



ZSL

LIVING CONSERVATION

2004 – 2005

2004 – A year of achievement



The Zoological Society of London, ZSL, can feel rightly proud of its achievements in 2004, thanks to careful planning that saw many projects come to fruition during the year. I am gratified to have much good news to share in my first annual review since taking over as President.

Positive developments have occurred right across the Society; our annual income is up, we saw a significant increase in the number of school visits, and our membership and animal adoption schemes also saw substantial growth.

ZSL's science and conservation work enjoyed continued success and recognition, and in 2004 the Society was involved in more than 100 different conservation and research initiatives – both at home and abroad. Our work has been both far-reaching and pioneering.

In 2004, for the first time ever, corncrakes that had been bred at Whipsnade and then released into the wild, bred with wild birds in the Nene Washes.

Our marine turtle monitoring and protection project in Mozambique was expanded to include tagging of nesting turtles. This will provide detailed information on one of the largest turtle populations along the East African coast.

Our work with gorillas in Gabon saw ZSL identified in November as the lead partner at the Mikongo Conservation Centre, where we have been active in gorilla tourism and related research for over two years.

The Institute of Zoology, the scientific research wing of ZSL, produced a number of high-profile scientific publications during the year, including close involvement in the IUCN Red List of Threatened Species: A Global Species Assessment.

Progress occurred at both sites with the opening of new, redesigned and refurbished exhibits. At Whipsnade, in Bedfordshire, we opened the new chimpanzee exhibit and at London Zoo, the *Komodo Island of Dragons* – representing the cutting edge in animal enclosure design and adding a new dimension to the visitor experience.

The arrival of not one but two Asiatic elephant calves – the first successful elephant births in ZSL's history – also generated major interest from the national media. Other significant arrivals in 2004 are reported in this document.

Following Dr Michael Dixon's move to become the Director of The Natural History Museum, Ralph Armond was appointed in September as ZSL's new Director General. Ralph comes to ZSL after 16 years with the Tussaud's Group. As well as his management experience and knowledge of visitor attractions, he brings a personal enthusiasm for, and strong commitment to, conservation, science and the work of ZSL.

The work of ZSL has never been more important. An ever-increasing number of environmental problems need attention and more and more species depend on zoos for their survival. Wars, global warming and growing threats from disease are just some of the many challenges that continue to make ZSL's conservation work so crucial to the health of the world's wildlife.

A handwritten signature in black ink, appearing to read 'Patrick Bateson'.

Sir Patrick Bateson FRS
President, ZSL

ZSL's mission: To achieve and promote the worldwide conservation of animals and their habitats



Worldwide network

ZSL staff worked on more than 100 different conservation and research projects throughout the world in 2004. Many other collaborations are in development.



Americas

Central America

Commonwealth of Dominica
Mexico (Gulf of California)
Montserrat
Panama
Puerto Rico

North America

Canada
USA

South America

Brazil
Chile
Ecuador

Africa

Cameroon
Chad
Democratic Republic of Congo
Equatorial Guinea
Ethiopia
Gabon
Kenya
Mauritius
Mozambique
Namibia
Niger
Nigeria
Seychelles
Tanzania
Uganda

Europe

Republic of Ireland
Spain
United Kingdom

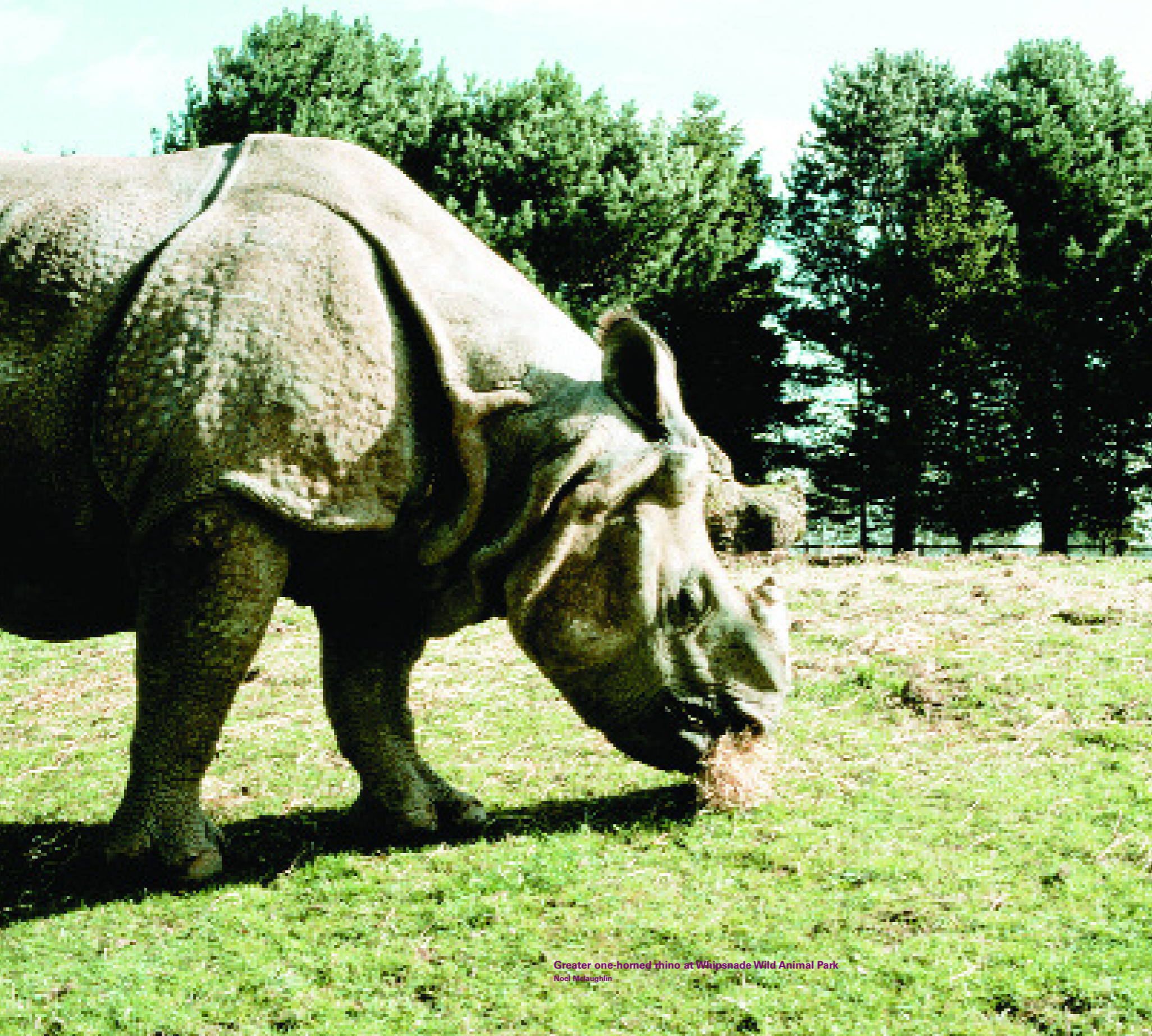
Asia

India
Indonesia
Malaysia
Mongolia
Nepal
Philippines
Russia/Russian Far East
Saudi Arabia

Australasia and Oceania

Australia
French Polynesia
New Zealand

The Living Collection



Greater one-horned rhino at Whipsnade Wild Animal Park
Noel McLaughlin

2004 proved an extremely exciting and highly productive year, with the arrival of not one but two Asiatic elephant calves – the first successful elephant births in ZSL’s history. Our zoo departments were also restructured as we continue to rejuvenate our two sites. For 2005, we remain focused on improving our animal habitats and visitor experience still further.

Animals and new arrivals

Bermudian land snails, king vultures, greater one-horned rhino and Panay cloud rats were among the Society’s new additions in 2004. However, the most prominent newcomer to London Zoo had to be the Komodo dragon – an endangered species, and the world’s largest lizard. Raja has settled into his new state-of-the-art *Komodo Island of Dragons* enclosure and will shortly be joined by another dragon, replacing the original female of the pair which, unfortunately, died from a number of long-term health problems. The new female will arrive at London Zoo later in 2005.

There were a number of significant births at both London Zoo and Whipsnade Wild Animal Park (WWAP) during 2004. At Regent’s Park, there was the successful fledging of a sun bittern (the first at the Zoo since 1877) and at Whipsnade our Corncrake Species Recovery Programme enjoyed its most successful year to date, with more than 70 chicks reared and released at the Nene Washes reserve. 2004 also brought the exciting news that our released corncrakes had returned to this reserve to breed and that the British and Irish Association of Zoos and Aquariums (BIAZA) had voted this project the year’s most successful zoo conservation programme. Visitors were also able to watch the rearing of black hornbill chicks through a special nest box camera, and the hyacinthine macaws produced a fertile egg – leading to great hopes for 2005!

More births at Regent’s Park included a François langur and some red river hoglets. We were also delighted by the birth of a baby giraffe and a roan antelope at Whipsnade. But by far the

highest profile births for the zoos in 2004 were our two Asiatic elephant calves. The female was born on 16 March and weighed in at an impressive 149kg – taking the record for the largest surviving elephant calf born in Europe. She was joined on 25 September by a male calf weighing in at a more customary 128kg. The calves, Aneena and Euan – named by the public in a national competition – have been out and about most days meeting the public at WWAP – the only UK zoo providing visitors with such an experience.

We also successfully reared more than 1,000 field cricket nymphs at London Zoo as part of English Nature’s Species Recovery Programme. Their new home is the 110-hectare Chapel Common in West Sussex. At Whipsnade, larvae were raised from the barberry carpet moth. A health screening process is now being developed ready for releases at the Park in 2006.

Aquarium staff continued to be heavily involved in marine and freshwater conservation, offering a home for live corals and seahorses rescued in a clampdown by HM Customs on the illegal trade in endangered species. We also played a significant role in getting seahorses added to the Convention on International Trade in Endangered Species (CITES) – the first marine fish to come under wildlife trade legislation. ZSL’s work with seahorses also included the first seahorse survey on Saba in the Dutch Antilles. Funding from English Nature means more work will be carried out by ZSL staff on a native coral species called the pink sea fan in collaboration with The Deep, the aquarium at Hull.

In 2004, ZSL organised a range of undergraduate research opportunities. Eleven projects were started at Whipsnade and another seven at Regent's Park, including a PhD in conjunction with Royal Holloway College.

Our Environmental Enrichment Group – a keeper-orientated group working to raise awareness, improve husbandry routines and produce an enrichment manual for ZSL – also launched its first newsletter. It is hoped three can be produced per year.

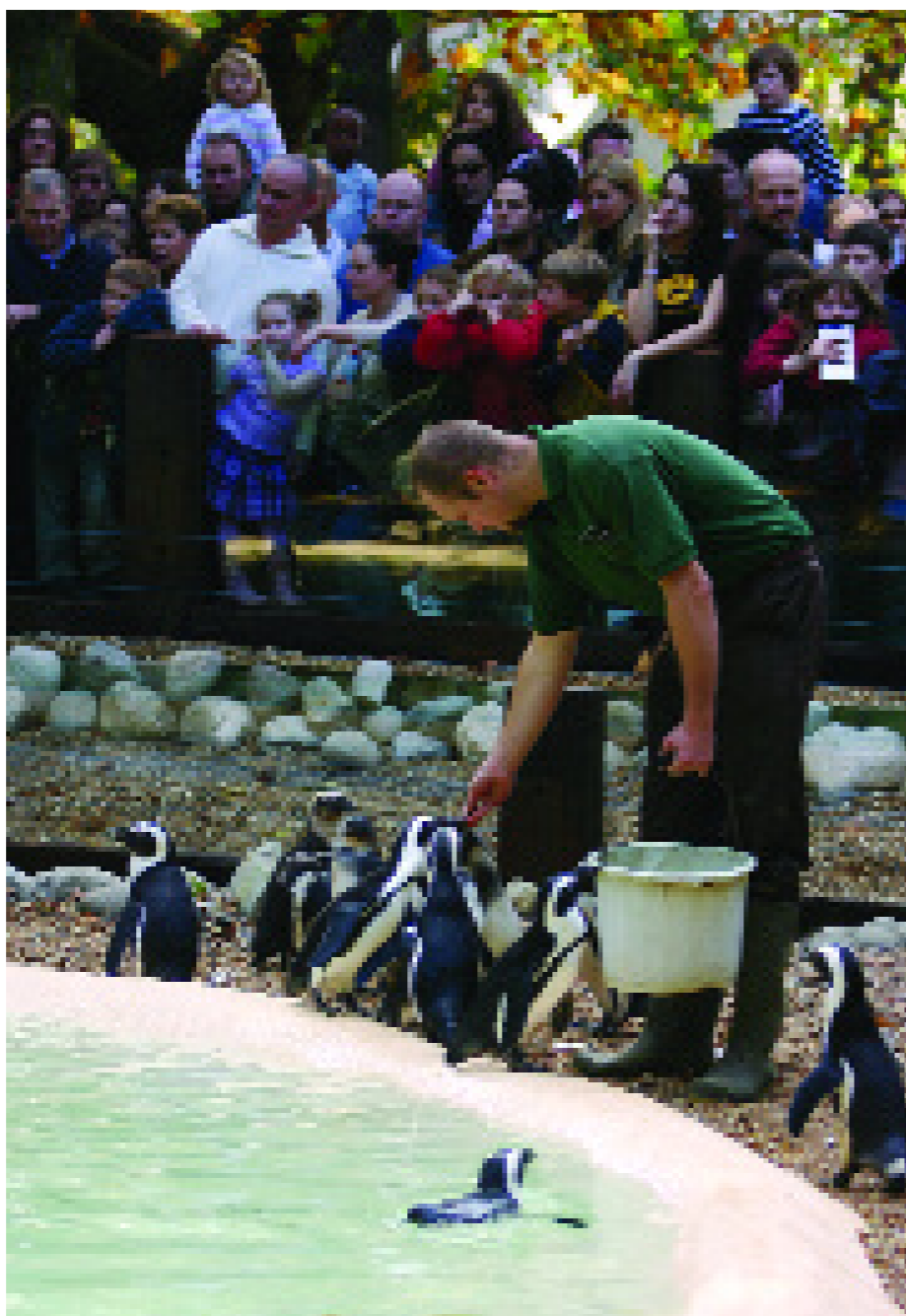
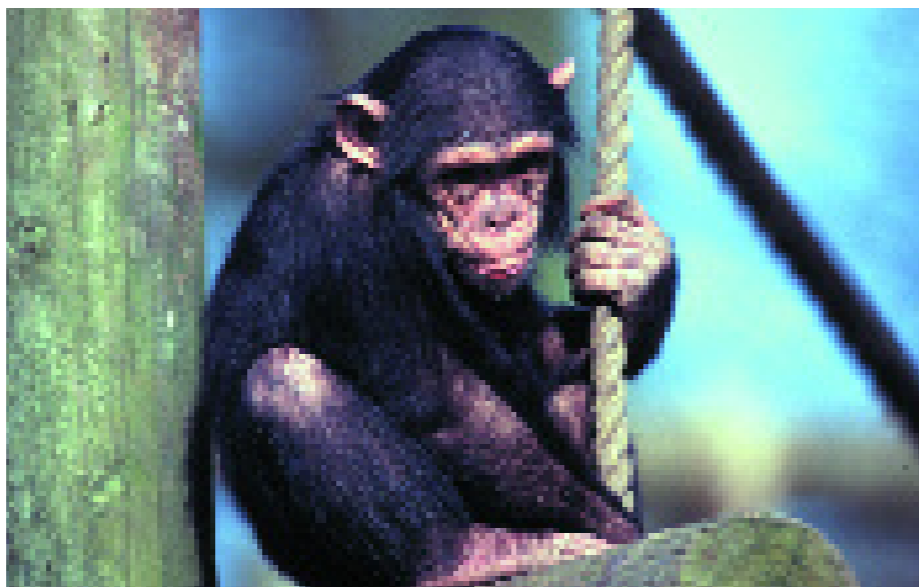
Throughout the year, we also continued to influence policy thinking on conservation in zoos, beginning with the *Catalysts for conservation* symposium in February (see **Awards, meetings and publications**). ZSL made a major contribution to the new *World Zoo and Aquarium Conservation Strategy* – essentially a road map for the world's zoos for the next ten years – which will be launched in Melbourne, Australia, and simultaneously around the world, in May 2005.

Exhibit design and changes

Progress during the year on the development of new, redesigned and refurbished exhibits at our zoos made for fascinating viewing. At WWAP, the refurbishment of the aquaria in the Discovery Centre was completed, as was the new chimpanzee exhibit, with its expanded outdoor area and indoor 'chimpanasium', which provides even more opportunities for the chimps to investigate and play and has enhanced the visiting public's view of them. The area around the exhibit has also been sensitively landscaped to create a more immersive atmosphere for visitors – something recognised by the media in the good publicity that marked the opening.

Our new *Lions of the Serengeti* exhibit (which opened Easter 2005) brings African lions back into the Living Collection, providing an additional charismatic carnivore exhibit for Whipsnade and a focus for the Carnivores and People programme.

And in London, the re-developed Barclay Court pool is proving to be a



popular home for our penguins, which are thriving in their new surroundings.

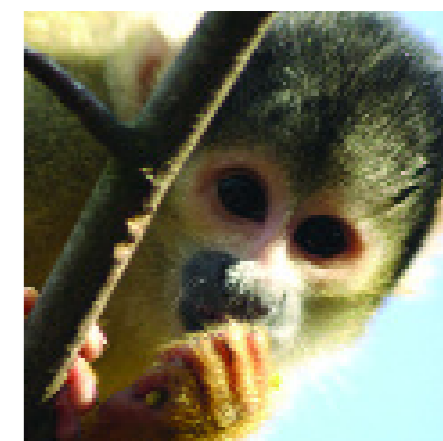
The highly social porcupines, which arrived early in 2005, are housed in the Grade 1 listed Lubetkin penguin pool.

Significant for ZSL, in terms of exhibit development, is the new purpose-built enclosure for our Komodo dragons – the *Komodo Island of Dragons*. This exhibit represents the style of development that will be used at both sites in future to give visitors a greater sense of immersion in our animals' environment. This complex enclosure, with integrated environmental controls, has a large weatherproof viewing area that encourages all-year visiting. Its translucent domed roof also means the enclosure is flooded with natural light and there is regular controlled 'rainfall' inside the enclosure, creating the moist atmosphere preferred by both the dragons and the plant life.

Other developments finished in 2005 include the *Meet the Monkeys* walk-through exhibit for our squirrel monkeys and the walk-through *African Bird Safari*. Taking visitors into the enclosures themselves has provided an entirely new and exciting experience.

The Clore Small Mammal House will get a £2 million re-development, with work set to start in 2005, helped by a generous donation from the Clore Duffield Foundation. This work will incorporate themed planting in the main atrium and increased light into the building, which will house mainly South American fauna. This exhibit will also highlight the involvement of ZSL staff with lion tamarins in Brazil.

Our plans to create an 'African rainforest' for our gorillas are also at an advanced stage. This highly visual exhibit will focus on our conservation work through our Bushmeat and Forests programme and will help raise awareness of the uncertain world for these animals.

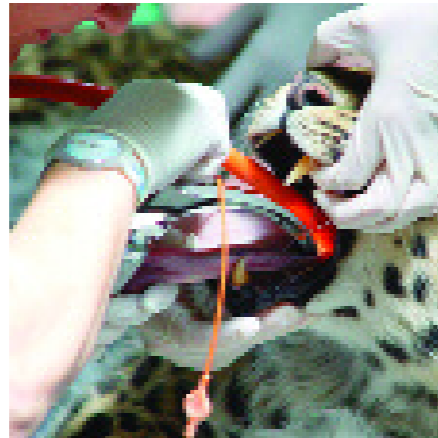
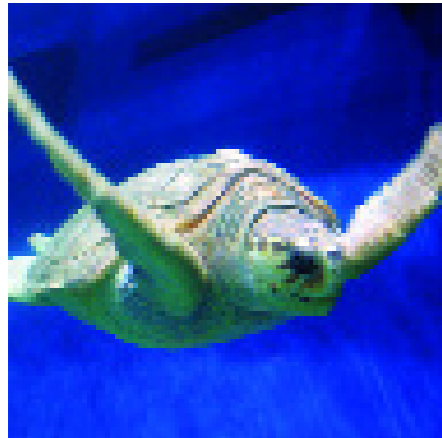


Top: The roof of the *Komodo Island of Dragons* exhibit is planted with grasses. The living roof makes it good for insulation and good for handling rainwater. The undisturbed plants also make a great home for insects

Above: Squirrel monkey – work started on the new *Meet the Monkeys* walk-through exhibit in 2004
Katie Fitzgerald

Facing page top: Young chimp – at home in the new 'chimpanasium'

Facing page bottom: Feeding time at the new penguin pool, which opened at London Zoo in 2004
Katie Fitzgerald



Top left and above: The new Biota! project will bring sea-life, reptiles, mammals and birds together in a unique wildlife visitor experience

Jodie Le Cheminant ZSL Biota! artwork by Hayes Davidson and architects Terry Farrell and Partners

Top right: Leopard undergoing an intubation anaesthesia during a checkup

Facing page: Creative landscapes and planting schemes are transforming our animal habitats. The African Bird Safari exhibit was completed in 2005

Veterinary services

2004 was another busy year for our Veterinary Services Department, including a rise in the number of MSc students. While this increased the department's workload, the rise in students has been rewarding, reflecting the popularity of the courses and the quality of teaching and experience offered.

WWAP's expectant elephants also kept staff busy monitoring their pregnancies with colleagues from the Institute of Zoo and Wildlife Research (Berlin). The female calf has needed to be monitored closely since her birth and this will continue in 2005. The vet team also worked through the night in an effort to save our female Komodo dragon. However, her existing problems proved insurmountable. A large amount of information has, however, been shared to assist other Komodo holders worldwide, thanks to the high standard of pathology services available in the department.

The new radiographic and ultrasound equipment bought during the year to improve our diagnostic ability is also paying off and has led to improvements in general animal health care.

In 2004, veterinary staff continued their collaboration with English Nature on health surveillance of managed species, including common dormice, red kites, field crickets and corncrakes.

The Head of Veterinary Services was also asked to sit on the Great Ape Health Monitoring Unit's emergency response team and was invited onto the International Response Team for Mountain Gorillas, which is co-ordinated by the Mountain Gorilla Veterinary Project (MGVP).

During the year, we also continued our work to assess animal welfare in the Living Collection and identify areas where improvements can be made. As part of this work, we collected diet information from all our animal sections. This information will allow us to make periodic reviews of their diets and help us produce a ZSL

diet manual. A zoo nutrition internship during the year from the Van Hall Institute in the Netherlands also proved very worthwhile and we are discussing a similar placement in 2005.

Gardens and grounds

2004 saw the first full year of operation for the new ZSL Garden Department, managed across the two sites by our Curator of Plants.

As well as working on our general sites, the garden team was actively involved in all new projects, introducing a more lush and 'exotic' feel to the exhibits for our Komodo dragons and our chimps at WWAP. Significantly, Countryside Stewardship and Woodland Grant funding has helped introduce a more intensive habitat management approach, particularly involving the woodland walks on both sites and establishing the wild meadow in the former Congo buffalo paddock at WWAP.

Bat hibernacula were created from former lion and tiger dells at Whipsnade and by the end of 2004 bats had begun to use these new

roosts and there are high hopes that this use will increase in 2005. Additionally, bat and moth survey work is being undertaken over the site. Barberry has been planted for barberry carpet moths, hedgerow management has been improved and bird and bat boxes have been placed around WWAP.

Work to improve the animal paddocks at WWAP also began in 2004. So far, drainage has been improved in the rhino paddocks and the European bison enclosure has been aerated and re-planted.

ZSL was also represented, as one of the area's landlords, in discussions on the 'Right to Roam' at the local Whipsnade forum.

International Zoo Programmes

A new department of International Zoo Programmes (IZP) has now been established as part of our wider role to help zoos in biodiversity-rich countries to improve their animal welfare standards and to develop their own conservation work through capacity building. The new IZP

Department can also generate revenue by providing experience to wealthier nations which hope to build 21st century zoological parks but lack our technical experience. We aim to take this forward through three main areas: Zoo Consultancy, Technical Support for Zoos, and Flagship Species. A number of contacts have already been made in relation to zoo consultancy and positive assistance has been provided by the Department of Trade and Industry. We now have contacts in several states and countries, including Kuwait, Qatar, Abu Dhabi and Dubai, with potential for zoo consultancy projects in 2005.

We continued to provide technical support to Kabul Zoo, but towards the end of the year, local instability in Afghanistan hampered some of this work. We also welcomed visits to both our sites by staff from Baghdad and Accra Zoos. They came to learn about advances in animal husbandry and welfare. Additional links have also been made with Central Zoo in Kathmandu, and zoos in Hanoi and Ethiopia have been involved in talks on zoo-related topics. ZSL has also joined the EAZA Animal Welfare and Technical Support Committee, which provides support for zoos in Eastern Europe.

IZP is now pursuing a number of contacts to develop a ZSL field conservation programme for the Asian elephant. This programme is likely to be linked to the Veterinary Services Department, which shares this interest in elephant health. Links have also been made in both India and Nepal in relation to this project. Internal discussions to develop ZSL's interest in black rhino are also on-going.



Conservation and Science



Tapir at London Zoo
Noel McLaughlin

In 2004, ZSL staff were involved in more than 100 different conservation and research initiatives – both at home and abroad – covering everything from cheetah conservation in Tanzania to building bat boxes at Whipsnade. Our international policy and campaign work also kept up the pressure on the over-hunting of wildlife and the trade in bushmeat, and secured some important legal protection for seahorses. An impressive timetable of work is already underway in 2005.

ZSL co-ordinates these activities through six conservation programmes:

1. BUSHMEAT AND FORESTS

In 2004, ZSL continued to be a major force in the push for an international solution to the over-hunting of wildlife for bushmeat. A conference in our Meeting Rooms brought together biologists and social scientists from around the world to look at the management issues. The conference proceedings will be published in 2005 and will add weight to ZSL's advocacy work as we step up our Parliamentary campaign following the departure of Barry Gardiner, MP to the Northern Ireland Office.

In 2004, our work with the European Association of Zoos and Aquaria's Bushmeat Campaign continued, with the European Parliament endorsing the Bushmeat Petition. In Equatorial Guinea our research into the issue also intensified and focused on establishing the importance of bushmeat to the livelihoods and diets of local rural communities. This work has already featured in a policy briefing for the Houses of Parliament.

In November, our work with gorillas in Gabon saw ZSL identified as the lead partner at the Mikongo Conservation Centre, where we have been active in gorilla tourism and related research for the last two years. This welcome recognition comes at a time when the closure of the ECOFAC project, which has supported conservation work in Lope National Park for nearly a decade, poses one

of our biggest challenges. We are, however, determined to continue building this project, which is linked with our chimp and gorilla exhibits at London Zoo and Whipsnade.

On the other side of the Congo Basin, in our new office in Goma, we were delighted to win a 1.5 million euro grant from the European Union. This will support capacity building and rehabilitation of the Virunga National Park, building on a previous Darwin Initiative grant. It will also keep ZSL in touch with this magnificent but war-torn reserve. Rebuilding a training centre and re-starting the guard training programme will be a focus in 2005.

2. CARNIVORES AND PEOPLE

Our pioneering work using radio tracking to monitor endangered species in Sumatra progressed well in 2004, with the collaring of a Malayan tapir and a Malayan sunbear. The Indonesian forestry authorities called on ZSL's technical assistance after they captured a sunbear that had been raiding local chicken coops. While capturing and translocating 'problem animals' away from the site of their misdemeanours is quite common, the monitoring of animals following their release is not. Initially, once collared, transported and released, our sunbear walked more or less straight back to the village. However, he has not caused any major problems since.

Data on how our tapir is using the study site is also being picked up almost daily as part of this important



work with the oil palm company PT Asiatic Persada. This complements our camera-trapping work, which shows data on the movements of tigers and other large mammals around the site. The Save The Tiger Fund, the USFWS Rhino-Tiger Fund, the Tufton Charitable Trust and 21st Century Tiger support these studies and the training and equipping of scouts who patrol and remove snares.

ZSL's work with cheetahs in Tanzania now provides the longest running in-depth study of a wild cheetah population and has provided most of what is known about wild cheetahs. The work is collaborative and supported by the Tanzanian authorities, its national parks (TANAPA), the Tanzania Wildlife Research Institute (TAWIRI), and the Wildlife Conservation Society (WCS). We are now distributing leaflets and posters that encourage tourists visiting the area and their guides to behave sensitively towards the cheetahs. Finally, as protected areas alone cannot ensure a long-term future for these beautiful cats, we are also looking at how cheetahs and humans may co-exist in the larger landscape.

Tanzania is important not just for cheetahs but also for 34 other species of carnivores. In an exciting new initiative to co-ordinate carnivore conservation, ZSL and TAWIRI have established the Tanzania Carnivore Programme. Based at TAWIRI headquarters in Arusha, the

programme employs three full-time scientific staff and provides training facilities and a central focus for carnivore research and conservation. In 2005, it is planned to work with wildlife authorities to develop a national conservation action plan for the carnivores of Tanzania; this will prioritise species and identify data-deficient areas to guide conservation activities in the future. The UK government's Darwin Initiative, WCS and ZSL are funding the programme.

In the Russian Far East we have been working in partnership with WCS Russia and the Vladivostok Institute of Geography TIGIS to assess the extent of fires that annually devastate the home of the country's remaining 30 or so Amur leopards. The study has meant that fire-fighting measures can now be focused where they will do most good. This helped cut burning in the leopards' core habitat by two-thirds in 2004. We also worked closely with local NGO Phoenix and Anglo-Russian charity AMUR on anti-poaching education and awareness projects relating to both tigers and leopards.

During 2004, ZSL also provided significant funds for tiger conservation around the world through 21st Century Tiger, a fund-raising partnership between ZSL and Global Tiger Patrol. In 2003 and 2004, 21st Century Tiger was the focus of the European Association of Zoos and Aquaria (EAZA) Conservation



Top left: Camera-trap image of an Amur leopard in the Russian Far East
WCS/ISUNR

Top right: Field staff used a specially-adapted wellington boot to give gas and air to this tapir while a radio collar was fitted as part of ZSL's animal monitoring project in Sumatra, Indonesia
Sarah Christie ZSL

Above: Bushmeat for sale in Equatorial Guinea – ZSL works to research and raise awareness of this trade
Noëlle Kumpel ZSL

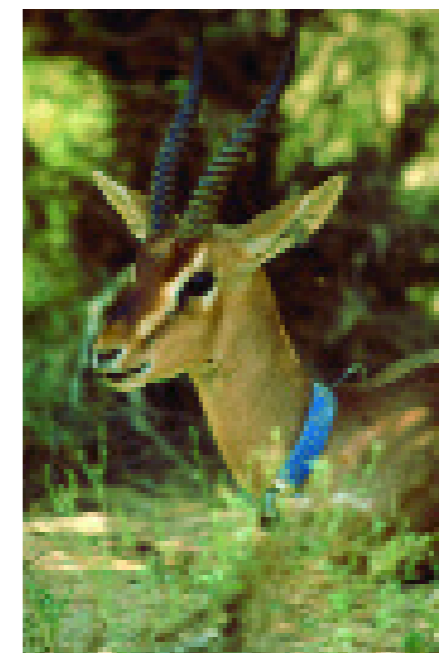
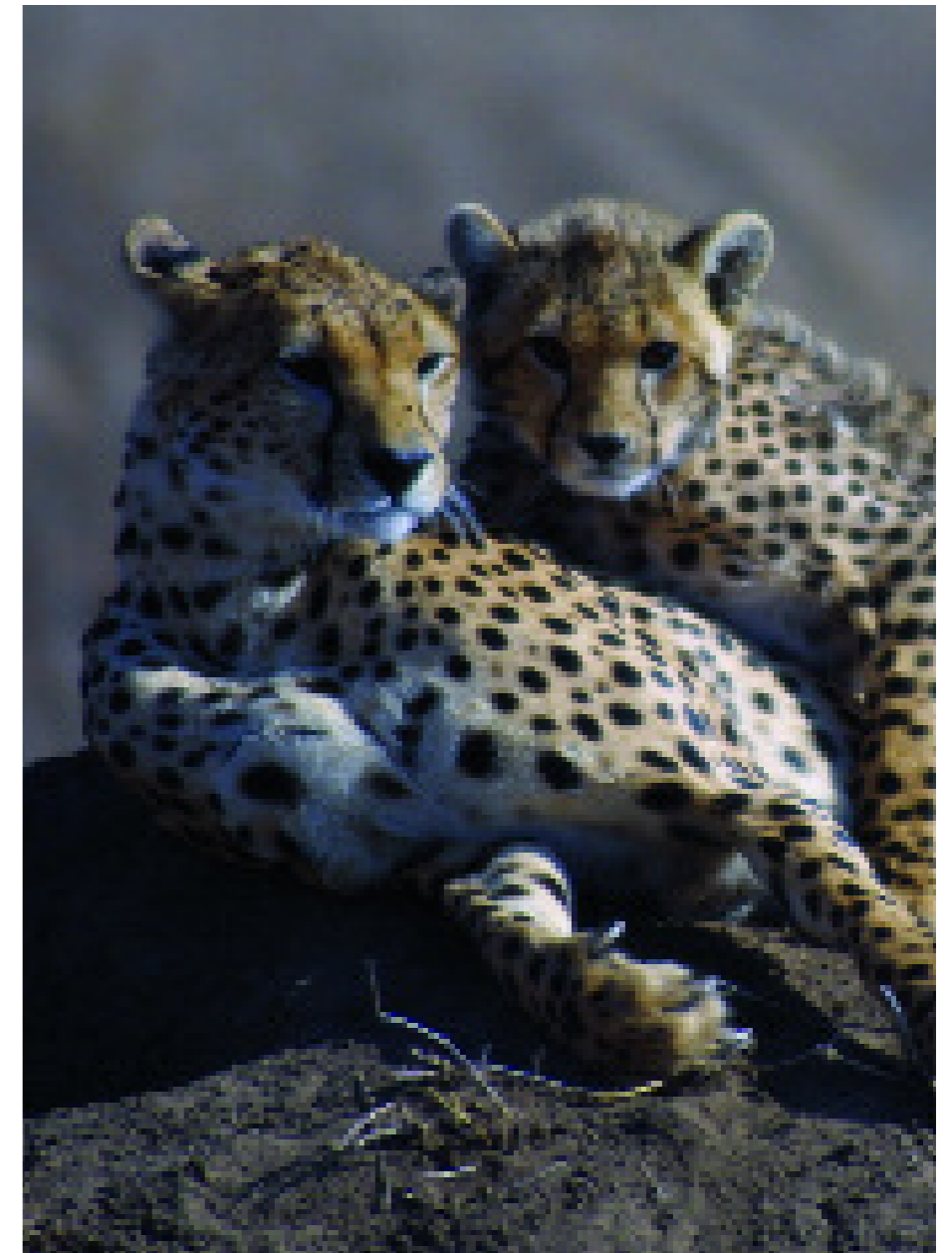
Campaign, and in 2004 the Australasian Regional Association of Zoos and Aquaria (ARAZPA) followed suit. With additional funds from DEFRA, and other donors, we provided £117,000 to seven projects (in India, Indonesia and Russia) during the year; and by the close of the EAZA Tiger Campaign in September 2004, the grand campaign total raised by zoos was \$663,000 over the two years. This money funded nine projects overall and represents an increase in the total NGO budget for tiger conservation of more than 5% per year – a very significant contribution on the part of zoos.

3. DESERTS AND RANGELANDS

Further progress in 2004 involved our work with sand and mountain gazelles with the National Commission for Wildlife Conservation and Development in the Kingdom of Saudi Arabia. Since starting work here, we have moved from maintaining populations at the King Khalid Wildlife Research Centre (KKWRC) to developing the concept of a national sand gazelle herd, held on private farms and national parks, with only a few at KKWRC. In 2005, the protocols for exchanging animals will be finalised. Another new departure was the decision to appoint a Conservation Education Officer at KKWRC to develop educational materials for visitors to the centre and for people living around protected areas. This will be complemented with a stronger focus on developing animal exhibits at KKWRC that promote a better understanding of the area's wildlife.

Also during 2004, our long-standing monitoring in the Ibex Reserve in Saudi Arabia continued to play a valuable role in reserve management, particularly in light of apparent declines in ibex numbers.

In Kenya, we further developed our conservation activities, and were pleased to sign a Memorandum of Understanding with the Kenya Wildlife Service at the end of the year. This outlined our interest in working together for the conservation of hirola, rhinos, carnivores and



Above: Cheetahs in Tanzania
Sarah Durant ZSL

Left: Released mountain gazelle in Saudi Arabia



Top: Scientists treating a vulture in India

Middle: Bermudian land snail
Dave Clarke ZSL

Above: A common seal – spotted as part of our Thames Marine Mammal Sighting Survey. The seal was first seen at Rotherhithe and was followed up to Tower Bridge
Iain Green

Facing page top: ZSL exploring a hatched turtle nest in Mozambique with the Cabo Delgado Biodiversity and Tourism Project team

Facing page bottom: Project Seahorse works with communities in the Philippines to restore habitats by planting mangrove seedlings
Sophie Oliver ZSL

ungulates. Immediate results came from surveys to the east of the Tana River with the Kipini Botanical and Wildlife Conservancy. A new population of Ader's duiker was discovered on the Kenya coast and confirmed populations of hirola further inland.

Also in Kenya, we completed the second year of our Darwin funded Black Rhino Project with Kenya Wildlife Service. This has involved training nearly 200 field staff in rhino monitoring techniques. Surveys of animal numbers and the suitability and quantity of vegetation in all of Kenya's black rhino national parks, reserves and sanctuaries were also carried out, the results of which are enabling field managers to assess progress as part of the national conservation strategy. Our site support link for the Ngulia Rhino Sanctuary was also further developed by the provision of a ranger patrol vehicle.

Seventy-seven university students and park rangers attended another of our projects – the Steppe Forward Programme in Mongolia. The field courses in wildlife awareness, funded by the Darwin Initiative, were run by UK ecology lecturers at field stations in Mongolia's northern, central and southern (Gobi Desert) habitats. More editions of the high-quality *Mongolian Journal of Biological Sciences* were also produced.

In June, ZSL's scientific research into the decline of the *Gyps* vulture in India won further funding for conservation work. The Society has been jointly responsible (with the Bombay Natural History Society and the RSPB) for spearheading investigations into a 95–99% decline in three species of native vulture. In February 2004, ZSL, along with our two partner organisations, held an international vulture recovery workshop. Post-project funding has been made available through the UK government's Darwin Initiative.

4. ISLAND ECOSYSTEMS

During the year we continued our investigations of disease threats to endemic Galapagos fauna. Funded by

the Darwin Initiative, this project has established the first fully capable molecular biology and pathology laboratory in Galapagos. Here, Ecuadorian staff are now being trained in modern wildlife pathology and the investigation of disease threats. Highlights from the year included an epidemiology study looking at the transfer of disease from dogs to sea lions and an international workshop to assess the risk posed to the Galapagos by West Nile Virus, which is spreading across the Americas.

Our Curator of Herpetology spent a month in Indonesia with a ZSL researcher looking at the nesting ecology of the Komodo dragon. This ZSL-funded work to assess the status and composition of the isolated and vulnerable dragon population on Gil Motang in the Komodo National Park will make important management recommendations.

We also supported survey work in nearly 70 Tahitian valleys to assess the status of endemic and alien mollusc species and habitats as part of a three-year project to develop a conservation strategy and action plan for the region's endemic snails and their forest habitat.

ZSL is now looking at further conservation research work on island ecosystems. Funded by the Leverhulme Trust, ZSL is studying 'pattern and process' in insular mammalian extinctions in the West Indies (representing 37.5% of all known modern-era mammalian extinctions).

ZSL also began a study using genetic techniques to investigate the social behaviour, reproductive success and systematics of Round Island petrels. The work will be in collaboration with the Mauritius Wildlife Foundation and Queen Mary University of London. Other conservation collaborations were with: the Bermuda Natural History Museum – breeding the highly endangered Bermudian land snail (*Poecilozonites circumfirmatus*) at ZSL's Invertebrate Conservation Unit; and our continued participation on the UK Overseas Territories



Conservation Forum – particularly on the Forum's South Atlantic Working Group and the executive committee of the Chagos Conservation Trust.

5. MARINE AND FRESHWATER

The Marine and Freshwater Conservation Programme focused closer to home in 2004, developing its Thames Estuary Conservation Project. This aims to answer ecological questions that will help protect and enhance this important wildlife corridor.

In July, we established the Thames Marine Mammal Sighting Survey, which captured the imagination of the public and helped raise awareness about the improving health of the estuary. The survey, to assess the movements and population distribution of marine mammals, was designed to bridge the knowledge gap about how dolphins, seals and porpoises use the Thames Estuary. So far, there have been over 170 sightings.

In order to address the major decline in European eel (*Anguilla anguilla*) populations, we have been awarded funding from The Fishmongers' Company and the Environment Agency to investigate the use of the tributaries of the Thames Estuary by immigrant juvenile eels (*elvers*). It is believed that elver recruitment in part of its range has reduced up to 99%. By comparing our data with historic data, we will be able to assess how the elver populations have changed over the past 20 years.

Further afield in Mozambique, our marine turtle monitoring and protection project in Cabo Delgado was expanded to include tagging of the nesting turtles. This will provide scientific information on turtle populations and help us develop regional management strategies. Over 250 nests, 87% belonging to green turtles (*Chelonia mydas*) and 13% to hawksbill turtles (*Eretmochelys imbricata*) have been recorded, protected and monitored.

2004 was an exciting year for Project Seahorse, with several landmark achievements. In January, the Project

Seahorse Foundation for Marine Conservation celebrated its first birthday. We also celebrated the listing of seahorses on Appendix II of the Convention on International Trade in Endangered Species (CITES). All trade in seahorses must now be monitored. ZSL is a partner of Project Seahorse.

In response to the 2004 tsunami disaster, ZSL is supporting the Mangrove Action Project to protect and rehabilitate mangrove habitats in Sumatra. By working with local communities, non-governmental organisations and the government, the project will rehabilitate over 100 hectares of mangrove. This will provide increased coastal protection and provide important nursery-grounds for fish and shrimp.

6. UK NATIVE SPECIES

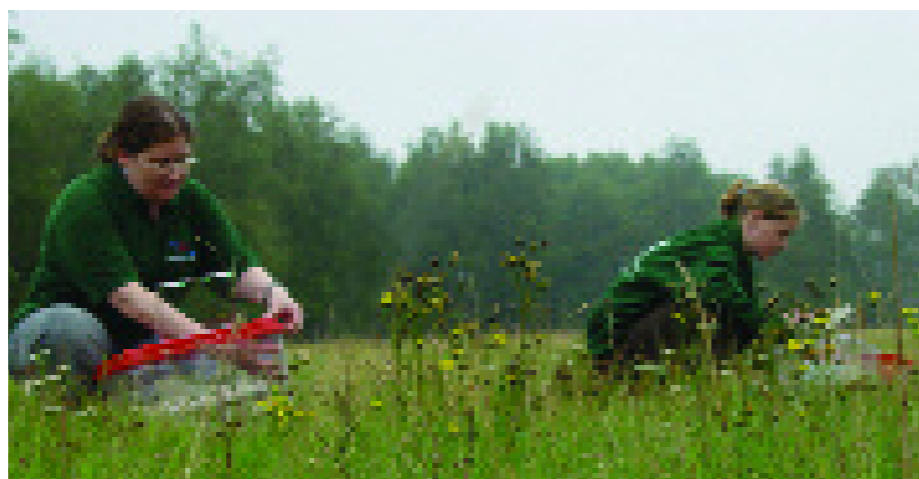
We have continued to expand our work on UK species with the appointment of a Conservation Programme Manager.

During 2004, over 1,000 field crickets were bred at London Zoo as part of our Species Recovery Programme collaboration with English Nature.

The corncrake project had a particularly successful year, with 88 chicks reared and 75 released at the Nene Washes. Sightings confirm that our corncrakes are breeding there.

Our vets continued to be heavily involved with the UK Species Recovery Programme, assessing disease risks associated with the reintroduction of pool frogs to Britain and conducting pathological investigations and field work as part of the Cirl Bunting Species Recovery Project. Health surveillance and disease risk analysis was also carried out on field crickets, corncrakes, red kites, and common dormice.

The focus also remained on some of our smallest creatures, with the completion of a research project into the foraging behaviour of urban bumblebees. We continued the research into the ecology and genetics of the rare British great yellow bumblebee. Other work looked at the ecological requirements



and social structure of the black bog ant, and one study will help develop a new strategy for managing the conflict between geese and farming in Scotland. In 2004 we also started an exciting project with the RSPB looking at the big decline in London's house sparrows; this is in addition to our work on the causes of disease in British garden birds.

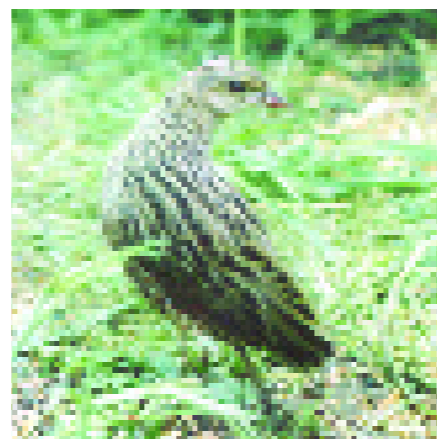
Improving habitats for native species at our zoos continued to be a focus during the year. At Whipsnade, five new bat hibernacula were created. One new resident was a Daubenton's bat – a new record for Whipsnade.

At London Zoo, nest boxes were put up for house sparrows, and the roof of the shop became a principal site for a major study looking at how green roof design can influence invertebrate biodiversity. This type of research is complemented by regular surveys of birds and moths. The British Entomological and Natural History Society survey at London Zoo also provided a wealth of useful information.

The appliance of science

The work of the Institute of Zoology – the scientific research wing of ZSL – can be read in full by visiting the ZSL website (www.zsl.org/science)

Only certain highlights from the year included: work that found the parental age and size of seahorses has a profound influence on the future fitness and development of their offspring. This study provided more information on the characteristics of spermatozoa in the



Top: Releasing British field crickets
Paul Pearce-Kelly ZSL

Middle: Corncrake

Above: The scientific annual report for the Institute of Zoology

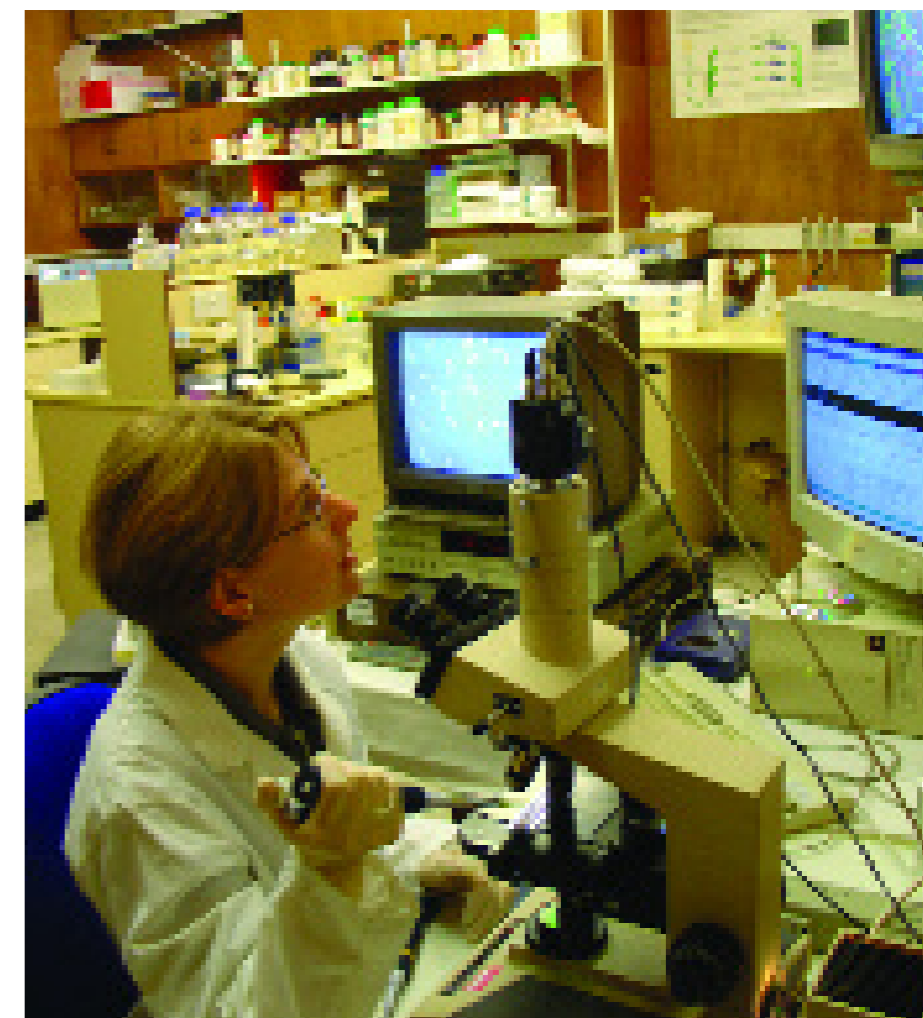
Facing page: A ZSL scientist studies the effects of pollution and how this affects healthy animal sperm

species. Interestingly, this showed that the male produces only just enough sperm for fertilisation. In collaboration with the University of Exeter, we are now studying zebrafish spermatozoa to see if environmental chemicals affect reproduction. The Reproductive Biology group also finished its study of spermatogenesis in the harbour porpoise. This work will assist projects looking at the possible effects of endocrine-disrupting chemicals on these sea mammals.

During the year, a number of high-profile scientific publications were also produced. One landmark report, with which we were closely involved, was the *IUCN Red List of Threatened Species; A Global Species Assessment*. This was launched amid a flurry of media interest and much acclaim at the World Conservation Congress in Bangkok. Apart from a wealth of new data, this includes new techniques for monitoring species trends, including 'the Red list Index', developed by ZSL, the IUCN, BirdLife International, and Conservation International. The index has been added to the list of potential biodiversity indicators that will be used to monitor progress towards the 2010 Biodiversity Target.

In 2004, ZSL and its collaborators showed how domain area and population density relates to body size in terrestrial mammals. Using a simple model we were able to predict the ability of animals to defend territory of different sizes. For the largest species, about 90% of the resources of home territory are lost to neighbours. This extreme level of overlap in large mammals has implications for our understanding of sociality and for the design of protected areas.

Institute scientists also contributed four articles to the major science journal *Nature*, one showing, for the first time, how inter-specific interactions shape parasite gut helminth communities in a wild mammal population. A statistical analysis of a 23-year dataset of parasite counts revealed a complex network of interactions between five species of parasite infecting a wild rabbit population. This may have



implications for parasite control programmes in wild and domesticated animals.

A team from IoZ also discovered, using behavioural observations and micro satellite genotyping, that workers in a bumblebee species were able to produce sons, parasitically, in other colonies of their own species. As this behaviour could be common in other social insects like ants and wasps, this work may help explain why current evolutionary theory does not adequately account for the level of worker reproduction observed in natural colonies.

The team also demonstrated, in a study of leafcutting ants, the reasons why some ants prefer many mates and others pick just one partner. The paper – published in *Nature* – showed how females of the free-living species mated with up to ten males, but that its socially parasitic relative mated only once. These results show, for the first time, a reversion from multiple

to single mating as part of the evolutionary process.

Our scientific work with the UK Cetacean Stranding Scheme (co-ordinated by ZSL) and scientists in the Canary Islands produced the second of two articles in *Nature*, describing a new pathological condition affecting whales, dolphins and porpoises similar to 'the bends' in human divers. In April 2004, the international Technical Workshop in Baltimore, organised by the US Marine Mammal Commission, recommended more research on this.

Green Teams

Our Green Teams continued to meet throughout the year at both Whipsnade and Regent's Park to review ZSL's Environment Policy. This was drafted with Cranfield University, which also supported us with an environmental systems review, providing a framework for the substantial amount of environmental management we do at both sites.



Discovery and Learning

Learning through play at London Zoo
© Neil McLaughlin

A dynamic new programme of on-site events and educational activities was just one of the ways ZSL added to the 'visitor experience' in 2004. A new guidebook for London Zoo, a programme of temporary attractions and a highly successful overhaul of education services all helped 'add value' for visitors and kept through-the-gate numbers up. A major investment for the year was also the creation of a new Interpretation Department to take this important work forward.

Team work

The creation of a new Interpretation Department brought together our Children's Zoo and the Animal Activities staff who lead our live animal displays at London Zoo, and our graphics function. The new unit will help develop awareness of ZSL's work and focus on the task of providing innovative and enjoyable experiences and learning opportunities for visitors. It will also have a key role in future capital projects, and will initiate a formalised visitor research programme for ZSL.

As part of this move, ZSL has invested in new equipment and design expertise for its graphics division, which is transforming our in-house capability. This allowed ZSL to design the new guidebooks and a series of trails and exhibitions for both sites during 2004. The use of large-scale graphics and decorations on our *Northern Lights at Christmas Pullman Trail* also demonstrated the potential for design to improve the site's appearance and simplify operations, with a single visitor leaflet – pulling together the map, events and trail information – proving very popular.

This bodes well for 2005, and some ambitious plans have been lined up that will challenge the way in which visitors have traditionally seen and learned about animals at both sites. We believe this will also strengthen the way ZSL presents itself and its key messages, including its status as a major conservation organisation.

We also started removing some of our older notice boards and information points and began the work of developing a new corporate look for the zoos; it is hoped that this will be well underway at both London and Whipsnade by the middle of 2005.

Interpretation and exhibit design

The creation of London Zoo's new Komodo dragon exhibit created a new focus for exhibit design, and the settings provided by ZSL for its animals. This project gave us an opportunity to demonstrate our commitment to improving the visitor experience, while creating a first-class animal facility. Floor-to-ceiling glass provides excellent viewing of the giant lizards, while imaginative planting has created a tropical island setting. Inside, timber-lined walls hung with genuine Indonesian fishing baskets, recorded birdsong from the island of Flores, and a model of a deer carcass all help to convey an exotic atmosphere.

One of our biggest challenges was, however, how to help visitors find the new exhibit, which is down a very narrow passage and behind the Reptile House. This resulted in an imaginative interpretation solution, including a winding path and the use of banners to highlight some of the more fearsome aspects of dragon behaviour to encourage visitors into the dragons' lair! An interactive computer game on the unusual behaviour of baby dragons has also proved popular, while a dragon-



Above: Imaginative banners tempt intrepid visitors into the 'dragon's lair' at London Zoo

Right: 'Minimalist monoliths' – part of a new range of eye-catching exhibits



shaped collection box is generating funds for ZSL conservation projects.

At Whipsnade, the new indoor 'chimpanasium' was complemented by a trail where visitors can take brass rubbings and investigate researchers' notebooks to discover aspects of chimpanzee behaviour.

Our main focus in the second half of the year was the *Lions of the Serengeti* project at Whipsnade (which opened Easter 2005). This exhibit will make significant strides towards establishing a new model for the way in which the Park is presented.

We also started creating a dynamic programme of temporary new attractions, which will raise ZSL's profile and keep our visitors coming back. A range of approaches was tried during the year and, although popular, we had problems finding a venue within Regent's Park that could house the exhibits for long enough to justify the time and effort involved in developing them. Not to be beaten, we commissioned a series of 'minimalist monoliths', positioned in the heart of the zoo. These cheerful eye-catching additions are proving a big attraction. Whipsnade's windy weather conditions mean a chunkier solution will be needed and there are plans to build a display wall near the Discovery Centre in 2005.

ZSL also jumped at the chance to display three bronze animal sculptures, loaned for six months by renowned sculptor Tessa Fraser Campbell. The hippo sculptures, while hard to install in the middle of a lake, proved particularly popular and demonstrated the potential for large-scale art to shape and enhance the Whipsnade experience.

Live interpretation

At London Zoo, our Animal Activities team continued to deliver the very popular *Animals in Action* presentation and the *Predatory Birds* display. There are now plans to increase our 'celebrity' line-up of animals so that we can extend and refresh these daily displays.

In March, Delilah, our tawny eagle,



Top: ZSL's new education and activities programme is attracting record attendances by schools

Above: *Animals in Action* – bringing conservation to life

Education activities

During the year, considerable progress was made on the development of a new education and activities programme for schools and families visiting London Zoo and Whipsnade. ZSL will also be concentrating on the strategic development of a new Outreach programme during 2005.

Schools' Programme

The development of our Schools' Programme at Whipsnade, which started during 2004, has been particularly gratifying. In just three-and-a-half months, more than 5,000 children were taught at the Park. The project began early in the year with the transformation of one of our buildings into a classroom and the recruitment of an education officer to teach a range of activities to visiting primary and secondary school children. A programme of activities was drawn up after on-site research to find out what schools want. There are also schools co-ordinators and bookings staff on both sites, and staff and volunteers now welcome groups at the gate – all of which has improved our service to teachers and schools immeasurably.

who has 'flown the nest' on several occasions while on display (but always soon returns), was re-housed, with her colleagues, in smart new aviaries opposite the hippo pool. This area can be closed to the public and means these birds can be managed as a 'behind-the-scenes' attraction or given seclusion where necessary.

Our amphitheatre – the venue for our *Animals in Action* display – was also adapted to allow for stage performances all year round. This means we no longer have to decamp to what were less suitable locations in the winter. Further minor improvements will be made in 2005/6.

The teams that run ZSL's animal displays and the Children's Zoo have also been discussing proposals for the future of live interpretation as well as what we provide for families at our London site.

At London Zoo, there were record attendances by schools, with figures topping 90,000 children in 2004. More than 37,000 pupils benefited directly from activities in the Education Centre, with rooms booked to capacity throughout the summer term. Hands-on sessions continue to be the most popular among primary schools, while talks on marketing, running a zoo and customer service are popular with students on GNVQ courses in Leisure & Tourism.

ZSL Outreach initiative

In a major new initiative for ZSL, the Society launched its new Outreach programme. This project is being developed in two phases and will significantly increase our capacity to raise awareness of the additional work we carry out, beyond our zoos. The first phase – for primary and secondary schools – has been devised so as not to compete directly with visits to our animal collections. A dynamic team, called the Rainforest



Top: The Society runs advanced training classes for the country's top keepers
Noel McLaughlin

Above: Volunteers play a key role in delivering ZSL's education programme

Discovery and learning for families

In 2004 we developed a series of educational trails and events in a fresh approach to fun activities for young families. Realistic-looking passports were given to children at London Zoo so they could collect a 'stamp' on each part of their journey as they found out more about endangered island species. Earlier in the year, it was our Sense-ation event that pulled in the crowds. Visitors were asked to listen to animal sounds in a game of bingo, to guess the mystery scents and smells, and to touch animal artefacts and mimic a chameleon's tongue.

This year's campaign by ZSL for the European Association of Zoos and Aquaria (EAZA) centred on raising awareness of the work of 21st Century Tiger – a project in which ZSL is a key player. Our activities raised more than £10,000 to support tigers in Sumatra and Russia.

Christmas at the Children's Zoo featured the highly entertaining *Elves Workshop*, which supported the ever-popular Nativity story, featuring donkeys, sheep, cows and camels. An imaginative trail, based on the animals from the Philip Pullman novels, also significantly increased the number of families attending over the festive holiday period.

ZSL Library

A comprehensive strategic review of the ZSL Library has been carried out. The library loaned some 2,470 items to Fellows during the year and continues to provide a valuable reference facility and an increasing number of on-line services. All key stakeholders were involved in planning the future of this excellent resource and their findings will be implemented in 2005.

During the summer, the library supported the Stamford Raffles Lecture (see **Awards, meetings and publications**), given by Sir David Attenborough, with a display of illustrations of birds of paradise and bower birds, which attracted a great deal of interest.

Both ZSL's *Lifewatch* magazine and displays in the library's Reading Room also helped showcase some of the rare and beautiful books and zoological accounts from the library's collection. Similar displays are planned for 2005, the first of which will feature a letter to ZSL from Charles Darwin.

Special behind-the-scenes library tours were also arranged for a group of students and staff from the School of Library, Archive and Information Studies at University College, and for a group from the Friends and supporters of the American Museum of Natural History.

Library displays included a celebration of 70 years of the Lubetkin Penguin Pool (opened in 1934), and a display of our fascinating old zoo postcards. Both exhibits attracted considerable interest.

A project is now underway to catalogue the library's archives to complete our new on-line catalogue. Similar to the book catalogue already on the Internet, this on-line catalogue will allow users to search for archives by subject or by a person's name. This emerging archives' catalogue can be found at <https://library.zsl.org>

Another new venture was the appointment of a Library Visiting Scholar. Professor Geoff Moore, of the University of London Marine Biological Station in Millport on the Isle of Cumbrae, received the honorary title, which allows privileged access to our library and archives. Professor Moore visited ZSL to study the manuscript travel journals of William Baird.

Last, but by no means least, we thank our dedicated band of volunteers and the many Fellows and Friends of ZSL who continued to support the library with their time, by donating books, archives, zoo ephemera, and funds for the conservation of items in our collection.

Roadshow, was also contracted to deliver its presentation on the rainforest of South America. Shows were put on in Shropshire, the West Midlands, Worcestershire and Staffordshire. Back at base, the ZSL education team created activities designed to encourage children – both at home and at school – to lead sustainable lives. An evaluation of these first forays into outreach will help us with planning in 2005.

Courses and training

2004 proved a busy year for ZSL. As a regional co-ordinator for the two-year training programme for keepers (the *Advanced National Certificate in the Management of Zoo Animals*), we taught 38 trainee keepers – providing a staggering 114 tutorials. The first intake for 2005 – in March – included 14 ZSL staff.

We also received excellent feedback from teachers attending our tailored INSET (In-service training) days and from six students on their PGCE teacher training.

A new addition to our short courses in 2004 was the *Diversity of British Habitats* evening class. On average, this 12-week course, along with *Animal Ecology & Conservation*, attracts 25 students.





Awards, meetings and publications

Institute of Zoology
Noel Mclaughlin

An essential part of ZSL's work is helping to communicate information between zoologists, researchers and the public. We do this through a varied programme including meetings, the publication of scientific journals and books, and the presentation of our prestigious Scientific Awards each year.

ZSL Scientific Awards 2004

In recognition of outstanding achievements in the field of zoological research and conservation. The awards and winners for 2004 were:

THE ZSL FRINK MEDAL FOR BRITISH ZOOLOGISTS

For significant and original contributions by professional zoologists to the development of zoology in its wider implications: **Professor Malcolm Burrows**, FRS, University of Cambridge, for his research on the neuronal basis of behaviour.

THE SCIENTIFIC MEDAL

Awarded to zoologists, 40 years of age and under, in recognition of scientific merit:

Professor Ian Owens, Imperial College London, who has applied cross-taxonomic comparative methods to help understand more clearly the selective forces and phylogenetic constraints that have shaped avian biology.

Professor Ben Sheldon, University of Oxford, for his use of bird models to explore the evolutionary biology of reproductive decision-making, the application of quantitative genetics to ecology, and the integration of life-history analysis with sexual selection.

THE MARSH AWARD FOR CONSERVATION BIOLOGY

Sponsored by the Marsh Christian Trust For contributions of fundamental science and its applications to the conservation of animal species and habitats:

Professor Chris Thomas, University of York, for his work on butterflies, which has had a major impact on their conservation.

THE ZSL SILVER MEDAL

Awarded to Field Marshall **Sir John Chapple** for long and distinguished service to the Zoological Society of London, and his contribution to wildlife conservation.

THE BIOSIS AWARD FOR COMMUNICATING ZOOLOGY

Awarded to an individual for a communication of a zoological nature that has an outstanding impact on a general audience:

Dr Armand Leroi, Imperial College London, for his book, Channel 4TV series, and public lectures on *Mutants*.

THE CHARLES DARWIN AWARD

Open to undergraduate students attending university in the UK for an outstanding zoological research project:

Julia Hunt, Imperial College London, for her project *Effects of competition and dispersal on coexistence in two-species metapopulations*.

THE PRINCE PHILIP PRIZE

Sponsored by the Marsh Christian Trust Open to pupils under 19 years of age, at schools or other places of education in the UK, on the basis of an account of practical work involving some aspects of animal biology:

Holly Barden, of Kimbolton School in Cambridgeshire, for her study *Finding the effects of changing colony density on the growth rate of Triops longicaudatus*.

HONORARY FELLOWSHIP

Awarded to: **Sir Martin Holdgate**, until last year ZSL's President, in recognition of his commitment to conservation biology and the Society.



Top: Sir David Attenborough with Raja, the Komodo dragon, at London Zoo

Above: Sir David Attenborough delivered the 2004 Stamford Raffles Lecture

Above right: Coral reef

Science meetings

Sir David Attenborough CH FRS presented the 2004 Stamford Raffles Lecture, *Bird artists and artist birds: plumes and bowers in New Guinea*, which was sponsored by the Singapore Tourism Board and Singapore Airlines.

Scientific Meetings were held throughout the academic year and covered a range of subjects, including: *A healthy pallor: the link between avian plumage colour and immunocompetence* and *Insect/plant interactions: from parasitism to mutualism*. We also introduced a new series of Scientific Debates that included *The Bushmeat Debate: extinction and sustainability* and *How much of a threat is infectious disease to biodiversity conservation?*

Three two-day international symposia were held during the year. *Catalysts for conservation: a direction for zoos in the 21st century* was co-hosted by ZSL and WCS and supported by the North of England Zoological Society. The conference brought together leading thinkers and practitioners familiar with the *in-situ* and *ex-situ* conservation roles of zoos and aquaria. Key issues discussed included the future growth and opportunities for improving conservation programmes.

The second symposium, *Management of marine ecosystems: monitoring change in upper trophic levels*, was co-hosted by ZSL, IMPRESS (Interactions between the Marine Environment, Predators and Prey: Implications for Sustainable Sandeel Fisheries) and SMRU (Sea Mammal Research Unit). The conference examined advances in research on the ecology of marine predators and explored how information from these species could be used to optimise conservation management.

The third symposium, on *Coral reef conservation*, brought together people with a diverse set of interests in coral reefs, ranging from ecologists to economists concerned with the well-being of the people who depend on reefs. The aim was to develop a



Above: Nature Conservation Minister Ben Bradshaw (right) opened ZSL's Coral Reef Conservation Symposium. He is pictured here with event organisers John Reynolds and Isabelle Côté and with Clive Wilkinson, Editor of *Status of Coral Reefs of the World: 2004*

broad perspective on problems and solutions in coral reef conservation. The meeting was organised by Isabelle Côté and John Reynolds, and co-hosted with the Fisheries Conservation Foundation.

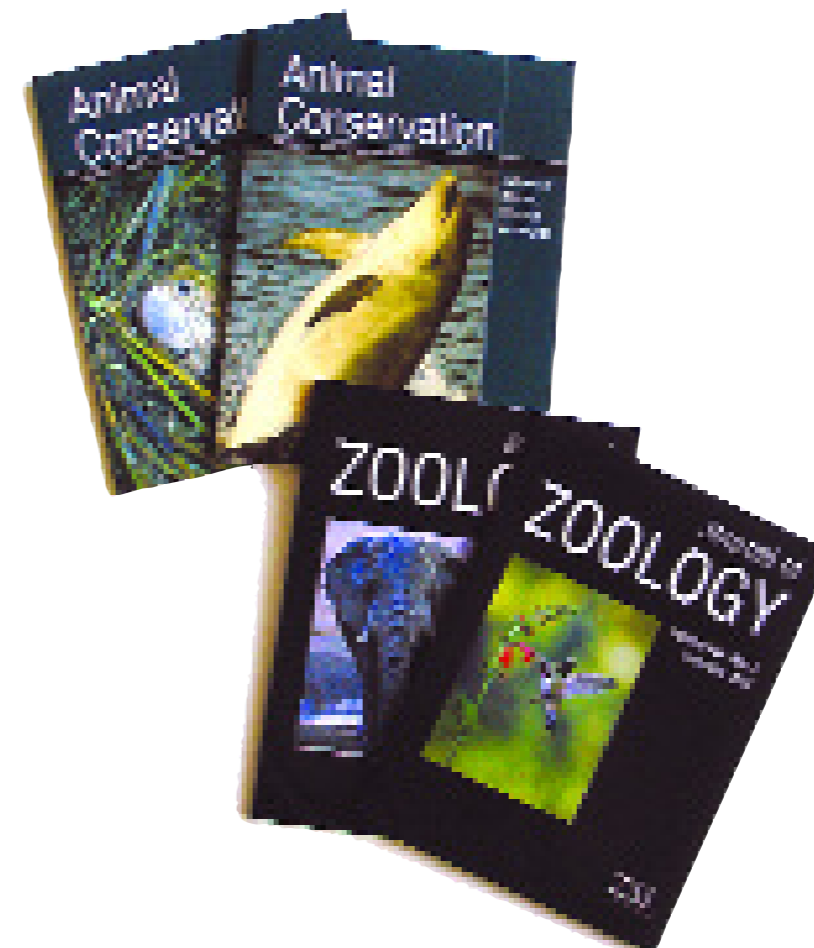
Publications

The *Journal of Zoology* continued to attract an increasing number of high-quality research papers. This journal, published monthly, promotes hypothesis-driven studies of interest to all readers of zoology and provides comprehensive coverage of the latest research.

The quarterly journal *Animal Conservation* provides a forum for the rapid publication of rigorous theoretical or empirical studies related to conservation biology. It focuses on innovative research and ideas from ecology and evolutionary biology.

The *Conservation Biology* book series, published with Cambridge University Press, includes titles that reflect our research interests and provides an extensive review of a particular topic. Books currently in production include: *Phylogeny and conservation* and *People and wildlife: conflict or co-existence*.

The *International Zoo Yearbook* is dedicated to promoting best practice for *in-situ* management and conservation of wild animals in captivity. Production of Volume 39, which focuses on zoo animal nutrition, continued in 2004. Articles in Section 2, *The Developing Zoo World*, range from the growth and development of Tasmanian devils to using DNA to determine paternity in Asian elephants. The reference section includes a list of *Zoos and Aquaria of the World*, a comprehensive list of zoo associations and a register of international studbooks.



ZSL in the eye of the media



Increasing awareness and understanding of ZSL's work is key to our success, and bringing our work to the attention of the national media is a main focus of the public relations team. We went all-out in 2004 to ensure that ZSL stayed in the headlines throughout the year.

These are just some of the stories that were featured by the national media...

January got off to a flying start with coverage of our annual animal stocktake, a visit by Arsenal's Gilberto to meet his namesake – a giant anteater – and promotion for both sites as perfect wedding venues.

February included coverage of Whipsnade's baby hippo, ZSL's fight to retain Gift Aid funding, and there was a big 'splash' on our Animal Blind Date and adoptions programme for Valentine's Day. ZSL also made headlines with the Bushmeat Debate, chaired by Elliott Morley.

March saw coverage of ZSL's rescue project for Bermudian land snails, the loZ's work on marine mammal strandings, and the arrival of the year's first penguin chicks at London Zoo.

April was a bumper month that began with superb coverage for our Talking Chimp project, promoting Whipsnade's new chimp enclosure. We continued to hit the headlines with the birth of Whipsnade's first Asian elephant calf, the arrival of king vultures at London Zoo and the birth of Phoebe, a giant stick insect.

May showcased ZSL's work with rhinos through the Rhino Mayday at London Zoo. We also made a 'splash' with the arrival of a hairy armadillo at Regent's Park and our toco toucan, which wowed the crowds in Whipsnade's bird show.

June saw ZSL's conservation work highlighted with news of the big cat sperm bank, the first documented sighting of an Ader's duiker in the Dodori Forest and our Stamford Raffles Lecture. We also achieved

coverage for our work for World Ocean's Day and our campaign asking people to donate their old wellies to our anteaters at London Zoo.

July got off to a fantastic start with lots of exposure following the arrival of London's Komodo dragon, Raja. The Press also covered our elephant festival at Whipsnade, the Zoo Poo exhibition in London, our Thames marine mammal survey, and our Frozen Ark project.

August began with some brilliant coverage of ZSL's corncrake conservation work and continued with news of Ginger Sunday and pictures of the hot weather at both London Zoo and Whipsnade.

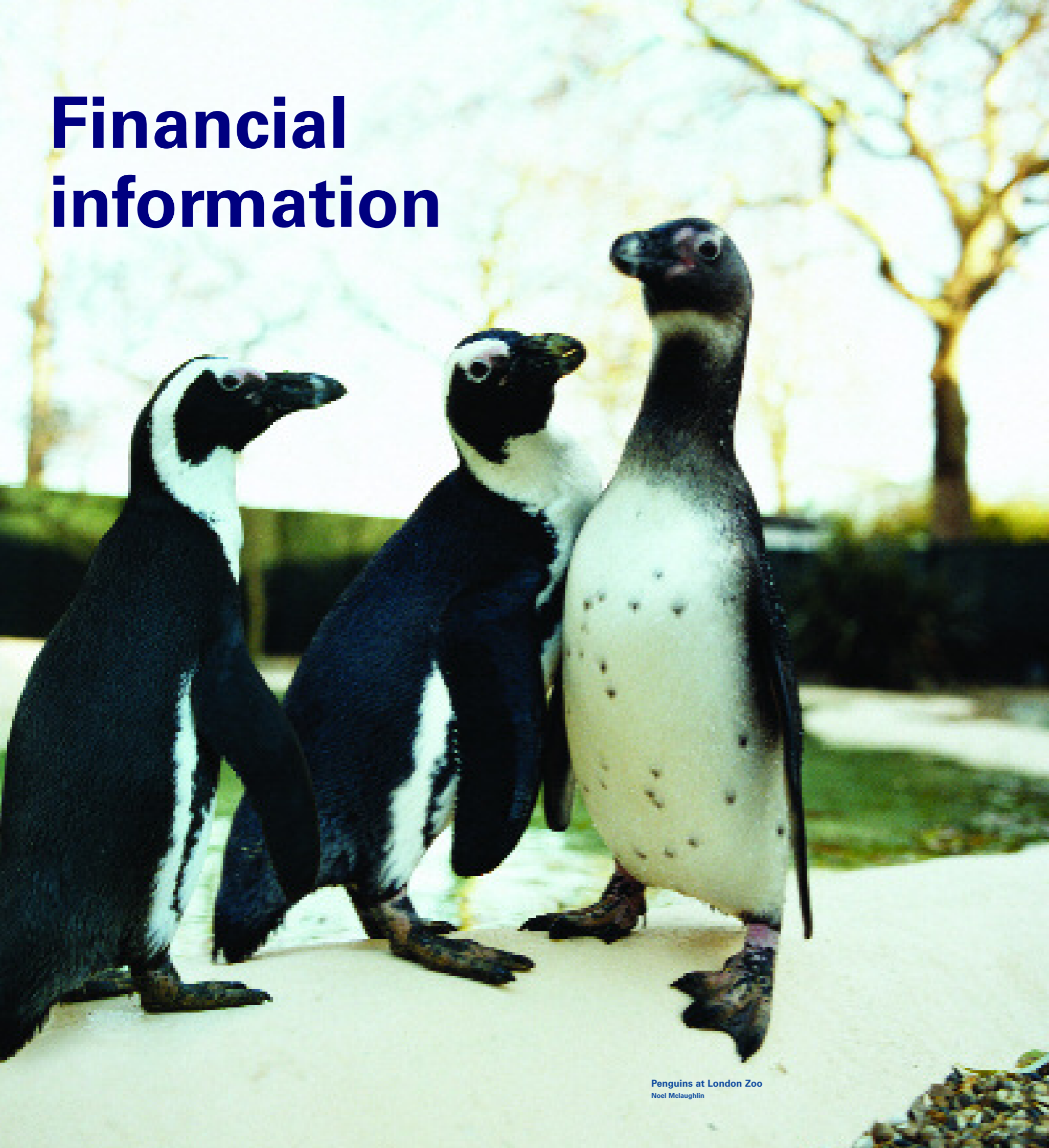
September saw London Zoo's Gardening Appeal in the news, with photographs of our second Asian elephant calf at Whipsnade, ZSL's British field cricket conservation project and our work to conserve India's endangered vultures.

October saw media interest in the two newcomers for ZSL – namely the baby giraffe at Whipsnade and Lucifer the lion in London. Gardening Appeal coverage continued to roll in.

November included reports on our new bushmeat research, and the arrival of Tessa Fraser Campbell's sculptures at Whipsnade. Coverage of the birth of the first endangered cloud rat at London Zoo and the Zoo Poo exhibit at Whipsnade also continued.

December saw extensive coverage of our Philip Pullman trail at London Zoo, the arrival of our aptly-named Christmas tree worms and more red river hog babies, along with the traditional Christmas photocalls and our adoption packages for both sites.

Financial information



Penguins at London Zoo
Noel McLaughlin

Treasurer's Statement

ZSL recorded a consolidated surplus on operations of £1.9 million and an overall surplus, after profits on valuation of investments, of £2.1 million. These compare with figures of £1.4 million operating surplus and overall surplus, before exceptional items, of £1.7 million in 2003. This is a good result for the year.

ZSL remains dependent on its two zoos for the bulk of its income. In 2004, London Zoo visitor numbers were 844,573, an increase of 31,544 on 2003. Whipsnade's visitor numbers were 422,741, slightly lower than last year. However, visitors overall rose by 10,000 on 2003.

Income figures benefited from a further increase in Gift Aid recoveries and the retention of the full admission income, with no VAT being payable to HM Customs & Excise. Gift Aid on day membership in 2004 amounted to almost £1.5 million. However, this will be affected by changes in the rules to Gift Aid on day membership in the 2005 Budget. This may have a significant effect on our operating surplus in future years.

The comparative results for 2003 reflect the success of our claim against HM Customs & Excise, which inflated the surplus for that year by £10 million. A proportion of these funds have been and will be used to improve our animal exhibits and the infrastructure at both sites.

Both the Institute of Zoology and Conservation Programmes increased their revenues with new grants in 2004. These relate to specific projects and, whilst supporting ZSL's mission, do not contribute to the overall surplus to fund future development.

Our costs rose compared to 2003, in areas that included maintenance, expenditure on staff, and facilities to improve the effectiveness of ZSL, as well as general wage and inflation rises.

The total capital spend of £4.4 million was largely on upgrading and refurbishment at both sites, but also included the new Komodo dragon exhibit. Other work included

refurbishment of the Oasis Café, improved exhibits for penguins and birds used in performances at Regent's Park, the completion of the new chimpanzee facility, the management of waste water from the penguin pools, improving our environmental management, and the start of the new lion exhibit at Whipsnade.

The improvement on the valuation of investments in ZSL's Pension Fund has been maintained and the fund is in surplus. There has been no requirement to further increase funding as in the last two years. 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 their audit report on them is unqualified. The full Trustees' Report and Financial Statements and Ernst & Young LLP's audit report on them were approved by the Trustees on 19 April 2005 and will be submitted to the Charity Commission. Ernst & Young LLP approved and signed their audit report on 19 April 2005. 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
5 May 2005

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Paul Rutteman, CBE, BSc (Econ), FCA
Treasurer

Group Summarised Financial Statements

Summary Group Statement of Financial Activities for the year ended 31 December 2004

	Year to 31.12.04 £000	Year to 31.12.03 £000
Incoming resources		
Incoming resources from operating activities of the charity:		
Activities in furtherance of objectives:		
Admission	13,509	11,981
Membership and similar income	1,290	1,197
Recovery of Value Added Tax	–	7,524
Publication sales and similar income	391	437
Contract and fee income	733	656
Grants	3,695	3,629
Activities for generating funds:		
Merchandising and catering income	5,443	4,213
Facility fee and rental income	55	344
Other sales and fees	793	836
Donations, legacies and other income	590	529
Interest and investment income	827	2,874
Total incoming resources	27,326	34,220
Resources expended		
Cost of generating funds:		
Fundraising costs	149	106
Merchandising and catering costs	3,640	2,815
Charitable expenditure:		
Cost of activities in furtherance of objects:		
Animal collection costs	14,555	13,369
Science and research	4,047	3,866
Conservation programmes	1,419	1,185
Support costs	1,289	1,174
Management and administration	293	293
Total resources expended	25,392	22,808
Operating surplus for the year	1,934	11,412
Gains on investments	211	312
Surplus for the year	2,145	11,724
Total funds balance brought forward	35,521	23,797
Total funds balance carried forward	37,666	35,521

Summary Group Statement of Cash Flows for the year ended 31 December 2004

	Year to 31.12.04 £000	Year to 31.12.03 £000
Operating surplus for the year	1,934	11,412
Add/(Deduct): Recovery of Value Added Tax and related interest, net of professional fees	9,995	(9,995)
Add: Depreciation	1,996	1,518
	13,925	2,935
Deduct: Purchase of tangible fixed assets (net of disposals)	(4,430)	(3,566)
Add/(Deduct): Sale of fixed asset investments (net of purchases)	98	(128)
	9,593	(759)
Changes in other assets and liabilities	(274)	602
Net cash inflow/(outflow)	9,319	(157)

Group Summarised Financial Statements (continued)

Summary Group Balance Sheet at 31 December 2004

	31.12.04 £000	31.12.03 £000
Fixed assets		
Tangible assets	17,826	15,399
Investments	3,187	3,074
	21,013	18,473
Current assets		
Stocks	296	346
Debtors	2,428	12,245
Cash at bank and in hand	17,197	7,878
	19,921	20,469
Creditors: amounts falling due within one year	(3,268)	(3,421)
Net current assets	16,653	17,048
Net assets	37,666	35,521
Funds		
Unrestricted – General	30,804	28,960
– Designated	3,086	2,900
Restricted – Endowments	995	887
– Other	2,781	2,774
Total Funds	37,666	35,521

Independent Auditors' Statement to the Trustees of the Zoological Society of London

We have examined the Group's Summarised Financial Statements for the year ended 31 December 2004, which comprise the Summary Group Statement of Financial Activities, Summary Group Statement of Cash Flows and the Summary Group Balance Sheet.

This report is made solely to the Trustees. To the fullest extent required by the law, we do not accept or assume responsibility to anyone other than the Trustees, for our work, for this report, or for the opinions we have formed.

Respective responsibilities of trustees and auditors

The Trustees are responsible, as trustees, for the preparation of the Summarised Financial Statements. We have agreed to report to you our opinion on the summarised statements' consistency with the full Financial Statements, which were approved by the Trustees on 19 April 2005 and on which we signed our audit report on 19 April 2005.

Basis of opinion

We have carried out the procedures we consider necessary to ascertain whether the summarised financial statements are consistent with the full financial statements from which they have been prepared.

Opinion

In our opinion the Summarised Financial Statements are consistent with the full Financial Statements for the year ended 31 December 2004.

Ernst & Young LLP

Ernst & Young LLP
Registered Auditor
London

5 May 2005



Thank you!



Flamingos at Whipsnade Wild Animal Park
Noel McLaughlin

We are very grateful for the support that we receive for our work from non-governmental organisations, companies, trusts, statutory bodies and individuals. Fellows, friends and animal adopters all provide us with valuable funding towards our work to conserve animals and their habitats worldwide.

We are not able to list every individual, but would very much like to thank everyone for their generous support and the loyal community of 250 volunteers who work with ZSL each year, mainly extending the educational work of the two zoos and helping on the animal sections.

We would especially like to thank the following organisations and individuals:

Companies

Acona Ltd
ART Porcine Ltd
BP
British Salt
Camelot
CDC Capital Partners
Exxon Mobil
Finnforest UK Ltd
Linklaters
News International Ltd
Outlook Windows Ltd
Paper Round
Pilkington
Rio Tinto
Singapore Airlines
Singapore Tourism Board
Sovereign Capital
Sygen International
Thames Water
Veredus Executive Resourcing

Statutory and other grant making bodies

BBC Natural History Unit
British Embassy in Quito, Ecuador
Countryside Stewardship Grant, DEFRA
Darwin Initiative, DEFRA
Defence Science and Technology Laboratory (DSTL)
Department of Environment, Food and Rural Affairs (DEFRA)
Direction de l'Environnement,

French Polynesia
Engineering and Physical Sciences Research Council
English Nature
European Union
Government of Oman
Greater London Authority
Higher Education Funding Council for England
National Commission for Wildlife Conservation & Development, Saudi Arabia
Royal Society
Scottish Natural Heritage
States of Jersey Department for Education, Sport and Culture
US Fish and Wildlife Service
Woodland Grants and Woodland Improvement Grants, Forestry Commission

Non-governmental organisations, societies, trusts and universities

Ambika Paul Foundation
Amur
Anglesey Sea Zoo
Ann R Elfers Conservation Fund
Atlantic Salmon Trust
Bridge House Trust
British Andrology Society
British Ecological Society
Clare Duffield Foundation
Conservation International
Duke of Rutland Memorial Trust
East Midland Zoological Society
Edinburgh Trust
Ernest Kleinwort Charitable Foundation
European Association of Zoos and Aquaria (EAZA)
Frankfurt Zoological Society
Galapagos Conservation Trust
Green Korea
Howard Buffett Foundation
Institute of Applied Ecology, Italy

IUCN (World Conservation Union)
 King Mahendra Trust for Nature Conservation
 Kipini Wildlife and Botanical Conservancy
 Leverhulme Trust
 Marwell Zoological Park
 Millennium Ecosystem Assessment
 National Birds of Prey Trust
 National Institutes of Health, USA
 Natural Environment Research Council
 North of England Zoological Society
 Royal Microscopical Society
 Royal Society for the Protection of Birds (RSPB)
 Royal Veterinary College
 Royal Zoological Society of Scotland
 Rufford Maurice Laing Foundation
 Save the Tiger Fund
 Society for Reproduction and Fertility
 Thriplow Charitable Trust
 Tufton Charitable Trust
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 Woodland Park Zoological Society, Seattle
 Worshipful Company of Fishmongers
 Zoological Society of Scotland

Schools

Acorn School, Notting Hill
 Bromley High School
 Haggerston Girls' School

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(Donors of £200 and over)

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 Ananth Viswanathan
 Paul Walker
 Harry Wilkinson

We are grateful to have been included in the wills of a number of our supporters. We received the following legacies in 2004:

Charles Peter Finch
 Olive Muriel Hall
 H P Harfield
 John Roy Kerrell
 Mary Massida
 A B Partridge
 Rachel D Plunket
 Stanley Stammers
 Victor Roy Summers
 Lilian Young

GLA free visits for London schools

Since 2001, the Greater London Authority has supported ZSL with an annual grant of £350,000 to enable London schools to benefit from free educational visits to London Zoo. To date, the scheme has provided opportunities for around 200,000 London children, aged between four and 18, to visit London Zoo and benefit from an educational experience that helps to foster an understanding of the natural world.

In 2004, 68,000 school children visited the Zoo through the GLA-funded programme. Nearly half of these children took part in activities and lessons offered by London Zoo's education team, with the rest

undertaking activities led by their own teachers using the Zoo's educational materials and trails.

Support from the Clore Duffield Foundation

The Clore Duffield Foundation has committed £1 million over five years towards the refurbishment of the Clore Pavillion at London Zoo. The Clore building was originally opened as a small mammal house in the 1960s with the generous support of the late Sir Charles Clore. At the time, it was acclaimed as a revolutionary zoo facility, leading the way in animal welfare and display.

Now, nearly 40 years later, the proposed refurbishment will improve the facility in a number of ways, ensuring that the building remains a wonderful educational attraction and a significant highlight within the overall experience of London Zoo.

The focus of the new Clore Centre for Small Mammals will be a South American rainforest. The flora and fauna existing in such areas are under severe pressure from large-scale deforestation, urban development, poaching and the illegal pet trade. The Clore Centre will provide an excellent opportunity for London Zoo to communicate the diversity of forest species and the desperate need for their conservation.

Bridge House Trust

In 2004, a grant of £135,000 from the Bridge House Trust enabled ZSL to implement a wide range of improvements to disabled access at London Zoo. These included the installation of ramps, automatic doors and hearing loops, making the site and exhibits more user-friendly. Further improvements will continue in 2005.

EAZA Campaign

For the second year running, ZSL has assisted the EAZA (European Association of Zoos and Aquaria) campaign to help save tigers in the wild. ZSL thanks all the zoos that participated and helped to make the campaign so successful.

Patron

Her Majesty The Queen

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† to 15 June 2004

* from 15 June 2004

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Zoological Director Chris West

Front cover: Elephants at Whipsnade Wild Animal Park
 Noel McLaughlin

This page: Squirrel monkeys

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THE ZOOLOGICAL SOCIETY OF LONDON
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