



ZSL

LIVING CONSERVATION

2006-2007



LEFT: ZSL has been successful in breeding many animals, including a litter of African lion cubs born at ZSL Whipsnade Zoo

An exhilarating year for ZSL

ZSL is 180 years old and is now growing again with ever increasing vigour. This has been an exhilarating year with significant achievements to report across the whole organisation.

As President of ZSL, I bring you the 2006-2007 review with great pride. It is wonderful to be able to report on so many significant successes. This year's review is a great tribute to all the hard work of our staff and supporters.

We have once again been working all over the world, helping to protect species and their habitats. New evidence from ZSL scientists revealed the damage to unique seamount ecosystems caused by deep-sea trawling. Breeding success in the Living Collections of ZSL London Zoo and ZSL Whipsnade Zoo included rare beaded lizards, an Asian elephant, a Sulawesi hornbill, a litter of African lion cubs, a giraffe calf and a Mexican Socorro dove that is extinct in the wild, to name but a few.

The Zoos have always been an integral part of ZSL's conservation work. However, our market research showed that our Zoos and our conservation programmes are not linked very well in the public's mind. We therefore took the decision to rebrand both Zoos. Each Zoo's name is now preceded by ZSL, highlighting the strong connection between the Zoos and the world of conservation, and raising awareness of ZSL itself and of the important conservation work it undertakes. Both now have new logos, reflecting each Zoo's name change.

At ZSL Whipsnade Zoo, our newest attraction, the *Jumbo Express*, was launched with a new commentary and more animals to see along the route, while at ZSL London Zoo, tropical butterflies delighted all in the brand-new *Butterfly Paradise* exhibit and visitors came face-to-face with giraffes, thanks to the new viewing platform in the *Into Africa* exhibit.

Our 180th anniversary was celebrated with a royal gala to raise funds for gorilla conservation, which helped to make 2006 a record year for sponsorship and donations. Visitor numbers across the two sites continued their long-term upward trend with a total of over 1,300,000 visitors, and the www.zsl.org award-winning website saw an unprecedented increase in revenue to over £1m.

This year also saw the successful completion of our pilot outreach programme from ZSL London Zoo to primary schools

in London. Within four months, the Education Team had exceeded their target for the pilot year by 65%. Educational groups continue to visit the Zoos in large numbers – in the past year 115,023 schoolchildren came through our gates. Enthusiasing children about the living world and alerting them to the enormous conservation problems across the globe must be one of our most important activities.

ZSL also continues to convene and encourage discussion and debate with its programme of scientific meetings. The annual Stamford Raffles Lecture, given by Professor Sir John Lawton CBE FRS, entitled *Biodiversity, climate change and unsustainable development*, was extremely well received.

Sustainability is an issue to which ZSL is committed and in early 2007 we set up a Sustainability Committee, which is looking at the use of resources at ZSL, how we can improve what we do and how we may engage the public about these pressing global issues. Three subgroups have been set up to look at climate change, carbon offset and general green issues and how these impact upon ZSL itself and upon the habitats and animal species we aim to conserve.

None of the progress made in the past year would be possible without the ongoing support of members and volunteers, for which we are truly grateful. Their commitment to the Society's role in education and conservation has been of immense benefit. I hope that you will enjoy this year's review and share in our sense of pride about what has been achieved.



Sir Patrick Bateson FRS
President, ZSL

highlights of our year

2006 was an exciting and eventful year for ZSL. Here are some of our significant achievements and activities which happened throughout the year. For more information go to www.zsl.org.

January

● ZSL announces the postmortem results of the northern bottlenose whale found in the Thames

A team of ZSL vets rush to assist with the attempted rescue of the northern bottlenose whale found in the Thames and carry out the whale's postmortem examination.



February

● ZSL London Zoo assists in saving illegal import

ZSL London Zoo assists in rescuing approximately 950 exotic fish and coral illegally imported from Indonesia and seized by Her Majesty's Revenue and Customs (HMRC) officials at Heathrow Airport.

● ZSL vet offers India's vultures a lifeline

ZSL undertakes a successful mission to save critically endangered vultures injured in India's annual Kite Festival.

● Rare lizards with attitude born at ZSL London Zoo

ZSL London Zoo announces the arrival of seven rare baby Rio Fuerte beaded lizards. This is the first time these lizards have been bred at ZSL London Zoo and only the third time they have been bred in a UK zoo.

March

● A new exhibit, *Into Africa*, opens at ZSL London Zoo

Visitors get eye to eye with ZSL London Zoo's giraffes on a new feeding platform and a pack of wild hunting dogs arrives.

● Endangered crayfish breed at ZSL Whipsnade Zoo

The endangered white-clawed crayfish introduced to ZSL Whipsnade Zoo last year, are surviving in their new home and have even begun to breed.

● New ark paves way for turtle conservation

A newly refurbished project room at ZSL Whipsnade Zoo welcomes an internationally important collection of freshwater turtles to the UK.





Meerkats enjoy Easter treats
ZSL London Zoo's meerkats make it onto the front page of *The Guardian* with their Easter eggs filled with meal worms.

April



May

April

● **ZSL wins gold award for excellence**

The ZSL website is named Tourism Website of the Year in the 17th annual Enjoy England Awards for Excellence.

● **Jumbo Express launched at ZSL Whipsnade Zoo**

All aboard for an exciting adventure on the *Jumbo Express*, the new attraction at ZSL Whipsnade Zoo.

May

● **Butterfly symphony at ZSL London Zoo**

Tropical butterflies make music at ZSL London Zoo's brand-new exhibit.

● **ZSL Whipsnade Zoo delight at litter of lion cubs**

ZSL Whipsnade Zoo is proud to announce the arrival of four African lion cubs.

● **ZSL's Gorilla Garden wins Silver at Chelsea**

ZSL is delighted to be awarded a Silver Medal by the RHS for its Gorilla Garden at the Chelsea Flower Show.

June

● **Top scientist demands an end to abuse of Earth**

'The looming sixth mass extinction serves as a stark warning to us that human beings are not using the planet sustainably,' says Professor Sir John Lawton CBE FRS at the ZSL annual Stamford Raffles Lecture.

● **Last chance for world's most endangered mammal**

ZSL unveils plans for a crucial conservation project to save the world's most endangered mammal, the Yangtze River dolphin.



June

July

● Reintroduced corncrakes hatched at ZSL Whipsnade Zoo return to the UK to breed

Conservationists at ZSL are delighted that rare corncrakes bred in 2005 at ZSL Whipsnade Zoo return to breed at the RSPB reserve where they were reintroduced.

August

● ZSL to monitor first green turtle with satellites

The movements of the critically endangered green turtle are to be tracked for the first time by ZSL.

● ZSL Whipsnade Zoo's new arrival is jumbo sized

A new Asian elephant joins the thriving herd at ZSL Whipsnade Zoo and begins to make some new ele-friends.

September

● ZSL holds 180th anniversary gala for gorillas

ZSL held an exclusive black-tie gala to celebrate the society's 180th anniversary and to raise funds for gorilla conservation.

● Finch fatalities

Scientists from the Garden Bird Health initiative, coordinated by ZSL's Institute of Zoology, see an unusual increase in the number of finch fatalities reported to the project over the previous two months.

● Euan the elephant calf celebrates his second birthday

ZSL Whipsnade Zoo's male elephant calf Euan enjoys a birthday kick about.



September





October

November



October

- **Hornbills mate to produce a UK breeding first**

A love story of two Sulawesi hornbills has a very happy ending at ZSL Whipsnade Zoo, with the birth of a chick – the first ever to be bred in the UK.

- **Giraffe calf makes his lofty debut at ZSL Whipsnade Zoo**

ZSL Whipsnade Zoo has a new baby, but he's hardly a babe in arms! The reticulated giraffe calf is just 11 days old and already measures a staggering 1.7m.

- **ZSL London Zoo successfully breeds 'extinct' Mexican Socorro dove**

Bird keepers at ZSL London Zoo breed a Socorro dove that died out in the wild three decades ago. It's a first for the zoo and keepers hope it will mark a change in fortune for the beleaguered bird.

December



November

- **Unique seamount ecosystems destroyed by trawling**

At a scientific meeting, ZSL reveals new evidence that deep-sea trawling is destroying seamount ecosystems, which are home to an astonishing diversity of species.

- **BBC series *Super Vets* is broadcast, featuring ZSL's Veterinary Team.**

December

- **Virgin births at ZSL London Zoo**

Komodo dragons hatched at ZSL London Zoo are confirmed as parthenogens in a paper published in the journal *Nature*.

ZSL's Mission:

To achieve and promote the worldwide conservation of animals and their habitats.

ZSL runs conservation programmes in Britain and over 30 countries worldwide. A selection of our projects are profiled here. For more information about our work around the globe visit www.zsl.org.



- 1** Disease monitoring of the unique island wildlife of the Galapagos.
- 2** Supporting biodiversity through sustainable trade in ornamental fish in the Brazilian Amazon.
- 3** Addressing dramatic decline in global amphibian populations. Designing an in-country captive breeding facility for the critically endangered 'mountain chicken' in Dominica.
- 4** Protecting native British wildlife through health-screening programmes.
- 5** ZSL Whipsnade Zoo provides a safe refuge for the last of Bedfordshire's native crayfish, threatened by the introduced American signal crayfish.
- 6** Conserving western lowland gorillas in Gabon by supporting park management: ecotourism development, forest surveys; gorilla health monitoring.
- 7** A long-term collaboration. Gazelle breeding and reintroduction, wildlife monitoring and protected area research in Saudi Arabia.
- 8** ZSL works with local teams to protect and manage black rhino and elephant populations in Kenya.
- 9** ZSL's Tanzania Carnivore Centre has produced Conservation Action Plans for all 35 species of native carnivores and continues to develop a database for cheetahs and wild dogs.



- 10 ZSL and partners continue to respond to the declines in Indian vulture populations as a result of the cattle drug diclofenac, by providing veterinary and animal management expertise for captive breeding rescue centres.
- 11 Tigers are a flagship species for ZSL. Coordinating breeding programmes for tigers in zoos in Europe, Russia and Australasia and, through 21st Century Tiger, supporting field conservation work in India, Indonesia and Russia.

- 12 ZSL is training Russian scientists in wildlife disease monitoring in the Russian Far East and gathering information for a potential reintroduction of Amur leopards.
- 13 Project Seahorse celebrates its 10th anniversary with the establishment of the 28th Marine Protected Area in the Philippines.
- 14 Surveying pristine reefs and investigating coral disease in the Chagos Archipelago.

The Living Collections

The past year has seen an unprecedented level of animal moves in and out of the Living Collections at ZSL London Zoo, much of it in preparation for the *Gorilla Kingdom* and *Clore Rainforest Lookout* developments. The animal teams, led by the curatorial staff, have continued to demonstrate great skill and dedication in this respect.

Gorilla Kingdom replaced the Sobell Pavilions at the heart of the zoo, near the main entrance. The existing pavilions housed the majority of ZSL London Zoo's primate collection and were in need of updating. New primate species have been brought to London, including the beautiful white-naped mangabey from West Africa, one of the world's most endangered monkeys. Three mangabeys are now housed in the *Gorilla Kingdom* complex, including a young male received from the Endangered Primate Conservation Centre in Ghana as part of the West African Primate Conservation Action (WAPCA) project.

The aim of WAPCA is to effectively preserve primate species in the West African Upper Guinean rainforest through the captive breeding of two flagship species, the white-naped mangabey and the Roloway monkey, supported by conservation research in the forest. ZSL is a member of WAPCA and provides funds annually to manage the Conservation Centre and to undertake biodiversity surveys in the western region of Ghana.

It has been fascinating for all staff to see the *Gorilla Kingdom* develop over the past year and there was particular excitement in early March when the Zoo's two resident gorillas, silverback Bobby and female Zaire, ventured onto their new outdoor island for the first time. They had been housed off-show in the Veterinary Department since the closing of the former exhibit and this moment had been eagerly anticipated by all. Bobby and Zaire were joined in the new exhibit by a second female gorilla, Effie, who arrived from Zoo Leipzig in Germany. It is anticipated that the European breeding programme for gorillas will assign additional females later in the year, slowly building a stable, cohesive group of gorillas at ZSL London Zoo.



Gorilla Kingdom had a royal appointment when HRH The Duke of Edinburgh came to the Zoo on 29 March 2007 for its official opening, and the development now provides a showcase for the gorilla conservation work carried out by ZSL in Gabon and Democratic Republic of Congo (see p16) in addition to the WAPCA work. Zoo visitors

will be able to gain a deeper understanding of the threats to African primates, with a particular focus on bushmeat hunting. The exhibit also presents fascinating African bird and reptile species, some of which are also affected by the bushmeat trade.

Proving that life begins at 40, the *Clore Small Mammal House* has been given an extensive facelift through a generous donation from the Clore Duffield Foundation. Though still a popular exhibit, the *Clore*, opened in 1967, was beginning to show signs of age. Therefore, the decision was taken to improve the building for both animals and visitors and to change the animal make-up to focus predominantly on South American species. The inside has been transformed, with individual enclosures much enlarged and a central tropical biome created, featuring charismatic small primates, rodents, sloths and birds of South America. Relunched as the *Clore Rainforest Lookout*, the exhibit provides an all-weather zoo experience and serves to highlight the Zoos' conservation work.

A flagship species of the new Clore exhibit is the golden lion tamarin, an exquisite and inquisitive small golden monkey with a



Bobby in Gorilla Kingdom
LEFT: Get up close when you go In with the Lemurs at ZSL Whipsnade Zoo
BELOW: A golden-headed lion tamarin in the Clore Rainforest Lookout



lion-like mane. The tamarin is IUCN Red Listed as Endangered, with less than 1,500 individuals found in the Mata Atlântica, or Atlantic Coastal Forest, in Brazil. Deforestation due to urbanisation and demand for agricultural land has led to a sharp decline in available habitat and only 2% of the original forest remains. However, the golden lion tamarin population trend is upwards thanks to the collaboration of zoos, Brazilian conservation groups and the Brazilian government, who together have brought this species back from the brink of extinction with an innovative

population rescue plan featuring protection in the wild, captive breeding and release and ongoing research. For several years, ZSL has coordinated the European breeding programme for this species and contributes to the global master-planning process.

ZSL also donates funds annually to the Lion Tamarins of Brazil Fund (LTBF), contributing much-needed conservation monies not only for the golden lion tamarin but also for its equally threatened relatives, the black lion tamarin, the black-faced lion tamarin and the golden-headed lion tamarin, which can also be seen around the biome of the new exhibit.

In addition, ZSL is supporting the Alto Mayo titi monkey project. This titi monkey is classed as Vulnerable on the IUCN Red List and very little is known about its distribution, behaviour and life history. This project seeks to study the distribution as a first step to the conservation of this rare monkey. Its close relative, the red titi, will feature in the new *Clore Rainforest Lookout*.

These two new developments follow on from the resounding success of *Butterfly Paradise* at ZSL London Zoo. Originally designed to open only in the summer months, it has proved so successful with our visitors that it has become a year-round attraction. The exhibit remained stunning throughout the year and was refurbished for the 2007 season. Although the Invertebrate Team breeds a number of the species that can be seen flying in the exhibit, the majority are purchased in order to support several important community-based sustainable employment and associated habitat conservation initiatives. Projects such as Kipepeo in Kenya are improving the livelihoods of local butterfly farmers and, in so doing, placing a tangible value on the Arobuke-Sokoke forest from where the initial breeding stock originates.

A new exhibit, *In with the Lemurs*, opened at ZSL Whipsnade Zoo on 30 March and has proved to be an immediate success. While there has been a lemur exhibit at that site for a number of years, the decision was taken to bring visitors closer to the group of ring-tailed lemurs, a species that is a firm favourite with the public. A new walkway spanning the moat is now in place and allows the public an ‘up close and personal’ experience as they walk through the island. The keepers from the Europe Team have been working hard with the lemurs to acclimatise them to this new experience of people walking through the exhibit. The newly enhanced area has also provided the opportunity to highlight the numerous threats to the unique biodiversity found on the island of Madagascar and to inform the public about what ZSL is doing to mitigate those threats.

One such project is the Madagascar Fauna Group (MFG), a consortium of nearly 40 zoos and universities around the world, who work together to provide conservation action on the island.

ZSL has been a managing member of MFG since its inception in 1988 and provides funds annually for MFG to carry out conservation breeding, research, education and habitat protection activities on the island. In particular, MFG manages, in conjunction with Malagasy government authorities, a lowland rainforest reserve in eastern Madagascar, called Betampona.

ZSL also co-chairs the 6th European Association of Zoos and Aquaria (EAZA) conservation campaign, which was launched on World Animal Day at the EAZA annual meeting in Madrid. The 2006-2007 campaign focuses on Madagascar and is jointly chaired by ZSL and colleagues from Zoo Zurich. The campaign brings together zoos from countries across the EAZA network to stage campaign activities in their individual zoos with the aim of highlighting the amazing biodiversity of the island and raising €500,000 for 20 different *in situ* projects. *In with the Lemurs* provided a new focus area for campaign activities at ZSL Whipsnade Zoo, and campaign activities also took place at ZSL London Zoo, using the strong collection of Malagasy lemurs, small mammals, fish, reptiles, amphibians and invertebrates in the collection.

The development of *Biota!*, the new-generation aquarium planned for Silvertown Quays, continued throughout the year. The initial contractual arrangements for *Biota!*, which is a separate registered charity, were put in place in early 2007 and the project is now moving onto the next stage. Fish and coral are being bred and propagated in preparation for this major new conservation-based visitor attraction.

The two bald eagles at ZSL Whipsnade Zoo are now in 'semi-retirement' from the flying team and have moved into their new enclosure. This enclosure is far bigger than their previous accommodation and, although no eggs were produced this year, their keepers are hopeful for the future. It has been a busy year for the Bird Flying Team and they have continued to provide a superb bird display that, year on year, proves exceptionally popular with visitors, who even wait to attend practice displays.

With the momentous movement of animals in and out of the collection in the past year in preparation for so many new



A colourful resident of the Butterfly Paradise
LEFT: A first for the UK – a Komodo dragon hatchling



exhibits, it is not only the curatorial and keeping staff that have been busy. The Veterinary Department has been providing support for these moves in

health monitoring and screening procedures. In addition, the Horticultural Team has been extremely busy creating the lush vegetation that can be seen in the *Clare Rainforest Lookout* and the *Gorilla Kingdom* exhibits, as well as its ongoing work of keeping the two sites attractively planted.



ZSL Whipsnade Zoo 75th Anniversary

This year saw ZSL Whipsnade Zoo reach the 75th anniversary of its opening to the public. In that time, Whipsnade has produced numerous 'firsts' and demonstrated excellence in breeding of many of the larger species in the Living Collections. Hall Farm was purchased by ZSL in 1927, but it was only after an Act of Parliament was passed in July 1928 that the Zoo could really be developed, as this closed a right of way across the farm. Whipsnade Zoo then opened in 1931. Its many notable successes over the years include: organising the first ever British Trust for Ornithology nestbox surveys, which were carried out by Whipsnade Zoo keepers in the woodland walk area before the nationwide scheme was initiated; breeding 131 cheetahs, including the first surviving cheetah cubs to be born in captivity, (born at the park in 1966); and breeding more than 50 white rhinos since the opening of the park.

The cycle of life

There was both tragedy and triumph for the Elephant Team at ZSL Whipsnade Zoo. Within the space of a month over the Christmas period, we lost the young female Asian elephant to a rapidly developing infection, but welcomed the birth of another female to the herd. The elephant keepers and vets worked tirelessly for 48 hours to try and save two-year-old Aneena but, sadly, she succumbed to the infection just before Christmas. Investigations are still being carried out to confirm the cause of death. This was a severe blow to the elephant keepers and all of the ZSL Whipsnade Zoo team; however, spirits were lifted in January by the birth of the new calf. Within a day, the infant had joined her mother, aunts and cousin on walks through the Zoo and has rapidly become a firm favourite of ZSL Whipsnade Zoo's visitors.

The Asia Team welcomed the birth of an Asian greater one-horned rhino to mother Behan on New Year's Eve. This lively female calf will be joined by another new arrival at the end of 2007, as it has been confirmed by ultrasound that Beluki, the other young female, is pregnant.

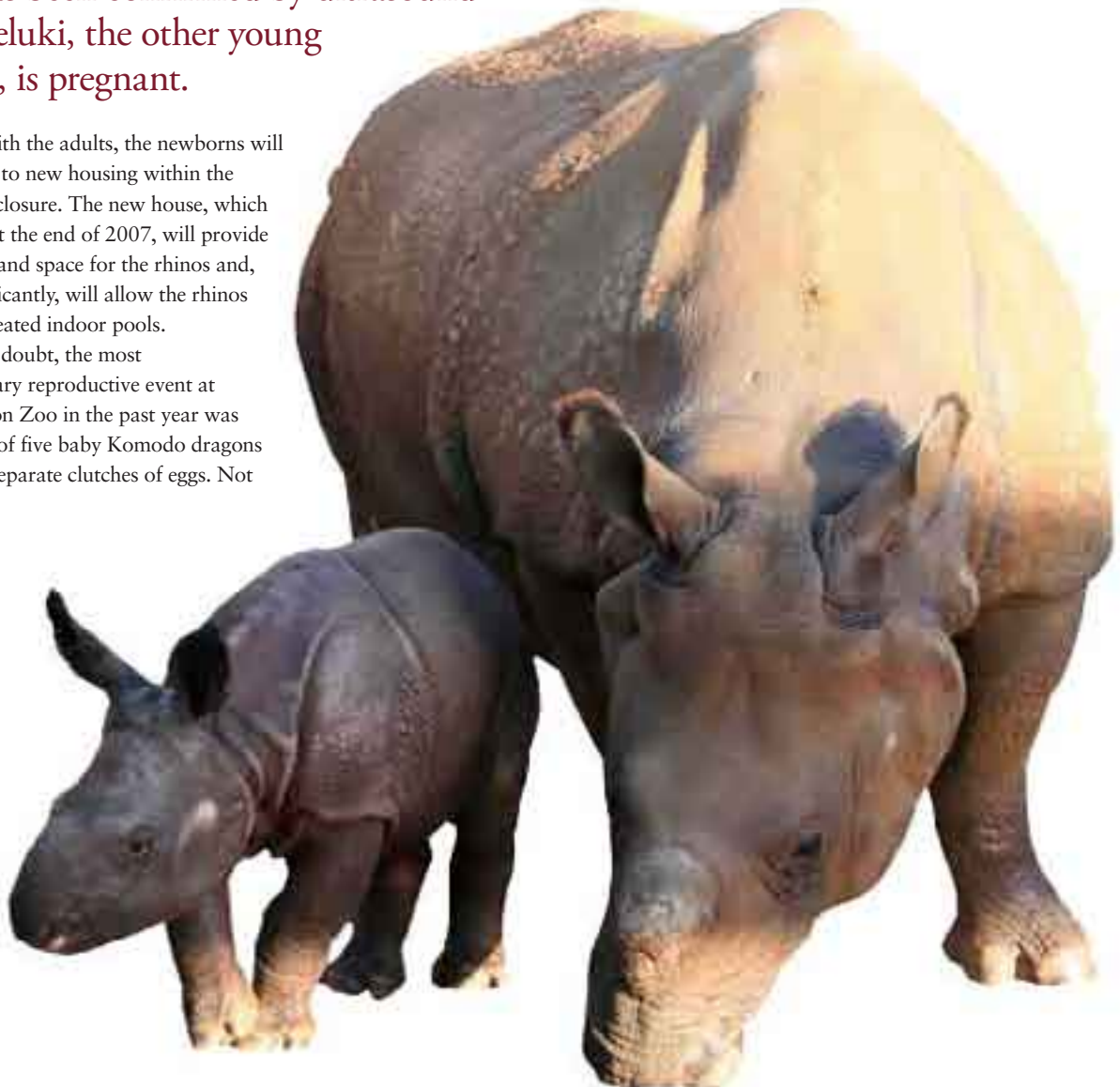
Along with the adults, the newborns will be heading to new housing within the existing enclosure. The new house, which will open at the end of 2007, will provide more light and space for the rhinos and, most significantly, will allow the rhinos access to heated indoor pools.

Without doubt, the most extraordinary reproductive event at ZSL London Zoo in the past year was the arrival of five baby Komodo dragons from two separate clutches of eggs. Not

only were these the first Komodo dragons bred in the UK – indeed the first in mainland Europe – but also it was discovered, through genetic fingerprinting, that the four young hatched from the first clutch of eggs were parthenogens. Parthenogenesis – the production of offspring without fertilisation by a male – is an extremely rare event in vertebrates and never before recorded in Komodo dragons. The fifth dragon to hatch from a second clutch, was not a parthenogen and had been produced sexually, proving that Komodo dragons can apply different reproductive strategies under differing environmental conditions. This ground-breaking research was published in the leading science journal *Nature* and received significant media attention.

Unfortunately, the female dragon, Sungai, died unexpectedly. Investigations into her death are being carried out by ZSL's Herpetology and Veterinary Teams, who are highly skilled in dragon husbandry and pathology. They are part of a collaborative effort with the Komodo EEP and SSP to understand a global trend in unexpected deaths of captive Komodos.

After considerable efforts and careful research, the Aquarium Team bred the oscillated stingray, short-snouted seahorse, spiny chromis, pipehorse and spilurus tetra for the first time. In addition to breeding on-site, the Aquarium Team received four confiscations of corals, clams and fish over the year and continues to work in close contact with Her Majesty's Revenue and Customs.





The Bird Team has also experienced fantastic breeding success this year, the most notable being that of a Socorro dove. The success is a testament to the persistence and hard work of the bird keepers over the last few years.

The Socorro dove has been extinct in the wild for over 30 years, predominantly due to the threat of introduced feral cats that prey on the birds and overgrazing by sheep, which damages habitat on its endemic home of the Revillagigedo Islands, near the coast of Mexico. An eradication programme for both the cats and sheep is now underway and it is hoped that the reintroduction phase of this programme will begin in the next few years.



The Invertebrate Team has produced excellent breeding results year after year and 2006/2007 was no exception. At ZSL London Zoo, the highly endangered Bermudian land snails have bred and reared well, as did the Partula snails. In particular, *Partula rosea* breeding was so successful that a second population could be established at Marwell Zoo. It also produced good breeding and survival rates for field crickets, although this season's population could not be released into the wild due to the discovery of a protozoa parasite. This problem has now been rectified and releases should be possible next year. The most notable loss from the

collection was the demise of the last *Partula otabeitana*, a species that is Critically Endangered in the wild. At ZSL Whipsnade Zoo the next generation of barberry carpet moths were bred and reared successfully.

In addition to providing veterinary services to the Animal Department, the Vet Team continued to offer both clinical care and pathological support for a number of native species programmes, including red kite, dormice, corncrake, crickets and crayfish. With the spectre of avian flu hovering over the UK, veterinary staff also provided valuable input into the emergency action plans formulated to protect the bird collections at ZSL Whipsnade Zoo and ZSL London Zoo, and contributed to the Defra consultative process to determine criteria that would permit vaccination of captive birds. Much of the Vet Department's work was also captured in the second series of *Super Vets* on BBC1, which proved to be extremely popular.

Zoo staff in the field

In conjunction with their demanding animal husbandry and management tasks in the Living Collections, zoo staff continued to be active in ZSL's conservation programmes in the field. Keepers and curators have gained and shared expertise in a variety of countries including visits to ZSL Mikongo gorilla project in Gabon, Ghana's WAPCA Endangered Primate Conservation Centre, the Chagos Islands, the Vulture Centre in India, and a ZSL Keeper assisted with a ground-breaking amphibian rescue operation in Panama.

Nationally and internationally recognised zoo conservation expertise

The international respect that staff at both Zoos command from their peers and conservation observers was demonstrated repeatedly in the past year.

ZSL played a significant role in the *ex situ* conservation planning for 'A-ARK' or Amphibian Ark. A-ARK is a joint project of the World Association of Zoos and Aquaria (WAZA), the IUCN Conservation Breeding Specialist Group (CBSG) and the Amphibian Specialist Group. It was established to respond to the precipitous decline of the world's amphibians, which is due in the most part to chytrid fungus. ZSL provided funds to help coordinate this project in 2006 and in 2007 has committed even more support through the deployment of key staff.

Three of ZSL's Curatorial Team were invited to lecture on a European research school for PhD students, held at Nordens Ark near Gothenburg, in the field of conservation biology. Funded by the Swedish government, the presentations were on a variety of topics from global amphibian declines to invertebrate conservation and to the utility of collaborative zoo campaigns. The school brought together experts from Europe, the US and Australia, but ZSL was the best represented organisation by far, reflecting our varied expertise.

Our Veterinary Team has also been recognised in its field with our pathologist becoming the president of the British Veterinary Zoological Society (BVZS) and two of our vet nurses winning prizes for presented papers at the autumn BVZS meeting.

The zoos followed their success at the 2005 EAZA and British and Irish Association of Zoos and Aquariums (BIAZA) awards with more awards in 2006. Their expertise in the links between captive breeding and field conservation was recognised by the BIAZA Field Conservation Award for the project 'Development of a long-term action plan for the conservation of French Polynesia's endemic tree snails'. This ongoing project is coordinated and led by ZSL, with programme participants from four other BIAZA collections: the Clifton and West of England Zoological Society, the Durrell Wildlife Conservation Trust, the North of England Zoological Society and the Royal Zoological Society of Scotland, whose efforts were also recognised by the award. ZSL also received a commendation in the BIAZA Best Research Project category for the project 'Conservation tools for determining genetic relatedness in group managed species', which previously had won the 2005 EAZA Research Award. A commendation was also received in the BIAZA Best New Zoo Enclosure category for the *African Bird Safari* at ZSL London Zoo, which opened in 2005.

Zoo staff continued to be active at national and international zoo and aquarium meetings. ZSL was represented at the EAZA Annual Meeting in Madrid. At the IUCN Conservation Breeding Specialist Group Annual Meeting, zoo staff organised and facilitated two conservation workshops, one on the effects of climate change on biodiversity and the other on zoo conservation auditing. Zoo staff also spoke at a number of other meetings, including the WAZA Annual Conference, BIAZA Annual Conference, American Association of Zoo Veterinarians Annual Conference, European Association of Zoo and Wildlife Veterinarians, Royal College of Veterinary Surgeons and European Union of Aquarium Curators and the regional Environmental Enrichment Conference.



**The red-crested turaco
at ZSL London Zoo
FACING PAGE (TOP):
A couple of the residents
of the *Into Africa* exhibit
FACING PAGE (BOTTOM):
A Socorro dove – one of
ZSL's key conservation
breeding successes**

**A full animal list
for ZSL London Zoo
and ZSL Whipsnade Zoo
can be found at
www.zsl.org/animals**



Field Conservation

ZSL's conservation teams were involved in vital projects worldwide. Their work addresses some of the world's toughest conservation challenges and covers all areas of wildlife protection, from marine and desert environments to UK native species.

After five years of building headquarters support for conservation field projects, ZSL now has programme managers for its five largest Conservation Programmes. Furthermore, the Society has committed itself to supporting four field posts to assist in the conservation of key species in its research, Living Collections and field conservation work: gorillas, tigers, rhinos and elephants. It has also established the Indicators and Assessments Unit to bring research findings on global and national trends in species numbers to the attention of international conventions, such as the Convention on Biological Diversity.

We continue to complement this policy work by delivering real conservation outcomes on the ground – something we are doing through over 45 field conservation projects, with a field spend of over £2.6m.

Bushmeat and Forests Conservation Programme

As ZSL London Zoo's exciting new exhibit *Gorilla Kingdom* began to transform from rubble to reality, 2006 also saw a focus on gorilla conservation in the wild. Over 200 tourists visited Mikongo Conservation Centre in Lopé National Park, Gabon, where western lowland gorillas are being habituated as part of a broader programme of rainforest ecotourism and gorilla health. With the help of a grant from the US Fish and Wildlife Service (USFWS), a health project was launched in collaboration with the Wildlife Conservation Society (WCS) and the Centre Internationale de Recherches Médicales de Franceville (CIRMF). It employed a vet to start a six-month project to refurbish the field lab at Mikongo, train up a Gabonese health technician in gorilla faecal sampling and



analysis, and to improve the health of staff and local people to reduce the likelihood of disease transmission between humans and gorillas. A BBC film crew visited Mikongo in November to record a programme presented by the singer Will Young, which will be aired in 2007 as part of the *Saving Planet Earth* series. It is hoped that it will raise awareness of and funds for global conservation projects.

ZSL also works in Virunga National Park in eastern Democratic Republic of Congo, a UNESCO World Heritage Site and home to over half of the world's 700 remaining mountain gorillas, as well as a population of eastern lowland gorillas.

Our project, funded by the EU, helped to support more than 50% of all ranger patrols in the park this year, by supplementing the government ranger salary and supplying field equipment and rations. After years of civil conflict, a programme of ranger training and park rehabilitation is also underway as part of this multi-million euro project, run jointly with the World Wide Fund for Nature (WWF) and in partnership with the Congolese conservation body, ICCN. Unfortunately, the park has suffered from increasing insecurity this year, and the incursion of various rebel groups has caused a dramatic decline in wildlife as a result of the unchecked trade in ivory and bushmeat. Between September and November, an estimated 600 hippos were butchered in the waterways and tributaries of Lake Edward. The total hippopotamus population in Virunga has now declined from 30,000 to fewer than 200 individuals. ZSL was at the forefront of a campaign to bring international attention to this crisis, and spearheaded the signing of the Virunga Declaration by conservation groups associated with the park.

November saw the official launch of ZSL's Wildlife Wood Project, supported by hardwood importers Timbmet-Silverman. The project focuses on Ghana and Cameroon as models for west and central Africa respectively. As more than 50% of remaining Afrotropical forest has been set aside for timber production, the project aims to reduce unsustainable hunting of wildlife in these forests by identifying wildlife indicators for use in forest certification and national forest regulations, and by developing cost-effective wildlife management systems with timber companies and local communities.

We also continued our policy work by hosting a meeting of the UK Bushmeat Working Group, with support from Defra.

Carnivores and People

In the Russian Far East, ZSL began developing wildlife disease monitoring capacity with funding support from the Darwin Initiative and in partnership with the State Agricultural Academy and WCS. Disease status information is vital for the planned reintroduction of Amur leopards and important for the wildlife in the region. Students from the academy received training in veterinary theory and practice, work began on renovation of a diagnostic laboratory, and the first samples have been obtained from wild leopards and tigers by WCS, with technical and funding support from ZSL.

21st Century Tiger, which supports tiger projects in India, Indonesia and Russia, was able to continue with its '100% to the field' policy, thanks to administrative support from Dreamworld in Australia, and field work was funded through donations from Defra in the UK, the public and zoos around the world.



A Sumatran tiger cub LEFT: An eastern lowland silverback in the Democratic Republic of Congo FACING PAGE (TOP): ZSL Field staff spotting a colobus monkey in Gabon FACING PAGE (BOTTOM): Bushmeat: a palm civet



ZSL's team in Indonesia focused on how tigers and other endangered species are surviving in human-impacted areas. It is becoming clear that the scrub and secondary forest around oil palm and logging concessions provide a home for a surprising amount of wildlife, including tigers, tapirs and sunbears. We are identifying key areas outside reserves where tigers still persist,

and are working to ensure that these habitats are conserved for maintenance of forest connections. We are also informing policy work of the Round Table for Sustainable Palm Oil (RSPO), to develop guidelines for responsible plantation development.

In India, ZSL provided its government with an independent expert to assess their controversial tiger census, and over the border in Bangladesh, ZSL's experimental use of guard dogs to protect people from tigers, supported by the Save the Tiger Fund, proved successful.

Our Darwin Initiative-funded Tanzania Carnivore Centre at the Tanzania Wildlife Research Institute held three conservation action planning workshops – for lions and leopards, hyenas, and small carnivores – and has now produced National Action Plans for all 35 species of native carnivore. The centre also continued with its Darwin Initiative-funded Tanzania Mammal Atlas Project, initiating a number of surveys which continued to find new species for the country, including the tree pangolin. Projects included a range-wide conservation planning initiative for cheetahs and wild dogs, to establish a database and initiate workshops to develop a strategic plan for their conservation.

Deserts and Rangelands

Desert antelopes are receiving increasing attention from ZSL, in partnership with the Sahara Conservation Fund, which is making considerable progress towards re-establishing scimitar-horned oryx and addax in Tunisia, Morocco and Algeria, and securing the last remnant population of addax and other wildlife in Termit, Niger. The discovery of significant cheetah populations surviving in Algeria was also an important conservation find.

At the other end of the continent, a crane conservation initiative in South Africa is tackling threats to the blue and white-naped cranes and their habitat, and in east Africa we facilitated a review of the Kenya government's black and white rhino conservation strategy; a significant endorsement of our long-standing partnerships.

Both the Indian and Nepali governments are implementing a ban on the production of the veterinary drug diclofenac, which has been responsible for the catastrophic decline in the populations of three species of vultures in the region. However, this in itself may not be enough, as other similar drugs and human diclofenac products remain widely available.

In collaboration with IUCN and RSPB, an engagement with the pharmaceutical industry has been initiated to look into how this sort of catastrophic ecotoxicological event can be controlled and prevented in the future. Meanwhile, to increase captive stock at the Vulture Conservation Breeding Centre in Pinjore, India, we constructed two additional large colony aviaries in time for the breeding season, at which time numbers reached approximately 150 birds over all three species.

The 20-year-old King Khalid Wildlife Research Centre (KKWRC) managed by ZSL is at a crossroads, as the new head of the Saudi Arabian wildlife authority, Prince Bandar bin Saud bin Mohamed al Saud, seeks to adapt and reinvigorate the programme. There will be an increased focus on improved protected area management and monitoring, conservation biology and wildlife health research, and public education and engagement. With several viable free-ranging gazelle populations now established following reintroductions, this major component of work at KKWRC will be rationalised and reduced and ZSL is preparing to reshape its work in the light of these changes.

The Mongolia Steppe Forward Programme continues to train ecologists and community members and establish ecological monitoring systems in the Gobi Desert. ZSL also continues to support publication of the *Mongolian Journal of Biodiversity*, Mongolia's first scientific journal, and in 2006 produced national Red Lists for mammals and fish species, with associated conservation action plans. This work was supported by the World Bank and The Netherlands government, and involved government, research and conservation partners.

Human-elephant conflict mitigation and conservation continued in Salak Pra, River Kwai, Thailand. Teams in these areas are making huge strides in engaging local communities, establishing standardised monitoring patrols in the forest and documenting and analysing human-elephant conflict events. With only 9% of Thai forest cover remaining, the future of the wild Asian elephant is dependent on this and similar ventures.



Training Mozambicans in coral reef surveying techniques BELOW
LEFT: Declining vulture populations in India are being rescued by ZSL field work

Marine and Freshwater

The Thames Marine Mammal Sightings Survey had an eventful January with the visit of the now world-famous northern bottlenose whale. We were integral to the rescue attempt, from receiving the first sighting of the whale in the Thames Estuary from the harbour master, monitoring her condition throughout the event, to, sadly, carrying out the postmortem. It was concluded that the ultimate cause of death was a combination of factors including severe dehydration, muscle damage and reduction of kidney function.

The Tidal Thames Conservation Project continued to expand with a new project in partnership with the Environment Agency, monitoring fish populations in the Thames estuary. By understanding how fish use the estuary and when the critical periods are for the fish, we can influence the management of activities for positive conservation outcomes, such as minimising the impact of dredging on juvenile fish. Some interesting fish were recorded, including many pipefish, a seahorse, John Dory and sea lamprey.



Working with local communities to record turtle nests in Mozambique TOP RIGHT: *Hippocampus comes* – a species conserved by marine protected areas in the Philippines
BOTTOM RIGHT: Saving British crayfish through translocation into ZSL Whipsnade Zoo's ponds

Project Seahorse celebrated its 10th anniversary with the establishment of the 28th Marine Protected Area in the Bohol Province, Philippines. KAMADA, the subsistence fishers' alliance we helped establish, now has over 800 fishing family members and was recognised for its marine conservation achievements when it received the Conservation Hero award from Disney World Conservation Fund.



In the UK, ZSL scientists undertook some groundbreaking research about the fertilisation strategy of the yellow seahorse (*Hippocampus kuda*). For the first time, it was realised that the male seahorse cannot put his sperm directly into his brood pouch but releases them outside, from where they must travel a significant distance from outside his body back into the pouch. Our seahorse research work on European Seahorse population connectivity, where we suggested a barrier to gene flow between Mediterranean and Atlantic Ocean, was awarded the European Marine Research Stations Network prize at the European Marine Biology Symposium in Cork (Republic of Ireland). Project Seahorse has started to progress our work with the Chinese Traditional Medicine Industry

in Hong Kong and China to address sustainability issues with using marine organisms for medicines.

The Darwin Initiative Sustainable Management of Ornamental Fish Populations, Mamirauá, Brazil, completed its first year with a visit from the UK Minister for Biodiversity. The Minister promoted the project at the Convention of Biodiversity Conference of Parties as '...a flagship project which clearly demonstrates sustainable development in action, and shows us that government funding is being well spent'. Back on the ground, the project completed its first baseline surveys of the ornamental fish populations of the Mamirauá and Amana Sustainable Development Reserves. It also completed a trade analysis of the ornamental fish industry in Brazil and the UK.

In Mozambique, the ZSL-Maluane Biodiversity and Tourism Project repeated the 2003 survey of the coral reefs and reef fisheries to start developing the management plan for the area and, in doing so, initiated the establishment of the community reef monitoring programme. We also took part in an expedition to the Chagos Archipelagos, British Indian Ocean Territory, specifically looking at the health of the coral reefs.



UK Native Species

UK native species conservation action is delivered through captive breeding and reintroduction programmes and site management at our zoos. We also provide support through health surveillance, research, education and awareness raising.

ZSL Whipsnade Zoo has a range of important habitats for wildlife and we fenced off part of the chalk downland to allow the area to recover from overgrazing by free-ranging animals and restore the condition of our Site of Special Scientific Interest (SSSI). We also continued to plant native trees and shrubs as part of the ongoing Countryside Stewardship work, and the Chilterns Sustainable Development Fund supported our Woodland Walk interpretation.





robust species-level global biodiversity indicators. The last two define the conservation status of species and develop action plans so that effective conservation measures can be taken.

The IUCN sampled Red List Index measures trends in extinction risk for a broad range of taxonomic groups. This approach will provide results in 2007 when we will be able to identify which vertebrate groups are the most threatened, where and why they are threatened, and what needs to be done. We will also apply it to four invertebrate groups so that we can for the first time compare the conservation status of

vertebrates and invertebrates.

The WWF/ZSL Living Planet Index (see p23) is based on the largest vertebrate population database in the world. It measures overall vertebrate population trends and can be disaggregated by taxonomic



group or by major ecosystem (eg freshwater or tropical forest). The Living Planet Report, launched in 2006, reached millions of people and has become an important guide for policy makers.

The Regional Red List Programme has produced regional Red Lists and conservation action plans for all Mongolian mammals and fish, and is the most comprehensive assessment of these species that has ever been conducted. The Mongolian government has now officially adopted the Red List. A workshop was also held to assess the conservation status of all Mongolian reptiles and amphibians.

The EDGE of Existence programme (www.zsl.org/edge) focuses on conserving poorly known Evolutionarily Distinct and Globally Endangered (EDGE) species. These are species with few close relatives that are on the verge of extinction. This new approach was recently launched for mammals and received an unprecedented response from the public and media. On its first day, the website received more than one million hits, and to date has had more than 20 million. The EDGE project is concentrating on 10 focal species and supporting 10 EDGE research fellows, who will be studying EDGE focal species. The project aims to have conservation actions in place for the top 100 EDGE mammals over the next five years.

Seven volunteer training workshops were held at ZSL Whipsnade Zoo. Over 50 volunteers were trained in identification, survey and monitoring skills for a range of native species, including moths, bats and chalk grassland plants. Survey and monitoring work continued to be regularly carried out by ZSL staff, volunteers and external experts, and we produced a biodiversity audit of ZSL London Zoo and ZSL Whipsnade Zoo.

Barclays Bank provided funds to improve the Woodland Walk at ZSL London Zoo and, excitingly, our conservation work for house sparrows meant they used the nest boxes at the zoo for the first time and reared several broods. A butterfly garden was created next to the new butterfly exhibit, a new wildlife pond was created next to the canal bank and the pond next to the wildlife garden was renovated. The mayor's 'Sunshine Garden' came to ZSL London Zoo, having been launched at Hampton Court Flower Show (part of the mayor's campaign on climate change and water conservation). Overall, the habitat improvements have helped the visitor experience, as well as the species.

In terms of our work on species recovery, 73 ZSL Whipsnade Zoo-bred corncrakes were released into the wild in 2006, and four males (three of which were bred at ZSL Whipsnade Zoo) returned to the release site after migrating to Africa and back, which was a great success for the project. The white-clawed crayfish translocation to ZSL Whipsnade Zoo was deemed a success, as an egg-bearing female was found in the Chimp Moat in January. We also launched a new initiative to breed the red-barbed ant, which was supported with money from both Heritage Lottery Fund and Natural England.

ZSL's Health Surveillance Programme carried out work on a number of threatened native species, supported by a contract with Natural England up to March 2008. Disease risk analysis and health surveillance of common dormice was carried out, allowing 38 to be released, and pre-release health examinations were carried out on 30 red kites in Gateshead.

ZSL's native species work received excellent media coverage during the year. Highlights include a feature on ZSL London Zoo's house sparrows on *Springwatch* and coverage of ZSL's health surveillance work on BBC1.

Indicators and Assessments Unit

The Indicators and Assessments Unit was formed in 2006 and has had an excellent first year.

Our five major projects are the IUCN Sampled Red List Index, the WWF/ZSL Living Planet Index, the WCS/ZSL Wildlife Picture Index, the Regional Red List Programme and the EDGE of Existence programme. The first three projects focus on developing scientifically



The critically endangered 'mountain chicken' ABOVE: A petrel fledgling TOP LEFT: Attendees of collaborative ZSL/IUCN Freshwater Fish Specialist Groups workshops ABOVE RIGHT: An EDGE species: the aye-aye



ZSL's EDGE programme has also highlighted the precarious status of several evolutionarily distinct island mammals, notably the solenodons of Cuba and Hispaniola, and Attenborough's long-beaked echidna from Papua.

A collaboration with the Durrell Wildlife Conservation Trust to establish a long-term solenodon monitoring project in the Dominican Republic continued to develop with plans to visit Haiti to investigate the possibility of native land mammal survival in ecologically degraded regions of the Tiburon Peninsula.

ZSL scientists successfully sequenced mitochondrial DNA (mtDNA) from the petrels of Round Island in the Indian Ocean and from the Madeiran archipelago in the North Atlantic. On Round Island, two well-recognised petrel species, *Pterodroma arminjoniana* and *Pterodroma neglecta*, are distinguishable, yet mtDNA suggests that there is little or no difference between them. Conversely, the Madeiran archipelago supports two populations of petrels on separate islands, which many taxonomists believe to be a single species, but evidence from mtDNA suggests that they should be regarded as separate species.

ZSL staff played a significant role in planning workshops to address dramatic declines in global amphibian populations.

By attending an international workshop in Dominica, eastern Caribbean, to train government employees in amphibian husbandry and insect culturing techniques, our staff were able to design an in-country captive breeding facility for the critically endangered mountain chicken frog (*Leptodactylus fallax*).

Following ZSL's successful conservation breeding programme for the highly endangered Bermudian land snail (*Poecilozonites circumfirmatus*), we conducted fieldwork on Bermuda in collaboration with Department of Conservation Services (DCS). This confirmed the extreme scarcity of the snail and its threat factors. Follow-up investigations at ZSL have allayed concerns that introduced millipede species may be a contributory threat factor.

We also continued our long-standing involvement with the UK Overseas Territories. The Chagos Archipelago in the Indian Ocean was the focus for a ZSL field trip looking at the 'pristine' habitats of these islands. A future proposal is to establish a research station on Chagos in collaboration with Warwick University. The two underlying research themes of the proposal are the effects of climate change on Chagossian ecosystems and assessing and exploring a 'pristine' set of habitats.

Island Ecosystems

The Partulid snail conservation programme, in collaboration with the French Polynesian government, completed a three-year field survey programme with a conservation action plan that received strong government endorsement, with an implementation support agreement with the Partulid Field Programme Consortium. Our staff also assisted with the IUCN Red List category review of nearly 70 Partulid species and contributed to a fruitful research initiative with Michigan University on the phylogeography of the Partulid populations. As part of the field programme support consortium initiative, ZSL received the 2006 BIAZA award for Best Field Conservation Project.

Our research into West Indian mammal extinction dynamics continued with fieldwork on Guana Island (British Virgin Islands) in October 2006, resulting in the first record of the extinct capromyid rodent (*Isolobodon portoricensis*) from this island. Using several US museums, our scientists researched the museums' extinct West Indian mammal collections to generate meaningful body mass estimates for extinct species.



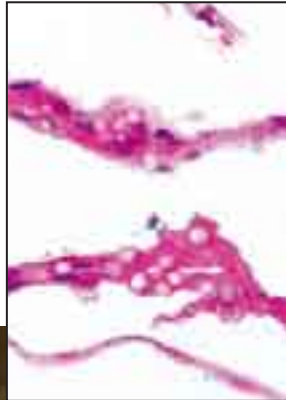
Conservation Science

The Institute of Zoology – ZSL's scientific-research wing – aims to identify, undertake and communicate high-quality research to benefit the conservation of animal species and their habitats.

One of the most important achievements this year was the development of a science plan for the Institute of Zoology (IoZ). Produced with colleagues at Cambridge University, the plan provides a framework for our research activities until 2010. Two major focal topics were identified: 'People and the environment in a changing world' and 'Biodiversity patterns and processes'. These areas are of great importance to science and policy.

Staff at the IoZ continued to respond to topical conservation research issues throughout the year with an analysis of global patterns of deforestation and an evaluation of extinction dynamics in mammals. Our work made a significant contribution to the understanding of amphibian declines with a study on the European distribution of chytridiomycosis, a fungal disease that is causing severe population loss. Research in wildlife epidemiology included a range of studies from the dynamics of emerging infectious diseases to practical involvement in UK native-species conservation and recovery programmes, such as the Garden Bird Health initiative and a study into the impact of polychlorinated biphenyls (PCBs) on porpoise mortality.

The Reproductive Biology Group continued to study fundamental mechanisms of reproduction in a diverse range of species, including harbour porpoise, red panda and Mohor gazelle. In addition, in collaboration with the University of Queensland, IoZ staff researched the structure and cell biology of macropod spermatozoa to investigate the feasibility of cryopreservation of kangaroo and wallaby semen for assisted-reproduction procedures.



Over the year, genetic approaches were used to understand better how the evolutionary potential of threatened species can be maintained and how genetic tools can be applied when formulating conservation strategies. A study on the structure of declining Atlantic salmon populations in the British Isles has revealed adaptive population divergence in the species. This knowledge will help to inform effective management decisions on harvesting, reintroduction and supplementation of the species.

A new project was funded by WWF for the development and implementation of the Living Planet Index 2006-2010. This is a new partnership for us, but WWF has established the Living Planet Index as one of the leading indicators of the state of the world's biodiversity. This project will be undertaken in the newly established Biodiversity Indicators and Assessments Unit at ZSL (see p20).

Research undertaken at the IoZ over the last year has increased our understanding of the evolutionary forces that determine the survival and reproduction of individual animals. This knowledge is fundamental to species conservation and can play an important role in the development of effective conservation policy and management. Human impacts on wildlife were also examined, with studies on the relationship between bushmeat consumption and consumer demand, and the effects of armed conflict on the bushmeat trade.

Full details of the research activities of the IoZ can be found in the scientific report 'Science for Conservation 2005-2006' at www.ioz.ac.uk.

Helping native species – the Garden Bird Health Initiative

TOP RIGHT: Research into amphibian declines
ABOVE RIGHT: The chytrid fungus, which is causing severe decline in amphibian populations
FACING PAGE: ZSL carried out research into reproduction in kangaroos and yellow seahorses



Communicating Science

A major part of the Institute's work is communicating its findings and other information to researchers, professional zoologists and the public. We achieve this through a varied programme of meetings and the publication of scientific journals and books.

Scientific Meetings

Scientific Meetings were held monthly throughout the academic year and covered a range of subjects, including 'Tropical deforestation: patterns, causes and consequences'; 'Mongolia wildlife: market forces and massive declines'; and 'Madagascar: the island continent'. Please go to www.zsl.org/science/scientific-meetings to access our programme of scientific lectures.

In January, ZSL and the WCS held a two-day international symposium on 'Wild rangelands: conservation in the world's grazing ecosystems'. Strategies for conserving grazing ecosystems, the effects of expanding markets, globalisation and methods for monitoring rangeland habitats were all explored.

A second symposium in October, 'Recreational hunting, conservation and rural livelihoods: science and practice', facilitated important debate on controversial issues that are fundamental to understanding the role of hunting in conservation and rural development.

The 2006 Stamford Raffles Lecture was given by Professor Sir John Lawton CBE FRS. The lecture, 'Biodiversity, climate change and unsustainable development', explored the mechanisms that conservation biologists have put in place or plan to develop to slow down the loss of biodiversity by 2010.



Mongolian wildlife:
A camel and its calf
and (BELOW) Horsgol
Lake, Mongolia
LEFT: Professor
Sir John Lawton CBE
FRS gives The Stamford
Raffles Lecture





ZSL Publications

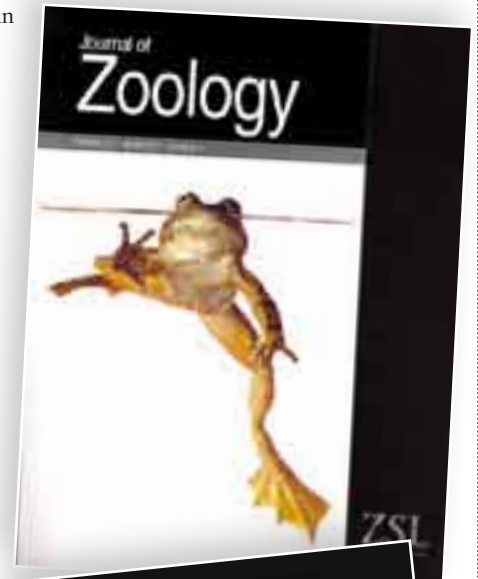
Now in its 10th year, *Animal Conservation* continues to provide a forum for rapid publication of novel, peer-reviewed research into the conservation of animal species and their habitats. The focus is on rigorous quantitative studies relating to populations, species or communities and their conservation. Subjects covered by the journal include population biology, epidemiology, evolutionary ecology, population genetics, biodiversity, biogeography and conservation economics.

The *Journal of Zoology*, our pre-eminent journal dedicated to academic zoology, continues to attract an increasing number of high-quality research papers and reviews.

The *Conservation Biology* book series includes titles that reflect our research interests and provide an extensive review of a particular topic. *Top Predators in Marine Ecosystems*, edited by Ian Boyd, Sarah Wanless and CJ Camphuysen, and *Large Herbivore Ecology, Ecosystem Dynamics and Conservation*, edited by Kjell Danell, Roger Bergström, Patrick Duncan and John Pastor, were published during the year.

Volume 40 of the *International Zoo Yearbook* was published. Section 1 focuses on the conservation, reproduction and management of elephants and rhinoceros *in situ* and *ex situ*. Articles in Section 2 include descriptions of captive breeding in the Kihansi spray toad, Bali starling, dibbler and giant river otter. The volume also contains essential reference material, including the list of zoos and aquariums of the world and the list of international studbooks. An online version of the *International Zoo Yearbook* is now available (see www.blackwell-synergy.com/loi/izy).

In January, after eight successful years with Cambridge University Press, we entered a new partnership with Blackwell Publishing so that we can fully exploit the potential for electronic publishing.



ZSL Scientific Awards

ZSL recognises outstanding achievements in the field of zoological research and conservation through its annual awards and prizes. The awards are relevant to all levels of achievement, from the Prince Philip Prize for best sixth form project and the Charles Darwin Award for best undergraduate thesis, to the Thomas Henry Huxley Award for an exceptional PhD thesis.

Significant and original contributions by professional zoologists are acknowledged with the Scientific and Frink Medals, while the work of eminent amateur zoologists is celebrated with the Stamford Raffles Prize. The Marsh Awards for Conservation Biology and Marine and Freshwater Conservation recognise exceptional contributions of fundamental science and its application to conservation of animal species and habitats. The Thomson/Zoological Record Award and ZSL's Silver Medal are awarded for distinguished contributions to the communication, understanding and appreciation of zoology and wildlife conservation.

We would like to thank the Marsh Christian Trust and Thomson Scientific for their continued support of ZSL's awards.

For further information on ZSL's scientific awards see www.zsl.org/science/scientific-awards.

The 2005 Awards were presented at ZSL's AGM in June 2006.

LEFT TO RIGHT: Professor Andy Purvis, Nigel Robinson (Thomson Scientific), Charles Clover, Susan Crump, Dr Dan Haydon, Professor Sir Patrick Bateson, Professor Geoff Parker, Professor Bill Sutherland, Dr Andy Gardner, Dr Peter Grubb, Professor Ian Boyd, Professor Sir Brian Heap, Ailsa Bradbury, Brian Marsh (The Marsh Christian Trust), Dr Katherine Ralls

Library

During 2006, 1,500 books were added to the online catalogue, 4,033 journal issues were accessioned and 2,375 loans were made to Fellows and ZSL staff.

A trial online art catalogue developed during the year can be searched using the 'switch database' option to 'Art' in the library catalogue at <http://library.zsl.org>. A 'ZSL drawings and prints' page has been added to the main ZSL website at www.zsl.org/info/library.

The journal holdings information of the library has been uploaded to SUNCAT, the pilot Serials UNION CATalogue for the UK, and can now be seen on their online catalogue <http://edina.ac.uk/suncat>. As a major collection that is not part of a research or university library, we were invited to contribute to the second stage of this project. This will raise the profile of the Library's collection and facilitate access to our holdings information for other libraries, members of the academic community and the public.

Three honorary visiting scholars were appointed.

Rita Owen has been researching and conserving a volume of Mark Catesby's *The Natural History of Carolina, Florida and the Bahama Islands, Containing the Figures of Birds, Beasts, Fishes, Serpents, Insects and Plants... Together with their Descriptions in English and French...*, originally published in London at the author's expense in 1731-1743. Edward Dickinson



is comparing ZSL's collection of Brian Houghton Hodgson bird drawings to the copies kept at the Natural History Museum, and Hadas Steiner has researched library archives on the ZSL London Zoo Northern Aviary. Scholars from around the world are welcome to apply: if successful they will be given privileged access to the ZSL library to study rare or unique items in the collection.

Connie Nutkins, a former ZSL staff member, made a generous bequest of £245,000 for use by the library. Frank Wheeler, a former keeper at ZSL London Zoo (1966-2006), left a bequest of his books.

MLA (Museums, Libraries, Archives) London have kindly agreed to fund two further preservation audit visits by professional conservators, who will provide ZSL with a detailed report on our preservation needs. Two paintings hanging in the Council Room: the portrait of Georgina Lopes by Richard Buckner and the portrait of Sir Stamford Raffles by Sir James Lonsdale, have been sent for professional conservation.

The refurbishment of the ZSL main office reception and library entrance improves access to the Reading Room. The library also has a display case to exhibit rare items in our collection, such as Edward Lear's Asian lion painting and archival photographs to celebrate the 75th anniversary of ZSL Whipsnade Zoo.

Exhibits in the Reading Room have related to features in our members' magazine, Scientific Meetings or Artefact of the Month. They include Rosel von Rosenhof's *Historia Naturalis Ranarum Nostratium*, published in 1753-1758, containing some of the best frog illustrations ever produced, and printed plates of fossa and aye-aye published in early volumes of *Transactions of the Zoological Society*.



BELOW: Frog illustrations from Rosel von Rosenhof's *Historia Naturalis Ranarum Nostratium*, an exhibit in ZSL's Library
OTHERS: Beautiful illustrations from some of our Library's many artefacts



Library tours were given to library staff from the Natural History Museum, Fellows and Friends of ZSL and student librarians from Eltham College.

We are extremely grateful for the continued help of our dedicated volunteers and the many Fellows and Friends of ZSL who support the library with their time and by donating books, zoo ephemera, archives and funds for the conservation of items in our collection.



In the 2005-2006 annual review, Discovery and Learning had been through a year of capacity building. This proved to be a solid foundation for 2006-2007 as a year of delivery and on an unprecedented scale. Capital projects were completed, planned and executed at a level not seen at the society for 40 years; visitor events, schools programmes, outreach projects and new attractions proved immensely successful and generated very positive feedback, which in many cases ensured continued or additional funding. It is an exciting time for Discovery and Learning, with a new focus on the scope to contribute to visitors' increased commitment to conservation through their zoo visits, and a growing ZSL aspiration to build extended learning relationships with visitors. It is hoped that the impact of new approaches to learning for zoo audiences will allow for more growth and change in this area over the coming years.

ZSL Outreach

This year, the pilot outreach programme to primary schools within London was completed and proved to be a great success. Within four months, 6,630 children were taught, exceeding our target for the pilot year by 65% and reaching schools in all 13 Local Education Authorities (LEAs) within the chosen catchment area.

The programme focused on the children's local environment and experiences. Lively presentations showed the children the effect that litter can have on wild animals and encouraged them to 'reduce, re-use, recycle' everyday items such as drink cans, mobile phones and plastic bags. Other sessions focused on developing responsible attitudes to animal welfare, from pets to wildlife in the garden and local parks.

The success of this pilot scheme ensured that sponsorship by the Mayor of London will be continued, and resulted also in the launch of a pilot outreach to secondary schools. Two new outreach officers have been recruited and the initiative has a promising future.

Part of the Greater London Authority (GLA) funding has also enabled the Education Team to develop a resource of live animals for use both in outreach sessions and in the zoo's schools programme. Animals are already part of the schools' experience at ZSL Whipsnade Zoo and are taken on outreach to local schools.

Schools' Programme

The Education Teams at both zoos re-evaluated the current programmes and focused on finding fresh approaches to learning and, in particular, to developing more investigative styles of learning. The development of an activity space with the *Clore Rainforest Lookout* will bring activities closer to the exhibits and the animals



Visitors can get close to the animals at the Children's Zoo at ZSL London Zoo **BELOW RIGHT:** ZSL's volunteers are vital to enhancing our Zoo visitors' day by carrying out activities such as this snake encounter at ZSL London Zoo **FACING PAGE:** ZSL Whipsnade Zoo's Asian elephant herd

Discovery and Learning

An exciting programme of activities and events, as well as new core exhibits, have enabled ZSL to develop and enhance its aim of teaching people about conservation and animal issues through learning.

and will help to make learning more relevant. Two tours of the new *Into Africa* exhibit, one focusing on feeding adaptations and another on colour, pattern and camouflage, were trialled during the summer at London and were greatly enjoyed by primary children. For secondaries, a session on phobias and the chance to come face-to-face with a spider provided a stimulating new activity for students of A-level psychology.

At ZSL Whipsnade Zoo, an education officer was recruited specifically to analyse our existing customer base for secondary schools and develop a new programme for Key Stages 3 and 4. Attendances for the year rose by 5.4% to a total of 29,335 children, of which 22% took part in an educational activity.

ZSL London Zoo enjoyed an 11% increase in attendance, with a total of 85,688 children, of which 47% opted to take up an educational activity.

Throughout December, the London Education Team and a group of actors presented the Christmas story to nearly 5,000 children. This popular event is now in its third year and incorporates camels, sheep and goats into a dramatisation of the Nativity.

Special Events

Cross-functional collaboration between Discovery and Learning and the Communications Team in particular has begun to really bear dividends in the area of special events. Year on year the events calendar has been focused on the best ways to achieve the dual outcomes of attracting extra visitors and communicating strategic and conservation messages, and in 2006 this strategy began to come together.

February half term saw the Snakes! event in the Reptile House at ZSL London Zoo pulled together by the Education Team in which, among other activities, a thermal imaging camera was trained on families to demonstrate how a pit viper locates its prey. A chance to meet a live snake was an added thrill for many visitors and has now become a daily feature throughout the year.

At ZSL Whipsnade Zoo, invertebrates became the focus of discovery for the spring half term, while the Rhino Rangers event made full use of our conservation programme in Kenya to highlight ZSL's work in securing a future for black rhino. In this Whitsun half-term activity, visitors followed a trail around ZSL Whipsnade Zoo, learning about tracking methods used by rangers in Kenyan reserves and national parks. They then identified the rhinos they had tracked at a central 'Ranger Station'.

At the Butterfly event at London in May, children enacted the lifecycle of a butterfly and made colourful butterfly wings, before taking away native species 'spotter cards', which have been given out on an ongoing basis since their creation for the special event.

A long-term plan to build a major visitor peak in October began in 2006 by creating a well-known destination event for Halloween through prolonged investment. As a result, October half term became a new focus for the annual events calendar. An explainer stage show formed the centrepiece to the festival, entertaining audiences of up to 350 per show over nine days. An adapted *Animals in Action* show, together with storytelling, pumpkin carving and some major new site decoration, created a new level of impact, and aspects of the festival were also rolled out at Whipsnade. This had several significant effects: investment was released for major improvements to the Amphitheatre; external funding was attracted in the form of a grant from the Swedish Embassy to support a stage show in February 2007 (*Classified!*, celebrating the Linnaeus tercentenary); and the 2007 events calendar selected an explainer-led live event as the summer centrepiece for ZSL Whipsnade Zoo. Halloween 2007 will be a month-long festival, with ambitious aims for visitor impact across the schools and families audiences.

A final flourish for 2006 was the Keepers Little Helpers event at both London and Whipsnade. Explainers, supported by volunteers, ran 'make' workshops in which visitors fashioned enrichment devices as presents for the animals, and later joined the explainers and keepers to see the animals receive their gifts. Animal encounters (with reindeer or donkeys) completed the event, which proved a big success. A strong showing in listings was followed through by good take-up at both sites (over



2,000 visitors joining in) and excellent feedback, particularly at Whipsnade, where a winter event is important for visitor satisfaction at a potentially bleak time of year, weather-wise!

Daily Events

Daily visitor events is a major growth and change area for Discovery and Learning and continued to be so throughout 2006. Early in the year, Jim Gregory was appointed to the new role of Team Leader of Live Interpretation, and successfully recruited a lively and creative team of explainers for the peak season. New skills on the team meant that a wider range of learning-directed activities could be staged during the summer holiday, including drop-in group craft sessions, a junior 'singalong safari', an interactive stage show and an enrichment 'make' stall. Over 2600 visitors joined in with these events and, building on feedback, a number of events areas have progressed impressively since to the benefit of the special events programme and the 2007 season.

The demonstrable impact of explainers on the visitor offer ensured that a core permanent team of London explainers was retained over the winter season and expansion is forecast, subject to funding, with the aim of enriching the family day out with more staffed exhibits and higher expectations of events at both London and Whipsnade.

The daily programme benefited from the special events calendar in a way that bodes well for cross-functional working and sustainable growth for Discovery and Learning. Building on the February Snakes! event at London, the volunteer coordinator and a team of trained volunteers worked enthusiastically to set up new accommodation for a dozen snakes to be used exclusively for this kind of public presentation. As a result, visitors now have the opportunity to encounter a live snake every day, enriching the long-standing Discover Reptiles event immeasurably.

Explainer/volunteer collaboration also progresses well. A great deal has been accomplished behind the scenes by the Education Team in supporting and training volunteers, ensuring that both the squirrel monkey walk-through and the butterfly exhibit benefit from their presence and enthusiasm, alongside the explainers and keepers. Volunteers are trained to interpret the exhibit, chat to visitors and ensure the welfare of the animals. Following the success of this experience, volunteers will be deployed alongside explainers in the new lemur exhibit at ZSL Whipsnade Zoo, as well as the *Clore Rainforest Lookout* at ZSL London Zoo.

Looking ahead to next year, the daily programme will continue to evolve in exciting new directions. For the first time, explainers will join the staff at ZSL Whipsnade Zoo, taking on the *Jumbo Express* commentary and delivering some new features to the programme as an additional benefit.

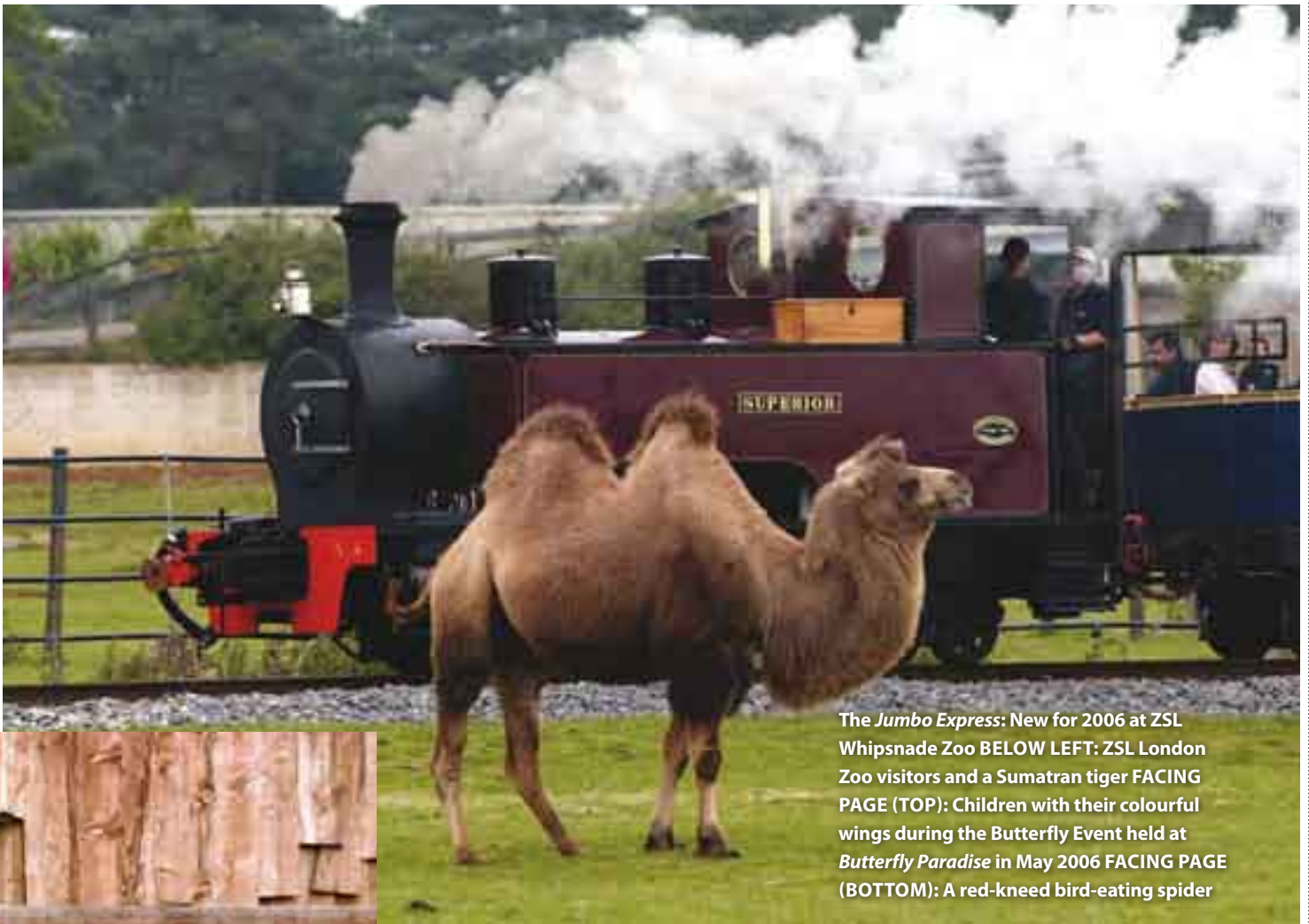


The Amphitheatre refit and new exhibit facilities provide exciting scope in London; while up to three hours of daily Amphitheatre programming in peak season is one key aim, the new Discovery Zone in the *Clore Rainforest Lookout* provides more opportunities. Besides new craft and play activities, thanks to a £63,000 National Endowment for Science, Technology and the Arts (NESTA) grant secured by the head of education, visitors will be able experience echolocation like a bat and navigation through touch (whiskers) like a rodent, using innovative headsets.

Capital Developments

Capital projects in 2006/2007 were inevitably a major focus, with three new exhibits opening at Easter and three more expected for 2007. In London, the *Into Africa* exhibit brought new animals to the zoo and improved the impact and appearance of a major area of the site. Interpretation was aimed principally at reinforcing the African theming, but by reintroducing a modern twist on some old interactive favourites, it succeeded also in increasing engagement opportunities, particularly for younger visitors.

Butterfly Paradise achieved the highest ratings as a visitor experience at ZSL London Zoo and proved to be a major hit of



The Jumbo Express: New for 2006 at ZSL Whipsnade Zoo
BELOW LEFT: ZSL London Zoo visitors and a Sumatran tiger
FACING PAGE (TOP): Children with their colourful wings during the Butterfly Event held at Butterfly Paradise in May 2006
FACING PAGE (BOTTOM): A red-kneed bird-eating spider



2006. Interpretation efforts transformed the tropical polytunnel fabric of the exhibit into a rounded experience, with a captivating inflatable head attracting and sparking the imaginations of the visitors. Specially commissioned music (generated and modulated by the butterflies' flight

itself) provided a magical backdrop for the fantastic experience of being among hundreds of sustainably sourced tropical butterflies and moths.

At ZSL Whipsnade Zoo, the *Jumbo Express* project, led by the head of education, introduced a new commentary by actors, which significantly improved ratings of visitor satisfaction from seven out of 10 to over eight out of 10 and was instrumental in establishing support for the introduction of explainers at ZSL Whipsnade Zoo for 2007, who will deliver the commentary going forward.

The biggest projects delivered for some time will be seen in 2007. *Gorilla Kingdom* will include the most complex and extensive interpretation delivered to date at ZSL, and the Clore Small Mammals House will be transformed into a stunning *Clore Rainforest Lookout* complete with a fully programmed visitor event space in the Discovery Zone.

While large areas of both sites have been successfully transformed by the capital projects of recent years, it is necessary to guard against

the risk that other areas will look uncared for by comparison. Discovery and Learning has a key role in this as the primary department responsible for graphics and design on-site.

The tasks of orientating and informing visitors took major steps forward in 2006 as significant investment in information graphics was rolled out at the entrances to both zoos, across the Whipsnade site and profiling conservation stories across the board. ZSL's existing relationship with the GLA extended to interpretation work, and over £50,000 was dedicated to native-species and conservation interpretation at ZSL London Zoo, to be delivered by Easter 2007 in the form of exhibits in the Cassons or Zoo World exhibit, and graphics focused on the Woodland Walk. Further grants paid for the production of native-species signage for ZSL Whipsnade Zoo also ensure that the message is getting across increasingly strongly there.

The rebranding exercise of 2006 now forms a major delivery priority for Discovery and Learning, and because it has been planned for in all 2006 developments, should progress speedily during 2007.

Collectively, these initiatives represent a step change for the learning outcomes that we aim to deliver to our audiences through the zoos. Evaluation and consultation with visitors has been used to maximise the impact and ease of use of the exhibits, and further evaluation of our products will reveal how successful we have been in achieving our learning aspirations. This use of evaluation is part of a growing research programme as ZSL engages with the concepts of Conservation Psychology, deepening our understanding of our visitors and using that understanding to further our communication aims. Ultimately, we want to ensure that a visit to a ZSL zoo has real and lasting impact on a visitor's level of understanding of, and engagement with, the issues facing the natural world.



Financial information

ZSL recorded a consolidated surplus on operations of £1.7m and an overall surplus, after gains on the revaluation of investments, of £2m. These compare with figures of £3.5m operating surplus and £4m overall surplus achieved in 2005, which included accrued income of £2.3m for a legacy receivable in 2005 but received in 2006. In addition, there was an actuarial gain on the Pension Fund of £1.3m (2005: £0.3m).

ZSL remains dependent on its two zoos for the bulk of its income. In 2006, ZSL London Zoo visitor numbers were 883,092, an increase of 69,637 on the previous year. ZSL Whipsnade Zoo's visitor numbers were 446,829, a decrease of 27,894 on last year. The total number of visitors for the two zoos rose by almost 42,000 compared to 2005, reflecting a recovery in visitor numbers following the terrorist attacks on London in July 2005.

Income figures benefited from Gift Aid recoveries on day membership, which amounted to almost £1.9m (2005: £1.9m). The gain from increased visitor numbers was offset by changes to the Gift Aid rules included in the 2005 Finance Act, which were effective from 6 April 2006.

Both the Institute of Zoology and Conservation Programmes maintained their revenues with new grants received in 2006, but these relate to specific projects and, while supporting the mission of the Society, do not add to the overall surplus to fund future development.

Our costs rose, compared to 2005, in areas that included utilities, maintenance, expenditure on staff, depreciation and revenue expenditure on new and existing facilities to improve the effectiveness of ZSL, as well as general wage and inflation rises.

The total capital spend of £9.8m (2005: £4.5m) included completion of the new Easter 2006 exhibits, *Into Africa*, *Butterfly Paradise* and *Jumbo Express*, completion of the first phase of the ZSL Office Refurbishment at Regents Park, commitments to improving the Society's compliance to the Disability Discrimination

Act (1995) and significant progress on the exhibits which opened at Easter 2007 – *Gorilla Kingdom* and *Clore Rainforest Lookout*.

The improvement in the value of investments in ZSL's Pension Fund has been maintained and the fund is still in a satisfactorily positive position. The pension scheme asset of £3.2m (2005: £1.7m) will be retained within ZSL's Pension Fund. The ZSL Trustees agreed to increase funding from 11% to 12% from January 2006 and, over the next five years, to take further steps to fund future liability levels. This is monitored by ZSL and the Pension Fund Trustees on a regular basis.

Trustees' Statement accompanying the Group Summarised Financial Statements

The Group Summarised Financial Statements are not the statutory accounts, but a summary of information relating to the Group Statement of Financial Activities, Group Statement of Cash Flows and the Group Balance Sheet. The full Trustees' Report and Financial Statements, from which the Summarised Financial Statements are derived, have been externally examined by Ernst & Young LLP and its audit report on them is unqualified. The full Trustees' Report and Financial Statements and Ernst & Young LLP's audit report on them were approved on 24 April 2007 and 30 April 2007 respectively, and will be submitted to the Charity Commission. Copies can be obtained from the Finance Director at The Zoological Society of London, Regent's Park, London NW1 4RY.

Signed on behalf of the Trustees on 30 April 2007.

Paul Rutteman CBE BSc (Econ) FCA
Treasurer

Group summarised financial statements

Summary Group Statement of Financial Activities for the year ended
31 December 2006

	Year to 31.12.06 £000	Year to 31.12.05 £000
Incoming resources		
Incoming resources from charitable activities:		
Animal collections	16,539	17,212
Science and research	4,023	3,739
Conservation programmes	940	816
Incoming resources from generated funds:		
Voluntary income	3,001	3,051
Activities for generating funds:		
Subsidiaries trading turnover	5,664	5,326
Other	97	45
Interest and investment income	822	886
Other incoming resources	-	1
Pension finance income	200	200
Total incoming resources	31,286	31,276
Resources expended		
Charitable activities:		
Animal collection	18,156	17,412
Science and research	4,765	4,450
Conservation programmes	2,124	1,582
Cost of generating funds:		
Costs of generating voluntary income	401	350
Fundraising trading:		
Subsidiaries' costs of goods sold and other costs	3,249	3,067
Other	735	766
Investment management costs	9	8
Governance costs	128	116
Other resources expended	-	4
Total resources expended	29,567	27,755
Net incoming resources before other recognised gains	1,719	3,521
Other recognised gains:		
Gains on investments	306	459
Actuarial gain on pension scheme	1,300	300
Net movement in funds	3,325	4,280
Reconciliation of funds		
Total funds balance brought forward	43,346	39,066
Total funds balance carried forward	46,671	43,346

* Amounts within resources expended for 2005 have been reclassified to reflect a more accurate method of allocating overhead and support costs.

Group summarised financial statements (continued)

Summary Group Balance Sheet at 31 December 2006

	31.12.06 £000	31.12.05 £000
Fixed assets		
Tangible assets	27,342	20,122
Investments	<u>4,007</u>	<u>3,681</u>
	31,349	23,803
Current assets		
Stocks	380	364
Debtors	2,256	4,071
Cash at bank and in hand	<u>13,831</u>	<u>16,848</u>
	16,467	21,283
Creditors: amounts falling due within one year	<u>(4,268)</u>	<u>(3,440)</u>
Net current assets	12,199	17,843
Total assets less current liabilities	43,548	41,646
Creditors: amounts falling due after more than one year	<u>(77)</u>	<u>-</u>
Net assets excluding pension scheme asset	43,471	41,646
Defined benefit pension scheme asset	3,200	1,700
Net assets	46,671	43,346
Funds		
Unrestricted – General	35,220	31,850
– Designated	<u>3,550</u>	<u>3,274</u>
Unrestricted funds excluding pension asset	38,770	35,124
Unrestricted – Pension reserve	<u>3,200</u>	<u>1,700</u>
Total unrestricted funds	41,970	36,824
Restricted – Endowments	1,250	1,106
– Other	<u>3,451</u>	<u>5,416</u>
Total Funds	46,671	43,346

Summary Group Statement of Cash Flows for the year ended 31 December 2006

	Year 31.12.06 £000	Year 31.12.05 £000
Net incoming resources before other recognised gains	1,719	3,521
Add: Depreciation	<u>2,540</u>	<u>2,248</u>
	4,259	5,769
Less: Purchase of tangible fixed assets (net of disposals)	(9,755)	(4,543)
Less: Purchase of fixed asset investments (net of disposals)	(20)	(35)
Changes in other assets and liabilities	2,499	(1,540)
Net cash outflow	(3,017)	(349)



INDEPENDENT AUDITORS' STATEMENT TO THE TRUSTEES OF THE ZOOLOGICAL SOCIETY OF LONDON

We have examined the group's summary financial statements for the year ended 31 December 2006 which comprise Summary Group Statement of Financial Activities, Summary Group Cash Flow Statement and Summary Group Balance Sheet.

This report is made solely to the Trustees as a body, in accordance with section 43 of the Charities Act 1993 and regulations made under section 44 of that Act. To the fullest extent required by the law, we do not accept or assume responsibility to anyone other than the Trustees, for our audit work, for this report, or for the opinions we have formed.

Respective responsibilities of Trustees and Auditors

The Trustees are responsible for preparing the summarised financial statements in accordance with applicable law. Our responsibility is to report to you our opinion on the consistency of the summary financial statement within the summarised financial statements with the full annual financial statements, which were approved by the Trustees on 24 April 2007 and on which we signed our audit report on 30 April 2007.

Basis of opinion

We conducted our examination in accordance with Bulletin 1999/6 'The Auditors' statement on the summary financial statement' issued by the Auditing Practices Board. Our report on the group's full annual financial statements describes the basis of our audit opinion on those financial statements.

Opinion

In our opinion, the summary financial statement is consistent with the full annual financial statements of The Zoological Society of London for the year ended 31 December 2006 and complies with the applicable requirements of section 43 of the Charities Act and regulations made under section 44 of that Act.

A handwritten signature in black ink that reads "Ernst & Young LLP." The signature is written in a cursive, flowing style.

Ernst & Young LLP
Registered Auditor
London
30 April 2007

Thank you for your support

Sincere thanks to all our supporters, Friends, Fellows and volunteers for their continued commitment to ZSL's work throughout the year. With donations from companies, trusts and individuals, the loyalty of our Friends and Fellows and the work and time our volunteers have devoted to ZSL, we continue to strive towards our conservation goals. Without such support, our accomplishments would not have otherwise been possible. We would also like to thank our Fellows and friends of the Barlow family who have supported the Erasmus Darwin Barlow Expedition Fund; the first of its kind for ZSL.

Development Advisory Committee

Max Alexander
Joan Bakewell
Professor Sir Patrick Bateson FRS
Professor John Beddington
Stephen O'Brien
Dr David Cohen CBE
Mo Duncan
Dr John Hemming
Johnny Hornby
Lord Paul of Marylebone
Lord Moser
Lady Valerie Solti

Honorary Patrons

Dame Vivien Duffield DBE
Lord and Lady Swraj Paul
Lord Moser
The Sir Stamford Raffles Patron

Patrons

Mr and Mrs Alok Basu
Mr and Mrs Francis Beddington
Professor and Mrs John Beddington
Dame Margaret Booth
Dr and Mrs David Cohen CBE
Mr and Mrs Mo Duncan
Mr and Mrs John Franks
Dame Anne Griffiths
Sir William and Lady McAlpine

Marina, the Lady Marks
Mr and Mrs Nicholas Miller
Lord Parmoor
Mr and Mrs Bob Rihal
Mr and Mrs Stuart Roden
Mr and Mrs Cyril Rose
Mr and Mrs Armins Ruis

Companies

ACM Waste Management
American Express
ART Porcine Ltd
Barclays Plc
CJ Wildbird Foods Ltd
Cranswick Pet Products
Gardman Ltd
Exxon-Mobil
Genus-ABS
HA Bennett
Hobson Vision Ltd
Paper Round Ltd
QinetiQ
Rio Tinto
Robson and Prescott Veterinary Centre
Silver Jungle
Thames Water
Timbmet
Troon Management Services Limited
XY, Inc

Corporate gifts in kind

Abel and Cole
British Salt

Individual donations

Laura Addison
Brian Aldrich
Amanda Alexander
Tracey Andrews
Anna Baldwin
Claire Barlow
Monica Barlow
John Barrington-Johnson
Mara Bergman
Stephen Blackburn
Christopher Bolt
Dame Margaret Booth
Elaine Brown
Simon Brown
Paul Brownell
Terry Carter
Cecil and Alison Chapman
Paul Chatwin
Tim Clifton
Gerald Clough
Mr and Mrs John Digby
Anne Elfers
Jonny Elichaooff
Ana Ericksen
Christina Fox
Tom and Miranda Freer
Maria Frering
Alan Goodwin
Edna Groves
Janet Guggenheim
Sufiah Halvey
Jane Hamilton
Sarah Harrison
Matthew Havard
Lianne Hickey
John Ide
Joachim Jellinek
Shaun Kempson
Richard Keynes
Mark King
Martin Lane
Michael Langdon
Peter Laverack
Teresa Long
June Longdon
Andrew Lovett
Kenneth Mann
Gillian Mead
Paru Mehta
Kevin Milligan
Asha Mistry
Martin Mitcheson
John Naish
Claire Newman
Alisdair Nisbet
Martyn Notley
Roderick Oliver
Trudie Orwin
Hilda Padel
Anna Parry
Jay Patel
Jill Phillips
Ian Price
Katharine Regan
Florence Richler
Professor Roger Rideout
Sarah Rihal
Bianca Roden
The Rose Family
Armins Ruis
Olive Sharman
Joanna Skipwith
Anthony Smith
Rupert Stocks
Gary Tierney
Barry Till
Marion Trotman
Marlee Turner-Boutle

Alex Tye
Mary Usherwood
Andre Verstraete
Robin Walduck
Paul Watson
Estelle Wilkinson
Harry Wilkinson
John Williams
Alex Wilson
Mrs M Wolstenholme
David Wynne

Supporters of the 180th Gala Celebration

Companies

Crispin and Borst
Economics Research Associates
Hempsons Solicitors
Leith's
Linklaters
Royal Bank of Scotland
Sygen International
Unilever Ice Cream
WT Partnership

Individuals

Solomon Abramovich
Mr and Mrs Max Alexander
Lee Appleton
Jane Armond
Richard Melville Ballerand
Lady Duscha Bateson
Mr and Mrs Francis Beddington
Mr and Mrs Mark Blackburn

Supporters' Impact on ZSL

We are proud to show our supporters the impact their gifts make on many of the projects at ZSL.



February 2006

First Patron visit to see ZSL work in the field. Water pump installed in Ngulia, Kenya.

March 2006

Launch of ZSL Patron Scheme at Buckingham Palace. Hosted by HRH The Duke of Edinburgh.

Easter 2006

Opening of the giraffe feeding platform at ZSL London Zoo's *Into Africa* exhibit, made possible by Rihal family gift.



Easter 2006

First ZSL Whipsnade Zoo breakfast event to celebrate launch of the *Jumbo Express* at ZSL Whipsnade Zoo. Attended by ZSL Whipsnade Zoo supporters.



July 2006

Butterfly Breakfast celebrating the opening of *Butterfly Paradise* at ZSL London Zoo.

December 2006

Annual Christmas thank you to ZSL's supporters.



ZSL 180th Anniversary Gala, in the presence of HRH The Earl of Wessex.



Mr and Mrs Stephen
Blackburn
Field Marshal Sir John
Chapple GCB CBE
and Lady Chapple
Linda Crofton
Mr and Mrs Mo
Duncan
Mr and Mrs Eric
Fergusson
Dame Anne Griffiths
Diana Helme
Yvonne Koerfer
Sir William and Lady
McAlpine
Ian McBain
Lord and Lady Moser
Peter Neal
Mr and Mrs Martyn
Notley
Mr and Mrs Bob
Rihal
Mr and Mrs Stuart
Roden
Martin Rowson
Mr and Mrs Armins
Rusis
Professor Frank Schuller
and Annabella
McAlpin
Lady Valerie Solti
Professor Ian Swingland
Mr and Mrs Geoff
Upton
Mr and Mrs Ananth
Viswanathan
Mr and Mrs Graham
Wilkinson
Mr and Mrs Wright

Thanks to the following for donating raffle and auction prizes:

Arsenal Football Club
Chris Boot Ltd
British Airways
London Eye
Disney Theatrical
Productions (UK)
Leith's
James Mollison
Peter Neal
Martin Rowson
Natural History
Museum
Overseas Travel
Royal Opera House
Garry Trainer Clinic



Non-governmental organisations, societies, zoos and universities

21st Century Tiger
Academy of Finland
Adelaide Zoo
AMUR
Association for the Study
of Animal Behaviour
(ASAB)
Auckland Zoo
Australasian Regional
Association of
Zoological
Parks and Aquaria
(ARAZPA)
Bat Conservation
International
The Birdcare Standards
Association
Birdworld, Farnham
Blackpool Zoo
British Andrology Society
British Antarctic Survey
British Association for
the Advancement
of Science
British Ecological Society
British Wildlife Health
Association
Cambridge University
Press
Canberra Zoo
Centre for Population
Biology (Imperial
College London)
Center for Tropical
Agriculture
Center for Tropical
Agriculture in Holland

Chinese Academy
of Sciences
Colchester Zoo
Cologne Zoo
The Conservation
Agency
Conservation
International
Dreamworld
Emmen Zoo
Frankfurt Zoological
Society
Genetics Society
The Global Environment
Facility (GEF)
Helsinki Zoo
The Heptagon Fund (via
Royal Veterinary
College)
Hogle Zoo
International Seabed
Authority
IUCN Species Survival
Commission
Joint Nature
Conservation
Committee (JNCC)
Kolmarden Zoo
Foundation
Korean Amur Leopard
Conservation Fund
Marine Resources
Assessment Group
Marwell Zoo
Minnesota Zoo
Foundation
North of England
Zoological Society
Organising Committee
of the 10th
International

Symposium on
Spermatology 2006
Oxford University Press
Perth Zoo
Primate Society of Great
Britain
Rosamond Exotic Feline
Breeding Centre
Royal Irish Academy
Royal Microscopical
Society
Royal Society
Royal Society for the
Protection of Birds
(RSPB)
Royal Veterinary
College
St Louis Zoological Park
Shepreth Wildlife Park
Smithsonian Institute
Society for Conservation
GIS
Society for Reproduction
and Fertility
Stuttgart Zoo
Swedish Embassy
Taiwan Forestry Bureau
Taronga Zoo
Twycross Zoo
Conservation Welfare
Fund
UNEP World
Conservation
Monitoring Centre
United Nations
Universities Federation
for Animal Welfare
(UFAW)
University of Cardiff
– Research and
Commercial Division

University of Girona
University of London,
Imperial College
University of London,
Queen Mary
University of Oxford
University of Padova,
Italy
University of Swansea
Wildlife Conservation
Society
Wildlife Vets
International
Winnipeg Zoo
WWF Canada
WWF International

Schools

Auriol Junior School
Bromley High School

Statutory and other grantmaking bodies

Australian Research
Council
Biotechnology and
Biological Sciences
Research Council
(BBSRC)
The British Council
Chilterns Conservation
Board Sustainable
Development Fund
Commonwealth
Commission (via RVC)
Darwin Initiative
DEFRA, including link to
Innovis Ltd (Malvern)
and IMV (L'Aigle,
France)
Economic and Social
Research Council
(ESRC)
Engineering and Physical
Sciences Research
Council (EPSRC)
Environment Agency
Estacion Experimental de
Zonas Aridas
European Commission
European Union
Programme AIBan
of High Level
Scholarships
for Latin America
Government of Oman
London Development
Agency (LDA)
Mayor of London

MLA London
National Endowment
for Science,
Technology and the
Arts (NESTA)
National Environment
Research Council
(NERC)
National Institute of
Health (NIH)
Natural England
Project Tiger, India
Research Councils UK
Save The Tiger Fund
Scottish Natural
Heritage
Spanish Ministry of
Education
State of Jersey
Department for
Education, Sport
and Culture
United Nations
US Fish & Wildlife
Service (USFWS)
World Bank

Trusts and foundations

A&R Woolf Charitable
Trust
Charles Wolfson
Charitable Trust
Bridge House Trust
British Veterinary
Association: Animal
Welfare Foundation
Born Free Foundation
Cecil King Memorial
Foundation
Charles 10th Duke
of Rutland Memorial
Conservation Trust
Clare Duffield
Foundation
Esmee Fairbairn
Foundation
The Good Gifts
Company
Howard G Buffett
Foundation
Isaac Newton Trust
John S Cohen
Foundation
Keidanren Nature
Conservation
Foundation
King Mahendra UK
Trust
The Leverhulme Trust

Lighthouse Foundation
Michael Marks
Charitable Trust
Morris Animal
Foundation
National Bird of Prey
Trust
Peoples Trust for
Endangered Species
(PTES)
The Pantom Trust
Rose Foundation
Rufford Maurice Laing
Foundation
Sue Hammerson
Charitable Trust
Tigris Foundation
Townsend Family
Charitable Trust
The Violet and Milo
Cripps Charitable
Trust
WCS Kaplan Awards
Programme
Wildlife Heritage
Foundation

We received legacy donations in 2006 from:

Collette Anna
Fontaine
Olive Muriel Hall
Harry Percival
Harfield *
Ann Gillian
Hewison*
James Harvie
Mackay
Annie Morris
Connie Nutkins
Joyce Elfrida
Smith
Norman Ernest
Squires*
Delene Welch
Mary Wheeler*
John Frederick
Williams
Mrs FE Winters
*Further instalment of
legacy from 2005

Sponsors

British Airways
Britvic Soft Drink Ltd
Friends of Conservation
Richmond Ice Cream Ltd
Ricoh (Thailand) Ltd

Patron

Her Majesty The Queen

Council members/trustees

The following were Council members at 24 April 2007 or served during the year to 31 December 2006.

President Professor Sir Patrick Bateson PhD ScD FRS

Secretary Professor Paul H Harvey BA MA DPhil DSc FRS

Treasurer Paul Rutteman CBE BSc (Econ) FCA

Vice Presidents

Sheila Anderson BSc (Hons) FBAASc

Alison Cook PhD

Ken Sims +

Richard Melville Ballerand BSc (Econ)
BSc DCoun FLS FRUSI

Professor John Beddington CMG FRS

Professor David Bellamy OBE BSc PhD

FIBiol FLS (Hons) +

Brian Bertram MA PhD CBiol FIBiol

Jonathan Boyce PhD DM MA MSc

FRCP FFPH

David Dixon PhD FIBiol *

John Edwards MA FLS

Andrew Greenwood MA VetMB

DipECAMS FIBiol FRCVS

Ray Heaton CertEd BEd GIBiol

MSc FRGS FLS +

Professor David Houston BSc DPhil

Nick Jackson MBE

Professor James Kirkwood BVSc PhD

FIBiol MRCVS

Andrew Kitchener BSc (Hons) PhD

Azra Meadows MSc PhD CBiol

MI Biol FLS *

Mark Ridgway BSc PGCE FLS

Sean Rovai DCA MTSI

Malcolm Whitehead BSc (Hons) +

Harry Wilkinson OBE MA FCA +

Robert Wingate MSc *

Professor Roger Wotton

+ to 21 June 2006

* from 21 June 2006

Directors

Director General

Ralph Armond

Commercial Director

Brian Oldman

Finance Director

Michael Bird

(to 25 April 2006)

Michael Russell

(from 1 April 2006)

Conservation

Programmes Director

Dr Glyn Davies

Human Resources

Director

Ian Meyrick

Director of Science,

Institute of Zoology

Professor Georgina Mace

(to 31 October 2006)

Bill Holt (Acting Head

from 1 November 2006)

Zoological Director

Chris West

(to 31 January 2006)

David Field

(from 22 May 2006)

Publication Acknowledgements

Design and editorial coordination: Think Publishing

Designer: Jes Stanfield, Sub-editor: Marion Thompson

Printed by Polar Group on 9 Lives, produced with 55% recycled fibre from both pre- and post-consumer sources, together with 45% virgin ECF fibre comprising a combination of FSC, PEFC and SFI fibre.

We extend our thanks to ZSL staff and individuals for the use of photographs in this publication:

Brian Aldrich, Ruth Brown, Richard Gibson, Bella Janson, Rachel Jones, Jean-Denis Kramkimel, Stephen Leatherwood, Harold Loeffler, Maluane Conservation Project, Jason Miller, John O'Reilly, Natalie Reid, Antidio Rossi, Bjorn Schulte-Herbruggen, Daniel Sprawson, Ian Stephen, Hannah Thompson and Mark Wickwar.

Director General's Office 020 7449 6207

Membership 020 7449 6228

Library 020 7449 6293

ZSL London Zoo 020 7722 3333

ZSL Whipsnade Zoo 01582 872171

Further information:

www.zsl.org

The Zoological Society of London
(Registered Charity no: 208728)

Regent's Park
London NW1 4RY
and at
ZSL Whipsnade Zoo
Dunstable
Bedfordshire LU6 2LF

www.zsl.org

ZSL
LIVING CONSERVATION

