham. His wife Elizabeth survives him. She shared his strong affection for Oman, which became their home, adoptive country and the place where Daly was buried.

*Dr Andrew Spalton*

## Baron Bertrand des Clers

**Bertrand des Clers, a member of IUCN for more than 30 years and 'Member Emeritus' of the Species Survival Commission left us**

**on October 9. As Director of the International Foundation for the Conservation of Game (IGF) since its inauguration in 1976, until his retirement in 2001, he was very well placed to advocate sustainable use of wildlife as a conservation technique and as a means to reconcile the imperatives of development with the necessities of conservation**

Although he trained as an aeronautical engineer at the University Johns Hopkins of Baltimore in the USA, Bertrand des Clers devoted most of his professional life to the conservation of wild fauna.

A member of IUCN for more than 30 years, he was 'Member Emeritus' of the Species Survival Commission. He had been a member of several IUCN Commissions, the World Commission on Protected Areas, the Commission on Environmental Law and the Survival Species Commission. He was also Chairman of the IUCN/SSC Ethnozoology Specialist Group, at one time.

In 1976, HH Prince Abdorreza of Iran asked him to take over the responsibility for developing the International Foundation for the Conservation of Game (IGF), an organization the Prince was establishing. Bertrand des Clers served as Director of IGF until his retirement in 2001. In this capacity, he carried out a wide range of wildlife conservation projects around the world, e.g.:

- ■ Creation of two new protected areas in the Mongolian People's Republic
- ■ Reintroduction of the wood bison in Canada
- ■ Conservation of the forest reindeer in Finland
- ■ Elephant anti-poaching in the Central African Republic
- ■ Black rhino rescue in Zimbabwe
- ■ Reintroduction of the dama gazelle in Morocco and of the scimitar-horned oryx in Tunisia
- ■ Promotion of community-based natural resource management programmes (CBNRM) in Southern Africa.

He had been very involved in the drafting of several international conventions in the domain of environment: the CMS, CITES and CBD. An enthusiastic naturalist and wise hunter since his youth, he was very well placed to advocate sustainable use of wildlife as a conservation technique and as a means to reconcile the imperatives of development with the necessities of conservation.

Among his many credits, he served as:

- ■ Director of the International Foundation for the Conservation of Wildlife from 1976 to 2001
- ■ Assistant Administrator General of the International Council for Game and Wildlife Conservation (CIC) and Chairman of the CIC Tropical Game Commission
- ■ Vice-President for Europe of Game Conservation International
- ■ Vice-President of the International Union of Game Biologists (IUGB)
- ■ Founder of the European Bureau for Conservation and Development (EBCD)
- ■ Member of Honour of the Board Meeting of the International Association of Professional Hunters (IPHA).

The work of Bertrand des Clers may best be summed up in his own words:

"In our modern society, man's domination over nature is overwhelming. The industrialized nations are destroying the remaining outposts of unspoiled nature while developing countries turn all available land over to crop or pasture in their efforts to increase food production and cash returns to ensure the livelihood of their growing populations. Mankind, ignorant of ecological interdependencies of which scientists are only now beginning to appreciate the complexity, has selected vegetable and animal species which could easily be domesticated, in the process, wild species, considered to be either valueless or harmful, were sacrificed..."

*Philippe Chardonnet, Co-Chair IUCN SSC Antelope Specialist Group*



Bertrand des Clers



# News Round-up

## West African black rhino feared extinct

While most subspecies of Africa's two rhinos, the black and white rhino, continue on the road to recovery, this is not true for two of Africa's most threatened rhino subspecies: the West African black *Diceros bicornis longipes* and the northern white *Ceratotherium simum cottoni*. The West African black rhino is now feared extinct and numbers of the northern white rhino have reached an all time low in the wild. In both cases, poaching for rhino horn is the main cause of their demise.

Full story:

[http://www.iucn.org/en/news/archive/2006/07/7\\_pr\\_rhino.htm](http://www.iucn.org/en/news/archive/2006/07/7_pr_rhino.htm)

## Amphibian global action team needed to avoid an extinction catastrophe

The formation of an Amphibian Survival Alliance (ASA), to co-ordinate global conservation plans for amphibians in the face of the threat of a massive extinction catastrophe has been called for by a group of the world's foremost amphibian experts, in the latest edition of the journal *Science*. The IUCN SSC Amphibian Specialist Group of the World Conservation Union (IUCN) would head the new ASA and have an initial five-year budget of \$400 million.

Full story:

[http://www.iucn.org/themes/ssc/news/2006\\_articles/amphibian\\_action\\_team.htm](http://www.iucn.org/themes/ssc/news/2006_articles/amphibian_action_team.htm)

## Conservation of a coral reef giant – the humphead wrasse

The IUCN SSC Groupers and Wrasses Specialist Group is playing a central role in the development of a sustainable management plan for the humphead wrasse (*Cheilinus undulatus*) fishery. A highly prized food fish, over-fishing is having a serious impact on many populations and it was added to Appendix II of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) in 2004. Following its listing, the IUCN Groupers and

Wrasses Specialist Group was contracted by the CITES Secretariat to develop a sustainable management plan (Non-Detriment Findings), based on trade, fishing and population surveys in the field. Their findings have recently been published in two reports; with a third due out in 2007.

Full story:

[http://www.iucn.org/themes/ssc/news/2006\\_articles/Humphead\\_wrasse\\_report.htm](http://www.iucn.org/themes/ssc/news/2006_articles/Humphead_wrasse_report.htm)

## Fencing spells disaster for the last of China's Przewalski's gazelles

China's only endemic antelope, the Przewalski's gazelle (*Procapra przewalskii*) is in imminent peril as less than 300 animals remain. The SSC Sir Peter Scott Fund for Conservation Action has supported a population and habitat survey undertaken by Dr Zhigang Jiang of the IUCN SSC Antelope Specialist Group. The study aims to identify the reasons for its decline and the conservation measures needed to save it. The area inhabited by the gazelle is heavily grazed by sheep and the introduction of extensive fencing in 1994 has had a very detrimental impact: less than 300 gazelles have to compete with over 3 million livestock and fencing has made things a lot worse.

Full story:

[http://www.iucn.org/themes/ssc/news/2006\\_articles/Przewalski%27s\\_gazelle.htm](http://www.iucn.org/themes/ssc/news/2006_articles/Przewalski%27s_gazelle.htm)

## SSC crane expert receives Indianapolis Zoo Conservation Award

In honour of more than 30 years of dedication to saving endangered crane species, the Indianapolis Zoo awarded the inaugural \$100,000 Indianapolis Prize, to George Archibald, Chair of the IUCN SSC Crane Specialist Group. It is the largest international monetary award given to an individual for conservation of a single animal species. George Archibald's work includes everything from dancing with human-reared cranes to enhance fertilization, to promoting a programme to re-establish a migratory flock of Whooping cranes in eastern North America by teaching juvenile cranes to follow ultralight aircraft from Wisconsin to Florida.

Full story:

<http://www.savingcranes.org/award/index.cfm>



The humphead wrasse *Cheilinus undulatus*

## The Behler Award for freshwater turtle conservation



John Behler

Dr Edward O. Moll, a life-long turtle researcher and conservationist, is the first recipient of the Behler Award, a new and major annual award jointly presented by the IUCN Turtle Survival Alliance and IUCN SSC Tortoise and Freshwater Turtle Specialist Group, to honour leadership and excellence in the field of turtle and tortoise conservation. Named in honour of the late John Behler, a leading herpetologist and previous Chair of the IUCN Tortoise and Freshwater Turtle Specialist Group, the first annual Behler Award was presented at the 4th Annual Symposium on Conservation and Biology of Freshwater Turtles and Tortoises held in St Louis, Missouri 10–13 August 2006.

Full story:

[http://www.iucn.org/themes/ssc/news/2006\\_articles/behler\\_award.htm](http://www.iucn.org/themes/ssc/news/2006_articles/behler_award.htm)

## The World Conservation Union mourns Nepalese helicopter crash victims

On behalf of all IUCN members and staff, the Director General expressed his deepest condolences to the families, friends and colleagues of the victims of the helicopter crash in Nepal on 25 September. Many of the victims were members of IUCN's World Commission on Protected Areas and Species Survival Commission and worked for IUCN member organizations including the Nepalese Department of National Parks and Wildlife Conservation and WWF.

Among the 24 passengers known to have died were Dr Tirtha Man Maskey, Co-Chair of the IUCN SSC Asian rhino Specialist Group, Mr. Gopal Rai, Nepalese Minister of State of Forests and Soil Conservation, Director General Narayan Poudel of the Department of National Parks and Wildlife Conservation, government officials, local media and seven WWF staff.

Full press release:

[http://www.iucn.org/en/news/archive/2006/09/25\\_nepal.htm](http://www.iucn.org/en/news/archive/2006/09/25_nepal.htm)

## CITES puts ivory sales on hold

The Standing Committee of the Convention on International Trade in Endangered Species of Wild

Fauna and Flora (CITES), meeting in Geneva 2–6 October, has decided not to allow exports of elephant ivory from Botswana (20 tonnes), Namibia (10 tonnes) and South Africa (30 tonnes) to proceed at this time. The sales were agreed in principle in 2002. They were made conditional on the ability of the Monitoring of Illegal Killing of Elephants (MIKE) system to establish up-to-date and comprehensive baseline data on elephant poaching and population levels. However, the CITES Standing Committee (which oversees the implementation of CITES decisions in between the major conferences) determined that this condition has not yet been satisfied and the sales may not go forward.

Full story:

[http://www.cites.org/eng/news/press\\_release.shtml](http://www.cites.org/eng/news/press_release.shtml)

## Landmark achievement in whooping crane conservation

The first successful nesting of wild whooping cranes (*Grus americana*) in the American Midwest since the 1890s marks an important milestone in the long running conservation programme to save the world's rarest crane. Russian crane conservationists hope to emulate this success by employing similar techniques to save the threatened Siberian crane (*Grus leucogeranus*). Members of the IUCN SSC Crane Specialist Group are closely involved in both projects.

Full story:

[http://www.iucn.org/themes/ssc/news/2006\\_articles/cranes.htm](http://www.iucn.org/themes/ssc/news/2006_articles/cranes.htm)

## Rich marine life in the heart of South-east Asia's coral triangle protected

The Verde Island sea passage, between the Philippine island of Mindoro and Batangas province, has been identified as the 'centre of the centre' of the world's marine shorefish diversity in a study by Kent Carpenter, IUCN Species Programme Global Marine Species Assessment co-ordinator and Victor Springer of the Smithsonian Institute. These findings have inspired the President of the Philippines, Gloria Arroyo, to enact a new national conservation policy this week to protect the archipelagic country's unique and rich wildlife, with particular attention to its diverse marine life.

Full story:

[http://www.iucn.org/themes/ssc/news/2006\\_articles/Verde\\_passage\\_kent.htm](http://www.iucn.org/themes/ssc/news/2006_articles/Verde_passage_kent.htm)

# Species Programme Updates

## Biodiversity Assessment Unit

### Global Mammal Assessment

The Global Mammal Assessment (GMA) covers over 5,500 species and is due to be completed during 2007. This work is over 70% completed with most of the data from Africa, Asia, Oceania, and South America now finalized. Major work is currently underway on Central America and marine mammals. During the last 12 months 12 GMA workshops have been held at which leading scientists have come together to review and complete the data. These workshops have been on: Sirenia, Japanese mammals, Australian/Pacific mammals, Mongolian mammals, Brazilian and Guyanese mammals, Southwest Asian mammals, Andean small mammals, Asian squirrels, Philippine mammals, Southeast Asian large mammals and bats, Southeast Asian rodents and European mammals.

### Global Reptile Assessment

Work has continued on the Global Reptile Assessment (GRA) with the completion of the assessments on reptiles of the Mediterranean and the Seychelles (over 300 species). It is now close to completion in Mexico and Europe (over 800 species), is well advanced in West Asia and North America (over 500 species) and is starting in the Philippines, the Caribbean islands, Melanesia, the Andes, South Africa and Australia (over 3,000 species). The GRA is a very large project (with over 9,000 species to assess) and, unless new resources are secured, the speed of the project will not gather pace until after the completion of the GMA in 2007.

### Global Amphibian Assessment

The first update of the Global Amphibian Assessment (GAA) was launched publicly on 4 May 2006. The data can be accessed on <http://www.globalamphibians.org>. This year's GAA update includes 5,918 species, an increase of over 170 since 2004, most of which are newly discovered. The results of the GAA continue to show rapid declines of amphibian species in many parts of the world, with 34 species confirmed as Extinct, one Extinct in the Wild and 130 Possibly Extinct. The fungal disease chytridiomycosis is implicated in many of these declines and disappearances, and there is growing evidence that the severity of the disease is exacerbated by climate change in tropical mountains.

In addition, members of staff have assisted in the formulation of the Amphibian Conservation Action Plan which was developed at the Global Amphibian

Conservation Summit (held in Washington DC in September 2005). Work is now well advanced on the book on the GAA results, entitled *Threatened Amphibians of the World*, which will be published in 2007.

### Plants Assessments

*The GEF-funded Plants Project*: run by IUCN in partnership with Botanical Gardens Conservation International, has now begun with the appointment of a Project Assistant in October. It aims to carry out species assessments and identify important plant areas in six countries: Cameroon, Costa Rica, Madagascar, Morocco, The Philippines and Sri Lanka. The post of Project Assistant is being funded through Swedish framework funds. Their responsibilities will include, amongst other commitments, the organization of a workshop to seek counterpart funding to coincide with a conference to celebrate 300 years since the birth of Linnaeus.

*Preliminary plant assessments*: the methodology developed has been tested and received a high level of approval. The IUCN Mediterranean Office is preparing to undertake further testing.

*Other plant assessments*: the complete re-assessment of all cycads by the Cycad Specialist Group should be completed in 2007. This will be the first complete reassessment of a plant group. Other ongoing major initiatives are continuing in the Caucasus and Eastern Arcs (East Africa) and plant assessments workshops took place in both locations this year.

## Communications

### SSC website

In the last edition of *Species* we mentioned that we had made major changes to the SSC website. This time around we thought we'd point out a few things that have changed, or that you may not have noticed before. The website is our primary communication tool and hosts a great number of resources for both SSC members and non-members, so we want to make sure they are used.

We welcome feedback and would like to hear from you about how we can make the website as useful and user-friendly as possible. Please contact [andrew.mcmullin@iucn.org](mailto:andrew.mcmullin@iucn.org) to tell us what you like (so we don't remove it), suggest ways to improve the site or let us know if you see any missing pages. Thank you.

- A page 'For Members' - a one-stop shop for SSC members that gathers some of the most relevant resources together on one page.



[www.iucn.org/themes/ssc/for\\_members/for\\_members.htm](http://www.iucn.org/themes/ssc/for_members/for_members.htm)

- **Members Toolkit** - found on the 'For Members' page, the toolkit is a set of useful documents SSC members can download. Examples include an introduction to SSC, advice on funding opportunities, guidelines for communications, publications guideline and a guide to working with the media.

[www.iucn.org/themes/ssc/for\\_members/toolkit.htm](http://www.iucn.org/themes/ssc/for_members/toolkit.htm)

- **For Researchers, For Media, For Conservation Practitioners** - these pages, like the members' page, aim to help our key website visitors navigate easily to the appropriate pages on the website:

[www.iucn.org/themes/ssc/for\\_researchers/for\\_researchers.htm](http://www.iucn.org/themes/ssc/for_researchers/for_researchers.htm), [www.iucn.org/themes/ssc/for\\_media/for\\_media.htm](http://www.iucn.org/themes/ssc/for_media/for_media.htm), [www.iucn.org/themes/ssc/for\\_practitioners/for\\_practitioners.htm](http://www.iucn.org/themes/ssc/for_practitioners/for_practitioners.htm)

- **Site Map** - to help visitors navigate quickly through our website, we have now provided a site map, found on the top right hand corner of the homepage: [www.iucn.org/themes/ssc/sitemap.htm](http://www.iucn.org/themes/ssc/sitemap.htm)

- **Search engine** - our website is now searchable by a Google search engine. You can choose to limit your search to the SSC site, or search the entire IUCN set of sites.

- **Species profile** - to capture the attention of our visitors, we profile a species using a photo and a case study each month. If you have a short profile or case study with a high quality photo, please send it to [andrew.mcmullin@iucn.org](mailto:andrew.mcmullin@iucn.org) and we will use it on the website.

- **Specialist Group pages** - we wanted to highlight the experts that make SSC what it is, so we have added photos and re-organized. We are gradually adding links to the previously featured Specialist Group chair profiles to put a human face to our Specialist Groups. [www.iucn.org/themes/ssc/sgs/sgs.htm](http://www.iucn.org/themes/ssc/sgs/sgs.htm)

- **Who to contact on which issue** - if you have questions and are unsure who in the Species Programme to contact, this page should lead you to the right person.

[www.iucn.org/themes/ssc/about\\_ssc/core\\_staff.htm](http://www.iucn.org/themes/ssc/about_ssc/core_staff.htm)

- **Red List 'zone'** - any of our pages that relate to the IUCN Red List are in a bright red. Within this area of our site you will find media materials from past Red List launches, technical documents, biodiversity assessments and more: [www.iucn.org/themes/ssc/redlist.htm](http://www.iucn.org/themes/ssc/redlist.htm)

## IUCN new visual identity and SSC Specialist Groups

As mentioned in *Species 45*, the implementation of the new visual identity will be a gradual process and Specialist Groups are encouraged to follow the new guidelines when they revise their key promotional materials, notably newsletters and websites. Several Specialist Groups have already modified the look of their websites to follow the standardized use of the IUCN, SSC and individual Specialist Group logos: e.g. the Cat Specialist Group (<http://www.catsg.org/>) and Asian Wild Cattle (<http://www.iucn.org/themes/ssc/sgs/awcsg/>). Any Specialist Groups that do not have a copy of the new IUCN and SSC logos should contact [Andrew.McMullin@iucn.org](mailto:Andrew.McMullin@iucn.org)

## Freshwater Biodiversity Assessment Unit

The Freshwater Biodiversity Assessment Unit has continued to move forward on three key projects.

### Pan-Africa Freshwater Biodiversity Assessment

The European Commission funded pan-Africa freshwater biodiversity assessment project has passed another milestone. With partner organizations, Southern Africa Institute of Aquatic Biodiversity (SAIAB) and Wetlands International, two very successful workshops were run, one in Ghana and the other in South Africa, where the status and distribution of nearly 2,000 freshwater species were evaluated. Analysis of all the data and the production of regionally focused reports are now in hand.

During the next year the data from these regional assessments will be used in three demonstration sites to show how such information on freshwater biodiversity can be integrated into the development planning process. At the Okavango Delta the data will be used to develop macro-invertebrate indicators to monitor water quality. At a second site on the Gambia River on the Senegal-Guinea border the information will be used to help monitor the impacts of a dam. Ongoing activities at the third site, the Rusizi Delta at the head of Lake Tanganyika, are building on the dataset collated through the Eastern Africa Assessment to feed into plans for developing transboundary management of wetland resources in the area.

In the near future, planning will start for the next African regional assessments in North and Central Africa.

## European Fish Assessment

Thanks to funding gained through the North of England Zoological Society (Chester Zoo) the Freshwater Biodiversity Assessment Unit is also working closely with two prominent European ichthyologists, Dr Jörg Freyhoff and Dr Maurice Kottelat, to evaluate their assessments of the status of all of Europe's freshwater fish. The assessment will hopefully be finalized in early 2007. The results will first be published by Jörg and Maurice in their *Handbook of European Freshwater Fishes*. The Red List assessments for all European endemic species will later be added to the IUCN Red List.

The Darwin Initiative funded project is now well underway. Fieldwork has started at the two case study sites, Stung Treng Ramsar Site on the Lower Mekong in Cambodia and Mtanza-Msona village on the Rufiji floodplain in Tanzania, following scoping missions and project workshops at both sites. A draft version of the *Best Practice Manual* has also been completed, which describes the integrated assessment methodologies that are being developed.

These integrated assessment methodologies will be used to provide information to decision-makers on the importance of wetland biodiversity to local people's livelihoods, so that when decisions are made about future developments (such as building a dam or setting up a shrimp farm) the existing value of wetlands are not forgotten.

Integrating the biodiversity, economic valuation and livelihood assessment methodologies is a challenge for all involved, but the field team has already reported some success with this; their daily meetings during fieldwork enabled them to share their results and adapt the methodologies to include aspects relevant to other parts of the assessment. The process of developing these integrated methodologies is ongoing and will incorporate feedback from the field teams on how it can work in practice.

## Global Freshwater Fish Specialist Group

The IUCN/WI Freshwater Fish Specialist Group has also been active with the Chair, Prof. Gordon Reid, Director of Chester Zoo, promoting the group's work at both the World Water Forum in Mexico and at the World Association of Zoos and Aquariums (WAZA) annual conference in Leipzig, Germany.

## Red List Unit

The deadline for the submission of assessments for the 2007 IUCN Red List was 31 August 2006; all submissions received at the Red List office after that date will be held for the 2008 Red List. The last submission date for the 2008 Red List is 31 August 2007.

With each update the size of the Red List database significantly increases. Consequently, managing data within the database becomes more challenging. In order to improve both the stability of the database and its compatibility with the SIS Data Entry Module a major overhaul of the database is currently underway.

The Red List staff continue to provide considerable assistance and support to the Global Species Assessment projects and to the wider SSC network. Since the start of this year they have helped facilitate 12 workshops: Shark SG assessment workshop (February), Eastern Arc Coastal Forests training and assessments (February), Manchester



Indri (Endangered) *Indri indri*

Metropolitan University Red List training workshop (March), European Mammals (May), Galapagos corals and seaweeds assessments (May), Caucasus Plants Red List training (June), Southern African freshwater species evaluation (June), West African freshwater species evaluation (July), Shark SG evaluation workshop (July), RBG Kew Red List training (August), South Africa, SANBI Red List training (August) and Eastern Arc Coastal Forests training and assessments (November). In addition, a Red List training workshop at RBG Edinburgh and 2-3 training workshops in the Mediterranean region will take place in December.

## Red List Website

For the first time, the web site now includes distribution maps for more than 7,000 species and over 2,000 searchable synonyms. Taxonomic notes have also been included. The supporting documentation is becoming increasingly long, resulting in the Detailed Results pages for some species being extremely long. As a result, a tabbed format has been implemented. This new format is



still under review. A number of the search functions were also reviewed and changed for the update, but further changes are likely to be made. There is ongoing work on the web site to improve the information pages and to develop new administrative functions for maintaining and updating the acknowledgements pages and the links to other websites.

## Species Information Service

Progress on the design and development of the Species Information Service (SIS) continues. The redesign of the SIS Data Entry Module is completed and the tool, which enables the collection and preparation of information destined for submission to the Red List, is now widely available to Specialist Groups involved in Red Listing. If you would like a copy of the new SIS Data Entry Module application, please send an email to [sistechsupport@iucn.org](mailto:sistechsupport@iucn.org) with your request.

In addition, the Species Programme is actively pursuing the next generation of SIS tools, a web-based system for collecting and storing species data across the SSC. The first deliverable of this web-based system will be a module for performing species assessments destined for the Red List. Moving to an online system (while retaining offline capabilities too) will significantly streamline the management of species assessments and the production of the yearly Red List of Threatened Species. Currently, technical specifications and functional requirements for the new system are being produced, with development set to begin in early 2007.

This new core system, while initially supporting information collection and management for maintaining the Red List, is intended to support the management of all species information and data within the SSC where such a need exists. Following the successful implementation of Red List tools they will be extended to identify areas of greatest expansion need.

## Species Trade and Use Unit (formerly Wildlife Trade)

The Species Trade and Use Unit (STUU) work has primarily focused on CITES. STUU formed part of the IUCN delegation that attended the CITES Standing Committee from 2-6 October. CITES continues to rely on IUCN and its networks to provide technical advice to the Convention as evidenced by contributions from the Elephant SG, Rhino SGs, Antelope SG and Sturgeon SG to items on the agenda at the Standing Committee.

One of the issues for discussion at the meeting was the one-off sale of ivory from stock-piles in Botswana (20 tonnes), Namibia (10 tonnes) and South Africa (30 tonnes). This had been agreed in principle in 2002, but the sale was made conditional on the establishment of the Monitoring of Illegal Killing of Elephants (MIKE) system, to establish up-to-date and comprehensive baseline data on elephant poaching and population levels, and on trade being restricted to approved trading partners. Although it was agreed that Japan, but not China, had met the requirements for designation as a trading partner, the MIKE baseline was not considered to be satisfied yet and therefore a sale would not go ahead. The Standing Committee will consider this again when it meets prior to the 14th Conference of Parties (CoP) in the Haag in June 2007.

The IUCN-SP STUU will work with TRAFFIC and the SSC to produce *The Analyses of Proposals to amend CITES Appendices* in advance of the CoP 14. This project is a major undertaking gathering biological and status information along with trade and use data which is assessed against the CITES listing criteria to ensure that Parties are able to base their decisions on amending the Appendices on the most up-to-date information available. SSC's Specialist Groups have always provided a huge input to this project for past CoPs.

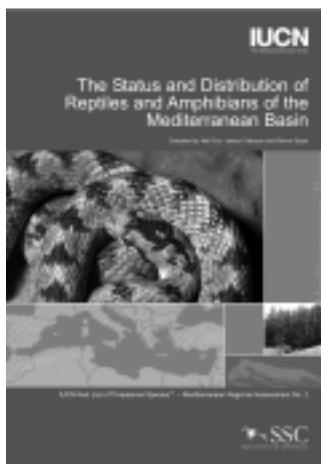
The STUU has been involved in the further development of the use and livelihoods components of the species assessments through the Authority Files Task Force.

Funding has been raised through the University of Cambridge to continue work on the Sustainable Use Project, which aims to identify the factors that contribute to sustainable utilization of species through a quantitative analysis of case studies. Case studies from Asia will be collected and combined with those collected in the first Asia module for an analysis of factors influencing sustainable use in Asia. This module will be completed by the September 2007. Funds are being sought to extend this project to look at case studies from Latin America and Africa.

# End Notes

## Publications

### The Status and Distribution of Reptiles and Amphibians of the Mediterranean Basin



In this second Mediterranean regional assessment, all the reptile and amphibian species existing within the region of study have been evaluated for their global conservation status. This assessment aims to assist in regional planning and to help identify internationally important sites for biodiversity. Like the first in the series, it also hopes to encourage development of a network of regional experts to enable future assessments and the continued updating of the baseline dataset.

The Eastern Mediterranean has a greater diversity of reptile species (lizards, snakes, turtles, tortoises, and crocodilians) due to its characteristically arid land, while parts of the rainier Western Mediterranean have a wider variety of amphibians. Of the 355 reptile species (excluding marine turtles) found in the Mediterranean, almost half of them occur only in this region and 46 of them are currently threatened with extinction.

One in four of the Mediterranean's species of amphibians – frogs, toads, newts and salamanders – are threatened with extinction; of the 106 amphibian species, 26 are listed in that category. The vast majority of these are found nowhere else in the world; 64% of these amphibians are endemic to the region. One species is listed as *extinct*: the painted frog (*Discoglossus nigriventer*).

#### Press release:

[http://www.iucn.org/en/news/archive/2006/09/14\\_amphibians.htm](http://www.iucn.org/en/news/archive/2006/09/14_amphibians.htm)

#### Copy of the report:

[http://iucn.org/places/medoffice/cd\\_rep\\_amp/](http://iucn.org/places/medoffice/cd_rep_amp/)

### Report – The Status and Distribution of Cetaceans in the Black Sea and Mediterranean Sea

The conservation and status of cetaceans in the Black and Mediterranean Seas has been a source of concern for many years. This was reflected in the 1991 Action Plan of the Barcelona Convention and in the global action plans for cetacean conservation published by the IUCN Species Survival Commission's Cetacean Specialist Group. Scientists working in the region have long recognized the need for additional detailed assessments.

With this objective, a workshop was held at the Ministry of State in Monaco 5-7 March 2006. Its stated purpose was to assess all populations of Mediterranean and Black Sea cetaceans against the 2001 IUCN Red List Categories and Criteria. The workshop report is now available and the assessments will be submitted formally for review and endorsement by the Cetacean Red List Authority for inclusion in the IUCN Red List of Threatened Species.

#### Workshop report:

[http://www.iucn.org/places/medoffice/documentos/status\\_distr\\_cet\\_blac\\_med.pdf](http://www.iucn.org/places/medoffice/documentos/status_distr_cet_blac_med.pdf)

### The World Heritage – UNESCO's Classified Sites

Scheduled for publication in October 2006, *The World Heritage* by Patrick Bonneville and Philippe Hémon is the most complete work to date showcasing UNESCO's World Heritage Sites. All 830 listed sites from 138 countries are featured, including the 18 recent additions made last summer at the 30th Session of the World Heritage Committee in Vilnius, Lithuania. This book is the reference about the subject and is now available online at [www.worldheritageboutique.com](http://www.worldheritageboutique.com)

## Species staff comings and goings

**Annabelle Cuttelod**, joined the Malaga office at the end of August to co-ordinate the Mediterranean biodiversity assessments. She is Swiss with mother tongue french. Annabelle has a Masters in oceanography and is currently working for the Swiss Academy of Science. The two main projects she will be involved in are the Mediterranean Red List Project and The Pan African Freshwater Biodiversity Assessment. She will be reporting to the Director of the Malaga office, but will be closely associated with the Species Programme.



**Tatjana Good** joined the Global Mammal Assessment (GMA) team as a Research Assistant at the beginning of October. Tatjana served as Project Officer with DIVERSITAS in Venezuela for the last few years, working on various biodiversity science projects. She received her PhD in Ecology and Evolutionary Biology from Princeton University in 2004. She will be a great addition as we prepare to launch some of the GMA's initial results.

**Julie Griffin**, the Species Communications intern, took up a new position in the Species Programme in mid-October as Project Assistant on the GEF Plants project. IUCN has formed a partnership with Botanic Gardens Conservation International (Kew, UK) and ArtDatabanken (Swedish Species Information Centre, Uppsala, Sweden), to support the implementation of the IUCN-BGCI GEF plant conservation project, which aims to support the implementation of the CBD Global Strategy for Plant Conservation in six countries (Cameroon, Sri Lanka, Costa Rica, Morocco, Philippines and Madagascar). Her email remains the same: [julie@iucn.org](mailto:julie@iucn.org)

**Anna Knee**, who had been the Species Programme Communications Officer for six years, latterly job-sharing with Andrew McMullin, took up a new position as Writer/Editor within the IUCN Global Communications Unit on 2 October. She will provide editorial support for a range of corporate communications products including the IUCN magazine *World Conservation*. Her email remains the same: [alk@iucn.org](mailto:alk@iucn.org)

**Marie-Christine Labernardière** left at the end of August after 23 years with IUCN, the last 11 in the Species Programme. We thank her for her many years of devoted service and wish her good luck for the future.

**Dr Suzanne Livingstone** is now working as a Global Marine Species Assessment Research Associate with Kent Carpenter at the Old Dominion University, Virginia USA. She started in mid-September after completing a PhD on marine turtles in Trinidad at the University of Glasgow, UK.

**Simon Stuart** moved to Bath, UK in August where he has taken up the role of Species Senior Scientist. He continues to oversee Species Programme staff based in the United States.

## Photo Credits

- Cover White-tailed or sea eagle (*Haliaeetus albicilla*) has been adversely affected by the construction of a wind farm on the Smøla islands in Norway, with increased adult mortality and reduced breeding success.  
**By Chris Gomersall/rspb-images**
- Page 10 Wind turbines  
**Courtesy of rspb-images**
- Page 12 Wind farm on the Smøla islands, Norway  
**By Rowena Langston**
- Page 13 White-tailed or sea eagle (*Haliaeetus albicilla*)  
**By Chris Gomersall/rspb-images**
- Page 14 Wood bison (*Bison bison athabascaae*) and Plains bison (*B.b. bison*)  
**By C. Cormack Gates**
- Page 17 Whooping cranes (*Grus americana*) following ultralight aircraft  
**By International Crane Foundation**
- Page 19 Cantabrian capercaillie (*Tetrao urogallus cantabricus*)  
**By Isolino Pérez Tuya**
- Page 20 Anegada iguana (*Cyclura pinguis*) release  
**By Lee Pagni**
- Page 24 Seahorse (*Hippocampus abdominalis*)  
**By Jonathan Clark-Jones/Project Seahorse**
- Page 24 Radio-collaring a mountain tapir (*Tapirus indicus*)  
**By Diego Lizcano**
- Page 25 Ochre Presba dragonfly  
**By Michael Samways**
- Page 26 Wilderness in Namibia  
**By Thomasina Oldfield**
- Page 28 Wetlands in Latvia  
**By Tobias Salathé, Ramsar**
- Page 29 Humphead wrasse (*Cheilinus undulatus*)  
**By Valerie Ho**
- Page 35 Indri (*Indri indri*)  
**By Jean-Christophe Vié**

Contributions to *Species 47* should be sent to Team Species by 17 April 2007.

Email: [species@iucn.org](mailto:species@iucn.org)

**For address changes, notify:**

Nathalie Velasco  
Species Program, IUCN  
Rue Mauverney 28  
CH-1196 Gland, Switzerland

Phone: +44 22 999 0268

Fax: +44 22 999 0015

Email: [nav@iucn.org](mailto:nav@iucn.org)

Hard copies of *Species* are available only upon request. SSC members are encouraged to receive the SSC monthly electronic news bulletin. Please contact Team Species at [species@iucn.org](mailto:species@iucn.org) for more information. *Species* is available electronically at: [www.iucn.org/themes/ssc/](http://www.iucn.org/themes/ssc/)

Rue Mauverny 28  
1196 Gland  
Switzerland

Tel: +44 22 999 0000  
Fax: + 44 22 999 0002  
species@iucn.org

[www.iucn.org](http://www.iucn.org)