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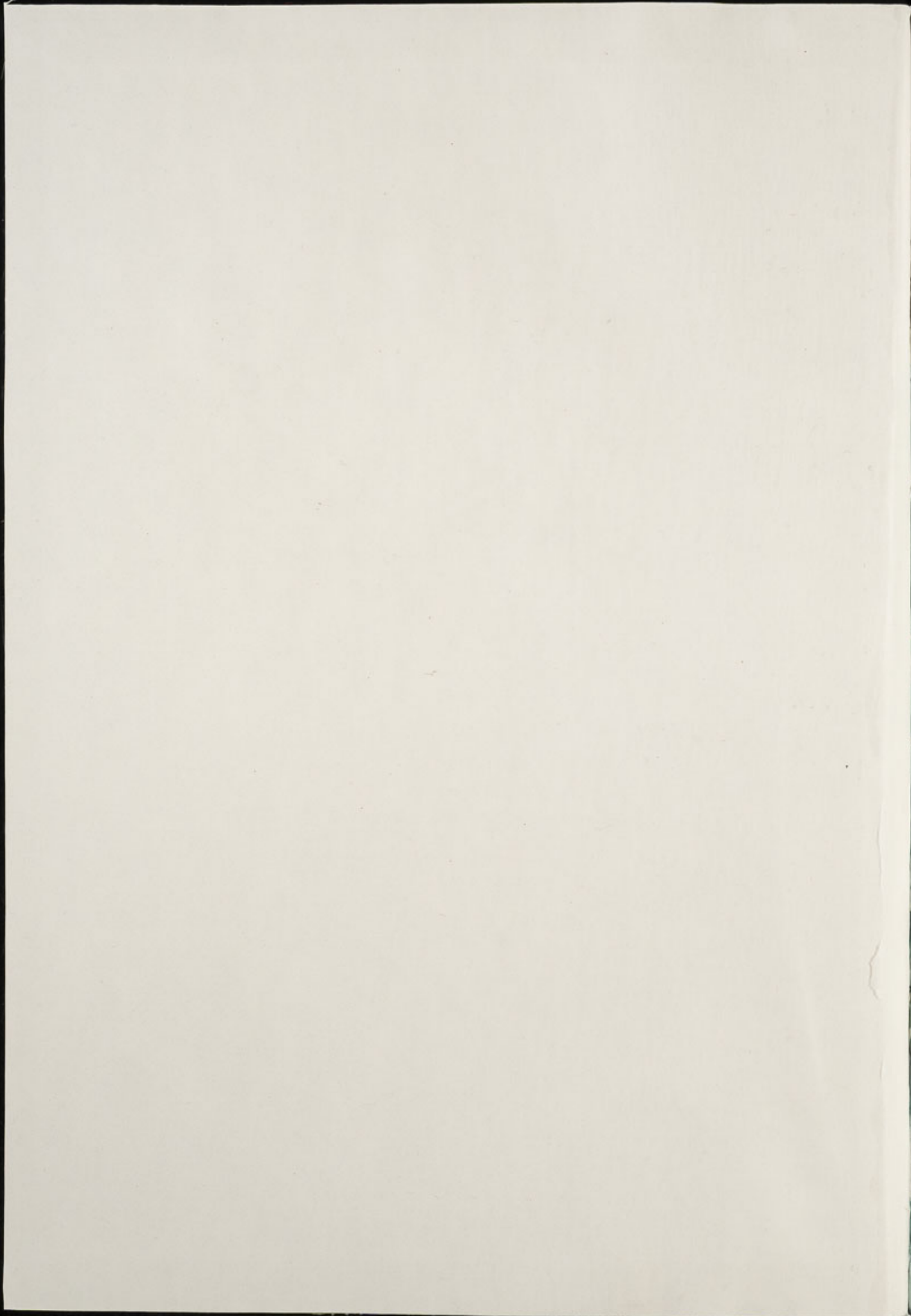
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ZOO  
VIEW



ZOOLOGICAL GARDENS



**CHESTER**



# 2000 ZOO REVIEW

*Annual Report of the North of England Zoological Society*

two thousand



## Saving Animal Species from Extinction

**The role of the Zoo is to support and promote conservation by breeding threatened animals, by excellent animal welfare, high quality public service, recreation, education and science.**

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## AFFILIATIONS

### PARTNERS IN CONSERVATION AND EDUCATION

 <b>WORLD ASSOCIATION OF ZOOS AND AQUARIUMS</b>	 <b>IUCN</b> International Union for the Conservation of Nature	 <b>Joint Management of Species Programmes</b>
 <b>European Association of Zoos and Aquaria</b>	 <b>European Union of Aquarium Curators</b>	 <b>Federation of Zoological Gardens of Great Britain and Ireland</b>
 <b>Association of International Zoo Educators</b>	 <b>European Zoo Educators</b>	 <b>International Species Information System</b>

### PARTNERS IN TOURISM

 North West	 North Wales Tourism	 YORKSHIRE TOURIST BOARD	 ASSOCIATION OF LEADING VISITOR ATTRACTIONS
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**Chester Zoo's support for the Conservation Breeding Specialist Group (CBSG) of the World Conservation Union (IUCN) has helped to facilitate many important wildlife projects in 2000, including:**

<p><b>Population and Habitat Viability Assessment (PHVA) workshops</b></p> <p>Thamin, in Myanmar</p> <p>Algonquin Wolf in Canada</p> <p>Leopard and Tahr in Dubai, United Arab Emirates</p>	<p><b>Workshops</b></p> <p>Sumatran Elephants in West Java</p> <p>Giant Pandas in China</p> <p>Arabian Carnivores in Dubai, United Arab Emirates</p> <p>Chimpanzee Sanctuary in Uganda</p>
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## AWARDS

Some of the fifteen international, national and regional awards won by the Society in 2000

 <b>Tourism</b>	 <b>Education</b>	 <b>Charity</b>	 <b>Animal Husbandry</b>	 <b>Horticulture</b>	 <b>Horticulture</b>	 <b>Tourism for All</b>	 <b>Marketing</b>
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## Millennium Millionaires!

2000 was our best ever financial year, with turnover of £11,342,000 (up 9.3% on 1999). We had 1,020,785 paying visitors, an increase of 5.7% on 1999 and the highest since 1972. This has made us clearly the UK's top wildlife attraction. The millionth paying visitor was four year old Katie Woodward, daughter of Society members Sue and Jonathan Woodward from Runcorn. She was met by Louis Emerick (who stars as Mick Johnson in Channel 4's *Brookside*) on Sunday 19<sup>th</sup> November.



## A fine harvest of trophies

Encouraged by their first venture in 1999 at the *Royal Horticultural Society Show* at Tatton and *The Southport Flower Show*, the Botanical and Horticultural team, led by Mark Sparrow, Mark Hargreaves and Chris Williams devised an *Islands in Danger* show garden. There was a fine Komodo Dragon statue as a centrepiece. We gained a Silver Medal at Tatton and a Gold Medal and the Silver Perpetual Challenge Trophy for an outstanding exhibit at Southport. The construction was a joint effort with members of the Amenities and Gardens team from Visitor Services digging with the best!

## Purring along

We have made steady progress all year on the former North Car park, with the *Spirit of the Jaguar* project. At the year end, the roof was complete and interior work started. The building will be open in the Spring of 2001, with the jaguars in residence. Important links have been established with the *Conservation Breeding Specialist Group (CGSB)* in Central America and with the *Wildlife Conservation Society* of New York. We are immensely grateful to *Jaguar Cars* for their wonderful donation, and feel sure that their new X-type, built on Merseyside, will be equally successful!



## Forest Zone

A keeper-led initiative has transformed the Chimpanzee Island into *Chimpanzee Forest*. Fifty tree trunks, 30 feet high have been planted. These are linked with a network of ropes, nets and platforms to get the apes off the ground. Opened for Easter, the new facility was an instant success with the chimpanzees and the public. We captured the drama of construction in a time-lapse video sequence that condensed the three weeks work to two minutes!

## Simply the best in the country

After a flurry of activity that ended only minutes before the Zoo opened on Good Friday, the substantial re-modelling of the elephant paddock changed the whole aspect of the entrance. The 4 metre high waterfall/shower, feeding to the 135,000 litre swimming pool with reed bed filtration, has provided a wonderful new feature. Exotic plantings, viewing areas, interpretation and the boardwalks give the area a completely new look.

From a welfare and husbandry view, the elimination of dry moats, the new expanse of water, the trees for shade and the additional animal and keeper facilities make this probably the finest elephant site in the country. Brian Blessed formally opened the two acre facility in August (right), and agreed to support our London Contact Group.

This is the first part of the plan and the Development Department are working with the Fundraising Advisory Board for the next phase!



## Elizabeth Hurley opens Islands in Danger

Miss Elizabeth Hurley named Chester as 'the best zoo she had ever seen' shortly after formally opening *Islands In Danger* on 5<sup>th</sup> July 2000. Miss Hurley spent a whole day at the Zoo, and attended a reception in the presence of our President, The Duke of Westminster. The building sets new standards for animal housing and interpretation.



## Double elephant joy

The birth of two healthy male calves, *Po Chin* and *Assam*, in July and October, to *Jangoli* and *Thi Hi Way*, was a great triumph for Mick Jones' elephant team and all the supporting staff. These births confirm *Chang's* enviable position as the leading breeding bull in the country. It demonstrates we were right to give so great a priority to the *National Elephant Centre* improvements.

## Signing on with Chengdu

We were honoured by the visit in October of the delegation from China, led by Mr Li Guanghan, Director of Chengdu Research Base for Giant Panda Breeding (left) and Mr Tian Yuzhong, Director of Chengdu Zoo (right). We signed the formal memorandum of partnership in Professor Reid's office on 6<sup>th</sup> October, with the next stage of this 'twinning' being our help in developing detailed plans for DNA profiling of Giant Pandas in China, with support from our university colleagues.



## Lee's Gold Medal

We honoured Dr Lee Durrell, Honorary Director of the *Durrell Wildlife Conservation Trust* with the Gold Medal of the North of England Zoological Society for her services to Zoology and Conservation. After the presentation on 11<sup>th</sup> May 2000, Lee kindly agreed to perform the formal opening of the *Wildlife Discovery Centre* - cradling *Foster*, the orphan kangaroo for the press call!

## Ark Restaurant

On time and on budget, this radically refurbished and expanded facility was trading again at the February half term, even though there was a slight smell of paint! The accommodation has doubled, there is new seating, kitchens and serveries to match the best. This flagship of Visitor Services Division brings this part of our Zoo catering facilities well into the 21<sup>st</sup> century.



### President

**His Grace,  
The Duke of  
Westminster  
OBE, TD, DL**

The 6th Duke continues the long standing tradition of Grosvenor family support for the Society.

### Vice President

**The Right  
Honourable,  
The Viscount  
Leverhulme  
KG, TD**

Sadly, he died on 4th July 2000, aged 85. He had been our Vice President since 1998 and always showed great interest in the developing Zoo.



**Chairman  
Keith Maybury  
MA, DM,  
FRCS, FLS**  
Consultant surgeon in Greater Manchester.



**Vice Chairman  
Brian Coles  
BVSc, FRCVS,  
DipECAMS**  
Consultant avian veterinary surgeon, lecturer, author and government wildlife inspector.



**John Brown**  
Retired after service with major international petrochemical company.



**Dr David Cooke  
AE, FRCGP, FRPS**  
Retired General Practitioner. Advisor, GB and England swimming teams. Wildlife photographer.



**Karen Davies BDS, MPH**  
Dental practitioner. Local Upton resident.



**Kathryn Edwards BSc**  
Manager with leading London merchant bank. Active Junior Members' Club supporter.



**Professor Brian Gardiner  
BSc, PhD, DSc, PPLS**  
Professor of Zoology at King's College, University of London. Past President of the Linnean Society of London.



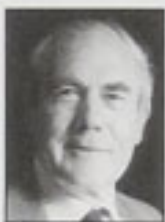
**Brian Livingstone MB,  
ChB, FRCS, FLS**  
Consultant orthopaedic surgeon in Leigh and Wigan.



**Derek Lyon BVSc,  
MRCVS**  
Consultant veterinary surgeon. Administrative Director British Veterinary Zoological Society.



**Chris Mahon MSc**  
Director and Head of Conservation, The Cheshire Wildlife Trust.



**John Makinson  
TD, MA**  
Retired solicitor from Chester and a long term supporter of the Society.



**Leaford Patrick FLS**  
Retired natural historian and zoologist with lifelong museum curatorial experience. Co-opted 2000.



**Graham Pollard BSc,  
LLB, MA, CBiol, MIBiol**  
Biologist and Environmental lawyer, with conservation interests in Guyana.



**17  
Alan Sharples BA, IPFA,  
IRRV**  
Financial Controller with major Hospital Trust in Merseyside. Local Upton resident.



**David Wall**  
IT specialist with international chemical company. Elephant enthusiast. Elected 2000.



**Alan Watson FCIB**  
Agent of Manchester Branch of the Bank of England until retirement. Member of Manchester University Court. Co-opted 2000.



**Professor Peter Wheeler  
BSc, PhD**  
Director of School of Biological and Earth Sciences, Liverpool John Moores University. Elected 2000.

## COUNCIL COMMITTEES

### Finance Committee\*

Ensures an appropriate financial policy exists. Reviews the executives' financial plans. Advises Council on major financial issues. Meets the Auditors at least once per year. Reviews the key internal control features of the Society and ensures that its financial integrity is sound.

#### Members

Alan Sharples (Chairman)  
John Makinson  
Keith Maybury  
Alan Watson

#### Advisor

Hamilton Howatt

#### Staff

Prof Gordon McGregor Reid (Director)  
Richard Barnett  
Alan Sykes  
Chris Vere  
Chris West

### Programmes and Membership Committee\*

Responsible for talks and events for members and the general public, within the general remit of enhancing the Society's status as a forum for communication and debate on conservational and biological topics. Advises on membership policy.

#### Members

Kathryn Edwards (Chairman)  
John Brown  
Karen Davies  
Keith Maybury  
Graham Pollard

Maria Warrington  
resigned during the year

#### Staff

Prof Gordon McGregor Reid (Director)  
Stephen McKeown  
John Regan  
Chris Vere  
Chris West  
Alan Woodward  
Maureen Allsopp (Secretary)

### Pension Fund Trustees

Ensures the superannuation fund scheme is managed in accordance with its deed and Council instructions. Advises Council on Pension policy.

#### Trustees

Michael Johnson (Chairman)  
Derek Lyon (Member)  
Jayne Quinn (Staff)

Alan Du Cros  
John Makinson (Member)  
Alan Sykes (Staff)

### Scientific and Veterinary Committee\*

Advises on exhibition and conservation policy and on scientific and health and safety matters. Monitors animal husbandry, welfare and veterinary care.

#### Members

Brian Livingstone (Chairman)  
Brian Coles  
Dr David Cooke  
Derek Lyon  
Chris Mahon  
Keith Maybury  
Prof Peter Wheeler (Vice Chairman)

#### Advisors

Dr John Charles-Jones  
Brian Edwards  
Dr Spenser Madden  
Noel Walker  
(Gatehouse Veterinary Hospital)  
Pat Wisniewski

#### Staff

Prof Gordon McGregor Reid (Director)  
Michael Crumpler  
Donald Dinning  
Anthony Hutchinson  
Isolde McGeorge  
Mark Pilgrim  
Penny Rudd  
Stephanie Sanderson  
Mark Sparrow  
Neil Spooner  
Dr Stephanie Wehnelt  
Chris West  
Dr Roger Wilkinson  
Alexandra Zimmerman  
Karen King-Sharp (Secretary)

### Remuneration Committee\*

Determines remuneration and conditions of service for the Director, Heads of Division and other key executives.

#### Members

Keith Maybury (Chairman)  
Alan Sharples

Brian Coles

\* Committees of Council

### Zoo Estates Panel

Liaises between the Society, its Land and Property Agents and tenants.

#### Staff

Prof Gordon McGregor Reid  
Steve O'Brien  
Jayne Quinn  
Alan Sykes

#### Denton Clark & Co.

Michael Scott  
Julian Mellis

It has been a truly outstanding year, surpassing last year's record, and we were the most visited wildlife attraction in the UK. There was a handsome 6% increase in paying visitors, taking us over the million for the first time since 1973. This gave us an increase in turnover to £11.3 million (up 9%), which is the highest to date. Most important, our capital investment at £2.8 million and direct charitable spend of £3.8 million are the highest in our history. These outstanding achievements by the Zoo team were in the Millennium Year, when we had to combat considerable competition from new tourist sites everywhere. We also had to cope with a well above average local rainfall in the second half year, and in the last quarter it was more than double the three year average! Thankfully we avoided the floods, so common elsewhere.

The improvement and updating of our facilities continued. There was the completion of the new *Entrance Concourse*, *Reed Bed*, *Ark Restaurant*, *Chimpanzee Forest*, the *Wildlife Discovery Centre*, *Roman Garden*, *Islands in Danger*, and the complete transformation of the old moated area into the *National Elephant Centre* - with the inspired walk-through waterfall and swimming pool. All of these have significantly altered the entire appearance and feel of the Zoo and benefited us greatly in 2000. Celebrities Elizabeth Hurley, Dr Lee Durrell and Brian Blessed all honoured us with their presence. Dr Lee Durrell was awarded the Society's *Gold Medal* for her major contribution to conservation.

Work began on *Spirit of the Jaguar*, the first phase of the new Administrative Block on the old car park, the first part of the *Forest Zone* next to *Spirit of the Jaguar*, and the planning of the first phase of the *Sealion Beach*. The speed of change can best be compared with the 1960's when 'always building' was the zoo's motto.

We owe an immense debt to Council, staff and contractors for the magnificent way that difficulties have been discussed and overcome, and opening dates achieved. The staff of the Animal and Plant Conservation Division, in particular, have accomplished wonders in settling their charges into the new facilities and achieving a soft and naturalistic feel with planting and landscaping. This has been complemented by outstanding and imaginative interactive interpretation from the Education Division.

The overall *Physical Masterplan* for the Zoo was completed in first draft this year; with a view to publication in 2001. We also implemented significant organisational restructuring. This included the creation of a new Visitor Services Division, tasked to ensure that the visitor has a truly 'great day out'. The appointment of Liz Child as Head of Division completes our senior management team.

We invested in staff training using Capital Bank facilities, and substantially completed the *Job Relativities* review with the target of full implementation in 2001. There has been full staff consultation on these changes. We would like to thank all of those involved in the lengthy but essential review meetings.

Notable breeding successes included: two Asian elephant calves, two Giraffes, two Camels, a litter of Maned Wolves and a Chimpanzee. Half our elephant herd is now zoo bred - an undreamed of figure ten or even five years ago. Sadly, *Esther* the Black Rhinoceros and *Meg*, probably the oldest Chimpanzee in Europe, died. Both were great favourites with the public and had made major contributions to our breeding successes. The Herpetology team, Veterinary Resident and our Veterinary Consultants nursed the male Komodo Dragon back from a serious respiratory condition - a critical task, given that we are the only zoo in the country with these, the largest of all lizards.



We welcomed our friends from Chengdu Giant Panda Breeding Base and Chengdu Zoo for an extended visit in October, and signed the document of twinning. Bird keepers, Karen Davies and Anne Morris travelled abroad for the first time: Karen to assist in saving over 20,000 African Penguins caught in a huge oil slick, and Anne to hand rear Echo Parakeets in Mauritius. Both achieved very positive results. Increasingly,

work on conservation in the field will become an integral part of our keepers' experience and skills. It is with great pleasure that we have seen the dedicated funds from Primate Team Leader, Andrew Lenihan's inspired *Keeper for the Day* scheme used to fund keeper travel. *Chester Zoo Life* will report regularly on their project achievements. The Zoo has played its full part in international zoological matters. The Zoo Director participated in a seminal meeting of the World Zoo Organisation to transform it into the World Association of Zoos and Aquariums (WAZA). On behalf of WAZA and The European Association of Zoos and Aquaria (EAZA), the Zoo has also been organising the *Third International Marketing Conference* to be held in the Canary Islands in June 2001.

**Gold Medalist  
Dr Lee Durrell  
with Foster the  
baby Kangaroo**



Our Development Department, led by John Regan has been fortunate to have the enormous help and enthusiasm of Neville Chamberlain CBE as Chairman of the Fundraising Advisory Board - with *Asian Elephants in Crisis* being a focus of attention. Interest continues in the idea of gradually developing a *Regional Wildlife Park* on our land to the north of the present Zoo. We are also looking at ways to enhance our contribution to the region's cultural and educational role in the 2002 Commonwealth Games to be held in Manchester.

As we develop our vital conservation work, both on-site and around the world, it becomes even more important to broaden the range of financial support. One very valued form of funds came in the form of bequests willed to us by lifelong friends. Our *Legacy Pledge Club* allows us to properly thank those who have already made provision in their wills for our work.

We welcomed David Wall as a new Council member elected at the AGM, and Leaford Patrick and Alan Watson were co-opted, thus bringing extra zoological and financial skills to our table. During the year, we thanked retiring Council Members Jean Dixon and Tony Williams for their excellent contributions. Michael Johnson retired as Company Secretary and Head of the Finance and Administration Division after a period of outstanding service. Sadly we have to report the deaths of two eminent supporters. The Right Honourable, The Viscount Leverhulme, our Vice President, died in October, aged 85. Professor Emeritus Oliver King, whose involvement with us spanned 37 years, died in December, aged 85. He was Chairman of Council from 1972 - 1986, and Vice President from 1997 to 1999. Both served the Society with great distinction and will be greatly missed.

To end on a high note, we achieved fifteen national and regional awards across four divisions, with the gold and silver medals at Southport Flower Show and the Royal Horticultural Society Show at Tatton. This shows that our Horticultural and Botanical team coupled with Amenities and Gardens are second to none, both in creativity and in practical ingenuity. This brings our tally of international, national and regional awards to more than 65 in the last five years, which must be considered an outstanding record.

**Keith Maybury,  
Chairman**

**Professor Gordon  
McGregor Reid,  
Director**

FUNCTIONS	OBJECTIVES	HIGHLIGHTS
<p><b>ANIMALS AND PLANTS</b></p> <ul style="list-style-type: none"> <li>■ To manage and care for the Society's animals and plants to the highest possible standards for the purposes of conservation, education, and benign scientific study.</li> <li>■ To increase our relevant zoological and botanical knowledge.</li> <li>■ To work closely with other conservation organisations on programmes of biodiversity support in the UK and overseas, particularly those aimed at saving animals and plants from extinction.</li> </ul>	<ul style="list-style-type: none"> <li>■ To improve the management, good husbandry, planning, development and welfare of the Zoo's collection.</li> <li>■ Select the best species balance to support the conservational, educational and scientific objectives of the Society, and balance these with reasonable public expectations.</li> <li>■ Play an active role in supporting national and international zoo and wildlife programmes.</li> <li>■ To utilise the scientific experience and skills of staff and other collaborators.</li> </ul>	<ul style="list-style-type: none"> <li>■ Significant species births: Asian Elephant, Chimpanzee, Mandrill, Colombian Spider Monkey, Black and White Ruffed Lemur, Anoa, Maned Wolf, Burmese Brow-Antlered Deer, Caribbean Flamingo, Mountain Peacock Pheasant, Congo Peafowl, Pink Pigeon, Bali Starling and Lake Barombi Mbo Cichlid.</li> <li>■ Completion of first phase of <i>Islands in Danger</i> exhibit.</li> <li>■ Completion of major Elephant paddock extension.</li> <li>■ Development of <i>Chimpanzee Forest</i>.</li> <li>■ Appointment of Conservation Officer.</li> <li>■ Continued growth and development of quality outreach programmes: Philippines, Mexico, Nigeria, Kenya and China.</li> </ul>
<p><b>EDUCATION</b></p> <ul style="list-style-type: none"> <li>■ To explain the collection to visitors by provision of appropriate signage, presenters and other means.</li> <li>■ To provide teaching services and materials for schools, colleges, universities and other interest groups.</li> <li>■ To support educational outreach, and organise resources to meet these aims.</li> </ul>	<ul style="list-style-type: none"> <li>■ Increase knowledge and empathy for animals, their environment and the role of the Zoo for the general public, schools, colleges and professional educators at all levels.</li> <li>■ Enhance information, interpretation, library and archive services.</li> <li>■ Provide educational input for conservation in selected habitat countries.</li> </ul>	<ul style="list-style-type: none"> <li>■ Joint outreach trip with Animal Division to <i>Munda Wanga Zoo</i> in Zambia.</li> <li>■ Public address (PA) systems for presenters installed at Elephants and Lions.</li> <li>■ Electronic security system installed in Library.</li> <li>■ Volunteer Review completed.</li> <li>■ <i>Wildlife Discovery Centre</i> opens for general visitors with national coverage (<i>Daily Telegraph</i> and <i>Times Educational Supplement</i>) of its activities.</li> <li>■ Presenters' team becomes an established function.</li> <li>■ External refit and wood cladding refurbishment of Education buildings.</li> </ul>
<p><b>ESTATES</b></p> <ul style="list-style-type: none"> <li>■ To maintain the Zoo fabric, upgrade facilities and manage capital works.</li> <li>■ To offer engineering and technical support, ensuring efficiency in the design and commissioning of projects.</li> <li>■ To keep the Zoo well maintained and safe for animals, staff and public.</li> <li>■ Compatible use of our resources, including the wider estate, within an environmental policy.</li> <li>■ To manage Security and Health and Safety functions.</li> </ul>	<ul style="list-style-type: none"> <li>■ Develop our services and facilities to the standards of a top attraction.</li> <li>■ Efficient use of utilities.</li> <li>■ Optimise use of buildings and land.</li> <li>■ Keep abreast of latest designs for animal exhibits.</li> <li>■ Upgrade infrastructure within a coherent environmental strategy.</li> <li>■ New capital projects built to highest quality/value mix.</li> <li>■ Liaise with building contractors.</li> <li>■ Service requests for maintenance</li> <li>■ Develop a <i>Health and Safety Management</i> system.</li> </ul>	<ul style="list-style-type: none"> <li>■ Elephant extensions, <i>Ark Restaurant</i>, <i>Islands in Danger</i>, and Roman Garden successfully completed.</li> <li>■ Major projects started include <i>Spirit of the Jaguar</i>, new offices and <i>Sealion Beach</i>.</li> <li>■ Electrical distribution upgraded with new 11 KVA high voltage system.</li> <li>■ Continual development of the planned maintenance programme.</li> <li>■ Review of <i>Health and Safety</i> procedures.</li> <li>■ Security now oversee radio and telephone links.</li> <li>■ <i>Environmental Policy Development Committee</i> with regular meetings.</li> </ul>
<p><b>VISITOR SERVICES</b></p> <ul style="list-style-type: none"> <li>■ To provide year-round, top quality customer facilities and matching care, at least comparable with other leading UK sites.</li> <li>■ To achieve or exceed robust trading targets.</li> <li>■ To seek to improve all visitor related amenities and services.</li> <li>■ To keep the Zoo aware of best practice worldwide.</li> </ul>	<ul style="list-style-type: none"> <li>■ Actively promote (and measure) visitor satisfaction, thus encouraging repeat visits and personal recommendations.</li> <li>■ Optimise trading income.</li> <li>■ Provide comprehensive high quality facilities and services for special events and functions.</li> <li>■ Organise customer care training.</li> </ul>	<ul style="list-style-type: none"> <li>■ Recruitment of Divisional Head, and evolution into cohesive Division with an established office base.</li> <li>■ Re-structuring of the former Gardens and Groundstaff teams into the Amenities and Gardens Department.</li> <li>■ Opening of the new <i>Ark Restaurant</i>, on time and within planned budgets.</li> <li>■ Retail Department and <i>Oasis Café</i> achieved highest ever sales.</li> <li>■ Excellent year for <i>Oakfield</i>, including fully booked functions, boardroom redecoration and furniture upgrades. Grant of Civil Wedding licence.</li> <li>■ Excellent <i>Christmas Illuminations</i> evenings, without queues or congestion, achieved through pre-booking and pre-planning.</li> <li>■ Well attended <i>Disability Awareness Day</i>.</li> </ul>
<p><b>MARKETING AND DEVELOPMENT</b></p> <ul style="list-style-type: none"> <li>■ To achieve or exceed visitor attendance targets through cost effective marketing.</li> <li>■ Enhance the stature and awareness of the Society through appropriate communications and publications.</li> <li>■ To obtain major external funding for capital projects.</li> <li>■ To sustain growth of membership and adoptions.</li> </ul>	<ul style="list-style-type: none"> <li>■ To be seen as the UK's leading wildlife conservational and educational facility.</li> <li>■ Exceeding visitor targets, through sampling and increasing awareness and loyalty. Identification and penetration of new market sectors.</li> <li>■ Secure external funding support for major schemes and develop further support initiatives.</li> <li>■ Support the Society's image and position through excellent communications at all levels.</li> </ul>	<ul style="list-style-type: none"> <li>■ Best ever year for publicity with major births, special events and Gold Medal presentation.</li> <li>■ New format <i>Zoo Life Magazine</i> well received.</li> <li>■ Gathering of substantial support for development projects, and establishment of London representation.</li> <li>■ Promotion programme at shows and exhibitions across the region, reaching an estimated 1.5 million potential visitors.</li> <li>■ Reciprocal members' visiting rights agreed with eight leading UK and Irish Zoos.</li> </ul>
<p><b>FINANCE AND ADMINISTRATION</b></p> <ul style="list-style-type: none"> <li>■ Financial accounting, budget planning.</li> <li>■ Up to date management information.</li> <li>■ Management of visitor admissions and cash processing.</li> <li>■ Management of information technology.</li> <li>■ Company secretarial, administration, insurance and pensions.</li> </ul>	<ul style="list-style-type: none"> <li>■ Financial control.</li> <li>■ Production of relevant and timely management information.</li> <li>■ Reliable financial forecasting.</li> <li>■ Cash flow planning management.</li> <li>■ Provision of a sound financial perspective of all developments.</li> <li>■ Provision of a reliable IT infrastructure.</li> </ul>	<ul style="list-style-type: none"> <li>■ Retirement of Mike Johnson as Financial Controller and Company Secretary and promotion of Alan Sykes in his place.</li> <li>■ Recruitment of Richard Barnett as Management Accountant.</li> <li>■ Recruitment of Richard De Riso to assist in the rapid growth of IT throughout the organisation.</li> </ul>
<p><b>PERSONNEL</b></p> <ul style="list-style-type: none"> <li>■ Personnel administration, recruitment and training.</li> <li>■ Zoo secretarial administration.</li> </ul>	<ul style="list-style-type: none"> <li>■ Operate efficient and legally compliant personnel services.</li> <li>■ Continually improve standards of staff support and motivation.</li> <li>■ Identify and provide appropriate training support.</li> </ul>	<ul style="list-style-type: none"> <li>■ <i>Job Relativity</i> scheme adopted.</li> <li>■ Management and supervisory skills training.</li> <li>■ Enhanced personnel administration services.</li> <li>■ Recruitment of key staff.</li> </ul>

## PERFORMANCE

- UK Zoo Federation Award for *Sustained breeding of flamingos*.
- Gold Medal at Southport Flower Show and Silver Medal at Royal Horticultural Society show, Tatton for *Islands in Danger* Show Garden.
- Welfare upgrades throughout the collection including; Burmese Brown-Antlered Deer, off-show parrot facility, and Orang utan screening.
- Safe transportation and arrival of: Black Rhino, Philippine Spotted Deer, Black Stork, and Komodo Dragon.
- Major project plans: *Jaguar, Black Rhino, Sealion Beach, Forest Zone*.
- Major development and upgrade of Animal Records System (ARKS) and Medical Animal Record System (MedARKS).
- Expansion of the Veterinary Department, particularly preventative healthcare and veterinary research.
- Continued development of staff through training and travel opportunities.

- Zoo Federation Commendation for *Monkey Islands* interpretation.
- Increase of almost a third (32%) in directly taught pupils and students to 17,130.
- Start of Education outreach programme.
- Successful completion of interpretation for *Islands in Danger* and *National Elephant Centre*.
- Introduction of Presenters' winter talks schedule.

- Successful completion of £2m of capital projects.
- Over 560 maintenance requests completed.
- Restructure of Maintenance Department.
- Continued upgrade of digital format service record drawings.
- Effective use of the high voltage electricity supply.

- Major Amenities and Gardens involvement in gaining RHS Tatton and Southport Flower Show awards.
- Structured training programme in place for Amenities and Gardens.
- Highly effective support for three major Development Department functions.
- Well organised team effort helped minimise adverse effects of waterlogged car parks at Easter.

- Named as *Cheshire Family Attraction of the Year* in The Good Guide to Britain 2000 and *Best Zoo in UK* by Holiday Which? Guide to Tourist Attractions.
- Our 1 million + visitor figure places us as top North West (paid for) tourist attraction, and 17<sup>th</sup> in the national *English Tourism Council* listings.
- Independent research once again confirms our excellent *value for money* in terms of *cost per hour*.
- Steady growth in development income. Enhanced staffing.
- At 15,444 Membership is at record levels.

- Yet again, a record financial year.
- Efficient admission of visitors.
- Upgrade to a more stable computerised accounting system.
- Regular, efficient processing of accounting data in ever increasing volumes and complexity.

- *Job Relativity* scheme progressed through year.
- Initial middle management training successfully delivered.
- *Health and Safety* audit completed.
- *Volunteer Review* completed.
- *Staff Appraisal* scheme re-design begun.
- Housing policy review.

## DIRECTIONS FOR 2001

- Continuing to progress the implementation of the *Physical Masterplan* and the *Animal Collection Plan*.
- Completion of major projects: *Jaguar, Sealion Beach, Forest Zone* (with Hyacinthine Macaws and Buffy-headed Capuchins), first phase of *Black Rhinos* and the *Animal Health Centre*.
- Planning of new Orang utan facility.
- Development of Animal Health Care Plan computerisation/analysis of diets using the *Zootrition* programme.
- Expansion of in-house veterinary capabilities by development of *Animal Health Care Centre* and by appointment of full time veterinary resident to assist the Veterinary Officer.
- To develop and implement a Jaguar outreach project in Central America.

- Installation of *Spirit of the Jaguar* interpretation.
- Complete *Education Policy and Development Plan*.
- Complete *Volunteer Policy*.
- Increase availability of educational resources on zoo website.
- Continue expansion of Education outreach activities.
- Establish archiving system for Zoo.

- Successful completion of *Spirit of the Jaguar* and new office accommodation.
- Final design and preparation for new Black Rhino facility.
- Prepare 3-5 year project planning programme.
- Rationalise waste water usage including recycling techniques.
- Review long term use of existing building stock.
- Recommend on best way to implement an *Environmental Management System*.
- Review of Security and Health and Safety systems.

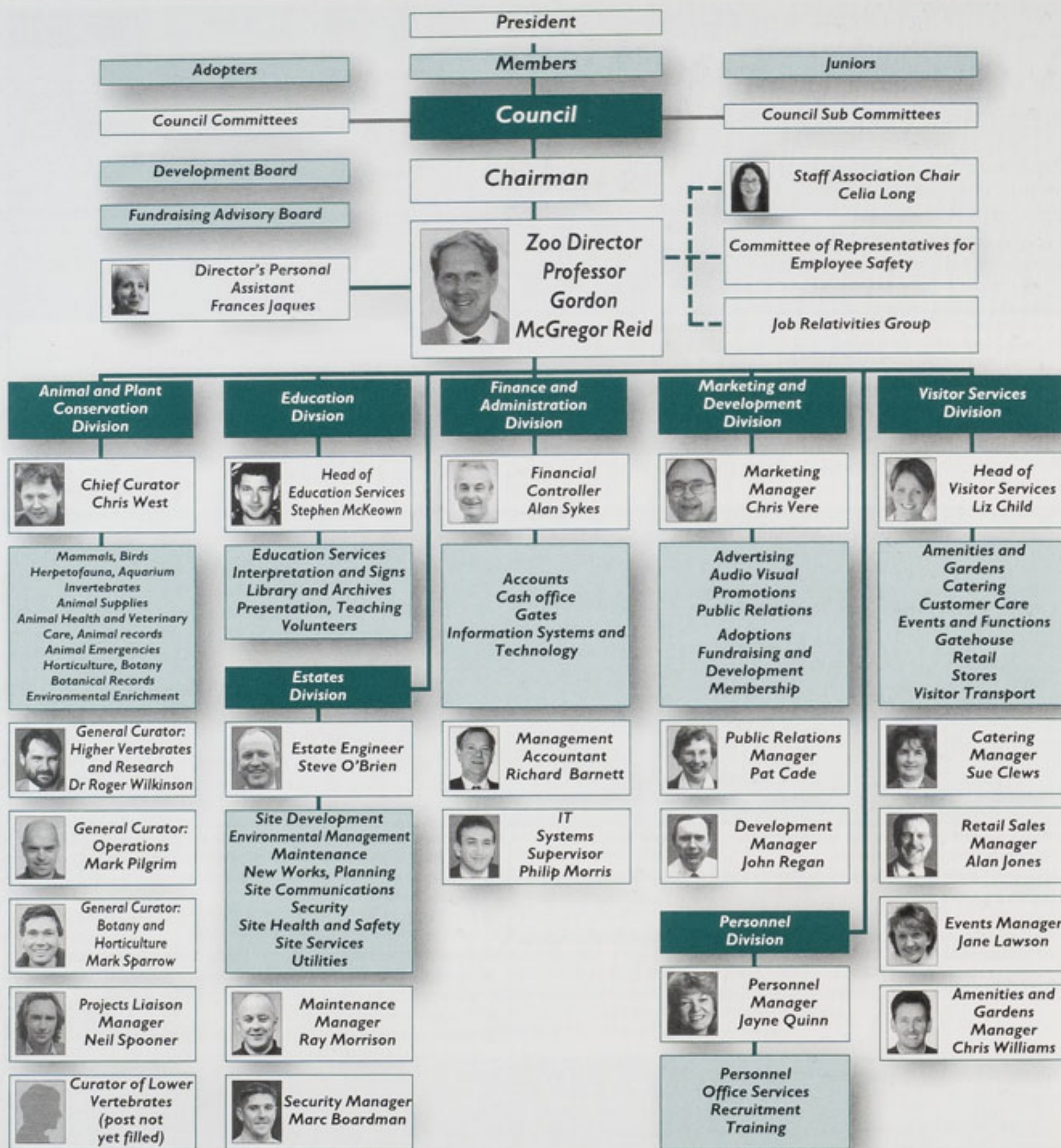
- Further development of Events and Functions, including civil weddings and well publicised, year-round Events calendar.
- Launch of new and exciting retail stock including a range of *Jaguar* themed merchandise.
- Introduction of a *Visitor Feedback Scheme* and structured staff training in delivery of *Customer Service*.
- Installation of improved visitor signage/internal map system.
- Upgrade of facilities, including new indoor picnic site, improved all weather car parking and planning for *Oasis* rebuild.
- Trials of new staff uniforms.
- Move out of *portakabins* to new office accommodation.

- Publicity support for major new exhibits and zoo activities to maintain visitor levels at the one million level.
- New suite of literature, including *Guide Book* and new zoo video.
- Further web site improvements.
- Membership research project.
- Review of database.
- Launch of *Asian Elephants in Crisis* appeal.
- Major role in organisation of 3<sup>rd</sup> *International Zoo Marketing Conference* in Tenerife under the auspices of World Association of Zoos and Aquariums (WAZA).

- Continued development of relevant information for management.
- Continued improvement of capital project planning and control.
- Extension and upgrading of IT and communications infrastructure to new offices and surrounding area.
- Extend the computerised accounting system by integrating stock control.

- Implement new pay structure from *Job Relativity* review.
- Develop *Staff Appraisal* scheme, start training and complete first cycle by year-end.
- Further middle management training including practical skills.
- Update *Policies and Procedures* for staff employment (*The Purple Book*).





DEVELOPMENT BOARD



Neville Chamberlain CBE

The Development Board is leading our project to conserve the Asian Elephant. In addition to his Presidency of the Society as a whole, His Grace the Duke of Westminster takes an active interest as President of this particular project. The project is being energetically chaired by Neville Chamberlain CBE. The Society has reason to be enormously grateful to Neville, and to his colleagues on the Board, Peter Rickitt, Peter Foden CBE, Nick Pochin and John Billington CBE.

Asian Elephant Project Patrons

Elizabeth Hurley, Brian Blessed, Ray Mears.

Contact Group Members

We are immensely grateful for the great interest, advice and support for the project from: Lord Wade of Chorlton; The Rt. Hon. John Prescott MP, Deputy Prime Minister, Secretary of State for the Environment, Transport and the Regions; The Rt. Hon. Stephen J Byers MP, Secretary of State for Trade and Industry; The Rt. Hon. Ian McCartney MP, Minister of State, Cabinet Office; Christine M Russell, MP for Chester; Dr Ashok Kumar MP; Hazel A Blears MP; Charles Allen, Chief Executive *Granada Group*; Sir Alan Cockshaw; Sir Brian Wolfson; Sir William McAlpine.

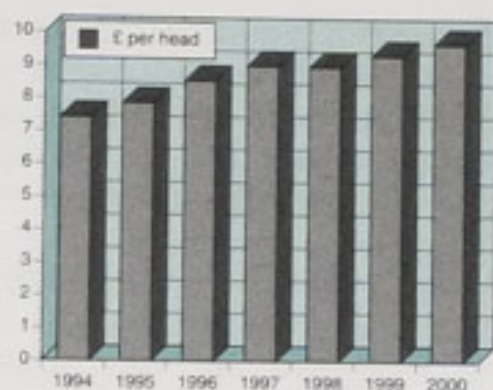
FUNDRAISING ADVISORY BOARD

The Board continues to be an invaluable asset. Members are: Chris Clifford of the *Confederation of British Industry*; Anthony Strachan of the *Bank of*

*England*; Geoffrey Piper of the *North West Business Leadership Team*; Alan Watson; Peter Foden CBE; Steve Brauner, Deputy Editor of the *Daily Post*; Neil Kemsley.

1. Visitor related income

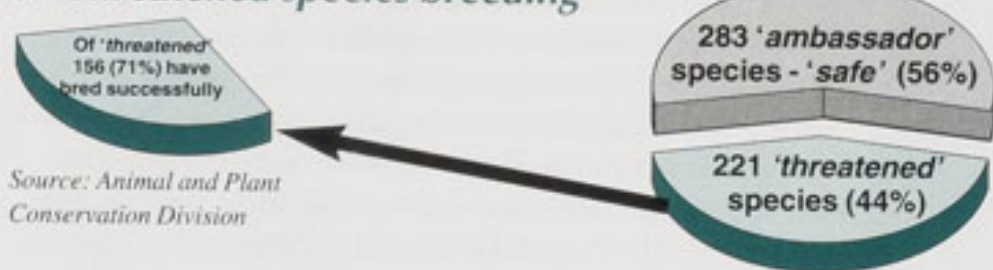
Visitor numbers - at record levels - are reported elsewhere. Our ability to maintain income levels is crucial. This new indicator relates *visitor related income* (ie, admission, and trading, but not membership, adoption or development income) to *visitor numbers*, and shows our considerable success.



2. Peer Group visitor benchmarking

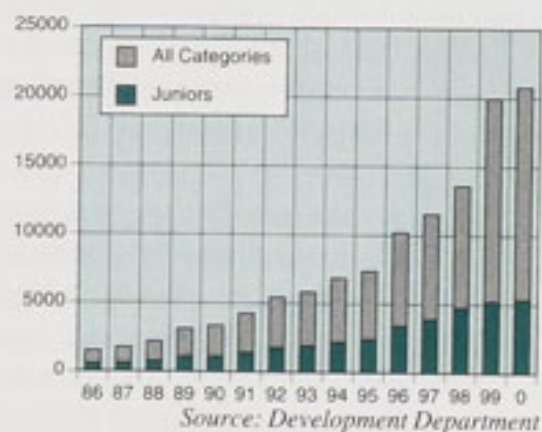
We now have three complete years of visitor related performance benchmarking from research by the Association of Leading Visitor Attractions (ALVA) - the 'million and over' group of UK tourist attractions. The details remain confidential. There are three surveys each year: Spring, High Summer and Autumn, and these are consolidated for an annual rating. We retained our excellent *dwelt time* position, having the second longest in the survey. In the annual overall value for money rating, we were in the middle of the rankings, but performed much better in the summer survey, being 7<sup>th</sup> overall.

3. Threatened species breeding



4. Membership Growth

Year over year total membership has grown by 3.5% to 15,444, which is the highest in our history. It is most encouraging that about one third of adult members now pay by direct debit.



5. Adoptions Growth

Adoptions grew by almost one quarter *versus* 1999, taking us to a record of 4334 individual adopters. This represents £129,000, which is 61% of the cost of the annual animal food bill. We are very grateful to all of our generous adopters for this very practical support.

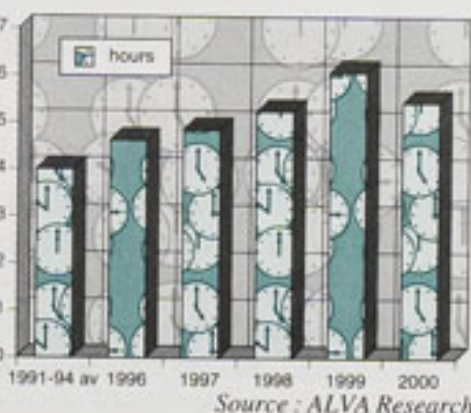


6. 'Five hour plus' high season 'dwelt time'

Over four fifths (83%) of visitors in the Summer spent more than five hours in the Zoo. The average summer visit length is 5½ hours. This is a little lower than 1999 but it is still longer than 1998.

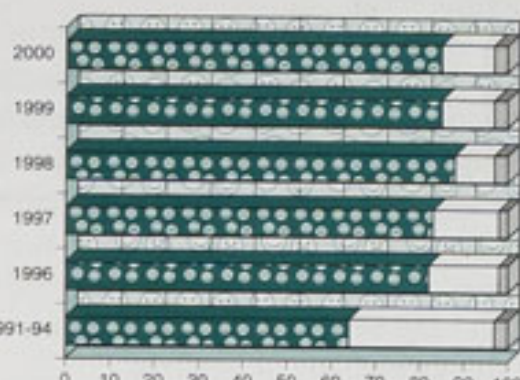
This may be due to less settled weather in July and August.

The new weather station data from the Education Division will enable us to make weather comparisons alongside *dwelt time*. Data collection begins in Spring 2001.



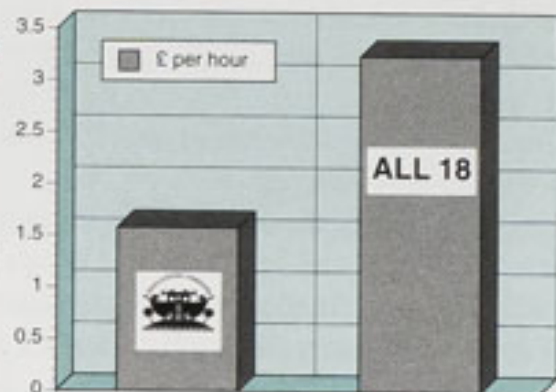
7. Ratings for value for money

Once again, we continue to receive excellent value for money ratings, with five out of every six visitors (85%) giving ratings in the two highest categories - (Quintiles 1 and 2) *excellent* and *very good*. This was the same as 1999. The summer ratings were 4 percentage points higher at 89%.



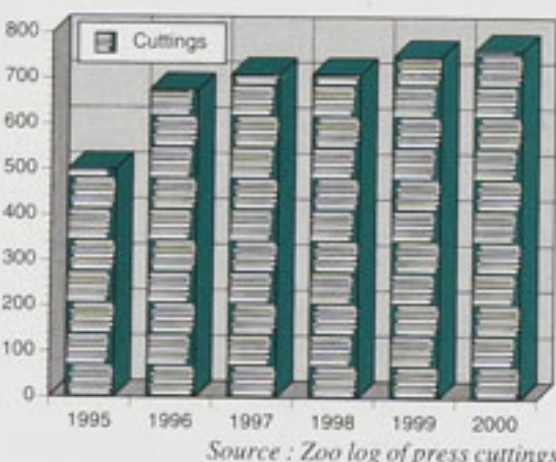
8. Value for Money Comparison with other top UK tourist sites

Once again, independent research of the top eighteen paid for tourist sites in the English Tourism Council list confirms our strength. We had the lowest adult cost per hour for family attractions, and were third overall behind the Victoria and Albert Museum and Canterbury Cathedral.



9. Recorded publicity - Press Cuttings

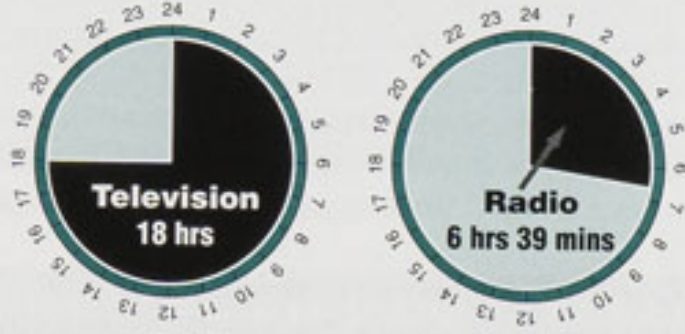
There were 764 identified cuttings, excluding duplicate publications and passing references, equivalent to two per day across the entire year. This is very similar to 1999, and shows the continuing press interest in the Zoo. The baby animals, especially the elephants, the annual *Air Mauritius* Zoo Photographic Competition and Elizabeth Hurley's visit contributed to the excellent result. We are grateful to help from The Press Association (PA) for their syndication, and to our local papers for their coverage.



10. Editorial Television and Radio Air Time

With 18 hours of editorial TV coverage, we were usefully above 1999 (17 hours 5 minutes), with the BBC *Vets to the Rescue* series being repeated.

But even discounting this repeat, our regular achievement of news coverage contributes meaningfully to our success. Editorial



time on Radio rose to 6 hours, 49 minutes from 4 hours 10 minutes. We are grateful to our regional BBC stations, *Radio Merseyside*, *GMR* (Manchester) and *Radio Lancashire* for their interest and for their excellent outside broadcasts. Our local independent (ILR) station, *Marcher Sound* was a great supporter too, and we were pleased to help two local '28 day licence' start up stations, *Chester FM* and *Chester Radio*. It is high time that we had a permanent ILR station in the City of Chester.

**Notes:** Percentages are rounded throughout. Press cuttings are unduplicated and exclude technical and specialist media and passing references. There is no attempt to weight by readership or to assess *space value*. TV and Radio is a simple time count across all stations. Advertisements are not included in any count.

This was a tremendously exciting year with the completion of three major animal and plant projects, an amazing number of important births and an expansion of our already significant outreach support which is crucial for all modern zoos whose mission is conservation. With such an outstanding year all round we have a lot to live up to in 2001!

### Zoo based activities

#### Conservation breeding

Chester continued its commitment to National, European and International breeding programmes during 2000. Our involvement in these co-ordinated efforts to establish genetically viable populations of species of conservation concern is not only in our keeping and breeding of threatened animals. Chester Zoo staff also have a greater organisational role in the co-ordination and administration of a large number of important programmes (see page 50). The most significant births of species which are part of International Breeding Programmes, include: Asian Elephant, Chimpanzee, Mandrill, Colombian Black Spider Monkey, Black and White Ruffed Lemur, Anoa, Maned Wolf, Burmese Brow-antlered deer, Mountain Peacock Pheasant, Congo Peafowl, Pink Pigeon, Bali Starling, Sand Lizard, and Barombi Mbo Cichlid fishes.

#### Collection plan

The Animal Collection Plan is an ever evolving document that is regularly revised to ensure that we are making the best use of our facilities and staff to achieve our conservation goals. We do this by supporting appropriate conservation breeding programmes within the zoo.

#### Planning and development

The pace at which we have been able to plan and produce animal exhibits to the highest standards of animal welfare and visitor experience has continued. This culminated in the completion of *Islands in Danger*, another themed animal house in which we keep the Komodo Dragon, Red Birds of Paradise the Crowned Pigeons and the St. Lucia Amazon Parrots. Through excellent interpretation, we demonstrate the particular threats faced by animals that live on islands. The Elephant paddock extension with its huge waterfall has changed the whole aspect of the entrance, producing a positive impression as the first and last vista visitors see on entering and leaving the Zoo. Watching three elephants submerge together in the pool during the summer was tremendous. We eagerly await our two calves *Po Chin* and *Assam* playing together out on the paddock in the spring. The erection of fifty 10 metre high tree trunks on the Chimpanzee island, intertwined with ropes and nets and the enhanced planting was hugely appreciated by our Chimpanzee group and our visitors! Visiting zoo professionals also showed great interest.

#### Research and Environmental enrichment

Run and organised by the keeping staff, the Environmental Enrichment Group plays an important role in enhancing the lives of the animals in the collection and in assisting with the design of new exhibits. With the scientific input of the Research Officer, Dr Stephanie Wehnelt, the goal of this group is to allow and encourage the animals in the collection to show their full behavioural repertoire. This is of course excellent for the animals themselves but also more educational for the public. They can easily observe the animals behaving as they would in nature. The Chair of this enrichment group changes every six months to ensure a high turnover of fresh ideas. During 2000 much was achieved under the chairmanships of Nick Davis, Richard Hughes and Simon Marsh. Special progress was made with natural feeding techniques for large and small cats, condors,

parrots and the browsers in the collection such as the giraffes whose feeding habits require special attention. The group made a considerable contribution to the enrichment devices on the Elephant paddock extension. This was much appreciated by the Project Team and by the elephants!

#### Health and welfare standards

The new Veterinary department headed by Stephanie Sanderson supported by consultants at the Gatehouse Veterinary Hospital, made great progress in 2000. The recruitment of Veterinary Nurse Jane McDonald greatly assisted with computerisation of the record system (MedARKS) and the continuation of the *Animal Health and Welfare Review*. We were involved with the filming of two excellent programmes for satellite television: a case studying the story of *Kiki* the chimpanzee and of the IUD contraception of five of our chimpanzees. During 2001, the development of new *Animal Care Centre* facilities will give greater opportunities for the veterinary team to use a wider range of techniques to improve the health care of the animal collection.

Mark Pilgrim, General Curator: Operations

#### Outreach Activities

We continued and strengthened the outreach that began in 1999 with a substantial commitment to longer-term support of conservation programmes in the Philippines, Nigeria and India. The twinning of Chester Zoo with Chengdu Giant Panda Breeding Base and Chengdu Zoo was strengthened by visits from our Chinese counterparts and to the University of Liverpool Veterinary facilities at Leahurst. Opportunities were taken to introduce scientists at Liverpool and Leahurst to those from Chengdu with a view to future collaboration on Chinese wildlife including Giant Panda research.

The new *Spirit of the Jaguar* exhibit has presented the opportunity to support conservation and research on this threatened cat in Central and South America. Chester Zoo supported a major Jaguar Conservation Workshop and Population and Habitat Viability Assessment (PVHA) at San José, Costa Rica. We also established a prospective new partnership with the Wildlife Conservation Society, New York, in support of Jaguar research and conservation in nature. Alexandra Zimmermann's study of Jaguar/Rancher conflict in the Pantanal of Brazil also received our support. We were delighted to be able to send keepers Karen Davies and Anne Morris on extended visits to support Penguin rescue and Parrot conservation work in South Africa and Mauritius respectively. Such ventures involving our expert keepers bring us great kudos, and demonstrate most effectively that our work has no frontiers!

We continued native species work with Penny Rudd's Harvest Mouse project. This saw the transfer of conservation bred mice to outdoor acclimatisation enclosures. We successfully translocated Sand Lizards bred in the re-created sand dune habitat in the Zoo to release sites in Wales and North West England.

Advocacy is important in furthering our conservation mission and the *Conservation Prospectus* is due for publication in 2001. Additionally, Chester Zoo was represented at many important zoo and conservation meetings and conferences by staff at all levels. Far greater opportunities were created for staff involvement overseas. I would like to thank our secretarial and administrative staff for their hard work and dedication, for without them, we could not have achieved so much!

Dr Roger Wilkinson, General Curator:  
Higher Vertebrates and Research



Baby Elephant *Po Chin*

Photo Mike Maloney

During 2000 the veterinary care at Chester Zoo has been provided by resident vet Stephanie Sanderson and veterinary nurse Jane McDonald, the consultant vet Noel Walker and other members of the *Gatehouse Veterinary Hospital*. In addition the clinicians at *Liverpool University Veterinary School* at Leahurst and various colleagues working in human medicine have, as always, provided us with invaluable support. Quarterly audits of the health and welfare of the collection were undertaken by the Scientific and Veterinary Committee. This provided a forum for the discussion of challenging cases and highlighted potential problems.

The work of the veterinary department can be usefully categorised into four main areas: daily clinical care of the collection, preventative health care programmes, pathology and research/education.

### Pathology

All animals that die in the zoo (including hatchlings) are submitted for post-mortem examination. In addition to determining the cause of death, the veterinary department stores and distributes certain tissues for research purposes, as appropriate.

### Research / Education

From March 2000, all medical records have been kept on a computerised database (MedARKS). We submit our records monthly to a centralised international database run by ISIS. This system provides us not only with an easily searchable archive of our collection but also access to the pooled medical records of many species of animals held in conservation programmes world wide.

The veterinary department takes part in a wide range of collaborative research projects. Projects undertaken in 2000 include the monitoring of oestrus cycles in elephants and black rhino from faeces and urine samples; seasonal monitoring of parasitic worm burden in equids and in galliformes; and genetic analysis of our chimpanzees. The department has also hosted a number of veterinary clinical and postgraduate students and veterinary meetings, including lectures and presentations supporting the annual *British Veterinary Association Congress* which was held in Chester in September.

In order to keep up with current developments and exchange ideas with other zoo vets, Zoo staff have attended meetings of the British Veterinary Zoological Society (BVZS), International Association of Aquatic Animal Medicine and American Association of Zoo Veterinarians, Zoos' Forum and the Institute of Zoology (IOZ). They have also taken part in workshops on Disease Risk Analysis for reintroduction programmes by the Conservation Breeding Specialist Group (CBSG) and on the use of MedARKS and *Zootrition*. The latter computer programme is being developed internationally to support improved nutrition for the animals in our care.



A check over for *Regis*, the male Komodo Dragon

### Daily clinical care.

The clinical case load for 2000 is summarised in Table 1. One of the most notable cases of the year was that of *Regis*, our male Komodo Dragon. He has been suffering from a severe pneumonia that has meant that he has been off show for much of the second part of the year. He is however showing a slow but consistent improvement and it is hoped that with the continued expert nursing care he is receiving from the herpetologists, he will make a full recovery.

**Table 1** Healthcare Summary Statistics 2000 (including preventative health care)

	Individuals		Visits		Post mortem	
	Treated	(%)	undertaken	(%)	examinations	(%)
Mammals	193	(47)	680	(45)	93	(29)
Birds	136	(33)	435	(28)	181	(56)
Reptiles	33	(8)	222	(15)	34	(11)
Other	51	(12)	190	(12)	12	(4)
<b>Total</b>	<b>413</b>		<b>1527</b>		<b>320</b>	

### Preventative health care programmes

Preventative health care plays a vital role in maintaining the health of the collection. These activities are summarised in Table 2 (below).

**Table 2** Preventative Health Care Programmes

Activity	Programme
<b>Animal ID</b>	In order for accurate health records to be maintained all animals must be individually identifiable. This is done by various methods including the placement of subcutaneous microchips. 177 animals were microchipped during 2000.
<b>Quarantine</b>	New animals are held in isolation until they have been screened and found to be free from infectious disease.
<b>Vaccination</b>	Feline and canine species undergo annual vaccination against the major endemic viruses seen in the UK. Other species are also vaccinated dependant on current disease status both of animals held at the Zoo and in domestic animals in the Cheshire area.
<b>Hoof, beak, and tooth care</b>	Hooves and beaks are checked regularly and trimmed. There are daily elephant foot care sessions. The male Babirusa requires his tusks to be trimmed twice a year. Dental examinations and treatment in other species are carried out opportunistically.
<b>Health screening</b>	Blood and other samples are taken opportunistically to screen animals for health problems and to build up a database of normal values. 122 blood samples were analysed during 2000.
<b>Parasite control</b>	Regular faecal screening and parasite treatment is undertaken. 588 faecal samples were examined.
<b>Contraception</b>	Contraceptive programmes are used to control the numbers and also the genetic make up of some of the species that are held in the Zoo. Examples used in 2000 include intrauterine contraceptive device placement in some of our chimpanzees and the use of a subcutaneous contraceptive implant in our Asiatic lioness.

Stephanie Sanderson, Veterinary Resident

## ANIMAL SUPPLIES DEPARTMENT

The Zoo's commitment to the welfare and husbandry of threatened species means we need to provide increasingly specialist diet which are nutritionally correct and which help to stimulate natural behaviour. The growing interchange of dietary information between leading zoos helps us achieve this. In particular, we have benefited from the international *Zootrition* initiative, led by Ellen Airenfeld of the New York Zoological Society (WCS).

This new information produces a consequent upgrade in the quantity, quality and complexity of foodstuffs that we provide. In 2000, this carried an inevitable cost premium, but was to a large degree offset

by a continuing tight purchasing strategy for the more basic foods and the cost benefits of efficient use of Zoo farmland. The latter produced bumper crops of grass and maize. Overall, the cost of feeding the collection rose by just 4% from £202,000 to £210,000.

We widened our activities to include equipment supply and the provision of other support services to the Animal Division, backed by appropriate staff training. We made encouraging progress in upgrading the department's main building.

Anthony Hutchinson, Animal Supplies Manager.

### Animal Team Reviews 2000

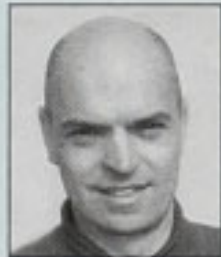
For the new animal teams, 2000 has been a 'bedding in year', getting used to the staff structure and new responsibilities. It has also been a very exciting year with huge progress being made throughout the Division, to the credit of all of the staff.

The year's highlights of the births and hatchings came mainly in twos and the Team Leaders will tell you more about those. The death of *Esther* the Black Rhinoceros, while we tried to resuscitate her, is my saddest memory of the whole year.

We have made great progress in other areas, notably Animal Records, which are now among the best in Europe. The Animal Supplies Department gave us great support.

Support from other departments is also crucial, especially the new and excellent Veterinary and Research Departments but also Maintenance and the Projects teams. They have not only helped us complete *Islands in Danger*, the *National Elephant Centre*, *Chimpanzee Forest* and begin the *Sealion Beach*; but also numerous smaller but equally important animal welfare upgrades around the Zoo.

I'm sure 2001 will be just as busy and exciting as 2000 and we all eagerly await the arrival of the Jaguars.



**Mark Pilgrim, General Curator:  
Operations**

### Carnivore Team\*

Two young female Californian Sealions (sisters) joined us from Chessington at the beginning of the year. We are continuing their response training (left) - which means that they come to us for veterinary or other needs - and are extending this to the other females. Sadly, our bull Sealion *Nemo* died. He is greatly missed. We are now upgrading the exhibit with a beach, improved housing and new 'softer' fencing.



We have added more trees for the Bongo to provide a more natural exhibit once they are fully established. We successfully transferred the

male Bongo *Kunde* to Paignton Zoo and his successor, *Marti* has settled in well here.

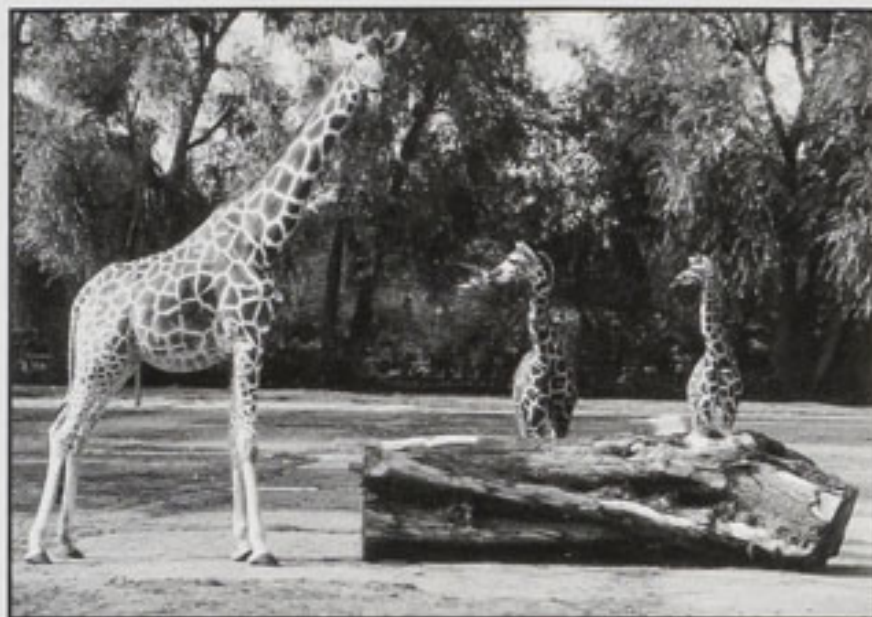
The Asiatic Lioness *Masala* went to Spain and our adult male Lion *Jake* went to France as part of the international breeding programme for these highly endangered cats: after his success in siring four litters of cubs here, and a further litter at London Zoo. The *Twilight Zone* bat cave continues to be extremely popular to the public and bats alike, with several births. I would like to thank all my team for their support and hard work throughout the year.



**Alan Woodward,  
Carnivore Team Leader**

### Giraffe Team\*

This year was as successful as 1999! Our Maned Wolves have produced their second litter of four cubs, and the Anoa calved a young male, both for the second year running. We will be moving the Anoa to their new paddock on the first island on the canal later in the Spring.



In our first year to have two camels born - *Lenny* and *Natasha* - and both are being reared by their mothers. Another first is the successful hand rearing of baby giraffe *Oliver*, one of the two born this year (above with *Jester*). This is a tremendous achievement by the team. I look forward to many more in the future!



**Tim Rowlands, Giraffe Team Leader**

### Parrot Team\*

Unfortunately, a few important parrots died and this undoubtedly has had an effect on the overall breeding results for the year. Nevertheless there have been continuing successes in this area.



The most exciting and positive developments have been staff involvement with overseas projects. In August, Karen Davies volunteered to go to South Africa to help with rescue efforts to save more than 20,000 Black-footed Penguins from the effects of an oil spill. By the end of her three-week stay, 17,000 penguins had been released back into the wild from the makeshift rehabilitation centre (above). At the start of October, Anne Morris travelled to Mauritius to hand-rear aviary bred Echo Parakeets. Anne returned to Chester at the start of 2001, once the birds she had reared had been successfully released into the wild. These were splendid efforts.



**Andrew Bagnall, Parrot Team Leader**

**Bird Team\***

2000 was another prolific year of breeding, with at least one species producing hatchlings each month throughout the year! The highlights included West African Crowned Crane, Congo Peafowl, Bali Starling, and Spectacled Owl.

This year, under careful guidance and help from Dr Deborah Bourne, the team attempted artificial insemination with our Wattled and White Naped Cranes. Unfortunately no fertile eggs were produced. The experiment was not fruitless because under the microscope we found active semen. With the experience gained, we are quietly confident of fertile eggs in 2001.

I would like to thank the Bird Team. Their diversity of skills has contributed to a successful year, not just breeding but also display, with some of the best-landscaped enclosures in the Zoo.

**Wayne Mcleod, Bird Team Leader**

**Primate Team**

It has been another successful year on the primate section with a number of important births, the most noteworthy being that of the male Chimpanzee *Jethro* born in February. Shortly after this, we started the construction of our



*Chimpanzee Forest* - using pine poles, ropes, nets, platforms and some experimental planting which has proved very successful. This development was planned by the Primate team and we did most of the construction work with

kind help from other Zoo staff. It was a fantastic achievement, and has been video recorded, with the three weeks of construction condensed to barely two minutes!

We made fresh efforts to discourage the public from feeding the apes, with signage and barriers erected for the season.

We administer the *Keeper for a Day* scheme across the Zoo. It has been an outstanding success, supporting keeper training, travel and extremely worthwhile keeper-led conservation initiatives.

With our continuing success in breeding and the design of new enclosures and environmental enrichment ideas, we look forward to 2001 and another very successful year.

**Andrew Lenihan, Primate Team Leader**

**Elephant Team**

We anticipated a busy start to the new millennium at the elephants, and that is certainly what we got! The extension and development of the paddock continued, through a hectic



and, at times, chaotic winter. Nevertheless, the new exhibit was handed over just in time for the Easter holiday. The new ditches and bathing area were well used throughout the summer, especially by *Chang*, *Upali* and *Sithami*.

In May, Alan Roocroft from San Diego visited us for a week as our elephant consultant. This was a very important step in the development of our elephant care programme.

After weeks of night observations, *Jangoli* gave birth to a healthy male calf *Po Chin* at 1.30 a.m. on the 18<sup>th</sup> July. He continues to flourish, and his training, under Don Plant, is proceeding well. This is made easier by *Po Chin*'s calm and friendly nature (below left).

*Thi Hi Way* surprised and delighted us all by giving birth to a male calf on the 7<sup>th</sup> October, one month before the expected date. This calf, named *Assam*, is also progressing well.

When it comes to elephant births, watch this space!

**Mick Jones, Elephant Team Leader**

**Rhinoceros Team\***

Important births on the section during the year included: Blackbuck, Brow-antlered Deer, Gemsbok, Sitatunga, Bison, Tapir, and Wallaby. The arrival of a female Capybara from Emmen Zoo in The Netherlands, gives us the chance to breed these giant rodents for the first time for many years. To support our Philippines outreach activities, four endangered Philippine Spotted Deer have been acquired by the Zoo in order to breed them. With one pair in the care of the Giraffe Team and a pair with us, the race is on for the first birth! The



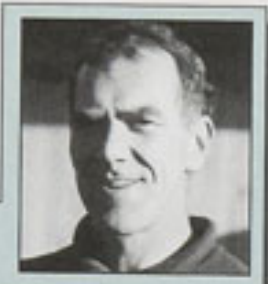
arrival of a new female Sable Antelope means we may now breed this species.

We were delighted that the Brazilian Tapirs have bred again, with young

male *G'kar* (above) making his TV debut in December.

On the Rhinoceros front, it was sad news that *Esther* died very suddenly from what we believe was a stroke. However, we had successfully separated *Manyara* from her mother *Esther* early in the year, and she has now joined our other young female *Kitani*. These two get along very well together and are extremely important for our future Black Rhino development. A female Black Rhino *Rosie* arrived from London Zoo in August and has settled in very well. She can be seen through viewing holes in the special visibility barrier in her quarters, as this gives her an increased feeling of security.

**Chas Mackenzie, Rhinoceros Team Leader**



\*Team names have been chosen for simplicity, those with asterisks cover a substantially greater number of species.

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After lengthy negotiations and several changes of travel arrangements, *Regis* – the sub adult male Komodo Dragon arrived at Chester in April from Cincinnati Zoo in the USA. His quarters in *Islands in Danger* were a very popular attraction as he became accustomed to them. In the early summer, he had a respiratory infection, and remained off show under veterinary care. He returned to the large enclosure in December, and continues to recover. The three female hatchlings, housed off show in the *Tropical Realm* are growing strongly. Visitors appreciate being able to see them in colour on the upgraded closed circuit TV system.

#### Puerto Rican Crested Toad



The exchange of blood-lines from our Rhinoceros Iguana community guaranteed any future breeding would not be affected by closely related animals. New arrivals to the collection included

Dabb Lizards, Egyptian Tortoises, Standing's Day Geckos, Red-tailed Racers, Yemen's Chameleons, Green Mambas, Pygmy, Timor and Lace Monitors, Blue Poison Arrow Frogs and an unusual Tree Frog species from Costa Rica.

We joined forces with Jersey Zoo to run a pilot breeding project for the Mallorcan Midwife Toad and since their arrival, several tadpoles have already hatched.

Toronto Zoo invited us to participate in the very exciting internationally managed breeding and reintroduction programme for the endangered Puerto Rican Crested Toad. In December, 30 young toads arrived and have settled in very well in our *Tropical Realm* (see left).

We had two more successful Sand Lizard releases back into the wild after the hatching of 32 more youngsters. Good breeding results were also achieved with Poison Arrow Frogs, Boa Constrictors, Philippine Sail Fin Lizards, Box Turtles and Honduran Milk Snakes.

We can report that three new species of invertebrates have been successfully bred: Flower Mantis, Blotched Fruit Beetle and Sabah Thorn Stick Insect.

With further plans for expansion in all sections of the department, we expect to help many more new and co-operatively managed species in 2001.



*Isolde McGeorge, Herpetologist*

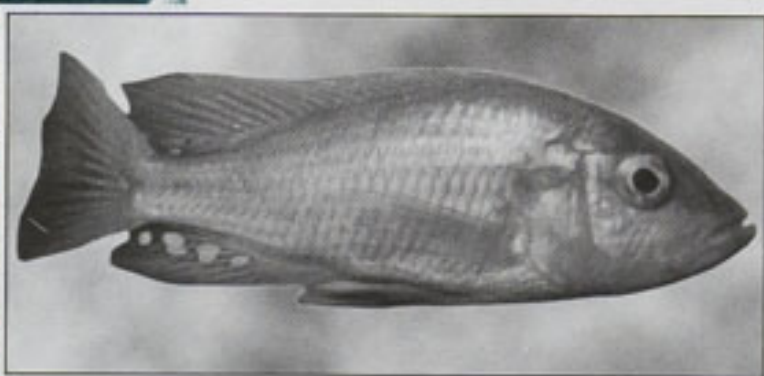
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Aquarium staff set up tanks in the Education Division, which holds the rare Lake Victoria Cichlid species (*Haplochromis xenognathus*) and the new *Wildlife Discovery Centre*, which contains Madagascan Rainbow Fish (*Bedotia madagascariensis*) and Halfbeaks (*Nomoromphus ebrardti*).

We now hold several rare cichlid species from Lake Barombi Mbo, an environmentally threatened crater lake in Cameroon, West Africa. We originally thought we had five

of the eleven endemic cichlid species: but after careful observation we discovered we actually had six species. Three of the species have successfully bred.



**Lake Victoria Cichlid**

were acquired from Bolton Museum Aquarium. These are the Spotted Damba *Paretroplus maculatus* and the

Two new species of Madagascan Cichlids

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As ever, there has been much conservational breeding activity within the Fish and Aquatic Invertebrates Taxon Advisory Group for Europe (EEP/FAITAG). Aquarium staff attended the European Association of Zoos and Aquaria (EAZA) and European Union of Aquarium Curators (EUAC) FAITAG workshop held in Antwerp, Belgium. The FAITAG Seahorse Conservation Group held a meeting at Chester in March. I attended the third National Aquarium Workshop in Plymouth, hosted by the National Marine Aquarium and the University of Plymouth.

I was also fortunate enough to attend the 5<sup>th</sup> International Aquarium Congress, hosted for the third time by Monaco Aquarium. This was an excellent opportunity to progress conservation and welfare matters with colleagues from EUAC, and Aquarium staff from around the world.



*Mike Crumpler, Aquarist*



Glorious Grasses Garden in its first full year



Statues and planting for *Islands in Danger*

We were involved in the landscaping and planting of three major projects. The first was *Islands in Danger*, where the inside of the house is planted to represent habitats of the different animals. In the Komodo Dragon quarters, spiky and succulent plants create an arid appearance. The aviaries, planted as tropical rainforest, have been so successful that the birds look very much at home flitting through the dense foliage. Outside the house, landscaping includes a life-size bronze statue of a Komodo Dragon and two large 'Easter Island' statues created by Andy Harper (above right). In the borders along the sides of the building we have planted rare and unusual New Zealand, Tasmanian and Japanese species.

We opened the *Roman Garden* informally with an official opening planned for when the garden matures in 2001. Based on historical information, much of it gathered by Joan Springett - and other expert advice - it was designed to be a true architectural representation of the gardens attached to large Roman dwellings circa 200 AD. All of the plants would have been represented at that time in this country.



Roman Garden beehive

The other major planting project of 2000 was the *National Elephant Centre*. We created themed plant areas around the perimeter. At the Zoo entrance, palm trees and exotic foliage plants greet the visitor, giving a tropical feel. Continuing around, you can see elephants through a bamboo grove, before following the boardwalk into an area of birch woodland. Another challenge was to create a functioning reed bed to clean and recycle water from the elephant bathing pool. We did this by a substantial conversion of the previous waterfowl pool and planting it with native reeds, marginal and aquatic plants.

In July, Mark Hargreaves led a team of Horticulture and Botany and Amenities and Gardens staff, to construct a *Show Garden* exhibit. This was by invitation from the Royal Horticultural Society for their second *Flower Show* at Tatton Park (see right). The garden, named *Islands in Danger*, featured a life size Komodo Dragon statue, an Easter Island 'head', and lots of exciting plants. It had a strong conservation message, stressing the vulnerability of island ecosystems. We gained a Silver Medal. In August the garden was recreated at the Southport Flower Show, where we gained a Gold Medal and a Silver Challenge Cup. It is a substantial achievement to win major awards at these shows, where the competition is from commercial landscape gardeners, with large budgets.

We are assembling a collection of rare and endangered orchid species in the Zoo plant nursery. Steve Manning, the

UK National Collection holder for the family Pleurothallidinae, has so far donated over 150 different species. We have adapted part of one of the Nursery glasshouses to grow them, and we hope to put a selection on public display in 2001 in the new *Grow Zone*.

As part of our *green policy* (see page 18) Integrated Pest Management (IPM) has been introduced in the Nursery glasshouses, using natural predators, parasites and pathogens as the primary means of pest control. This means less use of chemical pesticides in our operations.

Sarah Bird was appointed as Assistant Curator in July. Her job includes assisting the General Curator in project planning, setting up a computerised plant records system, and increasing plant information and interpretation in the Zoo.

Mark Sparrow, Sarah Bird and Mark Hargreaves attended the 4<sup>th</sup> annual Zoo Plant Group conference in September, at the Cotswold Wildlife Park. With over fifty delegates from British and European zoos attending, it was a great opportunity for Zoo horticulturists to swap information and ideas. Mark Sparrow participated in the Association of Zoo Horticulturists (AZH) conference in New York in October. Mark is a member of the AZH Organising Committee and gave a lecture to the 150 delegates about the work of our Botany and Horticulture Department.

Mark Sparrow also gave a series of talks to horticultural organisations during the year, including a Saturday afternoon Members' talk in the Lecture Theatre in the Spring.

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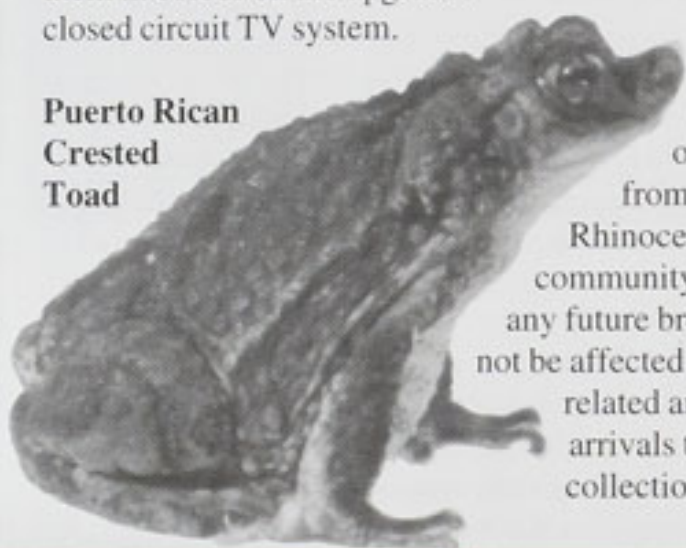
*Islands in Danger* themed Show Garden at Tatton



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#### *Mark Sparrow, General Curator: Botany and Horticulture*



*Islands in Danger themed Show Garden at Tatton*

Chester Zoo's conservation and research activities especially with regard to overseas support continued to enlarge and develop in 2000. Research activities in the zoo and co-ordination with local Universities were again facilitated by Stephanie Wehnelt in her position as Scientific Officer. Dr Stephanie completed her PhD studies on Mara behaviour during this period. Stephanie continues to represent Chester Zoo as a member of the Zoo Federation Research Group and has been very active in this forum. Alexandra Zimmerman who assisted with conservation collection planning in 1999 completed her MSc in Conservation Biology and joined the zoo as Conservation Officer.

The Chester Zoo Veterinary and Zoological Studentships continue to be important in supporting university students engaged in valuable research and conservation initiatives. Expeditions and projects in the Philippines, Borneo, Brazil, Trinidad, Ghana, Ethiopia, Madagascar were amongst those assisted by studentship awards.



Photo Alexandra Zimmerman

Philippine Spotted Deer



Photo Save The Rhino International

Black Rhino trans-location in East Africa

A selection of programmes and projects receiving financial support from Chester Zoo in 2000 is tabulated on page 51. We continued our long term commitment to supporting important conservation programmes in the Philippines in partnership with William Oliver of Fauna and Flora International. A particularly satisfying development was the initiation of the NEZS Philippine Conservation Biology Scholarships. We continued to support Philippine Spotted Deer and other wildlife of Western Visayas and conservation on Polillo Island through financing and supporting the two 'ecology wardens'. In partnership with Vogelpark Avifauna in the Netherlands, with the Philippine Department of the Environment and Natural Resources we finalised a Memorandum of Agreement relating to hornbill conservation in the Philippines.

Another long standing partnership focuses on Gashaka Gumti National Park with WWF and the Nigerian Conservation Foundation. In 2000 this took a new direction in that we became the major sponsor of the Gashaka Gumti Primate Project under the direction of Professor Volker Sommer. Our support of Black Rhinoceros in Tsavo East was continued with funding vehicle maintenance essential for their surveillance and protection by the Kenya Wildlife Service game guards through *Save the Rhino International*.

Reciprocal visits by senior staff from Chester and Chengdu Research Base of Giant Panda Breeding and Chengdu Zoo, China, cemented relationships regarding assistance with Giant Panda conservation. The Jaguar outreach programme



Photo Dr Roger Wilkinson

West African Crowned Crane

was spearheaded by support of a Jaguar Conservation Workshop in Costa Rica and of the Wildlife Conservation Society research programme in Belize.

New initiatives supported by Chester Zoo include the Black Crowned Crane conservation programme with Wetlands International/International Crane

Foundation in West Africa, Midwife Toads in Mallorca and Echo Parakeets on Mauritius. It has been particularly exciting for two of our keepers to become involved in the last two overseas programmes. A keeper also assisted with the international recovery operation for oiled and rescued penguins in South Africa.



Photo Steve Nash

Male Mallorcan Midwife Toad

International collaboration was further advanced by the Director's field visit to the Gabon Basin and attendance at the Worldwide Fund For Nature Congo Basin Biodiversity Prioritisation Workshop in Libreville. The Director also attended the World Zoo Organisation Spring and Annual Conferences in Palm Springs and the International Aquariums Congress in Monaco. The Director and the three Curators attended the European Association of Zoos and Aquaria (EAZA) meeting in Aalborg, Denmark.

*Dr Roger Wilkinson, General Curator: Higher Vertebrates and Research*



Chester Zoo's global involvement in conservation, scientific study, zoo marketing and education in 48 countries across all five continents.

### North and South America

- 1 Belize**
  - Research on Jaguars at *Cockscomb Nature Reserve*
  - Curatorial visit
- 2 Brazil**
  - Support for research on Blue-winged Macaws
  - Research Associate study of Jaguar/Rancher conflicts
- 3 Canada**
  - Support for Algonquin Wolf PVHA workshop
  - Work with Toronto Zoo in the Puerto Rican Crested Toad Conservation Programme
- 4 Costa Rica**
  - Support for Jaguar PVHA workshop, IUCN CBSG
- 5 Ecuador**
  - Support for Amphibian and Reptile research
- 6 Mexico**
  - Support for 'Fish Ark' - conservation breeding of endangered freshwater live-bearers
- 7 Trinidad**
  - Support for Turtle studies
- 8 USA**
  - Director's participation in World Zoo Organisation/World Association of Zoos and Aquariums (WZO/WAZA) meetings
  - Veterinary participation in CBSG Disease Risk Analysis Workshop
  - Veterinary participation at American Association of Zoo Veterinarians (AAZV) and International Association of Aquatic Animal Medicine (IAAAM) meetings
  - Curatorial participation and presentation at American Association of Zoo Horticulturalists (AZH)
  - Komodo Dragon transfer
  - Purchase of life-sized Komodo Dragon statue for *Islands in Danger*
  - Visit from San Diego Zoo Elephant Consultant

### Europe

- 9 Austria**
  - Research student

- 10 Belgium**
  - Staff participation to EAZA/EUAC workshops at Antwerp
- 11 Czech Republic**
  - Research students
- 12 Denmark**
  - Directorial and Curatorial participation at EAZA Meeting, Aalborg
- 13 Eire**
  - Reciprocal membership privileges secured with Dublin Zoo and Fota Wild Animal Park
- 14 France**
  - Transfer of Asiatic Lion as part of international breeding programme
- 15 Germany**
  - Director's involvement in WZO Projects Identification Workshop, Europe/Africa
  - Work experience student
  - Research student
- 16 Italy**
  - Research students
- 17 Mallorca**
  - Midwife Toad conservation support
- 18 Monaco**
  - Director and staff participation in 5th International Aquarium Congress
- 19 Netherlands**
  - Horticultural visits to buy stock
  - Transfer of Capybara from Emmen Zoo
  - Work experience students
- 20 Portugal**
  - Support for Shark and Sting Ray workshops and husbandry manual with Lisbon Aquarium and AZA
- 21 Russia**
  - Zoo educator's visit from *Novosibirsk Zoo*
- 22 Spain**
  - Curatorial and staff visits
  - Transfer of Asiatic Lioness
  - Work experience student
- 23 Sweden**
  - Work experience students
- 24 UK**
  - Harvest Mouse conservation and local re-introduction programme
  - Sand Lizard conservation and re-introduction programme
  - Support for Chimpanzee studies
  - Organisation of WAZA/EAZA *Third International Marketing Conference* (2001)
  - Curatorial and staff participation at annual Zoo Plant Group conference

### Africa

- 25 Central African Republic**
  - Support for Lowland Gorilla research
- 26 Democratic Republic of the Congo**
  - Support for National Park staff
- 27 Ethiopia**
  - Support for Ecotourism survey
- 28 Gabon**
  - Director's participation, WWF Congo Basin Biodiversity Workshop; plus ecological fieldwork, Northern Gabon
- 29 Ghana**
  - Student research support
- 30 Upper Guinea**
  - Director's participation in analysing report from Conservation Priority Setting Workshop, Conservation International
- 31 Kenya**
  - Substantial funding in partnership with *Save the Rhino International* for Kenya Wildlife Service's Black Rhino surveillance and protection
- 32 Madagascar**
  - Support for Turtle and Lemur studies
- 33 Mauritius**
  - Staff secondment and support for Echo Parakeet breeding project
  - Principal prize in 2000 Zoo Photographic Competition
- 34 Nigeria**
  - Primate Research support, Gashaka Gumti
- 35 Senegal**
  - Support for Black Crowned Crane Action Plan
  - Status survey involvement
- 36 South Africa**
  - Staff secondment in international Penguin rescue project
  - Chester bred Seahorses sent to Pretoria Zoo Aquarium
- 37 Uganda**
  - Support for CBSG Chimpanzee sanctuary
- 38 Zambia**
  - Education and Animal staff visit to support *Munda Wangwa Zoo*
- 39 Zimbabwe**
  - Support for Black Rhinoceros study

### Asia

- 40 Borneo**
  - Support for Orang utan research
- 41 China**
  - Twinning of Chester Zoo and Chengdu Giant Panda Breeding Base and Chengdu Zoo signed at Chester
  - Exchange visits
  - Support for research study on Laughing Thrushes
  - Support for CBSG workshop on Giant Pandas
  - Curatorial, veterinary and staff participation in international *Giant Panda 2000* Conference and workshops held in USA
- 42 Dubai (United Arab Emirates)**
  - Support for CBSG Leopard and Tahr PVHA workshops and workshop on Arabian carnivores
- 43 India**
  - Support for Zoo Outreach India and Chiroptera (Bats) Conservation workshop
- 44 Kuwait**
  - Two week training program for visiting animal husbandry specialist on setting up and running a wildlife research and rehabilitation centre
- 45 Myanmar (Burma)**
  - Support for CBSG PVHA workshop for Thamin
- 46 The Philippines**
  - Support for FFI Philippines: West Visayas and Polillo Island projects including Philippine Hornbills and Spotted Deer
  - Conservation Biology Scholarships
  - Student survey support
- 47 West Java**
  - Support for CBSG workshop on Sumatran elephants

### Australasia

- 48 New Zealand**
  - Support for study of Tuatara

The Zoo continues to discharge its full legal obligations for public safety and animal welfare under the *Zoo Licensing Act 1981* and the *Dangerous Wild Animals Act, 1976*. We were subject to a full inspection under the *Zoo Licensing Act* on 12<sup>th</sup> October 2000, so that our current licence is valid for four years, subject to periodic checks by the Local Authority. In reviewing our facilities, the inspectors advised that a licence be issued conditional on:

*Construction and completion of full (initial) veterinary facilities by the end of 2001, and completion of second phase of veterinary facilities by the end of 2002, including animal holding areas.*

Overall, the inspectors noted the high standards of developments and exhibits developed since the last inspection; the innovative and progressively planned new exhibits; and the achievement of high standards in the fields of conservation, education and research.

As active members of the Federation of Zoological Gardens of Great Britain and Ireland we have been in discussion with members of the Government in the establishment of improved zoo standards across the European Union. The first formal meeting of the newly established UK Zoo Forum was held at Chester last year and there has been additional input during 2000. The Zoo Director attended a Zoo Standards Seminar in July for an update on current best practice.

There are continuing discussions with Cheshire County Council and Chester City Council regarding the Zoo's position in the *Cheshire Structure Plan* and the *Chester District Local Plan*. The Zoo has been represented at steering meetings on environmental matters organised by the Cheshire County Council Environmental Forum. Staff have attended meetings of the EU financed Rural Tourism initiative that links Cheshire County Council, Chester City Council, Wirral Metropolitan Borough Council, Ellesmere Port and Neston District Council. The Millennium cycleway passes close to the Zoo, and reference to it is included in our literature.

Our plans to conserve local biodiversity are now set in the context of a *Biodiversity Audit of North West England* prepared in 1999 by the *Regional Biodiversity Steering Group*. We have given presentations

of our plans for the wider estate, and Senior Keeper Paul Howse kindly prepared a wall poster to demonstrate this. We enjoy close links with Cheshire Wildlife Trust (CWT), and work continues for our joint programmes for the Harvest Mouse. We have already had excellent breeding results with the Sand Lizards and have taken part in release programmes in North Wales. *Twilight Zone* keeping staff and presenters continue to work with local bat conservation groups to obtain survey information.

The Zoo is growing 'greener', with the planting initiatives led by Mark Sparrow, General Curator of Horticulture and Botany. Wood from fallen trees is used for seats and landscaping features, as well as for improving animal habitats. The reed bed project is an integral part of the *Elephant Breeding Centre*, and is fully operational and well interpreted. The programme of installing more wooden fencing within softer landscaping continues across the Zoo. The Education Division buildings and the Visitor Services buildings at the *Rainbow* have been overclad. We have designated wild flower areas and the Zoo's own *Green Forum* has regular meetings. Planting around the main entrance has been most effective. We are reviewing waste disposal and recycling projects as part of a comprehensive environmental policy being developed for 2001.

We have set up an *Environmental Policy Advisory Committee* (ENPOC) to look at accreditation for ISO 14001, an international standard for Environmental Management Systems. We plan to liaise with Aalborg Zoo in Denmark which has already gained this standard.

The Zoo has expressed concerns to the Department of the Environment, Transport and the Regions (DETR) over the proposed development of an incineration plant near Buckley in North Wales which could possibly have health and welfare repercussions.

We have been most grateful for the help of Michael Elkerton as our Volunteer Disability Advisor with the *Disabilities Discrimination Act 1996*, which became law in October 1999.

**Professor Gordon McGregor Reid, Zoo Director**

## ZOO HEALTH AND SAFETY

The Society's commitment to the health, safety and welfare of its employees, and those affected by its undertaking remains unaltered. To the best of its knowledge and belief, the Society meets the requirements of the *Health and Safety at Work Act 1974* and current subordinate legislation. The major health and safety audit of 2000 was the full renewal inspection as required by the *Zoo Licensing Act 1981*, detailed above.

The Committee for Representatives of Employee Safety (CRES)

regularly met with the Director and Divisional Heads on safety matters.

Provision of first aid was carried out as in previous years. During 2000, we dealt with 1507 requests for first aid assistance. 1096 were visitors and 411 were staff. Fifty cases were referred to hospital for further treatment. The *St John Ambulance* volunteers continue to assist us in high season. As always, we are grateful for their contribution.

**Donald Dinning, Safety Officer**

## PERSONNEL

We continued to implement the recommendations of the *1999/2000 Work Structuring* exercise. Staff adjusted well to the new structures, with new responsibilities and more varied work.

We recruited for newly identified posts as well as replacing leavers. Staff turnover was a very creditable 5.9%.

Forty-three management and supervisory staff, together with the Zoo Director and Heads of Division took part in a training programme arranged by *Capital Bank Training Division*. This was well received and will be used as the springboard for practical skills development in 2001. Topics included leadership styles, motivation, work planning, assertiveness, giving and receiving feedback and appraisal.

*Diamond Environmental* consultants helped with a review of Health

and Safety provision and training. Their recommendations have been used to develop new policies and procedures, alongside the staff Committee for Representatives of Employee Safety (CRES) and line managers. There were regular formal meetings between the Zoo Director, Heads of Division and CRES representatives.

Similarly, the Staff Association brings matters of staff concern to management's attention. This has included a new *Communication Forum*. Both new and existing jobs have been evaluated in the *Job Relativity* process. This is to be used in developing the new pay scheme, to be implemented in 2001. We developed a new policy and more stringent recruitment procedures for Zoo Volunteers, after a joint review with the Education Division.

**Jayne Quinn, Personnel Manager.**



Photo Sara Rooks

**Islands Week – in the summer holidays - was a great success**

The Education Division continued to expand and diversify its activities in 2000. For the first time we established an education outreach programme, with the objective of assisting conservation education overseas. To this end, Alan Woodward (Team Leader, Carnivores) and I visited Lusaka in Zambia where we advised on the setting-up of an education and interpretation programme for *Munda Wanga Zoo*. We also conducted an in-service course for Zambian teachers, helped train the keepers and gave general advice on upgrading the Zoo to modern standards. In addition, we donated funds to enable the re-roofing of the Education Centre and sent over a variety of teaching materials. Our other significant outreach activity of 2000 was in sponsoring the visit to the UK of an educator from *Novosibirsk Zoo* in Russia. One of the great benefits of this training visit was that the information and ideas gained will be disseminated to other zoos in Russia by a native Russian. Hence the net effect of our outreach investment will be far greater than originally anticipated.

Schools and colleges flocked to us in ever greater numbers. Our end of year figures showed a 32% increase on 1999 – itself a record year. We continued to market ourselves vigorously to the education world and responded swiftly to feedback received from schools, thus ensuring that our programmes remained relevant and attractive. Manchester Metropolitan University once again brought students from their Conservation Biology and Behavioural Ecology MSc courses to complete a special elective, devised and delivered by Zoo staff.

**The Wildlife Discovery Centre has proved extremely popular**



The Wildlife Discovery Centre completed its first full year of operation. Our 2000 Gold Medallist, Dr Lee Durrell, declared it officially open in May. This popular facility attracted national press attention, with

enthusiastic reviews in both the *Daily Telegraph* and *Times Educational Supplement*. An interesting new feature installed in 2000 is an electronic weather station which records the year's meteorological data via a computer. As well as being important in teaching ecology, these data are very relevant when looking at the effects of the weather on our visitor figures.

We successfully completed the review of the role of volunteers in the Zoo, and Council accepted the reported recommendations. This report acknowledged the importance of the volunteer function and outlined the future approach whereby volunteers will be recruited for specific tasks as required. The disappointment felt by many at the ending of the old volunteer scheme was balanced, hopefully, by the knowledge that the new arrangements are specifically designed to better meet the more tightly focussed needs of the Society in the future.

The Library coped very well with a continued upsurge in usage during the year. Numbers of library users increased by 26% on the previous year to 1,848. The *Library Steering Group* met three times during the year, exploring ways of optimising the service for staff, students and members.



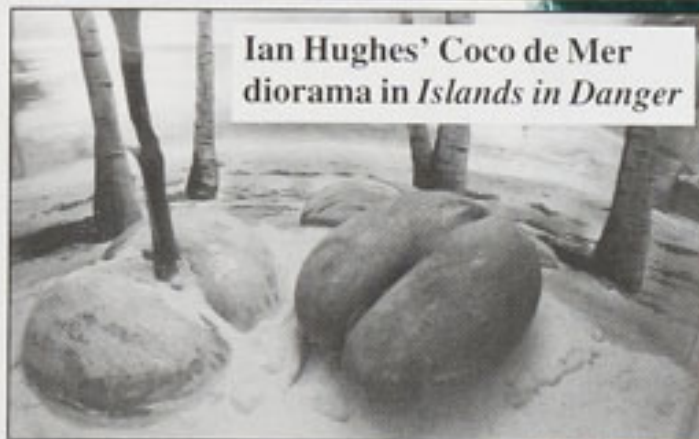
Presenters (left) worked hard to enhance the visitor experience for our record crowds. State of the art public address systems were installed at the elephant and lion enclosures, ensuring for the first time that everyone could hear the presentations. We also worked together with a signer for the deaf at various talks – a successful experiment which we hope to repeat in the future.

Our dynamic interpretation programme transformed many areas of the Zoo and the old-style signage has now been almost completely replaced. The two big interpretation projects of the year were *Islands in Danger* - where the life-size bronze Komodo Dragon proved more popular than we could have imagined - and the *National Elephant Centre*, with its innovative tactile opportunities. Behind the scenes, the Education team worked hard on producing exciting new interpretation for *Spirit of the Jaguar*, ready for installation when the exhibit opens in 2001.

We maintained our links with the wider zoo community by attending and contributing to a number of educators' conferences and meetings both in the UK and abroad. We also started a world-wide zoo educators' electronic discussion group/bulletin board. This now has well over a 100 members and continues to grow daily under our stewardship.

In 2001 we aim to build upon our achievements and look forward to making even greater contributions towards realising our mission.

**Stephen McKeown, Head of Education**



2000 was an exciting year for the new Visitor Services Division. It had been a challenge to bring together four previously separate departments: Retail, Catering, Events and Amenities and Gardens, under the same divisional umbrella. We worked hard to get an effective team approach. Although we have had a few hiccups along the way, the overall performance of the new team has been extremely encouraging. From this start there is plenty of opportunity for excellent future developments.

### Amenities and Gardens

The amalgamation of the previous gardens and groundstaff teams into the new Amenities and Gardens Department was led by the new Manager, Chris Williams.

His team faced many new challenges at the start of the year. All staff within the department worked through a learning curve as they adapted to their new roles. The department is now making clear headway as the jobs become better defined. The introduction of a new, in-depth staff training scheme, along with the clarification of the basic departmental job role, will enable the department to grow in strength in 2001. Important first steps have been taken in evolving a new unified visitor signage style, consultations on staff uniforms, in administering the powered scooters and in effective customer care policies.

### Catering

The Catering Department, led by Sue Clews, has seen many positive changes throughout the year with the most obvious being the completion of the new self-service restaurant. After several years of designing and planning, the superb new *Ark Restaurant* was opened to the public in February. Its new burger bar and self-service restaurant have proved extremely popular amongst visitors of all ages. Seating capacity has doubled, and kitchen and staff facilities are 'state of the art' so that we can present a much broader menu.

Unperturbed by new competition generated by the *Ark Restaurant*, the *Oasis Cafeteria* at the main entrance performed exceptionally well this year - with sales almost 25% higher than in 1999, thanks to the extra *dwell time* from the elephants! Similarly, staff working in the *Oakfield* tea room and restaurant and *Acorn* bar have had a busy year. This was not only during the Christmas period - when bookings exceeded very high targets - but also during the very busy summer season. Richard Jobson and Ian Patten are now joint licensees, with an extended licensed area within the zoo.

### Events

The Events Department, headed by Jane Lawson, has also had a very successful year. The team has been extremely busy taking bookings for the increasingly popular *Safaris* and *Corporate Fun-days*. They have also been occupied promoting the Zoo's new wedding licence from September.



The new *Ark Restaurant* from across the lake

It allows civil wedding ceremonies within the *Oakfield* House. The re-decoration of the Boardroom, with new carpets, curtains and furniture and the transformation of the corridor linking to the *Acorn* bar have greatly improved the overall *Oakfield* ambience.



In November and December the Events team took endless bookings and enquiries for the *Christmas Twilight Evenings* (left). There was an exceptional amount of hard work in the organisation, with preparation and running of these six evenings by staff

across all departments. The compliments given by parents and children who came to visit *Father Christmas* in his magical grotto indicate just how well our hard work and team co-operation was received. Pre-booking eliminated queues in the evenings and resulted in very happy visitors. Brighter lights, extra tableaux and the extra fun and entertainment in the marquee, with crafts and music, added so much to the real magic of these nights.

### Retail

The Retail Department, headed by Alan Jones, made record sales during the year 2000. Total sales figures for the *Ark*, *Fountain* and *Rainbow* shops were 8.7% higher than 1999. We are undoubtedly the leading UK Zoo retail operation.



### Tactile animal outlines

who need special facilities. His contribution has extended to other Federation Zoos. We supported disability days at Warrington and Liverpool. Work on the *Access Audit* continues steadily.

### Access for all

The Disability Awareness Evening was most successful, with a visit from the Lord Mayor of Chester. We have a new and distinctive livery for our fleet of ten powered scooters/chairs and improved their 'garaging' at the staff entrance. Special 'signing days' for deaf visitors were very successful. Volunteer Disability Advisor Michael Elkerton champions the cause of those

With such a successful first year under our belts, the Visitor Services Team is now looking forward to developing further in the year 2001. We have many new ideas and plans which we hope to be able to implement. Many thanks to all of the staff who have helped make the year 2000 such a success.

*Liz Child, Visitor Services Manager*



*Ark Restaurant* seating has doubled

Aerial photographs by Van Rhijn



The aerial photograph shows the scale of the extended elephant paddock with its waterfall/shower and swimming pool

The millennium saw many exciting changes within the Estates Division following the Zoo-wide restructuring exercise. This helped us to become better focussed in all core estate matters. Departmental changes include new opportunities for the Monorail and Boat teams, Groundstaff and Garden staff who have been integrated into the Visitor Services Division and the Animal and Plant Division. New Estates functions now include Health and Safety, Security and Environmental Management.



Winter sunshine in December

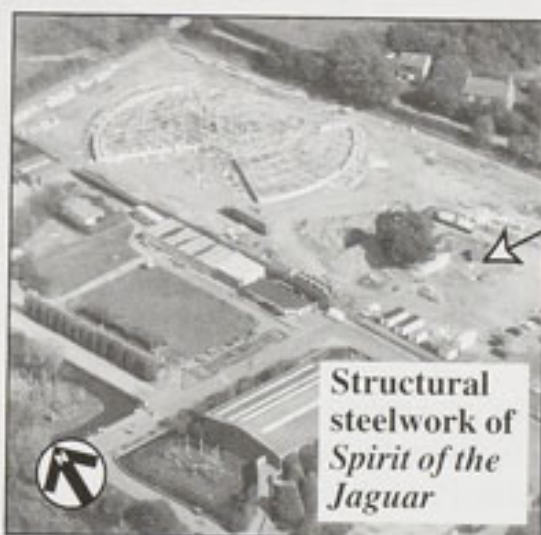
The re-development programme has maintained momentum with several major new exhibits being successfully opened at Easter. These include the new re-developed Elephant Paddock with exciting waterfall features and elephant friendly moats and *Islands in Danger* which houses the Komodo Dragon and Birds of Paradise. The former *Jubilee Cafeteria* has

been renamed *Ark Restaurant* following an extensive refurbishment and an extension which has nearly doubled the seating. The *Roman Garden* was successfully completed in conjunction with Botanical and Horticultural Department and opened for the summer season.

Some lower profile, but important projects completed include: a new borehole which gives us the opportunity to extract 100 million litres of water on the west side of the Zoo; a new Philippine Spotted Deer exhibit and relocation of the Anoa to an island within the existing waterbus canal.

Alongside these new developments, we have carried out major facelifts to various areas of the Zoo including *Noah's Park* childrens' playground and Education buildings. Estates have also helped the Animal and Plant Division build the new *Chimpanzee Forest*. This was a remarkable effort with keepers and horticulturists doing most of the work. A camera amazingly compressed the three weeks of building into two minutes – and this is now part of the Zoo's retail video!

Major projects presently under construction ready for completion in 2001, include *Spirit of the Jaguar* and a new *Administration Block* which are both located in the area of the old car park and entrance.



Structural steelwork of Spirit of the Jaguar

Site of first phase of the new Administration Building

The restructure has allowed the Maintenance Department to become more focussed. As a result, we tackled a huge backlog of work. Examples include upgrading many of our services, resolving outstanding drainage problems and carrying out essential electrical upgrades. The recently developed *Planned Maintenance Programme* has proved to be very successful and we are now beginning to see the benefits. Examples of this include a scheduled refurbishment and upgrade of the Gemsbok and Kangaroo enclosures.

The Security Department has now been integrated into Estates Division. This has proved to be very beneficial, especially in the planning stages of the redevelopment programme because of security inputs in the design process. A wider remit will allow for a greater opportunity to safeguard all aspects of the Zoo estate. There are similar crucial benefits in having early involvement with Health and Safety personnel.

Protection of the environment has always been important to the Society, so we need a clear policy for looking at our performance. We have thus created the multidisciplinary *Environmental Protection Committee* (ENPOC), tasked to monitor what is happening and to create an accredited environmental management system. We were runners up in the Tourism and the Environment section of the *Mersey Tourism Awards*, which encouraged all of us for 2001

Steve O'Brien, Estate Engineer

The audited accounts of the Society are presented on pages 28 to 35 of this *Annual Report*. The accounts are explained on page 25, with a more formal commentary in the Council Report on page 26.

The most significant event in the Division's year was the retirement of Michael Johnson. His five years as Financial Controller and Company Secretary matched a period of unprecedented growth of the Society's fortunes, to which his vision and drive undoubtedly contributed. I have performed the role since May, building on the earlier achievements.

Richard Barnett joined the Division as Management Accountant. His focus is the development of the computerised accounting system and of management information systems where his background in the construction industry will be particularly useful.

The Admissions team welcomed well over a million visitors to the zoo, with minimum waiting time. This is a real organisational achievement as more than half the visitors

arrive in a fifth of the year (the school holidays) and are principally concentrated into a hectic quarter of each day (the 2 hours before lunch).

The Accounts department has coped with the learning process associated with the new *Sage* accounting system and has maintained the routine systems, controls and reports required to keep the funds flowing. This is not one of the glamorous departments of the Zoo: but if, for example, £12,000,000 was not counted and banked; 12,000 purchase invoices not checked and paid; and 13,000 wages not processed, the operation would soon grind to a halt!

A personal highlight of the year was the arrival of a baby girl for Elaine Mulreay, Payroll Coordinator. Despite the absence on maternity leave of half of the department, Barbara Stewart ensured harmony of all the Zoo's staff by making sure that everyone still got paid, and on time. Indeed, there has been excellent teamwork and support from all my colleagues

*Alan Sykes, Financial Controller and Company Secretary*

## INFORMATION TECHNOLOGY

Information Technology (IT) in the Zoo has grown steadily in the last year. The computer count has increased from 52 to 83 with over 90 e-mail users. The membership database has collected over £300,000 from the direct debit scheme. Richard De Riso joined the Zoo as Network Technician and has been responsible for installation of most of the new computers. There were over 1000 requests for maintenance and support last year.

The centralised-computing model has been well received. This provides access to *Microsoft Office 2000* from non-cabled zoo sites via the telephone system, and at staff homes via a simple installation on a PC. The majority of zoo users are now working to the central server in the *Oakfield*. DSL modem links have proved to be robust, with only one brief failure due to an electrical storm. The newly installed colour laser printer is used frequently and has proved useful in developing the zoo business. Towards the end of the year,

we bought a portable video projector to enable presentations to be given by guests and staff using *Microsoft Powerpoint*, or similar software running on a laptop.

The virus shield has proved very effective in preventing virus outbreaks. The staff are advised that our software licence covers any staff member's home PC and are encouraged to keep their virus shield up to date.

Some members of staff have already benefited from computer training. We plan to extend this. We will use the new staff training appraisal system to assess requirements.

Cabling links at 100Mb per second bandwidth have been planned for the new Administration building, linking it to the principal sites in East Zoo

*Philip Morris, Information Technology Systems Supervisor*

## JUNIOR MEMBERS

Broadly split into two categories, the *under eights* and *over eights*, Junior Membership offers something for all ages. The free entry option is widely enjoyed by the younger group at a time which suits them best. The enthusiastic group of over eights are offered the additional opportunity to join in with monthly events, usually held on Saturdays. During 2000 these took us to Farm World, Cholmondeley Castle, Hilbre Island, Hawkstone Park and Follies, Manchester Museum and Martin Mere, as well as an eight mile nature walk on the Sandstone Trail. Events within the Zoo included regulars such as the Contact Session, Tracks and Signs, Summer barbecue incorporating a *Rainforest Roadshow*, the Christmas Party and the ever popular *Day with a Keeper*. I offer a big *thank you* to all those who helped with these monthly events!

An ever-increasing number of 'graduating' Juniors are continuing their interest into adult Membership. This shows the value of encouraging our youngsters.

*Penny Rudd, Junior Club Organiser*

Contact session



Junior Membership continues to go from strength to strength with numbers now over 5,000 - around a third of total Society Membership.

In classical marketing theory, success follows a better product. In our case, the record year certainly has come from a better product, marketed better. The excitement of the complete facelift for the elephant enclosure, with the rockwork, waterfall/shower and landscaping, the amazing *Chimpanzee Forest* and the excitement of the *Islands in Danger* gave us a triple advantage. Add a baby elephant born just as the summer school holidays began, and a second for the autumn – and it's easy to see what a huge advantage we had. The transformation of the Zoo in 2000 gave us the chance to sell – and sell we did.



Our first TV commercial featured *Chimpanzee Forest*

We made TV commercials for *Chimpanzee Forest*, *Islands in Danger* and for the *Elephant Shower* – with *Po Chin* added in for the summer holiday airtime. Our press schedule used similar themes. Public Relations (PR) added an extra dimension, with more coverage than

we have ever had in the press, on radio and TV where there was a repeat of the BBC's 30-part *Vets to the Rescue* series filmed last year in the Zoo. The *Air Mauritius* sponsored Photo Competition provided great PR opportunities for us, with the highest ever number of entries. Andrew Lenihan's inspired *Keeper for the Day* scheme gave magnificent opportunities for publicity.

We added the Liverpool Show to our promotional calendar, with 30 days worth of outreach contact with over 1.5 million potential visitors. The *Ark* trailer is now booked for its ten year refit from Paul Lindop and his team. We gave out over

600,000 leaflets and a record 70,000 print run of *Chester Zoo News*. Once again, Mike Elkerton was a stalwart volunteer in the field! The principal promotional offer



Birkenhead Park

was 'Save £5 on a child's entry'. This worked most effectively for us, accounting for an estimated 52,000

admissions. The offer we made at the Royal Horticultural Society Show at Tatton brought 2,600 admissions, and gate revenue of over £35,000 as a direct result.

Pat Cade's *Chester Zoo Life* had a design makeover, and this has been well received. We have increased the number of pages yet again (now 28) so that the magazine has a substantial feel. Even so, there is never enough space to publish everything we would like! We show the four covers on the right. The web site is attracting over 1,000 overall 'hits' per week and now has unique Zoo panoramas and its own competitions for children ([www.chesterzoo.org](http://www.chesterzoo.org)).

The handover of responsibilities and staff to the *Visitor Services Division*, covering all of our previous operations inside the Zoo, went smoothly. The *Ark Restaurant* was completed on time and on budget for its reopening for the February half term.

We teamed up with *Education* in teaching the Marketing programmes for GNVQ, GCSE and A Level, and made a new 30 minute supporting video on *Zoo Advertising and PR*,

which is now on sale. We delivered the customer care training programme at Easter for new starters, and gave an electronic presentation on the impact of climate change at the newly opened *Lowry* in Salford for the *North West Tourist Board* and

*Marketing Manchester* (above). Our programme of presentations to special interest groups grew through the

year, absorbing the previous Education volunteer role.

Modesty prevented us re-entering for some of the awards that we gained in 1999. It was, nevertheless, pleasing to have three runners-up certificates in the *Merseyside Tourism Awards*, a commendation for the *Liverpool Daily Post* and *Echo*

*Regional Business Awards* and a short-listing in the *Marketing Week Awards*. We will try even harder next year!

Chris Vere, Marketing Manager

Chris Vere  
Marketing Manager  
Chester Zoo

Seasons  
out of  
Season



Marketing Manchester (above). Our programme of presentations to special interest groups grew through the



The joint rail/bus/zoo entry ticketing arrangement continued to give a green alternative way to reach the Zoo

*Regional Business Awards* and a short-listing in the *Marketing Week Awards*. We will try even harder next year!

Chris Vere, Marketing Manager



Spring 2000



Summer 2000



Autumn 2000



Winter 2000

## MEMBERSHIP AND ADOPTIONS

Susan Watson joined the very able team of Maureen Allsopp and Pauline McKee to bolster the continued growth of both schemes. Membership revenue rose from £304,000 to £337,000 (+10.9%) and Adoptions from £114,000 to £129,000 (+13.1%). These are very encouraging figures and confirm the widening interest in our activities. We pioneered the reciprocal *Members' Visiting Rights* scheme which now embraces eight leading UK and Irish zoological gardens.

We are continuing to work on our computer systems. More

and more members are selecting the *Direct Debit* renewal route. Our literature now has the *Gift Aid* provision details.

There was a full programme of Members' meetings. External speakers included Professor Volker Sommer from University College London and wilderness expert, Ray Mears who taught us how to survive in virtually any terrain! We are grateful to all those who helped organise these popular Saturday afternoon events.

John Regan, Development Manager

### The Development Board

His Grace the Duke of Westminster agreed to serve as President of the *Asian Elephant in Crisis Project* to be run by the Board. Under the energetic chairmanship of Neville Chamberlain CBE, who took office at the beginning of the year, the following individuals joined the Development Board:

Peter Rickitt  
Peter Foden CBE  
Nick Pochin  
John Billington CBE

The addition of the last name brings the Merseyside business network in to our ambit, and we are optimistic as to achieving the same for the Staffordshire, Shropshire, Lancashire, Cumbria and North Wales parts of our catchment area before long.

### Legacies

2000 saw the further growth of the *Legacy Pledge Club*, now with some 23 members. Membership of this is restricted to individuals who have officially informed the Society that they have made some provision for the Society's conservation work in their will.

### Donations, Grants, Sponsorships and Bequests

	£
Pochin Developments plc	47,000
Peter Foden	12,500
Neville and Joy Chamberlain	10,000
Peter Rickitt	2,500
Leonard Steinberg	2,000
Joe Dwek	500
Council donations to Elephant project	3,910
Anthony Barbour	250
The Civic Trust	12,801
Ronald and Kathleen Pryor Charity	10,000
Marks and Spencer Financial Services plc	4,000
Schroder Investment Management plc	1,000
Debbie and David Wall	981
East Sussex Reptile Society	70
Robert J. Blewett	4,156
Bank of Scotland plc	3,247
Bishop Auckland Aquarists Society	200
Smart Estate	5,000
Upton Estate	3,000
Proctor Estate	500
Smaller donations	10,045
<b>TOTAL</b>	<b>£133,660</b>

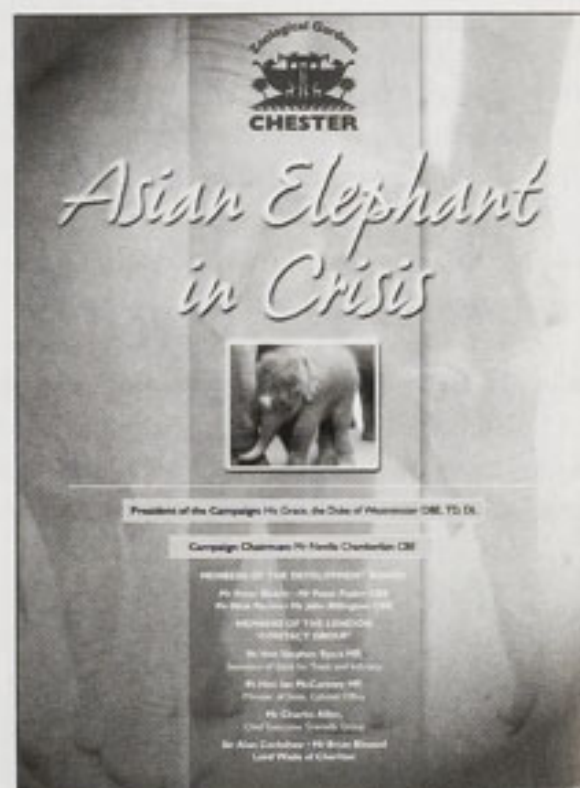


A Pledger's anonymity is respected should they wish, and, in return, they receive a guided 'behind the scenes' tour, invitation to special events, a special certificate and other benefits. We were delighted that a number of our Pledgers were able to meet Brian Blessed and Elizabeth Hurley when they visited.

We grateful for a number of legacies that matured during the year as listed. This continues the tradition of a substantial element the Zoo we all love, being owed to the thoughtfulness of just a handful of people.

*John Regan, Development Manager*

Elizabeth Hurley (left) officially opened *Islands in Danger* on 5th July 2000, meeting many of our *Legacy Pledge Club* members during the day



*Asian Elephant in Crisis Project brochure*



We would like to record our immense gratitude to Jaguar Cars for their funding of *Spirit of the Jaguar* which was under construction for most of 2000. The successful completion of the roof before the worst of the winter weather meant that the project was substantially on time at the year end

Aerial photographs by Van Rijn

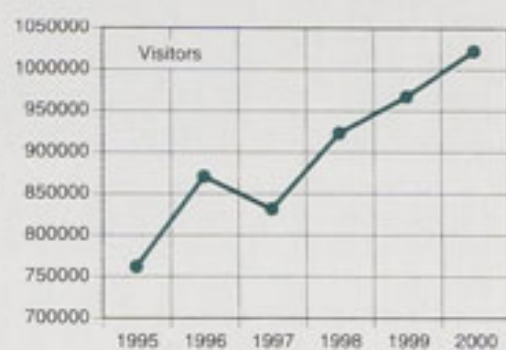


## Incoming Resources

The total incoming resources of the Society and its subsidiary company in 2000 (excluding inter-company transactions) were £11,342,000. This is 9.3% higher than in 1999. Nearly 88% of this income derived from the visiting public.

### Visitor Numbers

In 2000, visitor numbers reached their highest levels since 1972. There were more than 1,020,000 - an increase of 5.7% over the previous year. If we include the under 3's, then our total zoo visitation figure was 1,118,491.



### Spend per Visitor

Overall, the average spend per visitor in 2000, excluding VAT, was £9.75. This is up by 4.4% on 1999.



Unlike zoos in most other European countries, virtually all the visitor related income is subject to Value Added Tax (VAT) at the standard rate. Accordingly, a further £1.70 per visitor was collected and forwarded to HM Customs and Excise.

Our achievement in increasing visitor numbers - while maintaining income per visitor somewhat above the level of retail price inflation - is the main reason for the Society's financial success in the year.

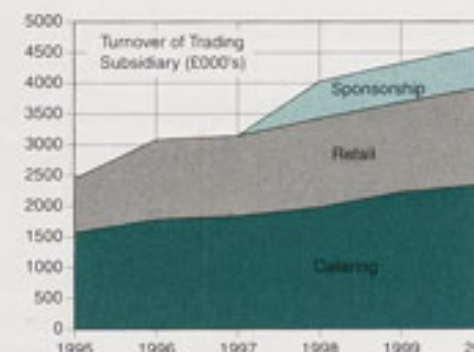
### Turnover of Charitable Trading Activities

Turnover (admission charges, Monorail and boat charges, sales of guides and sundry other income) exceeded £6 million in 2000 for the first time.



### Turnover of Trading Subsidiary

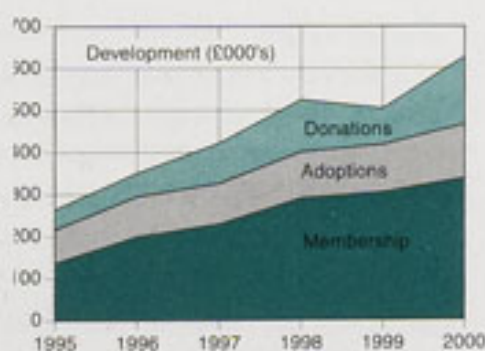
The revenue of the catering and retail activities of the zoo, which increased 6.6% over the year, is accounted for through a separate limited company. For reasons best left to the Inland Revenue to explain, the sale of a nappy is considered to be within the charitable purpose of the Society, the sale of a finger puppet for the same child is not! To avoid the profits of the trading activities being taxed these sales are channelled through Chester Zoo Enterprises Limited, which then donates all its profits to the charity.



Throughout the past three years, the Society has greatly benefited from the generous sponsorship of over £1.9 million by Jaguar Cars Limited.

### Non-Visitor Related Income - Development

In addition to income from visitors, the other significant sources of funds are the sponsorship, mentioned above, and development activity. The Society continued to benefit from strong growth in fundraising, with a 24% increase in income from this source.

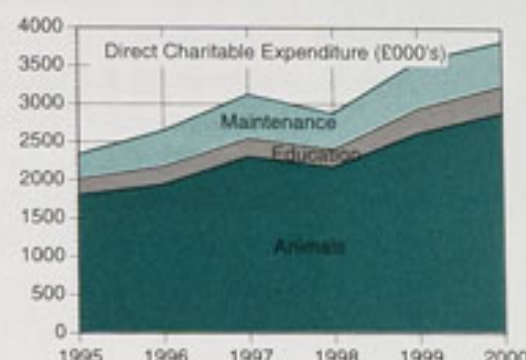


## Resources Expended

All costs and overheads have been analysed on an operational basis against the activity to which they relate. While the methods of allocation of expenses are often subjective, they are applied consistently, both between activities and over time. This allocation is important to differentiate between monies spent in order to generate income and direct charitable expenditure.

### Direct Charitable Expenditure

The direct charitable activities of the Society - principally animal conservation and education - continued to expand, increasing 7.4% in the year.

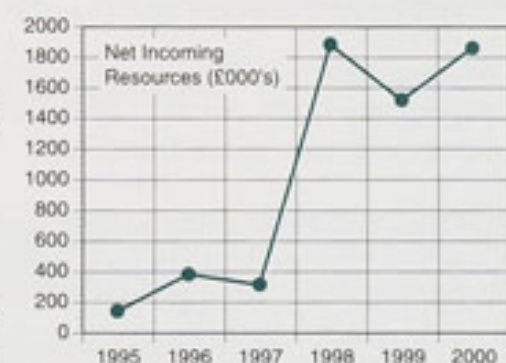


### Other Expenditure

A substantial proportion of the fundraising and publicity costs relates to advertising and promotional activity specifically to attract visitors. The rest relates to fundraising, including sponsorship, and to the raising of public awareness of the zoo and its charitable mission.

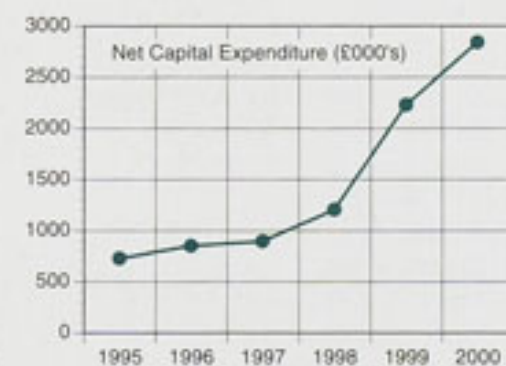
### Net Incoming Resources

The net incoming resources of £1,851,000 for the year increased the accumulated funds to £8,099,000. Being a charity, there is no inherent value to the Society in producing large net incoming resources, other than to increase its reserves or to provide the means for future investment in capital development. So long as the increase in resources is seen to be sustainable, it may choose to expand the level of its ongoing charitable operations instead. Part of the increase over the past 3 years (over £600,000 annually in 1998, 1999 and 2000) relates to the Jaguar Cars Limited sponsorship, which is being utilised in the £2 million *Spirit of the Jaguar* exhibit currently under construction.



### Capital Expenditure

Investments in capital developments during 2000 were £2,827,000. These included completion of the *National Elephant Centre* extension and *Islands in Danger* exhibit, plus the start of the *Spirit of the Jaguar* exhibit. Once that project is complete, the level of capital spend will undoubtedly fall until further external sources of funds are obtained.



### Conclusion

By whatever criteria are used, 2000 has been an exceptional year, the most successful in the history of the Society. Until 20 February 2001, we had every reason to believe that 2001 would expand on that success. The closure of the zoo throughout March as a precaution against a national epidemic of foot and mouth disease; and (as I write) the threat to the busy Easter trade, will have an impact on the Society's finances which is currently impossible to predict accurately.

Alan Sykes, Financial Controller, 30 March 2001

### Legal and Administrative Information

The North of England Zoological Society is a registered charity (No. 306077), a company limited by guarantee (No. 287902), regulated by its Memorandum and Articles of Association. The Society owns a trading subsidiary company, Chester Zoo Enterprises Limited, whose profits are covenanted to the Society.

The registered address of the Society is Caughall Road, Upton by Chester, Chester, CH2 1LH.

The principal advisors of the Society are:

<b>Auditors</b>	PricewaterhouseCoopers, Liverpool
<b>Bankers</b>	Barclays Bank PLC, Liverpool
<b>Solicitors</b>	Mace & Jones, Liverpool Walker, Smith & Way, Chester

A resolution to reappoint PricewaterhouseCoopers as auditors of the Society will be put to members at the Annual General Meeting.

Investment powers are limited to those available under charity legislation.

The charity's mission is to save animal and plant species from extinction by operating and developing a zoological garden and by outreach activities. It supports and promotes conservation by breeding threatened species, by excellent animal welfare, high quality public service, recreation, education and science. It collaborates with like-minded organisations on an international basis.

The development, activities and achievements of the Society in 2000 are detailed fully in this Annual Report, principally in the *Chairman's and Director's Review* (page 5) and in the *The Accounts Explained* (page 25).

### The Council

The elected Council, as Trustees and as Directors for the purposes of Company Law, determines the strategic direction and policies of the Society, with consultation and discussion with the Director of the Society as Chief Executive and his staff who implement policy. Council holds six formal meetings each year, together with an Annual General Meeting. Council has delegated aspects of its powers to committees consisting of some of its members, relevant staff and other advisors. The members of Council, and the Council Committee structure throughout the year, are indicated in the table below.

The Council	Committees				
	Finance	Remuneration	Programmes and Membership	Scientific and Veterinary	Pension Fund*
<b>Trustees elected by the Members</b>					
Keith Maybury (Chairman)	●	●	●	●	
Brian Coles (Vice Chairman)		●		●	
John Brown			●		
Dr David Cooke				●	
Karen Davies			●		
Jean Dixon (Retired June 2000)			●		●
Kathryn Edwards			●		
Prof Brian Gardiner				●	
Brian Livingstone				●	
Derek Lyon				●	●
Chris Mahon				●	
John Makinson	●				●
Graham Pollard			●		
Alan Sharples	●	●			
David Wall (elected June 2000)					
Prof Peter Wheeler (elected June 2000)				●	
Tony Williams (retired June 2000)	●				●
<b>Trustees co-opted by Council</b>					
Leaford Patrick (co-opted Nov. 2000)					
Alan Watson (co-opted Nov. 2000)	●				
Prof Peter Wheeler (until June 2000)				●	

\* Not formally a Committee of Council.

Prof Brian Gardiner, John Makinson and Dr David Cooke all resigned in June 2000 and were re-elected.

### Financial Report and Analysis

Financial results for 2000 (1999 comparatives in brackets):

Charitable Trading Activities produced a surplus of £4,587,000 (£4,077,000). These principally comprise visitor admissions to the zoo, Monorail and Waterbus rides, and sales of guides. The net income of the trading subsidiary was £887,000 (£898,000) from catering, retail and sponsorship activities. The level of sponsorship activity is likely to fall substantially in 2001 as the arrangement with Jaguar Cars Limited has reached the end of its three year term.

Direct Charitable Expenditure, principally animal and plant conservation, increased to £3,822,000 (£3,560,000) leaving net incoming resources for the year of £1,851,000 (£1,511,000). The rate of expansion of Direct Charitable Expenditure is expected to reduce in 2001.

The operating activities produced a cash inflow of £2,379,000 (£2,374,000). This was utilised to fund net capital expenditure of £2,827,000 (£2,319,000) causing a net decrease in cash over the year of £415,000 (increase £149,000). The capital expenditure was again exceptionally high in 2000 due to the building of the *Spirit of the Jaguar* exhibit, and is expected to revert to more normal levels in 2001 which is budgeted to be broadly cash neutral.

The foot and mouth disease (FMD) outbreak has caused the zoo to be closed to visitors from 26 February until the date of Council's approval of this report. If the zoo reopens, as is currently intended, on 7 April 2001 then the financial impact of the closure will be to reduce income by approximately £500,000. Expenditure has been controlled as far as possible but the Society has sustained net losses and cash outflow over that period. Development spending over the next 12 months, principally capital expenditure, will be reduced accordingly, so as to try to recover the cash position by March 2002.

However it is possible that, in order to ensure the safety of our animals or by statutory edict, the zoo will have to remain closed beyond 7 April 2001, or to re-close subsequently. If income and cash generation were to be curtailed for an extended period, the Society might have insufficient funds to be able to continue as a going concern. Adjustments would be necessary to reduce the balance sheet value of assets to their realisable amounts, if lower than their present book values, and to provide for further liabilities that might arise. The financial statements do not include any adjustments that might arise from a failure to remain a going concern. While Council is presently uncertain as to the outcome of this matter, they believe that it is appropriate for the financial statements to be prepared on the 'going concern' basis.

### Restricted and Designated Funds

Restricted income funds derive from the animal adoption scheme and some donations, grants and legacies received. Animal adoption income is all utilised to purchase animal foods, and the remaining restricted funds are put towards a variety of capital projects, equipment or outreach activities.

The designated funds relate principally to the Society's capital expenditure programme for the coming year, and to outreach programmes which the Society wishes to support over the next three to five years.

### Reserves

The Society's Reserves may be defined as that part of its Unrestricted Income Funds that are freely available for its general purposes. It therefore excludes those funds that could only be realised by disposing of Fixed Assets held for charitable use.

It is the general policy of the Society to apply towards its objectives as much cash as it reasonably can, without accumulating excessive Reserves.

Council does not consider it to be necessary to retain income in respect of the Society's designated fund activities. Whilst these funds have been

earmarked by Council for particular purposes or uses, they are not committed or restricted legally. The designation may be cancelled by Council if it later decides that the Society should not proceed with the use or project for which the funds were designated.

The Society must have regard to its substantial continuing commitments in terms of staffing and of its ongoing charitable objectives, and to the difficulty of predicting its precise income in any year. It must have regard to the annual cyclical swings of cashflow and such variable factors as wet weather at peak visitor times, competing attractions in the region, social trends, support for or opposition to zoos in principle, the potential for the closure of the zoo to visitors due to contagious disease and other disasters, and varying levels of economic prosperity and employment.

Council considers that Reserves at the end of any financial year, not exceeding 100% of the Total Resources Expended during the year, could properly be regarded as both reasonable and justified. The Society's Reserves at 31 December 2000, as defined above, were well within this level.

### Employees

Applications for employment by disabled persons are always fully considered, bearing in mind the respective aptitudes and abilities of the applicant. In the event of members of staff becoming disabled, every effort is made to ensure that, where a role is available for which appropriate training can be offered, their Society employment continues. It is the policy of the Society that the training, career development and promotion of a disabled person should, as far as possible, be identical to that of a person who does not suffer from a disability.

The Society continues to consult and discuss with its employees, through the Staff Association and at regular *ad-hoc* meetings, matters likely to

affect their interests. Information is also disseminated by means of an in-house newsletter and the Annual Report which seeks to achieve a common awareness on the part of all employees of the financial and economic factors affecting the Society.

### Council's Responsibilities in relation to the Financial Statements

Members of Council are required by UK company law to prepare financial statements for each financial year which give a true and fair view of the state of affairs of the Society and the group as at the end of the financial year, and of the net incoming resources of the group for that period.

In preparing those financial statements, Council is required to:

- select suitable accounting policies and apply them consistently;
- make judgements and estimates that are reasonable and prudent;
- prepare the financial statements on the 'going concern' basis unless it is inappropriate to presume that the Society will continue to operate.

Council is responsible for keeping proper accounting records which disclose with reasonable accuracy at any time the financial position of the Society and the group, and enable it to ensure that the financial statements comply with the Companies Act 1985 and applicable accounting standards. Council is also responsible for safeguarding the assets of the Society and the group and hence for taking reasonable steps for the prevention and detection of fraud and other irregularities.

*Approved by Council and signed on its behalf:*

*Alan Sykes, Company Secretary*

*30 March 2001*

## REPORT OF THE AUDITORS TO THE MEMBERS OF THE NORTH OF ENGLAND ZOOLOGICAL SOCIETY

We have audited the financial statements on pages 28 to 35.

### Respective Responsibilities of Trustees and Auditors

The Council of the charity who are also Directors of The North of England Zoological Society for the purposes of Company Law, are responsible for preparing the Annual Report. As described above, this includes responsibility for preparing the financial statements in accordance with applicable United Kingdom accounting standards. Our responsibilities, as independent auditors, are established in the United Kingdom by statute, the Auditing Practices Board and our profession's ethical guidance.

We report to you our opinion as to whether the financial statements give a true and fair view and are properly prepared in accordance with the United Kingdom's Companies Act. We also report to you if, in our opinion, the Council report is not consistent with the financial statements, if the charitable company has not kept proper accounting records or if we have not received all the information and explanations we require for our audit, or if information specified by law regarding Directors' remuneration is not disclosed.

We read the other information contained in the Annual Report and consider the implications for our report if we become aware of any apparent misstatements or material inconsistencies with the financial statements.

### Basis of Audit Opinion

We conducted our audit in accordance with Auditing Standards issued by the Auditing Practices Board. An audit includes examination, on a test basis, of evidence relevant to the amounts and disclosures in the financial statements. It also includes an assessment of the significant estimates and judgements made by the Trustees in the preparation of the financial statements, and of whether the

accounting policies are appropriate to the charitable company's circumstances, consistently applied and adequately disclosed.

We planned and performed our audit so as to obtain all the information and explanations which we considered necessary in order to provide us with sufficient evidence to give reasonable assurance that the financial statements are free from material misstatement whether caused by fraud or other irregularity or error. In forming our opinion we also evaluated the overall adequacy of the presentation of information in the financial statements.

### Uncertainty - Going Concern

In forming our opinion, we have considered the adequacy of the disclosures made in note 1(a) to the financial statements concerning the current and potential impact of the outbreak of foot and mouth disease on the Society's income generation, and consequently its financial position. If income and cash generation were to be curtailed for an extended period, the Society might have insufficient funds to be able to continue as a going concern. The Financial Statements do not include any adjustments that would result from this eventuality. In view of the significance of this fundamental uncertainty we consider that it should be drawn to your attention but our opinion is not qualified in this respect.

### Opinion

In our opinion the financial statements give a true and fair view of the state of the affairs of the charitable company and group at 31 December 2000 and of the incoming resources and cash flows of the group for the year then ended and have been properly prepared in accordance with the Companies Act 1985.

*PricewaterhouseCoopers:*

*Chartered Accountants and Registered Auditors*

*8 Princes Parade, St. Nicholas Place, Liverpool L3 1QJ*

*30 March 2001*

## CONSOLIDATED STATEMENT OF FINANCIAL ACTIVITIES FOR THE YEAR TO 31 DECEMBER 2000

	NOTES	2000		1999	
		£ 000's	£ 000's	£ 000's	£000's
<b>INCOMING RESOURCES</b>					
Turnover of charitable trading activities	3		6,019		5,334
<b>Other incoming resources</b>					
Members' subscriptions		337		304	
Animal adoptions ( restricted )		129		114	
Donations & legacies ( see below )		161		86	
Contribution from Deep Sea Leisure Plc.	4	50		100	
Property rents received - external		44		43	
Property rents received - from trading subsidiary	5	381		276	
Profit on sale of property		1		75	
Net income of trading subsidiary	5	887		898	
			1,990		1,896
<b>TOTAL INCOMING RESOURCES</b>			<b>8,009</b>		<b>7,230</b>
<b>RESOURCES EXPENDED</b>					
Gross expenditure of charitable trading activities	3		1,432		1,257
<b>Direct charitable expenditure</b>					
Animal and plant conservation		2,879		2,606	
Education		367		336	
Property maintenance		576		618	
			3,822		3,560
<b>Other expenditure</b>					
Fundraising and publicity		685		593	
Management and administration		219		309	
			904		902
<b>TOTAL RESOURCES EXPENDED</b>			<b>6,158</b>		<b>5,719</b>
<b>NET INCOMING RESOURCES / MOVEMENT IN FUNDS</b>					
	6		1,851		1,511
Accumulated funds brought forward			6,248		4,737
<b>ACCUMULATED FUNDS CARRIED FORWARD</b>			<b>8,099</b>		<b>6,248</b>

All activities are continuing.

There is no material difference between the result disclosed above and that on an unmodified historical cost basis.

All the Society's income is unrestricted except for animal adoptions of £129,000 ( 1999 £114,000 ) and donations, grants and legacies of £104,000 ( 1999 £51,000 ) all held for, or expended on, specific projects. ( see note 16 )

As a result of organisational changes, principally affecting the Gardening Department, costs this year have been re-allocated between those relating to botany and horticulture (included in the Statement of Financial Activities within Animal and Plant Conservation) and general gardens upkeep (included within Gross Expenditure of Charitable Trading Activities as a cost related to Visitor Admissions). The 1999 comparatives have been restated by apportioning the total Gardens cost of £464,000 equally between the two.

The Society has no recognised gains or losses other than the net incoming resources above and, therefore, no separate statement of total recognised gains and losses has been presented.

The notes on pages 31 to 35 form part of these Financial Statements.

## BALANCE SHEETS AT 31 DECEMBER 2000

	NOTES	CONSOLIDATED		SOCIETY	
		2000 £000's	1999 £000's	2000 £000's	1999 £000's
<b>FIXED ASSETS</b>					
Tangible assets	10	7,942	6,059	7,842	5,925
Investment in subsidiary company	11	0	0	0	0
		<u>7,942</u>	<u>6,059</u>	<u>7,842</u>	<u>5,925</u>
<b>CURRENT ASSETS</b>					
Stocks	12	274	253	49	39
Debtors	13	1,062	1,040	1,101	973
Cash at bank and in hand		48	587	48	587
		<u>1,384</u>	<u>1,880</u>	<u>1,198</u>	<u>1,599</u>
<b>CREDITORS:</b>					
Amounts falling due within one year	14	1,227	1,691	941	1,276
<b>NET CURRENT ASSETS</b>		<u>157</u>	<u>189</u>	<u>257</u>	<u>323</u>
<b>TOTAL ASSETS LESS CURRENT LIABILITIES</b>		<u>8,099</u>	<u>6,248</u>	<u>8,099</u>	<u>6,248</u>
<b>NET ASSETS</b>		<u>8,099</u>	<u>6,248</u>	<u>8,099</u>	<u>6,248</u>
<b>FUNDS EMPLOYED</b>					
<b>INCOME FUNDS - RESTRICTED</b>		<u>118</u>	<u>76</u>	<u>124</u>	<u>76</u>
<b>INCOME FUNDS - UNRESTRICTED</b>					
Designated funds		2,847	3,379	2,847	3,379
Other charitable funds		5,134	2,793	5,128	2,793
		<u>7,981</u>	<u>6,172</u>	<u>7,975</u>	<u>6,172</u>
<b>TOTAL FUNDS EMPLOYED</b>	16	<u>8,099</u>	<u>6,248</u>	<u>8,099</u>	<u>6,248</u>

The notes on pages 31 to 35 form part of these Financial Statements.

The Financial Statements on pages 28 to 35 were approved by Council and were signed on its behalf by :

.....  
*Keith Maybury,*  
 Chairman of Council  
 30 March 2001

.....  
*Alan Sharples,*  
 Chairman of Finance Committee  
 30 March 2001

## CONSOLIDATED CASH FLOW STATEMENT FOR THE YEAR TO 31 DECEMBER 2000

	NOTES	2000 £000's	1999 £000's
<b>CASH FLOW FROM OPERATING ACTIVITIES</b>			
Net incoming resources		1,851	1,512
Net interest (receivable)		(33)	(29)
(Profit) on sale of fixed assets		(1)	(75)
Depreciation charges net of amortisation of capital grants		945	759
(Increase) / decrease in stocks		(21)	23
(Increase) in debtors		(22)	(13)
(Decrease) / increase in creditors due within 1 year		(340)	197
		<hr/>	<hr/>
Net cash inflow from operating activities			2,379
			<hr/>
<b>RETURNS ON INVESTMENTS AND SERVICING OF FINANCE</b>			
Interest received		33	30
Interest paid - bank and other		0	(1)
		<hr/>	<hr/>
Net cash outflow from returns on investments and servicing of finance			33
			<hr/>
<b>TAXATION</b>			
Net cash outflow from taxation			0
			<hr/>
			(38)
			<hr/>
<b>CAPITAL EXPENDITURE AND FINANCIAL INVESTMENT</b>			
Receipts from disposal of tangible fixed assets		1	103
Payments to acquire tangible fixed assets	10	(2,828)	(2,319)
		<hr/>	<hr/>
Net cash outflow from capital expenditure			(2,827)
			<hr/>
			(2,216)
			<hr/>
<b>NET CASH (OUTFLOW) / INFLOW</b>			
			<hr/>
			(415)
			<hr/>
<b>CASH</b>			
	17		
Decrease/(increase) in bank overdraft		124	(116)
(Decrease)/increase in cash at bank and in hand		(539)	265
		<hr/>	<hr/>
<b>(DECREASE) / INCREASE IN CASH IN THE YEAR</b>			
			<hr/>
			(415)
			<hr/>
			149
			<hr/>

The notes on pages 31 to 35 form part of these Financial Statements.

## NOTES TO THE FINANCIAL STATEMENTS FOR THE YEAR ENDED 31 DECEMBER 2000

**1. ACCOUNTING POLICIES**

The following accounting policies have been applied in dealing with items that are considered material in relation to the financial statements of The North of England Zoological Society ('the Society') and are consistent with those of the 1999 financial statements.

**(a) Basis of accounting**

The financial statements have been prepared in accordance with applicable accounting standards in the United Kingdom under the historical cost convention and in accordance with the Statement of Recommended Practice (SORP) for Accounting by Charities. The majority of the Society's income is generated from visitors. As a result of the foot and mouth disease (FMD) situation the zoo has been closed since 26 February 2001 and, as a consequence, little income has been generated from that date up to the date of Council's approval of this report. Expenditure has been controlled as far as is possible but the Society has sustained net losses and cash outflow over that period. Although a decision to reopen the zoo has been taken there remains uncertainty about the scale of FMD and whether the zoo will be able to remain open. If income and cash generation were to be curtailed, for an extended period, the Society might have insufficient funds to be able to continue as a going concern. Adjustments would then have to be made to reduce the balance sheet asset values to their recoverable amounts, if these were lower than present book values, to provide for further liabilities that might arise, and to reclassify fixed assets as current assets. The financial statements do not include any adjustments that might arise from a failure to remain as a going concern. While Council is presently uncertain as to the outcome of this matter, they believe that it is appropriate for the financial statements to be prepared on the 'going concern' basis.

**(b) Basis of consolidation**

The consolidated statement of financial activities, balance sheet and cash flow statement include the financial statements of the Society and its subsidiary undertaking made up to 31 December 2000 and comply with recommended practice for accounting by charities. The net profit of the subsidiary trading company, covenanted to the Society, has been shown as a single line on the statement of financial activities. The turnover and expenses relating thereto are shown in the notes to the financial statements. Its net profit is shown after accounting for various intra-group charges. Rent paid by the subsidiary to the Society has been shown within incoming resources whereas the apportioned overheads, recharged by the Society, have been deducted from the appropriate expense line in the statement of financial activities.

**(c) Funds employed**

All funds employed must be expended in furtherance of the objects of the Society. Restricted income funds must be used in furtherance of some specific aspect of those objects. Designated funds are those which have been set aside by Council, out of unrestricted funds, for identifiable future expenditure but the designation has an administrative purpose only and does not legally restrict Council's discretion to apply the funds.

**(d) Fixed assets**

Fixed assets are included in the balance sheets at their cost to the Society.

**(e) Freehold properties**

In accordance with the practice adopted in previous years, no depreciation has been provided on freehold land or property. It is the Society's policy to maintain its property in good condition, thus prolonging its useful life. Repairs and maintenance costs are charged against income in the year that they are incurred. However, in accordance with Financial Reporting Standard Number 15 (Tangible Fixed Assets), this will be changed for the year ending 31 December 2001. An exercise to identify the historical cost of the buildings (from the current combined land and buildings total) is being undertaken in order that the accurate charge for the year may be ascertained. The depreciation charge for one year is not material.

**(f) Special buildings, enclosures, equipment and monorail system**

Depreciation is provided at rates varying between 4% and 25% per annum, estimated to write off each asset over the term of its useful life. The rates and method of depreciation are consistent with those used in previous years. Grants are amortised at a rate equal to the depreciation rate applied to the asset to which they relate.

**(g) Animals**

No annual assessment is made of the value of the animal collection. It is valued consistently at a nominal sum and not depreciated. Purchases and sales during the year are treated as revenue transactions.

**(h) Leases**

Where the Society enters into a lease which entails taking substantially all the risks and rewards of ownership of an asset, the lease is treated as a finance lease. The asset is recorded in the balance sheet as a fixed asset and is depreciated over its estimated useful life. Future installments under such leases, net of finance charges, are included within creditors. Rentals payable are apportioned between the finance element, which is charged to the statement of financial activities as interest, and the capital element, which reduces the outstanding obligation for future installments. All other leases are operating leases and the rental charges are taken to the statement of financial activities as incurred.

**(i) Stocks**

Stocks are valued on a basis consistent with that used in previous years at the lower of cost and estimated net realisable value.

**(j) Incoming Resources**

Turnover of charitable trading activities represents cash and invoiced amounts of admission charges, goods sold and services provided (stated net of value added tax). Members' subscriptions, animal adoptions, donations and legacies, are accounted for on a received basis.



**(k) Pensions**

The Society operates a voluntary pension scheme covering the majority of Permanent employees providing benefits based on final pensionable pay. The assets of the scheme are held in trustee administered funds completely independent of the Society's finances. Contributions to the scheme are charged to the statement of financial activities so as to spread the cost of pensions over the employees' working lives with the Society.

**(l) Property Sales**

Profit on sales of land and buildings consists of the difference between the net amount realised and the sum of cost and subsequent additions, and is reported separately on the face of the statement of financial activities in any year where a sale has occurred.

**(m) Apportionment of Costs**

The Society's systems analyse expenses departmentally. The SORP calls for expenses to be analysed on an operational basis and accordingly they have been apportioned on this basis. Different appropriate criteria such as staff numbers, cash revenues and volume of purchases have been used.

**2. STATUS**

The Society is a company limited by guarantee and has no share capital. Members have guaranteed the liabilities of the Society to the extent of £1 each. The Society is registered with the Charity Commission No. 306077. As a registered charity, the Society is entitled to claim exemption from the charge to tax on income and chargeable gains in Section 505 of the Income and Corporation Tax Act 1988, and Section 256 Taxation of the Chargeable Gains Act 1992. In the opinion of Council no corporation tax liability arose in respect of the Society's activities in the year.

**3. CHARITABLE TRADING ACTIVITIES**

	2000		1999	
	£ 000's	£ 000's	£ 000's	£ 000's
<b>Turnover</b>				
Visitor admissions	5,380		4,716	
Monorail and boats	343		310	
Guides and other	296	6,019	308	5,334
<b>Gross expenditure</b>				
Visitor admissions	1,123		894	
Monorail and boats	212		259	
Guides and other	97	1,432	104	1,257
		4,587		4,077

**4. CONTRIBUTION FROM DEEP SEA LEISURE PLC (Blue Planet Aquarium Group).**

Under the terms of an agreement dated 15 August 1996, between the Society and Deep Sea Leisure PLC, which has developed an aquarium at Ellesmere Port, the Society will receive 4 payments of £100,000 each, annually from July 1998 to July 2001, for maintenance of goodwill and to avoid disruption of trade. During the year, the Society agreed on a goodwill basis that £50,000, due to be received in 2000, should be deferred until 2001.

**5. TRADING SUBSIDIARY - CHESTER ZOO ENTERPRISES LIMITED**

	2000			1999	
	Catering	Shops	Sponsorship	Total 2000	1999
	£ 000's	£ 000's	£ 000's	£ 000's	£ 000's
Turnover	2,345	1,586	670	4,601	4,324
Direct Costs	1,724	1,030	-	2,754	2,533
Gross profit	621	556	670	1,847	1,791
Indirect Costs					
- property rents paid to Parent Company	244	137	-	381	276
- management charges paid to Parent Company	285	199	-	484	526
- other overheads	87	8	-	95	91
Net profit	5	212	670	887	898
Amount covenanted to the Society				887	898
Retained in subsidiary				0	0

**6. NET MOVEMENT IN FUNDS**

	2000		1999	
	£ 000's	£ 000's	£ 000's	£ 000's
This is after charging:				
Auditors' remuneration - audit (Society : £ 9,000, 1999 £ 8,000)		13		12
- non-audit		4		38
Depreciation (net of grant amortisation)		945		759
Hire of equipment		49		48
Interest payable - bank	0		2	
Less : Interest receivable	33	(33)	31	(29)
Operating lease rentals - plant and equipment		8		8

As permitted by Section 230 of the Companies Act 1985, the Society's results are included in the consolidated statement of financial activities and no separate statement of financial activities is presented. The Society's surplus for the financial year, determined in accordance with the Companies Act, was £1,851,000 (1999; £1,511,000).

## 7. DIRECTORS

## (a) Remuneration and expenses

The members of Council, being Charity Trustees, received no remuneration (1999 Nil).

Three trustees (1999 two) were reimbursed during the year for travelling expenses necessarily incurred. The aggregate amount of those expenses was £798 (1999 £110).

## (b) Trustee indemnity insurance

Insurance costing £2,205 (1999 £2,184) has been taken out by the Society to protect the Society, its Trustees and other officers against the consequences of any neglect or default on their part.

## 8. EMPLOYEES

## (a) Aggregate staff costs

	2000 £ 000's	1999 £ 000's
Wages and salaries	3,604	3,419
Social security costs	292	284
Other pension costs	222	209
	4,118	3,912

## (b) Emoluments

The number of employees, including those employed for only part of the year, whose emoluments for the year (excluding pension contributions) fell within each band of £10,000 from £40,000 upwards was as follows:

	2000 Number	1999 Number
From £40,001 to £50,000	3	2
From £50,001 to £60,000	1	2
From £60,001 to £70,000	1	1

## (c) Number of persons employed

	2000		1999	
	Permanent	Temporary	Permanent	Temporary
The average (full time equivalents) throughout the financial year was as follows:				
Animal and Plant Conservation	74	-	71	9
Education	10	2	7	1
Property Maintenance	23	-	21	-
Visitor Services	24	16	15	15
Catering and Shops	29	50	30	47
Fundraising and Publicity	7	-	7	-
Administration	18	6	22	7
	185	74	173	79

## 9. PENSIONS

Pension contributions are determined by a qualified actuary on the basis of triennial valuations using the Projected Unit method for the 3% contributory members and the Attained Age method for the 6% contributory members. The assumptions which have the most significant effect on the results of the valuations are those relating to the real investment return above price and salary inflation (2.45% pa. above salary increases and 1.95% pa. above pension increases.) The most recent valuation was at 31 December 1999 which showed that the market value of the scheme's assets was £5,161,000 and that the actuarial value of those assets represented 118% of the benefits that had accrued to members.

In addition to the cost of insuring the death benefits, the contributions made to the scheme have been:

	<u>Members</u>	<u>Company</u>
6% Contributory members	6%	19.3%
3% Contributory members	3%	11.0%

The actuary gave it as his opinion that, provided contributions continued at the rates as set out above, the next actuarial valuation as at 31 December 2002 would be expected to show that the resources of the Scheme were likely, in the normal course of events, to be sufficient to meet in full the liabilities of the Scheme as they fell due. At the year end an accrual of £4,440 was included in the accounts in respect of pension contributions.

10. TANGIBLE FIXED ASSETS		Freehold property	Buildings & enclosures	Monorail system	Machinery & equipment	Animals	Total
		£000's	£000's	£000's	£000's	£000's	£000's
CONSOLIDATED COST	At 1 January 2000	643	6,517	1,522	1,144	1	9,827
	Additions	0	2,685	0	143	0	2,828
	Disposals / Written off	0	(237)	0	(168)	0	(405)
	At 31 December 2000	643	8,965	1,522	1,119	1	12,250
DEPRECIATION	At 1 January 2000	0	1,811	1,444	513	0	3,768
	Provided during year	0	667	52	226	0	945
	Disposals / Written off	0	(237)	0	(168)	0	(405)
	At 31 December 2000	0	2,241	1,496	571	0	4,308
NET BOOK VALUE	At 31 December 2000	643	6,724	26	548	1	7,942
	At 1 January 2000	643	4,706	78	631	1	6,059

The net book value at 31 December 2000 represents fixed assets used for :

Charitable trading activities	0	1,002	26	88	0	1,116
Direct charitable purposes	0	4,768	0	247	1	5,016
Other purposes	643	954	0	213	0	1,810
	643	6,724	26	548	1	7,942

The depreciation charged for the year to 31 December 2000 was allocated :

Charitable trading activities	0	76	52	13	0	141
Direct charitable purposes	0	506	0	123	0	629
Other purposes	0	85	0	90	0	175
	0	667	52	226	0	945

Animal purchases of £18,000 ( 1999 £3,000 ) and sales of £0 ( 1999 £1,000 ) have been treated as revenue transactions.

Included in the net book value of fixed assets is £0 (1999 £17,000) in respect of the Monorail system acquired under 'finance' leases. Depreciation for the year on these assets was £17,000 (1999 £17,000)

Council considers that the market value of the Society's land, property and buildings exceeds their book values.

All the tangible fixed assets included in the consolidated statement above relate entirely to the Society, with the exception of the machinery and equipment where the equivalent figures for the Society alone are :

	COST	DEPRECIATION	NET BOOK VALUE
	£000's	£000's	£000's
At 1 January 2000	846	350	496
Additions	144	0	144
Disposals	(168)	(168)	0
Provided during year	0	192	(192)
At 31 December 2000	822	374	448

#### 11. INVESTMENT IN SUBSIDIARY COMPANY

The Society has a wholly owned trading subsidiary, comprising 100 ordinary £1 shares in Chester Zoo Enterprises Limited, incorporated in the UK, which operates the catering and retail activities of the zoo from outlets rented from the Society. It covenants its taxable profit to The North of England Zoological Society. A summary of its trading results has been included in Note 5 above. Audited accounts for the year to 31 December 2000 will be filed with the Registrar of Companies.

#### 12. STOCKS

	GROUP		SOCIETY	
	2000	1999	2000	1999
	£000's	£000's	£000's	£000's
Goods for resale	224	214	7	4
Consumables	50	39	42	35
	274	253	49	39

The replacement cost of the above stocks would not be significantly different from the values stated.

## 13. DEBTORS

	GROUP		SOCIETY	
	2000 £000's	1999 £000's	2000 £000's	1999 £000's
Trade debtors	806	774	15	35
Intra group debtor	0	0	831	570
Other debtors	206	231	205	336
Prepayments and accrued income	50	35	50	32
	<u>1,062</u>	<u>1,040</u>	<u>1,101</u>	<u>973</u>

## 14. CREDITORS - AMOUNTS FALLING DUE WITHIN ONE YEAR

	£000's	£000's	£000's	£000's
Bank overdraft ( secured )	235	359	223	322
Trade creditors	647	872	572	768
Other taxes and social security costs	253	340	73	86
Other creditors	6	26	6	26
Accruals	86	94	67	74
	<u>1,227</u>	<u>1,691</u>	<u>941</u>	<u>1,276</u>

The bank overdraft is secured by a fixed charge on the freehold property.

## 15. CORPORATION TAX

As the Society is a Registered Charity it had been considered that no tax liability (other than VAT) arose on income. Since 1 January 1992 any commercial activity which falls outside the statutory exemption for the purposes of Corporation Tax has been conducted through Chester Zoo Enterprises Limited, which covenants all its taxable profits annually to the Society.

## 16. FUNDS EMPLOYED

	Balance 1 January 2000 £000's	New Funds £000's	Funds Utilised £000's	Balance 31 December 2000 £000's
<b>Restricted Income Funds</b>				
Animal adoptions scheme	0	129	129	0
Animal welfare projects	36	84	18	102
Education projects	40	20	44	16
	<u>76</u>	<u>233</u>	<u>191</u>	<u>118</u>
<b>Designated Funds</b>				
Animal welfare projects	3,005	1,352	2,227	2,130
Other capital projects	374	1,048	705	717
	<u>3,379</u>	<u>2,400</u>	<u>2,932</u>	<u>2,847</u>
<b>Other Charitable Funds</b>	<u>2,793</u>	<u>5,376</u>	<u>3,035</u>	<u>5,134</u>
<b>Total Funds Employed</b>	<u>6,248</u>	<u>8,009</u>	<u>6,158</u>	<u>8,099</u>

## 17. ANALYSIS OF CHANGES IN NET DEBT DURING THE YEAR

	Balance 1 January 2000 £000's	Cash Flow in 2000 £000's	Balance 31 December 2000 £000's
<b>CASH</b>			
Bank overdraft	(359)	124	(235)
Cash at bank and in hand	587	(539)	48
Total net cash	<u>228</u>	<u>(415)</u>	<u>(187)</u>

## 18. FINANCIAL COMMITMENTS

	GROUP		SOCIETY	
	2000 £000's	1999 £000's	2000 £000's	1999 £000's
Capital expenditure, contracted for but not provided :	<u>934</u>	<u>946</u>	<u>934</u>	<u>946</u>
There is an annual commitment in respect of operating leases which expire within two to five years of:-	<u>8</u>	<u>8</u>	<u>8</u>	<u>8</u>

## 19. CONTINGENT LIABILITIES

Nil.

## 20. RELATED PARTY TRANSACTIONS

The Society has taken advantage of the exemptions available under Financial Reporting Standards No. 8, 'Related Party Transactions', not to disclose details of any transactions with entities that are part of The North of England Zoological Society group.

Table 1 - SUMMARY - LIVESTOCK GENERAL HOLDINGS - TOTALS AS AT 31ST DECEMBER 2000

	Number of Species	(End 99)	Number of Specimens	(End 99)	Species Bred & Reared in 2000	(End 99)	Specimens Bred & Reared in 2000	(End 99)
Mammals	63	61	708	656	28	27	49	37
Birds	205	197	933	944	54	62	192	196
Reptiles	55	47	245	252	6	8	77	94
Amphibians	19	13	186	158	2	3	12	65
Fishes	124	132	3054	2952	41	39	not included	not included
Invertebrates	38	35	1862	1742	20	16	not included	not included
Total	504	485	6988	6704	151	155	330	392

Table 2 - SUMMARY - 'THREATENED SPECIES' 2000 (IUCN AND MANAGED PROGRAMMES)

Threatened species	221	Threatened species bred to date	156
% of all livestock	44%	% of Threatened species bred	71%

Table 3 - SUMMARY OF THREATENED SPECIES BY CATEGORY

	IUCN Red List	Managed Programmes	Total IUCN/Managed Programmes
MAMMALS	50	42	52
BIRDS	89	62	99
REPTILES	14	11	18
AMPHIBIANS	3	2	4
FISHES	26	18	33
INVERTEBRATES	4	14	15
TOTALS	186	149	221

Table 4 - SUMMARY OF NUMBERS OF SPECIES IN EACH MAIN IUCN RED LIST CATEGORY

EW	7	LRcd	10
CR	21	LRnt	48
EN	34	DD	4
VU	62		
		<b>TOTAL</b>	<b>186</b>

Table 5 - CITES SUMMARY

Cites	Category I	Category II	Total
Mammals	23	11	34
Birds	30	70	100
Reptiles	5	27	32
Amphibians	0	5	5
Fishes	2	0	2
Invertebrates	0	6	6
<b>TOTAL</b>	<b>60</b>	<b>119</b>	<b>179</b>

Table 6 - ABBREVIATED CODES USED

EW = Extinct in the wild	LRcd = Lower risk conservation dependent	EEP = European Endangered Species Programme
CR = Critically endangered	LRnt = Lower risk near-threatened	ESB = European Stud Book
EN = Endangered	DD = Data deficient	JMSP = Joint Management of species Programmes and studbooks
VU = Vulnerable		ENP = English Nature Programme
		ISB = International Studbook
		Programmes in parenthesis are proposed
* Not currently in a breeding pair or group	+ recent arrivals or not yet of breeding age	X = bred in indicated period
		N/A = Not applicable

Table 7 - SUMMARY OF TRANSFERS TO OTHER COLLECTIONS 2000

Mammals	22 species were sent to 24 collections	Reptiles	9 species were sent to 8 collections
Birds	41 species were sent to 26 collections	Aquarium	9 species were sent to 9 collections

## REFERENCES CITED

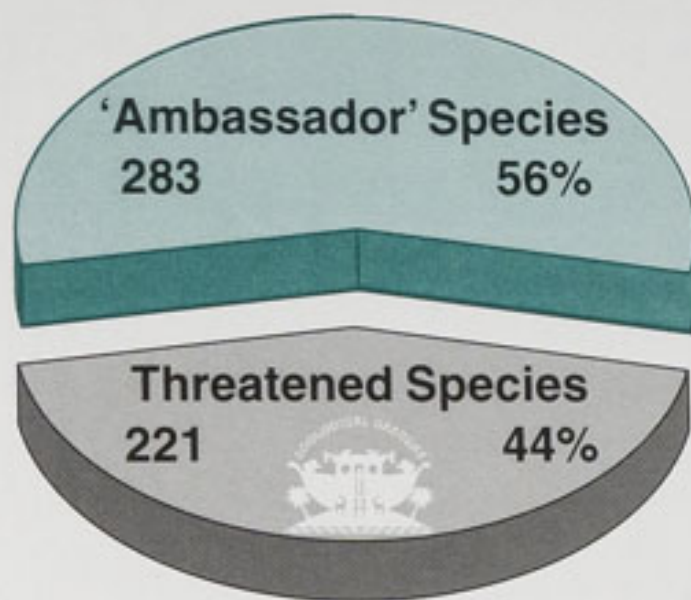
Charlton, N., Stevenson, M. & Bemment, N. (Eds) (2000). Joint Management of Species Programmes Annual Report 1999. Federation of Zoological Gardens of Great Britain and Ireland, London.

IUCN (2000). 2000 IUCN Red List of Threatened Species. Hilton-Taylor, C. (compiler). IUCN, Gland, Switzerland and Cambridge, UK. 61pp.  
Rietkerk, F., Hiddinga, B., Brouwer, K., & Smits, S. (Eds). (2000) EEP Yearbook 1998/1999. EAZA Executive Office, Amsterdam.

## Threatened Species

Threatened Species is total of IUCN Red List species and/or those in Managed Programmes.

- 1 At Chester we aim to increase the percentage of the most threatened species and to maximise our conservation breeding performance. As part of managed breeding programmes in any year we may be requested not to breed from certain animals or from some species.
- 2 'Ambassador' species are not simply for exhibition - in fact every species has to 'justify' its inclusion in our collection planning on grounds of conservation (threatened status), education value and relevance to field, husbandry and welfare programmes.
- 3 Our emphasis is on 'Quality' rather 'Quantity' and quality is directly related to degree of threat and need for support. The word 'quality' also quite rightly suggests the imperative to continuously examine and improve our standards of care.
- 4 Changes in threat status may occur as a result of direct



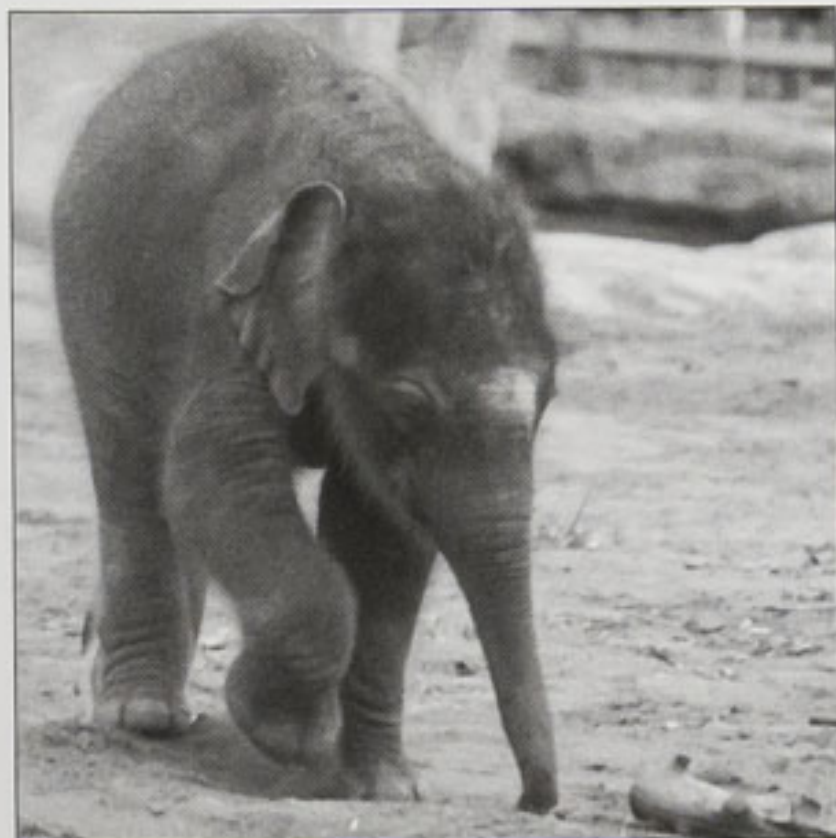
conservation action or through better knowledge of the status of a species in the wild. From this, species in the collection previously considered threatened may lose that status and, conversely, new species may be listed as threatened.

- 5 Collection planning must respond to these changes and be sufficiently flexible to support those species under greatest threat; while continuing our role to enthuse our visitors about the diversity of life, and help them understand the threats now facing wildlife world-wide.

## Conservation Breeding Programmes

Chester Zoo works with some 140 conservation breeding programmes. These encompass a range of programmes including International Studbooks (ISBs), European Endangered Species Programmes (EEPs), European Studbooks (ESBs), UK Joint Management of Species Programmes (JMSPs) and English Nature Programmes. Programmes for high profile animals include the EEPs for Black Rhinoceros and Orang utans and the wide coverage of species involved range from Asian Elephants to Tadpole Shrimps.

Some of these conservation breeding programmes are for species now extinct in the wild and represent their only chance of survival. Such is the case for two of the three



Baby Elephant *Po Chin* was born in July 2000

species of Partula Snail held and bred at Chester; because both are now extinct on their native Hawaii. This is also the case for one of the Lake Victoria Cichlids and two of the Mexican Goodeid fishes held in our aquarium. Some species that were extinct in the wild have already been returned to the wild. An example of this is the Père David's Deer now returned to their native China. A number of the animals returned to China originated from Chester Zoo.

For other critically endangered species our zoo populations act as essential lifeboats, for both Waldrapp Ibis and Bali Starlings there are many more individuals in zoos than remain in the wild. These populations require careful management to ensure that they remain genetically, physically and behaviourally suitable for reintroduction should that be needed.

Reintroduction is appropriate when the circumstances that caused a particular species or population to decline no longer hold and suitable habitat exists. Sand Lizards bred at Chester as part of our partnership with a number of other conservation organisations were released this year at a coastal site in West Wales.

In May, 20 Juvenile Sand Lizards were released at a secret location near Harlech, West Wales. Herpetologist, Isolde McGeorge reported on this in the Autumn *Zoo Life* (right)

*Zoo Life*

### Sand Lizards Return Again to Wales

Reintroduction programmes are not confined to exotic species from far away places. Herpetologist Isolde McGeorge writes on a very successful 'breed to return' programme for a native species very close to Chester.

**J**UST over four years ago, a Sand Lizard (lizard) was bred at Chester Zoo. It was the UK's second breeding centre for this attractive animal, the most endangered of Britain's native reptiles.

The Marston site of Sand Lizards was established Chester, Merseyside and the Welsh of North and West Wales. Sadly, less than 2% of its former population now exists on the Marston site. The 2% is made up of less than 200 adult animals and 15% of these were born in captivity.

Thanks to the Sand Lizard resulting in their loss, include coastal development, which takes the shore systems sustainable, destruction of habitat, alien plant encroachment, loss, disturbance by visitors, cut and margin pollution - and collection of the lizards for pets.

The Sand Lizard Recovery Programme is a partnership between the Herpetological Conservation Trust, English Nature, the Countryside Council for Wales and the Mersey Valley Trust for Nature. Help and co-operation is received from many outside organisations, including South Merseyside Borough Council. The aim of the programme is to maintain existing populations of Sand Lizards and re-establish the species across its historical range.

At Chester, we began our conservation breeding programme with five animals collected by rangers - two males and three females. In the first year we successfully hatched six progeny, and

over the next five years 21 more young were hatched.

After a year, representatives of all the groups involved met to discuss current best work and long term conservation strategies for the preservation of the race. At the September 1998 meeting, after much discussion, it was decided that all of the young from Chester Zoo's programme would be re-introduced to a suitable site in North Wales. A population of introduced animals already existed in this particular area, where previously they had been extinct.

In May, this year, 20 juvenile Sand Lizards were collected and taken to a secret location near Harlech, where they were released. A more favourable site could not be envisaged, with the rolling dune system running parallel with a white sandy beach and the crystal clear waters of the sea. The range has been observed to the area and was able to pinpoint some of the released progeny.

With the recent addition of three more wild caught adult females, we are now hoping for a double release over the period of one year. A new location for further releases has already been found, for we expect the current dune system is likely to expand.

The Sand Lizard breeding programme at Chester Zoo has been an outstanding success, and as a result other institutions may become involved with rearing wild this year. A pair of our 1998 Sand Lizards have been sent to Jersey Zoo, which has recently established its own museum.

\* The released lizards are near Harlech.



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MAMMALS		BRED '00	BRED < '00	IUCN Red List	Managed Programme					
1	Western Grey Kangaroo	<i>Macropus fuliginosus</i>	X	X	LRnt	ESB				
2	Rodrigues Fruit Bat	<i>Pteropus rodricensis</i>	X	X	CR	EEP/ISB				
3	Ring-tailed Lemur	<i>Lemur catta</i>	X	X	VU	ESB				
4	Black and White Ruffed Lemur	<i>Varecia variegata variegata</i>	X	X	EN	EEP/ISB				
5	Red Ruffed Lemur	<i>Varecia variegata rubra</i>	X	X	CR	EEP/ISB				
6	Cotton-top Tamarin	<i>Saguinus oedipus</i>	X	X	EN	EEP/ISB				
7	Buffy-headed Capuchin	<i>Cebus apella xanthosternus</i>			CR	EEP				
8	Colombian Black Spider Monkey	<i>Ateles fusciceps robustus</i>	X	X	VU	EEP/JMSP				
9	Lion-tailed Macaque	<i>Macaca silenus</i>	X	X	EN	EEP/ISB				
10	Sulawesi Crested Macaque	<i>Macaca nigra</i>	X	X	EN	EEP				
11	Mandrill	<i>Mandrillus sphinx</i>	X	X	VU	ESB/JMSP				
12	Chimpanzee	<i>Pan troglodytes</i>	X	X	EN	JMSP				
13	Bornean Orang utan	<i>Pongo pygmaeus pygmaeus</i>			EN	EEP/ISB				
14	Sumatran Orang utan	<i>Pongo pygmaeus abelii</i>			CR	EEP/ISB				
15	Prairie Marmot	<i>Cynomys ludovicianus</i>	X	X	LRnt					
16	African Crested Porcupine	<i>Hystrix cristata</i>			LRnt					
17	Capybara	<i>Hydrochoerus hydrochaeris</i>				JMSP				
18	Mara	<i>Dolichotis patagonum</i>	X	X	LRnt	JMSP				
19	Maned Wolf	<i>Chrysocyon brachyurus</i>	X	X	LRnt	EEP/ISB				
20	Bush Dog	<i>Speothos venaticus</i>			VU	EEP/ISB				
21	Oriental Small-clawed Otter	<i>Amblonyx cinereus</i>			LRnt	JMSP				
22	Serval Cat	<i>Felis serval</i>			EN					
23	Amur Tiger	<i>Panthera tigris altaica</i>			CR	EEP/ISB				
24	Asiatic Lion	<i>Panthera leo persica</i>	X	X	CR	EEP/ISB				
25	** Jaguar	<i>Panthera onca</i>	N/A	X	LRnt	ESB				
26	Cheetah	<i>Acinonyx jubatus</i>			VU	EEP/ISB				
27	California Sealion	<i>Zalophus californianus</i>				ESB/JMSP				
28	Asian Elephant	<i>Elephas maximus</i>	X	X	EN	EEP				
29	Persian Onager	<i>Equus hemionus onager</i>			EN	EEP/ISB				
30	Przewalski's Horse	<i>Equus przewalskii</i>			EW	EEP/ISB				
31	South American Tapir	<i>Tapirus terrestris</i>	X	X	LRnt	ESB				
32	Black Rhinoceros	<i>Diceros bicornis michali</i>			CR	EEP/ISB				
33	Babirusa	<i>Babirusa babirusa</i>			VU	EEP/ISB				
34	Guanaco	<i>Lama guanicoe</i>	X	X	VU					
35	Chilean Pudu	<i>Pudu pudu</i>			VU	EEP/ISB				
36	Burmese Brow-antlered Deer	<i>Cervus eldi thamin</i>	X	X	LRnt	EEP/ISB				
37	Philippine Spotted Deer	<i>Cervus alfredi</i>			N/A	EN	EEP/ISB			
38	Père David's Deer	<i>Elaphurus davidianus</i>			CR					
39	Giraffe	<i>Giraffa camelopardalis</i>	X	X	LRcd	EEP				
40	Lowland Anoa	<i>Bubalus depressicornis</i>	X	X	EN	EEP/ISB				
41	Barasingha	<i>Cervus duvauceli duvauceli</i>			VU					
42	Nilgai	<i>Boselaphus tragocamelus</i>			LRcd					
43	Congo Buffalo	<i>Syncerus caffer nanus</i>	X	X	LRcd					
44	American Bison	<i>Bison bison</i>	X	X	LRcd					
45	Bongo	<i>Tragelaphus eurycerus isaaci</i>			EN	EEP/ISB				
46	Sitatunga	<i>Tragelaphus spekei</i>	X	X	LRnt	ESB				
47	Sable Antelope	<i>Hippotragus niger</i>			LRcd	JMSP				
48	Kafue Flats Red Lechwe	<i>Kobus leche kafuensis</i>			VU	JMSP				
49	Scimitar-horned Oryx	<i>Oryx dammah</i>			EW	EEP/ISB				
50	Gemsbok	<i>Oryx gazella gazella</i>	X	X	LRcd	JMSP				
51	Blackbuck	<i>Antelope cervicapra</i>	X	X	VU					
52	Arabian Gazelle	<i>Gazella gazella arabica</i>	X	X	LRcd	JMSP				
28	Edwards' Pheasant	<i>Lophura edwardsi</i>					X	EN	EEP/ISB	
29	Malayan Crestless Fireback	<i>Lophura e. erythrophthalma</i>					X	VU		
30	Vietnamese Pheasant	<i>Lophura hatinhensis</i>					X	N/A	EN	(ISB)
31	Green Peafowl	<i>Pavo muticus</i>					X	X	VU	
32	Congo Peafowl	<i>Afropavo congensis</i>					X	X	VU	EEP/ISB
33	Red-crowned Crane	<i>Grus japonensis</i>					X	X	EN	EEP/ISB
34	White-naped Crane	<i>Grus vipio</i>							VU	EEP/ISB
35	Wattled Crane	<i>Bucconas carunculatus</i>							VU	JMSP/ISB
36	Blue Crane	<i>Anthropoides paradisea</i>							VU	EEP
37	West African Crowned Crane	<i>Balearica pavonina pavonina</i>					X	X	LRnt	ESB/JMSP
38	Gough Island Moorhen	<i>Gallinula comeri</i>						X	VU	
39	Pink Pigeon	<i>Columba mayeri</i>					X	X	EN	EEP/ISB
40	Nicobar Pigeon	<i>Caloenas nicobarica</i>					X	X	LRnt	
41	Mountain Witch Dove	<i>Geotrygon versicolor</i>					X	X	LRnt	
42	Blue Crowned Pigeon	<i>Goura cristata</i>							VU	EEP/ISB
43	Common Bronzewing Pigeon	<i>Phaps chalcoptera</i>						X	LRnt	
44	Mindanao Bleeding-heart	<i>Gallicolumba criniger</i>							EN	ESB
45	Luzon Bleeding-heart	<i>Gallicolumba luzonica</i>						X	LRnt	ESB
46	Jambu Fruit Dove	<i>Ptilinopus jambu</i>					X	X	LRnt	
47	Mount Apo Lorikeet	<i>Trichoglossus johnstoniae</i>						X	LRnt	ESB
48	Red and Blue Lory	<i>Eos histrio</i>						N/A	EN	ESB
49	Black-winged Lory	<i>Eos cyanogenia</i>							VU	ESB/JMSP
50	Blue-streaked Lory	<i>Eos reticulata</i>							LRnt	JMSP
51	Yellow-backed Chattering Lory	<i>Lorius garrulus flavopalliatius</i>					X	X	EN	ESB/JMSP
52	Palm Cockatoo	<i>Probosciger aterrimus</i>							LRnt	EEP
53	White-tailed Black Cockatoo	<i>Calyptorhynchus latirostris</i>						N/A	EN	ESB
54	Leadbeater's Cockatoo	<i>Cacatua leadbeateri</i>						X	LRnt	
55	Red-eyed Cockatoo	<i>Cacatua ophthalmica</i>					X	X		ESB
56	Red-vented Cockatoo	<i>Cacatua haematurus</i>							CR	EEP
57	Kea	<i>Nestor notabilis</i>						X	VU	ESB
58	Scarlet-chested Parrot	<i>Neophema splendida</i>						X	LRnt	
59	Derbyan Parakeet	<i>Psittacula derbiana</i>					X	X	LRnt	
60	Black-cheeked Lovebird	<i>Agapornis nigrigensis</i>							VU	JMSP
61	Hyacinthine Macaw	<i>Anodorhynchus hyacinthinus</i>							EN	EEP
62	Blue-throated Macaw	<i>Ara glaucogularis</i>							CR	EEP/ISB
63	Scarlet Macaw	<i>Ara macao</i>								JMSP
64	Illiger's Macaw	<i>Ara maracana</i>					X	X	VU	(ESB)
65	Red-masked Conure	<i>Aratinga erythrogenys</i>						X	LRnt	
66	Golden-capped Conure	<i>Aratinga auricapilla</i>					X	X	VU	
67	Queen of Bavaria Conure	<i>Guaruba guarouba</i>						X	EN	EEP/ISB
68	Thick-billed Parrot	<i>Rhynchopsitta pachyrhyncha</i>					X	X	EN	JMSP/(ESB)
69	Princess Parrot	<i>Polytelis alexandrae</i>							LRnt	
70	Blue-throated Conure	<i>Pyrrhura cruentata</i>						X	VU	JMSP
71	Slender-billed Parakeet	<i>Enicognathus leptorhynchus</i>					X	X	LRnt	
72	Yellow-faced Parrotlet	<i>Forpus xanthops</i>						X	VU	
73	Ecuadorian Amazon	<i>Amazona autumnalis lilacina</i>					X	X		EEP
74	Cuban Amazon	<i>Amazona leucocephala</i>						X	LRnt	JMSP
75	Green-cheeked Amazon	<i>Amazona viridigenalis</i>						X	EN	EEP
76	Red-tailed Amazon	<i>Amazona brasiliensis</i>						X	EN	EEP
77+	St Lucia Amazon	<i>Amazona versicolor</i>					N/A	N/A	VU	(ESB)
78	Red-crested Turaco	<i>Tauraco erythrolophus</i>					X	X		ESB
79	Fischer's Turaco	<i>Tauraco fischeri</i>						N/A	LRnt	ESB
80	White-faced Scops Owl	<i>Otus leucotis</i>						X		JMSP
81	Milky Eagle Owl	<i>Bubo lacteus</i>								JMSP
82	Great Grey Owl	<i>Strix nebulosa</i>						N/A		JMSP
83	Spectacled Owl	<i>Pulsatrix perspicillata</i>					X	X		JMSP
84	Great Hornbill	<i>Buceros bicornis</i>							LRnt	EEP/ISB
85	Rhinoceros Hornbill	<i>Buceros rhinoceros</i>							LRnt	ESB
86	Wrinkled Hornbill	<i>Aceros corrugatus</i>						X	LRnt	EEP
87	Writhe-billed Hornbill	<i>Aceros leucocephalus</i>							LRnt	(ESB)
88+	Tarictic Hornbill	<i>Penelopides sp</i>					N/A	N/A	EN	ESB
89	Gouldian Finch	<i>Chloebia gouldiae</i>						X	EN	
90+	Star Finch	<i>Neochima ruficauda</i>					N/A	N/A	LRnt	
91+	Diamond Sparrow	<i>Emblema guttata</i>					N/A	N/A	LRnt	
92	Java Sparrow	<i>Padda oryzivora</i>						X	VU	
93	Yellow-throated Laughing Thrush	<i>Garrulax galbanus</i>					X	X	LRnt	JMSP
94	Red-tailed Laughing Thrush	<i>Garrulax milnei</i>						X	LRnt	JMSP
95	Ormei Shan Liocichla	<i>Liocichla ormeiensis</i>					X		VU	JMSP
96	Bali Starling	<i>Leucopsar rothschildi</i>					X	X	CR	EEP/JMSP
97	Emerald Starling	<i>Lamprocolius iris</i>					X	X	DD	
98	Red-billed Chough	<i>Pyrrhocorax pyrrhocorax</i>						X		JMSP
99+	Red Bird of Paradise	<i>Paradisaea rubra</i>							LRnt	ISB

\*\* Species will join the collection in 2001

BIRDS		BRED '00	BRED < '00	IUCN Red List	Managed Programme					
1	Common Rhea	<i>Rhea americana</i>			LRnt					
2	Humboldt's Penguin	<i>Spheniscus humboldti</i>	X	X	VU	EEP				
3	Dalmatian Pelican	<i>Pelecanus crispus</i>			LRcd	EEP				
4	Black Stork	<i>Ciconia nigra</i>				ESB				
5	Waldraap Ibis	<i>Geronticus eremita</i>	X	X	CR	EEP/ISB				
6	Chilean Flamingo	<i>Phoenicopterus chilensis</i>	X	X	LRnt					
7	Black-billed Whistling Duck	<i>Dendrocygna arborea</i>			VU					
8	Lesser White-fronted Goose	<i>Anser erythropus</i>			VU					
9	Red-breasted Goose	<i>Branta ruficollis</i>			VU					
10	Hawaiian Goose	<i>Branta sandvicensis</i>	X	X	VU					
11	Baikal Teal	<i>Anas formosa</i>			VU					
12	Laysan Teal	<i>Anas laysanensis</i>	X	X	VU					
13	Baer's Pochard	<i>Aythya baeri</i>			N/A	VU				
14	Ferruginous Duck	<i>Aythya nyroca</i>	X	X	LRnt					
15	Marbled Teal	<i>Marmaronetta angustirostris</i>	X	X	VU					
16	Mandarin Duck	<i>Aix galericulata</i>	X	X	LRnt					
17	White-headed Duck	<i>Oxyura leucocephala</i>	X	X	EN					
18	Andean Condor	<i>Vultur gryphus</i>			LRnt	EEP				
19	Mauritius Kestrel	<i>Falco punctatus</i>	X	X	VU	ESB				
20	Rourol Partridge	<i>Roullulus rourol</i>	X	X	LRnt					
21	Blyth's Tragopan	<i>Tragopan blythii</i>			VU	ISB/JMSP				
22	Satyr Tragopan	<i>Tragopan satyra</i>	X	X	LRnt					
23	Brown-eared Pheasant	<i>Crossoptilon mantchuricum</i>			VU					
24	Golden Pheasant	<i>Chrysolophus pictus</i>	X	X	LRnt					
25	Lady Amherst's Pheasant	<i>Chrysolophus amherstiae</i>			LRnt					
26	Palawan Peacock Pheasant	<i>Polyplectron emphanum</i>			VU	EEP				
27	Mountain Peacock Pheasant	<i>Polyplectron inopinatum</i>	X	X	VU	ISB/JMSP				
1	Malayan Box Turtle	<i>Cuora amboinensis</i>					X	X	VU	
2	Yellow-footed Tortoise	<i>Geochelone denticulata</i>					N/A	N/A	N/A	
3	Greek Tortoise	<i>Testudo graeca</i>						X	VU	
4	Hermann's Tortoise	<i>Testudo hermanni</i>						X	LRnt	
5+	Egyptian Tortoise	<i>Testudo kleinmanni</i>					N/A	N/A	VU	JMSP
6	Horsfield's Tortoise	<i>Testudo horsfieldi</i>							VU	
7	Mississippi Alligator	<i>Alligator mississippiensis</i>								JMSP
8	West African Dwarf Crocodile	<i>Osteolaemus tetraspis</i>							VU	JMSP
9	Sand Lizard	<i>Lacerta agilis</i>					X	X		ENP
10	Rhinoceros Iguana	<i>Cyclura cornuta</i>						X	VU	ESB/JMSP
11+	Egyptian Spiny-tailed Lizard	<i>Uromastyx aegyptius</i>					N/A	N/A		JMSP

		BRED '00	BRED <'00	IUCN Red List	Managed Programme	
13	Prehensile-tailed Skink	<i>Corucia zebrata</i>	X		JMSP	
14+	Komodo Dragon	<i>Varanus komodoensis</i>	N/A	N/A	VU	ESB/ISB
15	Cuban Boa	<i>Epicrates angulifer</i>	X		LRnt	
16	Jamaican Boa	<i>Epicrates subflavus</i>	X		VU	
17	Madagascan Tree Boa	<i>Sanzinia madagascariensis</i>	X		VU	JMSP
18	Aruba Island Rattlesnake	<i>Crotalus unicolor</i>	X		CR	ESB/ISB

		BRED '00	BRED <'00	IUCN Red List	Managed Programme	
<b>AMPHIBIANS</b>						
1	Axolotl	<i>Ambystoma mexicanum</i>	X		VU	
2+	Blue Poison Arrow Frog	<i>Dendrobates azureus</i>	N/A		VU	JMSP
3+	Mallorcan Midwife Toad	<i>Alytes muletensis</i>	N/A		CR	JMSP
4+	Puerto Rican Crested Toad	<i>Peltophyne lemur</i>	N/A		VU	

		BRED '00	BRED <'00	IUCN Red List	Managed Programme	
<b>FISHES</b>						
1	Black Ruby Barb	<i>Puntius nigrofasciatus</i>	X	X	LRcd	
2	Cherry Barb	<i>Capoeta titteya</i>		X	LRcd	
3	Silver Shark	<i>Balantiocheilus melanopterus</i>			EN	
4	Omani Blind Cave Fish	<i>Garra barreimiae</i>		X	VU	
5	Pla Eesok	<i>Probarbus jullieni</i>			EN	
6	Red Rainbow Fish	<i>Glossolepis incisus</i>		X	VU	
7	Boeseman's Rainbow Fish	<i>Melanotaenia boesemani</i>		X	EN	
8	Lake Tebera Rainbow Fish	<i>Melanotaenia herbertaxelrodi</i>		X	DD	
9	Lake Kutubu Rainbow Fish	<i>Melanotaenia lacustris</i>		X	VU	
10	Dwarf Loach	<i>Botia sidhimunki</i>			CR	
11	Lake Victoria Cichlid	<i>Yssichromis argens</i>	X	X	EW	EEP
12	Lake Victoria Cichlid	<i>Astatoreochromis alluaudi</i>		X		EEP
13	Lake Victoria Cichlid	<i>Yssichromis pyrrhocephalus</i>	X	X	VU	EEP
14	Lake Victoria Cichlid	<i>Haplochromis riponians</i>		X		EEP
15	Lake Victoria Cichlid	<i>Haplochromis sauvagei</i>	X	X	VU	EEP
16	Lake Victoria Cichlid	<i>Haplochromis xenognathus</i>		X		EEP
17	Madagascan Cichlid	<i>Ptychochromis oligocanthus 'Côte Est'</i>	X		^	EEP
18	Barombi Mbo Cichlid	<i>Konia eisentrauti</i>	X		CR	EEP
19	Barombi Mbo Cichlid	<i>Pungu maclareni</i>			CR	EEP
20	Barombi Mbo Cichlid	<i>Sarotherodon linnelli</i>			CR	EEP
21	Barombi Mbo Cichlid	<i>Sarotherodon lohbergeri</i>			CR	EEP
22	Barombi Mbo Cichlid	<i>Stomatepia mariae</i>	X			EEP
23	Barombi Mbo Cichlid	<i>Stomatepia pindu</i>	X		CR	EEP
24	Asiatic Arowana	<i>Scleropages formosus</i>			EN	
25	Nosy Bé Killifish	<i>Pachypanchax homalonotus</i>	X	X		EEP
26	Killifish	<i>Pachypanchax sakaramyi</i>	X	X	VU	
27	Butterfly Goodeid	<i>Ameia splendens</i>	X	X	EW	EEP
28	Bold Characodon	<i>Characodon audeax</i>	X	X	VU	EEP
29	Golden Saw-finned Goodeid	<i>Skiffia francesae</i>	X	X	EW	EEP
30	Solo Goodeid	<i>Xenoporphus captivus</i>	X	X	EN	EEP
31	Crescent Zoe	<i>Zoogoneticus tegula</i>	X	X	^	EEP
32	Swordtail	<i>Xiphophorus ciemenciae</i>	X	X	DD	EEP
33	Krysa Seahorse	<i>Hippocampus capensis</i>	X	X	EN	

^ Not on IUCN Red Data list but thought, on other reliable data, to be extinct in the wild.

		BRED '00	BRED <'00	IUCN Red List	Managed Programme	
<b>INVERTEBRATES</b>						
1	Partula Snail	<i>Partula mirabilis</i>	X	X	EW	EEP/ISB
2	Partula Snail	<i>Partula taeniata</i>	X	X	EW	EEP/ISB
3	Partula Snail	<i>Partula varia</i>	X	X	CR	EEP/ISB
4	Mexican Red-knee Tarantula	<i>Brachypelma smithii</i>		X	LRnt	
5	Tadpole Shrimp	<i>Triops cancriformis</i>	X	X		ENP/JMSP
6	Frog Spawn Coral	<i>Euphyllia divisa</i>				EEP
7	Bowl Coral	<i>Turbinaria mesenterina</i>				EEP
8	Bowl Coral	<i>Turbinaria pelata</i>				EEP
9	Star Coral	<i>Favia sp.</i>				EEP
10	Leather Coral	<i>Sarcophyton trocheliophorum</i>				EEP
11	Soft Coral	<i>Xenia sp.</i>				EEP
12	Soft Coral	<i>Sinularia sp.</i>				EEP
13	Soft Coral	<i>Cladonia sp.</i>				EEP
14	Zoanthid Colony	<i>Zoanthid sp.</i>				EEP
15	Mouse Ear Coral	<i>Lobophytum crassum</i>				EEP



Top: Before construction began

Below: Mission completed



Completed in time for Easter, this keeper-led initiative transformed the previous *Chimpanzee Island*. To our delight, the apes now make full use of the heights, and have not destroyed the planting. It featured in our Spring TV commercials







		STOCK 31/12/99			RECEIVED			BORN/HCH			D.N.S. 30 DAYS			DEATHS OTHERS			DISPOSALS			STOCK 31/12/00			CITES CATEGORY
		M	F	Y/?	M	F	Y/?	M	F	Y/?	M	F	Y/?	M	F	Y/?	M	F	Y/?	M	F	Y/?	
Red Turtle Dove	<i>Streptopelia tranquebarica</i>	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	
Emerald Dove	<i>Chalcophaps indica</i>	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
Crested Bronzewing Pigeon	<i>Ocyphaps lophotes</i>	1	1	10	0	0	0	0	0	2	0	0	2	0	0	1	0	0	0	0	0	1	9
Common Bronzewing Pigeon	<i>Phaps chalcoptera</i>	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
Diamond Dove	<i>Geopelia cuneata</i>	11	3	1	0	0	0	0	0	0	0	0	0	3	1	1	0	0	0	0	8	2	0
Mountain Witch Dove	<i>Geotrygon versicolor</i>	4	3	0	0	0	0	1	0	1	0	0	1	1	1	0	0	0	0	0	4	2	0
Mindanao Bleeding-heart	<i>Gallinolumba criniger</i>	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0
Luzon Bleeding-heart	<i>Gallinolumba luzonica</i>	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0
Golden Heart Pigeon	<i>Gallinolumba rufigula</i>	4	1	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	4	3	0
Jambu Fruit Dove	<i>Ptilinopus jambu</i>	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
Superb Fruit Dove	<i>Ptilinopus superbus</i>	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0
Orange-fronted Fruit Dove	<i>Ptilinopus aurantifrons</i>	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Pink-spotted Fruit Dove	<i>Ptilinopus perlatius</i>	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
Pied Imperial Pigeon	<i>Ducula bicolor</i>	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
Blue Crowned Pigeon	<i>Goura cristata</i>	1	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0
Nicobar Pigeon	<i>Caloenas nicobarica</i>	3	2	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	2	3	0
<b>PSITTACIFORMES</b>																							
Red and Blue Lory	<i>Eos histrio</i>	1	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0
Black-winged Lory	<i>Eos cyanogenia</i>	1	1	0	1	1	1	0	0	0	0	0	0	0	0	1	0	0	0	0	2	2	0
Blue-streaked Lory	<i>Eos reticulata</i>	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0
Duyvenbode's Lory	<i>Chalcopsitta duyvenbodei</i>	3	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	2	0
Yellow-backed Chattering Lory	<i>Lorius garrulus flavopalliat</i>	4	1	0	1	2	0	0	0	1	0	0	1	0	0	0	2	0	0	0	3	3	0
Stella's Lorikeet	<i>Charmosyna papou</i>	2	2	0	0	0	0	0	0	1	0	0	0	2	1	1	0	0	0	0	0	1	0
Musschenbroek's Lorikeet	<i>Neopsittacus musschenbroekii</i>	1	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0
Mount Apo Lorikeet	<i>Trichoglossus johnstoniae</i>	4	2	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	3	1	0
Palm Cockatoo	<i>Probosciger aterrimus</i>	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	1	0
White-tailed Black Cockatoo	<i>Calyptorhynchus latirostris</i>	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0
Leadbeater's Cockatoo	<i>Cacatua leadbeateri</i>	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0
Blue-eyed Cockatoo	<i>Cacatua ophthalmica</i>	9	3	0	2	1	0	2	0	0	0	0	0	0	1	0	4	0	0	0	9	3	0
Red-vented Cockatoo	<i>Cacatua haematuropygia</i>	2	2	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	2	1	0
Citron Crested Cockatoo	<i>Cacatua sulphurea citronocristata</i>	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
Kea	<i>Nestor notabilis</i>	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0
'Vosmaeri' Eclectus Parrot	<i>Eclectus roratus vosmaeri</i>	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
Greater Vasa Parrot	<i>Coracopsis vasa</i>	1	3	0	0	0	0	4	0	0	0	0	0	0	0	0	0	2	0	0	5	1	0
Princess Parrot	<i>Polytelis alexandrae</i>	4	2	0	0	0	0	0	0	0	0	0	0	2	1	0	0	0	0	0	2	1	0
Scarlet-chested Parrot	<i>Neophema splendida</i>	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
Derbyan Parakeet	<i>Psittacula derbiana</i>	4	1	0	0	0	0	0	0	2	0	0	1	0	0	0	0	0	0	0	4	1	1
Black-cheeked Lovebird	<i>Agapornis nigrigensis</i>	1	5	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	1	3	0
Hyaline Macaw	<i>Anodorhynchus hyacinthinus</i>	1	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	0
Blue and Yellow Macaw	<i>Ara ararauna</i>	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0
Blue-throated Macaw	<i>Ara glaucogularis</i>	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0
Scarlet Macaw	<i>Ara macao</i>	1	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0
Yellow-naped Macaw	<i>Ara auricollis</i>	1	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	1	1	0
Illiger's Macaw	<i>Ara maracana</i>	1	1	0	0	0	0	0	1	1	0	0	1	0	0	0	0	0	0	0	1	2	0
Red-masked Conure	<i>Aratinga erythrogenys</i>	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1	0
Golden-capped Conure	<i>Aratinga auricapilla</i>	1	2	0	0	0	0	0	0	2	0	0	0	0	0	1	0	1	0	0	1	1	1
Queen of Bavaria Conure	<i>Guaruba guarouba</i>	2	2	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	1	1	0
Thick-billed Parrot	<i>Rhynchopsitta pachyrhyncha</i>	3	2	0	0	0	0	0	0	2	0	0	0	0	0	2	0	0	0	0	3	2	0
Blue-throated Conure	<i>Pyrrhura cruentata</i>	5	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	3	0
Slender-billed Parakeet	<i>Encicognathus leptorhynchus</i>	3	2	0	0	0	0	1	1	0	0	0	0	0	0	0	2	1	0	0	2	2	0
Yellow-faced Parrotlet	<i>Forpus xanthops</i>	2	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	2	0	0
Ecuadorian Amazon Parrot	<i>Amazona autumnalis lilacina</i>	3	3	0	1	0	0	0	0	1	0	0	1	0	0	0	2	1	0	0	2	2	0
Cuban Amazon	<i>Amazona leucocephala</i>	2	2	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	0	0	1	0	0
Green-cheeked Amazon	<i>Amazona viridigenalis</i>	4	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1	0	0	2	1	0
Red-tailed Amazon	<i>Amazona brasiliensis</i>	1	1	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0
St Lucia Amazon	<i>Amazona versicolor</i>	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0
<b>CUCULIFORMES</b>																							
Red-crested Turaco	<i>Tauraco erythrolophus</i>	1	1	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	1	1	0
Fischer's Turaco	<i>Tauraco fischeri</i>	1	1	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0
Schalow's Turaco	<i>Tauraco schalowi</i>	3	2	0	0	0	0	1	1	2	0	0	1	1	1	1	0	0	0	0	3	2	0
White-cheeked Turaco	<i>Tauraco leucotis</i>	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	1	1	0
Violet Plantain Eater	<i>Musophaga violacea</i>	1	1	0	0	0	0	1	1	1	0	0	1	0	0	0	0	0	0	0	2	2	0
<b>STRIGIFORMES</b>																							
Barn Owl	<i>Tyto alba</i>	0	2	0	1	1	0	0	0	2	0	0	0	0	1	0	0	1	2	0	1	1	0
White-faced Scops Owl	<i>Otus leucotis</i>	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0
Milky Eagle Owl	<i>Bubo lacteus</i>	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0
Snowy Owl	<i>Nyctea scandiaca</i>	1																					

		STOCK 31/12/99			RECEIVED			BORN/H'CH			D.N.S. 30 DAYS			DEATHS OTHERS			DISPOSALS			STOCK 31/12/00			CITES CATEGORY
		M	F	Y/?	M	F	Y/?	M	F	Y/?	M	F	Y/?	M	F	Y/?	M	F	Y/?	M	F	Y/?	
Red-billed Leiothrix	<i>Leiothrix lutea</i>	2	1	10	0	0	0	0	0	4	0	0	3	0	0	2	0	0	0	2	1	9	II
Silver-eared Mesia	<i>Leiothrix argentea</i>	1	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	II
Oriental White-eye	<i>Zosterops palpebrosa</i>	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	
Silver-beaked Tanager	<i>Ramphocelus carbo</i>	1	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	1
Red-legged Honeycreeper	<i>Cyanerpes cyaneus</i>	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
Pope Cardinal	<i>Paroaria dominicana</i>	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0
Mexican House Finch	<i>Carpodacus mexicanus</i>	5	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	5	0
Red-cheeked Cordon-bleu	<i>Uraeginthus bengalus</i>	4	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	1	0
Orange-cheeked Waxbill	<i>Estrilda melpoda</i>	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Red Avadavat	<i>Amandava amandava</i>	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
Gouldian Finch	<i>Chloebia gouldiae</i>	3	3	0	1	2	0	0	0	0	0	0	0	1	0	0	0	0	0	0	3	5	0
Blue-headed Parrot Finch	<i>Erythrura trichroa</i>	0	0	0	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	0
Star Finch	<i>Neochima ruficauda</i>	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Diamond Sparrow	<i>Emblema guttata</i>	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
Zebra Finch	<i>Poephila guttata</i>	4	7	4	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	4	6	3
Spice Finch	<i>Lonchura punctulata</i>	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
Java Sparrow	<i>Padda oryzivora</i>	1	1	2	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	1
Red-billed Buffalo Weaver	<i>Bubalornis niger</i>	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0
White-headed Buffalo Weaver	<i>Dinemella dinimelli</i>	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Taveta Golden Weaver	<i>Ploceus castaneiceps</i>	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0
Red-billed Weaver	<i>Quelea quelea</i>	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
Fire-fronted Bishop	<i>Euplectes diadematus</i>	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
Scissor-billed Starling	<i>Scissirostrum dubium</i>	1	1	1	0	0	0	0	0	5	0	0	2	1	0	4	0	0	0	0	0	1	0
Asian Glossy Starling	<i>Aplonis panayensis</i>	1	1	7	0	0	1	0	0	5	0	0	1	0	0	0	0	0	0	0	1	1	12
Emerald Starling	<i>Lamprocolius iris</i>	1	1	3	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	1	4
Amethyst Starling	<i>Cinnyricinclus leucogaster</i>	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1	0
African Pied Starling	<i>Spreo bicolor</i>	1	2	1	0	0	0	0	0	13	0	0	7	0	0	6	0	0	0	0	1	2	1
Superb Starling	<i>Spreo superbus</i>	2	3	0	1	1	0	0	0	0	0	0	0	1	2	0	0	0	0	0	2	2	0
Fischer's Starling	<i>Spreo fischeri</i>	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Royal Starling	<i>Cosmopsarus regius</i>	0	2	0	1	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	3	0
Bali Starling	<i>Leucopsar rothschildi</i>	6	4	0	0	0	0	2	2	7	0	0	6	1	1	0	0	1	0	0	7	4	1
White-eared Catbird	<i>Aluroedus buccoides</i>	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0
Red Bird of Paradise	<i>Paradisaea rubra</i>	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0
Red-billed Blue Magpie	<i>Urocissa erythrorhyncha</i>	2	3	0	0	0	0	0	1	1	0	0	1	1	2	0	1	1	0	0	0	1	0
Azure-winged Magpie	<i>Cyanopica cyana</i>	3	2	0	2	1	0	0	0	4	0	0	0	1	0	0	1	1	4	0	3	2	0
Red-billed Chough	<i>Pyrrhocorax pyrrhocorax</i>	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
		416	374	150	36	40	5	60	54	208	7	13	110	58	44	41	60	60	17	387	351	195	
		940			81			322			130			143			137			933			

No of specimens 933

No of species 205

## REPTILES STOCKLIST

		STOCK 31/12/99			RECEIVED			BORN/H'CH			D.N.S. 30 DAYS			DEATHS OTHERS			DISPOSALS			STOCK 31/12/00			CITES CATEGORY	
		M	F	Y/?	M	F	Y/?	M	F	Y/?	M	F	Y/?	M	F	Y/?	M	F	Y/?	M	F	Y/?		
<b>CHELONIA</b>																								
Malayan Box Turtle	<i>Cuora amboinensis</i>	1	3	8	0	0	0	0	0	4	0	0	0	0	0	0	0	0	2	1	3	10	II	
Hermann's Tortoise	<i>Testudo hermanni</i>	1	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	3	0	II	
Greek Tortoise	<i>Testudo graeca</i>	6	4	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	5	3	0	II	
Egyptian Tortoise	<i>Testudo kleinmanni</i>	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	II	
Horsfield's Tortoise	<i>Testudo horsfieldii</i>	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	II	
Red-legged Tortoise	<i>Geochelone carbonaria</i>	2	4	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	4	0	II	
Aldabra Giant Tortoise	<i>Geochelone gigantea</i>	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	II	
Yellow-footed Tortoise	<i>Geochelone denticulata</i>	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	II	
Matamata Turtle	<i>Chelus fimbriatus</i>	1	4	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	1	2	0		
<b>CROCODYLIA</b>																								
Mississippi Alligator	<i>Alligator mississippiensis</i>	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	0	II	
West African Dwarf Crocodile	<i>Osteolaemus tetraspis</i>	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0	I	
<b>RHYNCHOCEPHALIA</b>																								
Tuatara	<i>Sphenodon punctatus</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	I
<b>SAURIA</b>																								
Sand Lizard	<i>Lacerta agilis</i>	3	3	21	0	3	0	0	0	35	0	0	0	0	0	0	0	0	44	3	6	12		
Madagascar Day Gecko	<i>Phelsuma standingi</i>	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	II	
Madagascar Giant Day Gecko	<i>Phelsuma madagascariensis grandis</i>	2	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	1	0	II	
Tokay Gecko	<i>Gekko gekko</i>	0	5	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	8		
Leopard Gecko	<i>Eublepharis macularius</i>	3	5	14	0	0	0	0	0	0	0	0	0	0	0	1	1	5	9	2	0	4		
Common Iguana	<i>Iguana iguana</i>	2	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	3	0	II	
Rhinoceros Iguana	<i>Cyclura cornuta</i>	2	1	0	0	1	5	0	0	0	0	0	0	0	1	0	0	0	0	2	1	5	I	
Plumed Basilisk	<i>Basiliscus plumifrons</i>	2	2	1	1	1	0	0	0	0	0	0	0	1	1	0	1	0	0	1	2	1		
Egyptian Spiny-tailed Lizard	<i>Uromastix aegyptius</i>	0	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6		
Bearded Dragon	<i>Acanthodactylus vitticeps</i>	1	1	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0		
Eastern Water Dragon	<i>Physignathus lesuerii lesuerii</i>	1	3	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	2	0		
Thailand Water Dragon																								

		STOCK 31/12/99			RECEIVED			BORN/H'CH			D.N.S. 30 DAYS			DEATHS OTHERS			DISPOSALS			STOCK 31/12/00			CITES CATEGORY
		M	F	Y/?	M	F	Y/?	M	F	Y/?	M	F	Y/?	M	F	Y/?	M	F	Y/?	M	F	Y/?	
Boa Constrictor	<i>Constrictor constrictor</i>	2	2	0	0	0	0	0	0	23	0	0	0	0	0	4	0	0	14	2	2	5	II
Green Anaconda	<i>Eumeces murinus</i>	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	II
Honduran Milk Snake	<i>Lampropeltis triangulum</i>	2	3	6	0	0	0	0	0	7	0	0	0	0	0	0	0	0	13	2	3	0	
Red-tailed Racer	<i>Gonyosoma oxycephala</i>	1	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	
Central American Indigo Snake	<i>Drymarchoncorais melanurus</i>	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Indian Cobra	<i>Naja naja</i>	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	II
East African Green Mamba	<i>Dendroaspis angusticeps</i>	0	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0	
Green Mamba	<i>Dendroaspis viridis</i>	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Gaboon Viper	<i>Bitis gabonica</i>	1	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	3	
Tropical Rattlesnake	<i>Crotalus durissus collineatus</i>	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	
Aruba Island Rattlesnake	<i>Crotalus unicolor</i>	1	2	1	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	1	1	
		70	88	94	10	17	28	0	0	77	0	0	0	16	18	10	4	5	86	60	83	102	
		252			55			77			0			44			95			245			

No of specimens 245

No of species 55

## AMPHIBIANS STOCKLIST

		STOCK 31/12/99			RECEIVED			BORN/H'CH			D.N.S. 30 DAYS			DEATHS OTHERS			DISPOSALS			STOCK 31/12/00			CITES CATEGORY
		M	F	Y/?	M	F	Y/?	M	F	Y/?	M	F	Y/?	M	F	Y/?	M	F	Y/?	M	F	Y/?	
Smoky Jungle Frogs	<i>Leptodactylus pentadactylus</i>	0	0	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	16	
Axolotl (Black Form)	<i>Amblystoma mexicanum</i>	aq	0	0	11	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	10	II
Axolotl (White Form)	<i>Amblystoma mexicanum</i>	aq	0	0	20	0	0	0	0	0	0	0	0	0	0	12	0	0	2	0	0	6	II
Japanese Fire-bellied Newt	<i>Cynops pyrrhogaster</i>	aq	0	0	6	0	0	2	0	0	0	0	0	0	0	3	0	0	0	0	0	5	
Red Eyed Tree Frog	<i>Agalychnis callidryas</i>	0	0	32	0	0	0	0	0	0	0	0	0	0	0	14	0	0	1	0	0	17	
Mission Eyed Golden Tree Frog	<i>Phrynosoma resinifictrix</i>	0	0	0	0	0	10	0	0	0	0	0	0	0	0	6	0	0	0	0	0	4	
White's Tree Frog	<i>Litoria caerulea</i>	6	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	6	0	
Blue Poison Arrow Frog	<i>Dendrobates azureus</i>	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	II
Black and Green Poison Arrow Frog	<i>Dendrobates auratus</i>	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	II
Yellow Striped Poison Arrow Frog	<i>Dendrobates leucomelas</i>	0	0	28	0	0	0	0	0	13	0	0	4	0	0	0	0	0	15	0	0	22	II
Argentine Ornate Horned Frog	<i>Ceratophrys ornata</i>	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	
Chacoan Horned Frog	<i>Ceratophrys cranwelli</i>	0	0	0	0	0	3	0	0	0	0	0	0	0	0	1	0	0	0	0	0	2	
African Bullfrog	<i>Pyxicephalus adspersus</i>	1	2	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	1	0	
South African Clawed Frog (Albino)	<i>Xenopus laevis</i>	aq	3	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	3	0
Dwarf African Clawed Frog	<i>Hymenochirus boettgeri</i>	aq	0	0	0	0	6	0	0	22	0	0	19	0	0	5	0	0	0	0	0	4	
Nigerian Clawed Frog	<i>Xenopus tropicalis</i>	aq	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	
Puerto Rican Crested Toad	<i>Peltophryne lemur</i>	0	0	0	0	0	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	30	
Mallorcan Midwife Toad	<i>Alytes muletensis</i>	0	0	0	0	0	31	0	0	0	0	0	0	0	0	0	0	0	0	0	0	31	
Smooth Sided Toad	<i>Bufo guttatus</i>	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	
Surinam Toad	<i>Pipa pipa</i>	aq	0	0	6	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	4	
		11	11	126	0	0	89	0	0	35	0	0	23	2	1	44	0	0	18	9	10	167	
		150			89			35			23			47			18			186			

Number of specimens 186

Number of species 19

aq indicates species kept by the Aquarium

## FISHES STOCKLIST

		STOCK 31/12/2000		CITES CATEGORY		STOCK 31/12/2000		CITES CATEGORY
<b>OSTEOGLOSSIDAE</b>					<b>COBITIDAE</b>			
South American Arowana	<i>Osteoglossum bicirrhosum</i>		2		Clown Loach	<i>Botia macracantha</i>		8
Black Arowana	<i>Osteoglossum ferreirai</i>		1		Dwarf Loach	<i>Botia sidhimunki</i>		10
Asiatic Arowana	<i>Sceloporus formosus</i>		4	I	<b>ELECTROPHORIDAE</b>			
<b>MORMYRIDAE</b>					Electric Eel	<i>Electrophorus electricus</i>		1
Blunt Jaw Elephant Trunkfish	<i>Gnathonemus elephas</i>		3		<b>CICHLIDAE</b>			
Long-nosed Elephant Trunkfish	<i>Gnathonemus petersi</i>		10		Triangle Cichlid	<i>Uaru amphiacanthoides</i>		2
Down Poker	<i>Campylomormyrus rhyncophorus</i>		2		Lake Victoria Cichlid	<i>Astatoreochromis alluaudi</i>		50
Short-nosed Elephant Trunkfish	<i>Marcusenius angolensis</i>		4		Lake Victoria Cichlid	<i>Yssichromis argens</i>		160
<b>CHARACIDAE</b>					Lake Victoria Cichlid	<i>Yssichromis pyrrhocephalus</i>		60
Blind Cave Fish	<i>Astyanax jordani</i>		45		Lake Victoria Cichlid	<i>Haplochromis riponius</i>		80
Red-eyed Characin	<i>Arnoldichthys spilopterus</i>		3		Lake Victoria Cichlid	<i>Haplochromis sauvagei</i>		20
Long-finned Characin	<i>Brycinus longipinnis</i>		120		Lake Victoria Cichlid	<i>Haplochromis xenognathus</i>		114
Congo Tetra	<i>Phenacogrammus interruptus</i>		17		Brown Discus	<i>Symphysodon aequifasciata axelrodi</i>		1
Gold Tetra	<i>Hemigrammus rodwayi</i>		2		Heckel Discus	<i>Symphysodon discus discus</i>		2
Rummy-nosed Tetra	<i>Hemigrammus bleheri</i>		12		Lake Malawi Cichlid	<i>Pseudotropheus elongatus chailosi</i>		5
<b>CYPRINIDAE</b>					Lake Malawi Cichlid	<i>Melanochromis auratus</i>		8
Silver Shark	<i>Balantiocheilus melanopterus</i>		4		Lake Malawi Cichlid	<i>Pseudotropheus socolofi</i>		80
Cherry Barb	<i>Capoeta titteya</i>		10		Lake Malawi Cichlid	<i>Pseudotropheus lombardoi</i>		6
Goldfish (various)	<i>Carassius auratus</i>		50		Lake Malawi Cichlid	<i>Pseudotropheus elongatus ornatus</i>		12
Mirror Carp	<i>Cyprinus carpio</i>		5		Lake Malawi Cichlid	<i>Labidochromis caeruleus</i>		12
Koi Carp	<i>Cyprinus carpio</i>		9		Lake Malawi Cichlid	<i>Labeotropheus fuelleborni</i>		30
Ormani Blind Cave Fish	<i>Garra barreimiae</i>		80		Altum Angelfish	<i>Nimbochromis livingstonii</i>		5
Golden Orfe	<i>Idus idus</i>		4		Madagascar Cichlid	<i>Pterophyllum scalare altum</i>		2
Pla Eesok	<i>Probarbus jullieni</i>		6	I	Spotted Damba	<i>Ptychochromis oligocanthus 'Côte Est'</i>		10
Black Ruby Barb	<i>Puntius nigrofasciatus</i>		60		Pin Striped Damba	<i>Paretroplus maculatus</i>		12
Golden Rudd	<i>Scardinius erythrophthalmus</i>		24		Barombi Mbo Cichlid	<i>Paretroplus menarambo</i>		12
<b>CYPRINODONTIDAE</b>					Barombi Mbo Cichlid	<i>Pungu maclareni</i>		7
Nosy Bé Killifish	<i>Pachypanchax homalonotus</i>		45		Barombi Mbo Cichlid	<i>Konia eisentrauti</i>		25
Killifish	<i>Pachypanchax sakarami</i>		35		Barombi Mbo Cichlid	<i>Sarotherodon linnelli</i>		17
Butterfly Goodeid	<i>Ameba splendens</i>		150		Barombi Mbo Cichlid	<i>Sarotherodon lohbergeri</i>		85
Bold Characodon	<i>Characodon audax</i>		30		Barombi Mbo Cichlid	<i>Stomatepia mariae</i>		6
Golden Saw-finned Goodeid	<i>Skiffia francesae</i>		70		Barombi Mbo Cichlid	<i>Stomatepia pindu</i>		85
Solo Goodeid	<i>Xenoporphus captivus</i>		100		Frontosa	<i>Cyphotilapia frontosa</i>		1
Crescent Zoe	<i>Zoogoneticus tequila</i>		80		<b>ANABANTIDAE</b>			
Swordtail	<i>Xiphophorus clemenciae</i>		60		Pearl Gourami	<i>Trichogaster leeri</i>		6
<b>ADRIANICHYIDAE</b>					<b>ATHERINIDAE</b>			
Duck-billed Fish	<i>Xenopoecilus sarasinorum</i>		45		Madagascar Rainbow Fish	<i>Bedotia madagascariensis</i>		20
<b>HEMIRAMPHIDAE</b>					Red Rainbow Fish	<i>Glossolepis incisus</i>		12
Halfbeak	<i>Nomoramphus ebrardti</i>		50		Boeseman's Rainbow Fish	<i>Melanotaenia boesemani</i>		15
Halfbeak	<i>Nomoramphus ravnaki australe</i>		8		Lake Tebera Rainbow Fish	<i>Melanotaenia herbertaxelrodi</i>		12
					Lake Kutubu Rainbow Fish	<i>Melanotaenia lacustris</i>		18
					<b>BAGRIDAE</b>			
					Giraffe Catfish	<i>Auchenoglanis occidentalis</i>		2

		STOCK 31/12/2000	CITES CATEGORY
<b>PIMELOIDAE</b>			
Red-tailed Catfish	<i>Phractocephalus hemiopterus</i>	5	
Catfish	<i>Lelarus marmoratus</i>	1	
Shovel-nosed Catfish	<i>Sorobim lima</i>	1	
Tiger Shovel-nosed Catfish	<i>Pseudoplatystoma fasciatum</i>	1	
<b>ICTALURIDAE</b>			
Channel Catfish	<i>Ictalurus punctatus</i>	2	
<b>MOCHOKIDAE</b>			
Polka-dot Upside-down Catfish	<i>Synodontis angelicus</i>	7	
Upside-down Catfish	<i>Synodontis nigriventis</i>	4	
Lake Malawi Upside-down Catfish	<i>Synodontis nyassae</i>	4	
<b>CALLICHTHYIDAE</b>			
Arched Corydoras	<i>Corydoras arcuatus</i>	2	
Burgess's Catfish	<i>Corydoras burgessi</i>	8	
Panda Catfish	<i>Corydoras panda</i>	60	
Flag Tail Catfish	<i>Corydoras robiniae</i>	1	
Peppered Catfish	<i>Corydoras paleatus</i>	6	
<b>LORICARIIDAE</b>			
Bristlenose Plecostomus	<i>Ancistrus dolichopterus</i>	100	
Twig Catfish	<i>Ferlowella acus</i>	1	
Plecostomus Catfish	<i>Hyostomus plecostomus</i>	3	
Clown Plecostomus	<i>Peckoltia sp.</i>	5	
Angelica Peckoltia	<i>Peckoltia sp.</i>	1	
Emperor Peckoltia	<i>Hypancistrus zebra</i>	2	
<b>TOXOTIDAE</b>			
Archer Fish	<i>Toxotes jaculator</i>	4	
<b>POTAMOTRYGONIDAE</b>			
Fresh-water Stingray	<i>Potamotrygon motoro</i>	8	
<b>DIPNOI</b>			
African Lung Fish	<i>Protopterus annectens</i>	1	
<b>CENTRISCIDAE</b>			
Shrimpfish	<i>Aeoliscus strigata</i>	10	
<b>SYNGNATHIDAE</b>			
Seahorse	<i>Hippocampus kuda</i>	500	
Big Bellied Seahorse	<i>Hippocampus abdominalis</i>	20	
Krynsna Seahorse	<i>Hippocampus capensis</i>	20	
Snake Pipefish	<i>Corythoichthys intestinalis</i>	8	
<b>CENTROPOMIDAE</b>			
Giant Glass Fish	<i>Parambassis gulliveri</i>	4	
<b>MONODACTYLIDAE</b>			
Finger fish	<i>Monodactylus sebae</i>	4	
<b>SCORPAENIDAE</b>			
Fumanchu Lionfish	<i>Dendrochirus biocellatus</i>	2	
Dwarf Lionfish	<i>Dendrochirus brachyopterus</i>	3	
White Fin Lionfish	<i>Pterois radiata</i>	3	
<b>SCATOPHAGIDAE</b>			
Red Tiger Scat	<i>Scatophagus argus</i>	3	
<b>POMACENTRIDAE</b>			
Skunk Clown Fish	<i>Amphiprion akallopisos</i>	1	
Fire Clown Fish	<i>Amphiprion ephippium</i>	4	
Tomato Clown Fish	<i>Amphiprion frenatus</i>	2	
Common Clownfish	<i>Amphiprion ocellaris</i>	3	
Blue Damsel Fish	<i>Pomacentrus alleni</i>	3	
Yellow Tailed Blue Damsel Fish	<i>Chrysiptera hemicyanea</i>	10	
<b>CHAETODONTIDAE</b>			
Yellow Long-nosed Butterflyfish	<i>Forcipiger flavissimus</i>	1	
<b>POMACANTHIDAE</b>			
Bicolour Angelfish	<i>Centropyge bicolor</i>	1	
Flame Angelfish	<i>Centropyge loriculus</i>	1	
Koran Angelfish	<i>Pomacanthus semicirculatus</i>	1	
<b>GOBIIDAE</b>			
Dragon Goby	<i>Amblygobius phalaena</i>	4	
<b>ACANTHURIDAE</b>			
Regal Tang	<i>Paracanthurus hepatus</i>	4	
Yellow Tang	<i>Zebrasoma flavescens</i>	1	
Sailfin Tang	<i>Zebrasoma veliferum</i>	1	
<b>APOGONIDAE</b>			
Emperor/Banggai Cardinal Fish	<i>Pterapogon kauderni</i>	60	
Polka Dot Cardinal Fish	<i>Sphaeramia nematoptera</i>	2	
<b>LABRIDAE</b>			
Cleaner Wrasse	<i>Labroides dimidiatus</i>	2	
<b>SCARIDAE</b>			
Bicolour/Clown Parrotfish	<i>Cetoscarus bicolor</i>	1	
<b>PSEUDOCROMIDAE</b>			
Orchid Dottyback	<i>Pseudochromis fridmani</i>	3	
		3054	

Number of specimens 3054

Number of species 124

\* denotes species bred in 2000

## INVERTEBRATES STOCKLIST

		STOCK 31/12/2000	CITES CATEGORY
<b>ARACHNIDS</b>			
Chilean Rose Tarantula	<i>Phrixotrichus cala</i>	1	
Mexican Red-knee Tarantula	<i>Euatalus smithii</i>	8	II
Imperial Scorpion	<i>Pandinus imperator</i>	1	II
<b>INSECTS</b>			
Jungle Nymph	<i>Heteropryxidilita sp.</i>	6	
Spiny Stick Insect	<i>Eurycantha calcarata</i>	200	
Macleay's Spectre	<i>Extastoma tiaratum</i>	1000	
Fruit Beetle	<i>Pachnoda sp.</i>	50	
Flower Mantis	<i>Creobater pictipennis</i>	6	
Assassin Bug	<i>Platymerus biguttata</i>	50	
Madagascar Hissing Cockroach	<i>Gromphadorhina portentosa</i>	20	
Sabah Thorn Stick Insect	<i>Araeteon asperimus</i>	30	
<b>MOLLUSCS</b>			
African Land Snail	<i>Achatina fulica</i>	12	
Partula Snail	<i>Partula mirabilis</i>	20	
Partula Snail	<i>Partula varia</i>	3	
Partula Snail	<i>Partula taeniata</i>	13	
Conch	<i>Fusinus polygonoides</i>	aq	1
Turbo Snail	<i>Turbo castanea</i>	aq	12
<b>COELENTERATES</b>			
Star Coral	<i>Favia sp.</i>	aq	2 II
Frog Spawn Coral	<i>Euphyllia divisa</i>	aq	1 II
Sea Anemone	<i>Heteractis sp.</i>	aq	6
Leather Coral	<i>Sarcophyton trocheliophorum</i>	aq	2
Soft Coral	<i>Xenia sp.</i>	aq*	2
Zoanthid Colony	<i>Zoanthid sp.</i>	aq*	4
Soft Coral	<i>Sinularia sp.</i>	aq*	80
Mushroom Polyps	<i>Actinodiscus sp.</i>	aq*	160
Mouse Ear Coral	<i>Lobophytum crassum</i>	aq*	4
Encrusting Anemone	<i>Palythoa sp.</i>	aq*	3
Yellow Encrusting Anemone	<i>Parazoanthus sp.</i>	aq*	2
Bowl Coral	<i>Turbinaria pelata</i>	aq	1 II
Bowl Coral	<i>Turbinaria mesenterina</i>	aq	1 II
Purple Gorgonian	<i>Euplexaura sp.</i>	aq	1
<b>CRUSTACEANS</b>			
White-clawed Crayfish	<i>Austropotamobius pallipes</i>	100	
Tadpole Shrimp	<i>Triops cancriformis</i>	aq	REO
<b>ECHINODERMS</b>			
Long Spined Urchin	<i>Diadema antillarum</i>	aq	7
Red Pencil Urchin	<i>Heterocentrotus mammillatus</i>	aq	1
Slate Pencil Urchin	<i>Eucidaris tribuloides</i>	aq	1
Serpent Starfish	<i>Ophiopsis superba</i>	aq	1
Green Brittle Starfish	<i>Ophiarachna incrassata</i>	aq*	50
TOTAL		1862	
Number of specimens		1862	
Number of species		38	
* indicates species bred in the Society's collection in 2000			
aq indicates species kept by the Aquarium			
REO indicates resting eggs only			



Autumn sunshine on the National Elephant Centre waterfall/shower

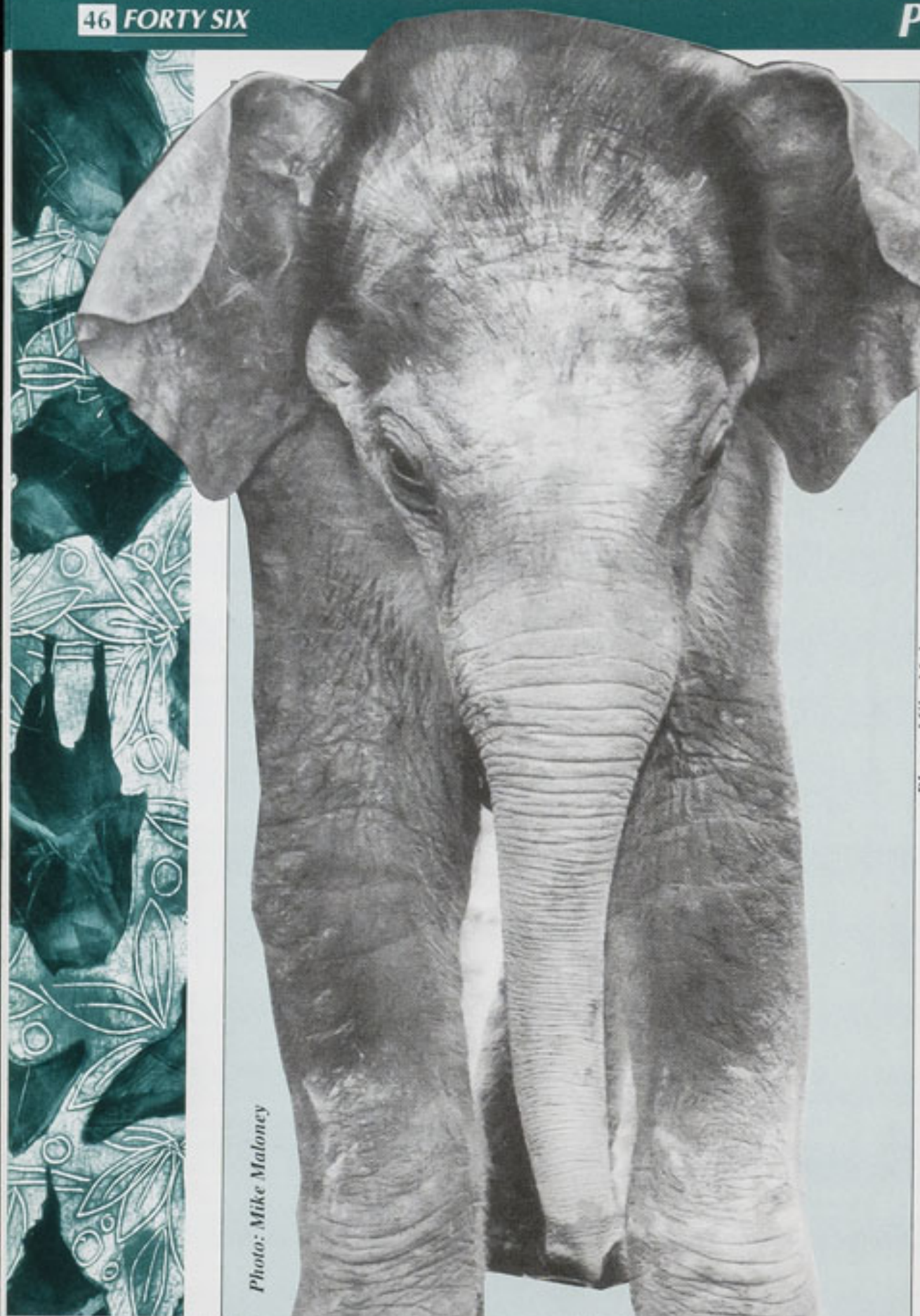
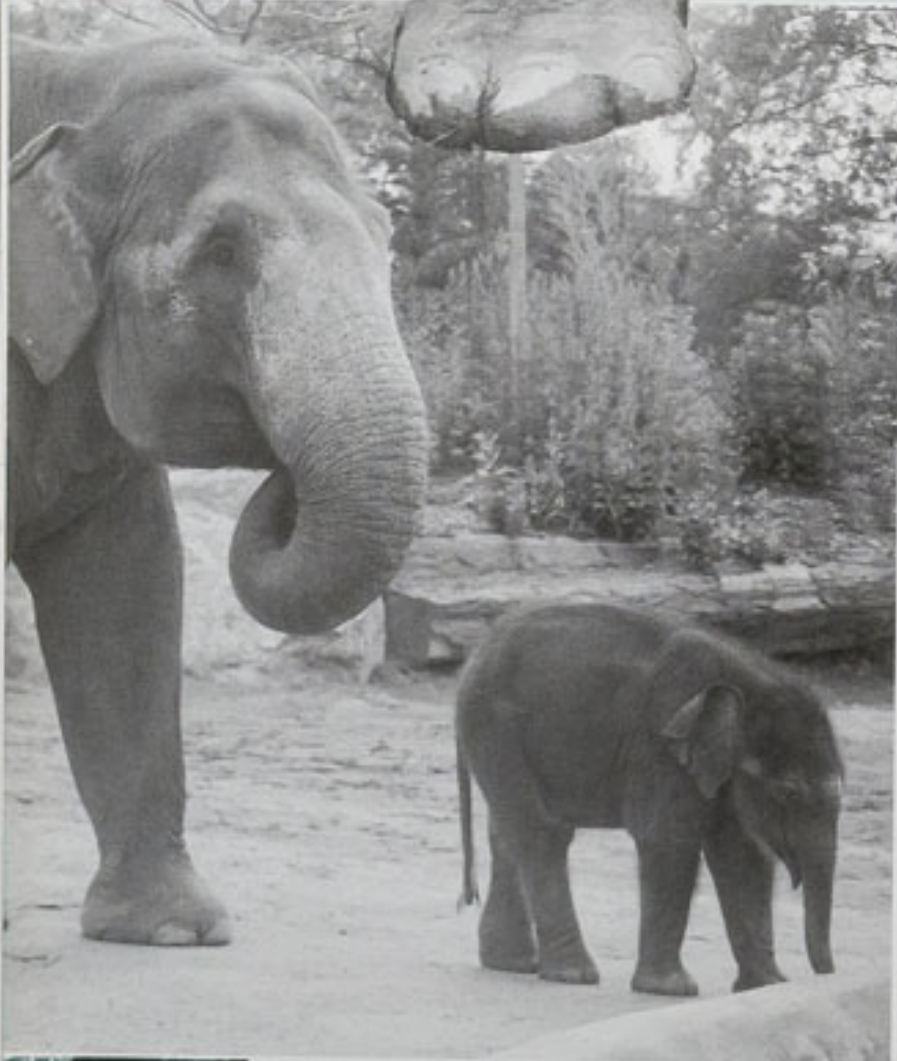


Photo: Mike Maloney



Photo: Mike Maloney



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Matt Lewis, MSc

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**Interpretation Consultant**  
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Wayne McLeod,  
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**Foreman, Mechanical and Electrical**  
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**Security Officer**  
Marc Boardman

**Assistant Security Officer**  
Mervyn Garside

**MARKETING AND DEVELOPMENT DIVISION**  
**Marketing Manager**  
Chris Vere, MBE, TD, MA

**Public Relations Manager**  
Pat Cade, MIPR

**Development Manager**  
John Regan, BA, MA,  
MICFM

**Assistant Development Manager**  
Hazel Russell, BA, HNC

**Membership and Adoptions Officer**  
Maureen Allsopp

**Membership and Marketing Assistant**  
Susan Watson

**Adoptions and Secretarial Support**  
Pauline McKee

**2000 STAFF ASSOCIATION**  
**Committee Chairman and Retail and Catering**  
Celia Long

**Vice Chairman and Keepers**  
Andrew Lenihan

**Keepers**  
Sarah Cocks

**Maintenance**  
Nick Young

**Amenities and Gardens**  
Derek Toms

**Catering**  
Brendan O'Brien

**JOB RELATIVITIES COMMITTEE**

Chris Capner  
Andrew Lenihan  
Celia Long  
Bernard McCone  
Chas MacKenzie  
Steve O'Brien  
Mark Pilgrim  
Jayne Quinn  
Chris West  
Darren Paech  
Chris Williams

**COMMITTEE OF REPRESENTATIVES FOR EMPLOYEE SAFETY (CRES)**  
**Committee Chairman**  
Susanne Stanton

**Members**  
Mark Cleave  
Brian Lloyd  
Peter Owens  
Mark Pilgrim  
Chris Williams

**LEAVERS**  
Justin Bell  
Jeanette Barlow  
Darren Davies  
Ruth Deane  
Debbie Edgeley  
Peter Hutchins  
Lyn Quirk  
John Richardson  
James Thwaite  
Karen Willson

**RETIRED 2000**  
Peter Bartley  
Michael Johnson  
George Scott  
Margaret McNe

\* part-time  
+ dual responsibility  
# contract staff  
^ occupational qualification



**Professor Gordon McGregor Reid, Director**

- Trustee, National Museums & Galleries on Merseyside
- Visiting Professor, Department of Veterinary Clinical Science and Animal Husbandry, University of Liverpool
- Member, World Zoo Organisation (IUDZG/WZO); and Chairman WZO Marketing & Public Relations Group
- Member, Council of The Federation of Zoological Gardens of Great Britain and Ireland\*; and Membership and Licensing Committee; and Joint Management of Species Committee
- Member, World Conservation Union (IUCN) and UK Committee; and IUCN Conservation Breeding Specialist Group, Species Survival Commission; and SSC Fish Specialist Group
- Member, Conservation Committee, Fauna and Flora International
- Member, Editorial Boards, *International Zoo Yearbook* and *Aquarium Sciences and Conservation*
- Member, Research Committee, European Association of Zoos and Aquaria (EAZA); and Co-Chair, EAZA/EUAC Fish & Aquatic Invertebrate Taxon Advisory Group
- Member, Executive Board, European Union of Aquarium Curators; and Chair, EAZA/EUAC Aquarium Committee
- Member, Scientific Committee, International Aquarium Congress, Oceanographic Museum, Monaco
- Member, Council, Association of Leading Visitor Attractions (ALVA)
- Chairman, CREO Fishes Advisory Panel, Center for Biodiversity and Conservation, American Museum of Natural History, New York\*
- President, British Cichlid Association\*

\*Stood down in 2000

**Christopher West, Chief Curator**

- Visiting Lecturer, Department of Veterinary Clinical Science and Animal Husbandry, University of Liverpool
- Member, World Conservation Union (IUCN) UK; and CBSG, Species Survival Commission
- Member, Captive Care Committee, Primate Society
- Member, Association of Veterinary Teachers and Research Workers Northwest Committee
- Member, UK Zoo Federation Bat Monitoring Group
- Chair, Zoo Federation of Britain and Ireland, Elephant Management Group
- Member, Zoo Federation of Britain and Ireland, Conservation and Animal Management Committee

**Dr Roger Wilkinson, General Curator: Higher Vertebrates and Research Co-ordinator**

- Honorary Research Fellow, University of Keele
- Member of Council, Avicultural Society
- Scientific Advisor, World Parrot Trust
- Member, Committees of World Pheasant Association and the Congo Peafowl Trust
- Member, International Management Committee for the Mountain Peacock Pheasant
- Member, British Ornithologist's Union Records Committee
- Member, Pheasant Specialist Group (IUCN/Birdlife/WPA)
- Secretary, West African Ornithological Society
- Member, Bird of Paradise Species Interest Committee
- Member, Cheshire Wildlife Trust Barn Owl Group

In addition to those listed above, several staff are Chairs or members of Taxon Advisory Groups (TAGs) and co-ordinators of European Endangered Species Programmes (EEPs), Joint Management of Species Programmes (JMSPs) or other conservation groups [See Conservation report page 49].

**Andrew Bagnall, Team Leader**

- Member, Council and Executive Committee, Association of British Wild Animal Keepers (ABWAK).

**Pat Cade, Public Relations Manager**

- Member, Marketing and PR Committee, Federation of Zoological Gardens of Great Britain & Ireland
- A Director of North West Tourist Board
- Alternate Member of Council, Association of Leading Visitor Attractions (ALVA)

**Paul Howse, Specialist Keeper**

- Member, Cheshire Environmental Forum Agenda 21
- Member, Wildlife Topic Group, Sustainable Cheshire Forum

**Stephen McKeown, Head of Education Services**

- Member, Executive Committee, International Association of Zoo Educators
- Member, Education Committee, Federation of Zoological Gardens of Great Britain and Ireland
- Member, Education and Exhibit Design Committee, European Association of Zoos and Aquaria (EAZA)

**Penny Rudd, Registrar and Research Administrator**

- Secretary/Co-ordinator, Fauna and Flora International, North West Group
- Member, Reaseheath College of Agriculture's Board of Governors, and Animal Care Course Industrial Liaison Group
- Member, Cheshire Wildlife Trust's Personnel Committee
- Member, Liverpool University / Chester College Steering Group for BSc and HND, Animal Behaviour
- Harvest Mice Co-ordinator for Cheshire Wildlife Trust Biodiversity Plan
- Member, 'RECORD' biodiversity recording, The Local Record Centre for Cheshire and the Wirral

**Sarah Ruks, Education Officer**

- Regional Co-ordinator for the North West, Zoo Federation Education Committee

**Mark Sparrow, Curator: Botany and Horticulture**

- Member, Board of Directors for PlantNet
- Member, European Zoo Plant Group
- Member, Conference Programme Committee, Association of Zoological Horticulturists

**Jayne Quinn, Personnel Manager**

- Member, Chester Personnel Advisory Group (chaired by ACAS)

**Chris Vere, Marketing Manager**

- Member, Promotional Marketing Committee, Association of Leading Visitor Attractions (ALVA)
- Joint Secretary, *Favourite Days Out* Tourist Consortium
- Member of Committee, Chester (Hapsford) M56 and Cheshire Oaks Tourist Information Steering Groups

**Dr Stephanie Wehnelt, Research Officer**

- Core Member, Research Group, Federation of Zoological Gardens of Great Britain and Ireland
- Visiting Lecturer, Biology Department, Chester College

**Alan Woodward, Team Leader**

- Honorary Member, *Africat* North West Group
- Member, Fauna and Flora International

More than 50 lectures were given in the Lecture Theatre during 2000, together with numerous presentations to schools and colleges organised by Education Division. The Zoo Director and Animal and Plant Division staff gave several lectures to University Seminars and Zoological and Veterinary Conferences.

2 January	British Guild of Travel Writers, Annual General Meeting (SM)	28 September	British Veterinary Association Lectures as part of Annual Conference (SM)
15 January	<i>From Kew to the Zoo</i> Mark Sparrow (MM)	14 October	British Chelonia Group Northern Meeting (SM)
21 January	North West Branch, Royal Geographical Society (SM)	20 October	Chester Literary Festival <i>Wildlife Photography</i> Art Wolfe (SM)
12 February	<i>Birds of Prey in Britain and North America</i> Michael Coupe (MM)	24 October	Liverpool John Moores University (SM)
11 March	<i>Zoo Outreach in Costa Rica</i> Professor Gordon McGregor Reid (MM)	27 October	<i>Save the Rhino International</i> David Stirling (FFI)
16 March	Heartstone – day for children of Jaguar Car workers from Coventry and Halewood (SM)	26-27 October	Mammal Taxon Advisory Group (TAG) Meetings (SM)
17 March	<i>Rwanda's Mountain Gorillas - Noses, Toes and Meiosis</i> Andrew Routh (FFI)	28 October	<i>Our Wild Kin: Research amongst monkeys and apes at Gashaka</i> Professor Volker Sommer (MM)
31 March	<i>Evening with Orang utans</i> Primate staff (SM)	11 November	<i>The World Through Native Eyes</i> Ray Mears (MM)
7 April	<i>Mediterranean Marine Turtle Conservation</i> Andrew Kelly (FFI)	19 November	Royal Photographic Society (North West Region) and Chester Photographic Society, RPS Slide Portfolio (SM)
12 April	Convatec (SM)	24 November	<i>Tribes, Teeth and Tarantulas</i> Dave Shaw (FFI)
15 April	<i>Zoo Review 1999</i> Director and Heads of Division (MM)	25 November	<i>Mazungas among the Mopane – Education and Conservation Outreach in Zambia</i> Stephen McKeown and Alan Woodward (MM)
6 May	University of Liverpool (SM)	9 December	<i>African Biodiversity Hot Spots: Pangolins, Mandrills and Electric Fishes</i> Professor Gordon McGregor Reid (MM)
7 May	<i>Africat and the new Lion project</i> Lise Hanssen (FFI)		
13 May	International Tree Foundation (SM)		
3 June	Annual General Meeting of NEZS (MM)		
15 September	<i>Dhole Conservation in India</i> Dr Leon Durbin (FFI)		

FFI = Fauna and Flora International, MM = Members' Meeting, SM = Special Meeting.

## CONSERVATION CO-ORDINATION

### TAXON ADVISORY GROUP CHAIRS

Chester Zoo provides Chairs at a high level of conservation management and co-ordination to lead two key Zoo Federation Taxon Advisory Groups (TAGs), as members of the Zoo Federation Joint Management of Species Group (JMSG) for Great Britain and Ireland. In some cases the responsibilities of the Chair extend into continental Europe, as with the endangered species programme or EEPs organised by the European Association of Zoos and Aquaria (EAZA) or complementary programmes organised by the European Union of Aquarium Curators (EUAC).

#### Taxon

Parrots (EEP, JMSG)  
Parrots (JMSG)  
Fish and Aquatic Invertebrates (EEP/EUAC/JMSG)

#### Chair

Dr Roger Wilkinson (Co-chair of JMSG)  
Andrew Bagnall (Co-chair)  
Prof Gordon McGregor Reid (Co-chair)

### BREEDING PROGRAMME CO-ORDINATORS

Chester Zoo is an active participant in 17 national Zoo Federation Joint Management of Species Programmes (JMSPs); and international European Endangered Species Programmes (EEPs); Studbooks (ESBs); and Registers for the co-ordination of breeding programmes within Taxon Advisory Groups (TAGs).

#### Species

De Brazza Monkey (JMSP)  
Talapoin Monkey (JMSP)  
Gemsbok (JMSP)  
Palm Cockatoo (EEP)  
Blue-eyed Cockatoo (ESB)  
West African Crowned Crane (UK Co-ordinator)  
Green-cheeked Amazon Parrot (EEP)  
Lilacine Amazon Parrot (EEP)  
Cuban Amazon Parrot (JMSP)  
Black-winged Lory (ESB)  
Yellow-backed Chattering Lory (ESB)  
Philippine Sail Fin Lizard (JMSP)  
African Cichlid Fishes Conservation Group (EUAC/FAITAG)  
Mexican Livebearers Conservation Group (EUAC/FAITAG)  
Coral Conservation Group (EUAC/FAITAG)  
Tadpole Shrimp Conservation Group (EUAC/FAITAG)  
Native Crayfish Conservation Group (EUAC/FAITAG)

#### Co-ordinator

David Brunger  
David Brunger  
Charles McKenzie  
Dr Roger Wilkinson  
Dr Roger Wilkinson  
Dr Roger Wilkinson  
Mark Pilgrim  
Mark Pilgrim  
Mark Pilgrim  
Andrew Bagnall  
Andrew Bagnall  
Isolde McGeorge  
Justin Bell\*  
Justin Bell\* assisting Dr Peter Burgess  
Justin Bell\* assisting John Jarvis  
Ian Hughes  
Ian Hughes  
\* Co-ordinator until 31 July, 2000

**THIRTY OF THE CONSERVATION OUTREACH, RESEARCH AND WELFARE PROJECTS  
SUPPORTED BY CHESTER ZOO IN 2000**

Subject	Partners/ Researcher	Details
Philippines: Conservation Programmes	Dr William Oliver - Fauna and Flora International (FFI), Camilla Paresce, DICE, University of Kent	West Visayas and Polillo Island Projects including Philippine Hornbills and Spotted Deer research support
Nigeria, Gashaka Gumti: Primate Programme	Professor Volker Sommer University College, London	Support of major primate research programmes in Gashaka Gumti National Park
China: Giant Panda Programme	Chengdu Giant Panda Breeding Base and Chengdu Zoo and University of Liverpool, Leahurst	Exchange visits between staff members. Conference attendance.
Belize: Jaguar Research	Wildlife Conservation Society, New York	Research on Jaguars at Cockscomb Nature Reserve
Costa Rica: Jaguar Workshop	San José Zoo, Conservation Breeding Specialist Group (CBSG)	Support of major meeting and PHVA on Jaguars at San José
Kenya: Black Rhinos	<i>Save The Rhino International</i> Kenya Wildlife Service	Game guards vehicle maintenance
India: Zoo Outreach Organisation and Wildlife Information Liaison Development Society	Sally Walker Zoo Outreach Organisation	Support of core administration and selected projects including Chiroptera (Bats) Conservation Workshop
Senegal: Black Crowned Cranes	Wetlands International, International Crane Foundation	Black Crowned Crane Action Plan and posters. Status survey in Casamance, Senegal.
Brazil: Blue-winged Macaws	Dr Stuart Marsden Manchester Metro University	Research on distribution, population status and conservation of Blue-winged Macaws
Chester: Chimpanzee Study	Dr Filippo Aureli Liverpool John Moores University	Research into social dynamics of Chimpanzee colony at Chester Zoo
Greece: Monk Seal Conservation	Hellenic Society	Support for study and protection of Mediterranean Monk Seals in Greece
Mallorca: Midwife Toads	Durrell Wildlife Conservation Trust Fons Ferreret Steve Nash, Chester Zoo	Support of in-situ conservation programme including secondment of experienced reptile keeper
Democratic Republic of Congo: National Parks	Dr Jo Thompson	Provision of bicycles for park staff
London: Mycobacterium studies	Dr Heather Hall Zoological Society of London	Support of research on mycobacterium diseases in African Cichlid fishes
Ghana: Primate Study	Hazel White University of Newcastle	Study and survey of endangered primates
Ethiopia: Ecotourism Study	Million Belay DICE, University of Kent	Study of interactions between tourism and indigenous people in the Lower Omo Valley, Ethiopia
New Zealand: Tuatara	Robert Austin University of Aberdeen	Studies on hatching Tuataras at Victoria University, Wellington, New Zealand
Trinidad: Turtle Study and Surveys	Kirsten Archibald University of Glasgow	Marine turtles conservation project. Survey and study of Leatherback and Hawksbill turtles
Madagascar: Marine Turtles Surveys	Jessica Metcalf University of Oxford	Surveys of marine turtles on Nosy Hara and Radama islands
Zimbabwe: Black Rhinos	Dr Julie Garnier	Research on reproduction and conservation genetics in Black Rhinoceros
Central African Republic: Gorillas	Stuart Nixon Mondika Research Station	Research on Western Lowland Gorillas in Dzanga-Ndoki Reserve
Ecuador: Amphibians and Reptiles	Norah Schultz University of Oxford	Survey of amphibians and reptiles in the high Andes of northern Ecuador
Mauritius: Echo Parakeets	Dr Carl Jones Mauritius Wildlife Foundation Anne Morris, Chester Zoo	Support of international hand-rearing programme including three-month secondment of experienced parrot keeper
South Africa: Penguins	South African National Foundation for the Conservation of Coastal Birds Karen Davies, Chester Zoo	Secondment of experienced penguin keeper to assist international rescue of oiled Black-footed Penguins
China: Laughing Thrushes	Roland Wirth, ZGAPS He Fen Qui, Beijing	Survey of Yellow-throated Laughing Thrushes in north east Jiangxi
Brazil: Jaguars	Alexandra Zimmermann DICE, University of Kent	Study of Jaguar-rancher conflict in the north Pantanal of Brazil
Borneo: Orang utans	Matthew Struebig University of Leicester	Habitat assessment for reintroduction of ex-captive Orang utans in Kalimantan
Mexico: Fish	Jen Nightingale Bristol Zoo	'Fish Ark' - conservation breeding of endangered freshwater live-bearer fishes in Mexico
Madagascar: Lemurs	Kathy Burns University of Edinburgh	Survey of Lemurs in Ambodiriana Forest Park, Madagascar
USA: Sharks and Sting Rays	Doug Warmolts Columbus Zoo, USA; Mark Smith, Lisbon Aquarium	Workshop on Shark husbandry and publication of husbandry manual

We are very grateful to 103 students who gave work experience time to the Zoo

First Name Surname	Course and College/School/University	Home	First Name Surname	Course and College/School/University	Home
Elizabeth Allen	Post A Levels, Pre Zoology	Cambridge	Gary Karim	GCSEs, Upton High S, (Retail/Office)	Chester
Rachel Alltimes	Post A Levels, Pre Vet Science	Bedford	Mary King	Post A Levels, Pre Vet Science	Huddersfield
Caroline Antlett	A Levels, Queen's S	Wrexham	Beverley Lewis	BSc Applied Biology, Liverpool JMU, (1 year placement)	Liverpool
Gillian Bailey	Post A Levels, (1 year placement)	Frodsham	Michelle Little	HND Animal Care, Reaseheath C	Helsby
Sarah Bailey	ND in Animal Care, St Helens C	Liverpool	Joanna Lowe	Post A Levels, Pre Vet Science	Crewe
Karen Baldwin	BSc Applied Biology, Bath U (Industrial 1 year placement)	Bath	Claire Lupton	HND Animal Care, Askam Bryan C	Leeds
Hannah Barlow	Conservation Biology, Edge Hill C	Ormskirk	Julia Larsson	Animal Care, Bromma Gymnasium	Sweden
Katie Bimpson	Veterinary Science, Cambridge U	Liverpool	Mandy Locker	GCSEs, Christleton High S, (Retail)	Chester
Sonia Bithell	Animal Science, Wye C	Stockport	Clare McAra	Post A Levels, Pre Vet Science	Knutsford
Holly Borowski	ND in Animal Care, Reaseheath C	Nantwich	Kelly McGoldrick	Post A Levels, Pre Zoology	Coventry
Gillian Bower	ND in Animal Care, Llysfasi C	Ruthin	Kirsty McKee	Post A Levels, Pre Vet Science	Wirral
Alexandra Boyling	Post A Levels, Pre Vet Science	Whitchurch	Kathryn McLean	BTEC in Animal Care, Askham Bryan C	W Yorks
Helen Boczek	BSc Applied Biology, Man Met U	Cheshire	Morven McLeman	BSc Applied Biology, Bath U	Stratford
Louise Brassey	Post A Levels, Pre Veterinary Science	Wallasey	Lucinda Meehan	Post A Levels, Pre Vet Medicine	Huddersfield
Alex Buist	A Levels, Turton High S	Bolton	Craig Mitchell	GCSEs, Bishops High S (Catering)	Chester
Daniel Burns	GCSEs	Wirral	John Morrily	Prince's Trust Volunteer	Crewe
Adam Cadamarteri	GCSEs	Keighley	Katie Mountford	A Levels, Withington Girls S	Macclesfield
Jenna Cash	A Levels, Sir John Dean's C	Northwich	Janine Mullin	Animal Care, Liverpool U	Liverpool
Natasha Chick	Zoology, Bristol U	Bristol	Lina Nilsson	Animal Care, Rosersberg Gymnasium	Sweden
Helen Coombe	Sponsored by Falkland Islands Dev Corp, West Cheshire C	Chester	Rebecca Nugent	Post A Levels, Pre Vet Science	Cheshire
Ariadna Corbella	Post Graduate, ECTARC (European Funded) scheme	Spain	Kathryn O'Neill	BA English/Media, Leeds U. Pre Animal Mgt.	Stockport
Stephen Crossfield	A Levels, Pre Marine Biology	Wigan	Helen Pearce	Post A Levels, Pre Animal Welfare	St. Helens
Ted Cutting	Post A Levels, Pre Vet Science	Stafford	Victoria Poole	Post A Levels, Pre Vet Science	Stoke-on-Trent
Clare Daniel	Zoology, U of Wales, Aberystwyth (1 year placement)	Chester	Karie Radbourne	Zoology, Liverpool U	High Peak
Caroline Dawes	Post A Levels, Pre Vet Science	Northwich	Clare Rafe	Post A Levels, Pre Animal Behaviour	Pontefract
Julie de Winton	A Levels, Christleton High S (Catering/Retail)	Chester	Anna Raheem	Post A Levels, Pre Vet Science	Manchester
Lucy Dickinson	Biology/Geography, Chester C	Chester	Megan Revell	ND in Animal Care, Llysfasi C	Ruthin
Andrew Durham	Zoology, Liverpool JMU	Wirral	Julie Roberts	Animal Mgt Course, Pre Vet Nurse Course	Ceredigion
Felicity Fair	Animal Behaviour, Chester C	Wirral	Sarah Roffe	ND in Animal Care, Askham Bryan C	York
Mandy Farr	Animal Behaviour, Chester C	Stoke-on-Trent	Clare Rooney	Zoology, Manchester U	Chester
Hanna Fisher	Post Graduate, Berlin U	Germany	Andrew Ross	Duke of Edinburgh's Award (Gold)	Chester
Emma Ford	Post A Levels, Pre Zoology	Powys	Christopher Rutter	GCSEs, Upton High S	Chester
Abigail Forder	Post A Levels, Pre Vet Science	Wrexham	Anneliese Salter	ND Animal Care	Gloucester
Alex Garnett	Post A Levels, Pre Vet Medicine	Northwich	Dominic Shepherd	ND Animal Care, Lackham C	Trowbridge
John Graham	Post A Levels, Pre Zoology	Warrington	Steven Sherry	GCSEs, Elfed High S (Catering)	Buckley
Amelia Grass	HND Animal Care, Rodbaston C	Stafford	Kimberley Simpson	Post A Levels, Pre Vet Science	Knutsford
Stephanie Gray	Post A Levels, Pre Vet Science	Wallasey	Rebecca Skeet	Post A Levels, Pre Vet Science	Sheffield
Louise Gray-Jones	HND Animal Care, Welsh C of Horticulture	Flint	Laura Smith	Post A Levels, Pre Vet Science	Wirral
Kelly Hall	BTEC in Animal Care, Askham Bryan C	Teeside	Christina Stanley	Post A Levels, Pre Zoology	Chester
Catherine Hollinghurst	BSc Biological Sciences, Salford U (1 year placement)	Salford	Isabel Stanton	Post A Levels, Pre Vet Science	Knutsford
Christopher Holloway	BSc Applied Zoology, Liverpool JMU, (1 year placement)	Liverpool	Lindsay Steer	BSc in Animal Behaviour and Welfare, Chester C	Chester
Kim Holmes	Vet Science, Edinburgh U	Edinburgh	Ben Sweeney	GCSEs, Merchant Taylors' S	Liverpool
Paula Holroyd	Zoology, Liverpool U	Wallasey	Lowrie Tan	Post A Levels, Pre Vet Science	Chester
Claire Houston	GCSEs, Hawarden High S (Retail)	Hawarden	Booby Urron	Animal Care	Netherlands
Lucy Howard	Post A Levels, Pre Vet Science	Rossendale	Tim van		
Kathy Hughes	Zoology, Leeds U	Leeds	Laarhoven	Animal Mgt, Groenhorst C	Netherlands
Kayleigh Hughes	GCSEs, Denbigh High S (Catering)	Denbigh	Rebecca West	GCSEs, Upton High S	Chester
Karen Hurst	Post A Levels, Pre Vet Science	Prestwich	Louise Whitear	GCSEs, Kendrick Girls' Grammar S	Berkshire
Emma Jarratt	A Levels, Birkenhead High S	Neston	Rhiannon Whitworth	Zoology, Leeds U	Cardiff
Anthony Jones	HND Animal Care, Welsh C of Horticulture	Deeside	Craig Williams	Animal Care, Reaseheath C	Nantwich
Linda Jones	Animal Science, West Cheshire C	Kelsall	Georgina Wilson	A Levels, Queen's S	Whitchurch
Simon Jones	Post A Levels, Pre Zoology	Chester	Christopher Wright	Post A Levels, Pre Marine Biology	Wrexham

We are grateful to 129 Research Associates and students who undertook on-site research

First Name	Last Name	Qualification	Subject	University/College	Zoo area of study	Home
Sian	Anderson	BSc	Zoology	Liverpool	Macaques, enclosure utilisation, enrichment	Colchester
Fran	Ashley	MSc	Equine Science	Wales	Horses, parasites, nutrition	Aberporth
Philip	Ashton	BSc	Zoology	Liverpool	Chimpanzees, social behaviour, hierarchy	Guisborough
Dr Filippo	Aureli		Research Associate	Liverpool John Moores	Chimpanzees, Spider monkeys, behaviour, grooming	Bromborough
Juliet	Aucott	BSc	Zoology	Liverpool John Moores	Bats, enclosure utilisation	Derby
Carrie	Baines	BSc	Psychology	Bolton Institute	Macaques, visitor interactions	Bolton
Hannah	Barlow	BSc	Conservation Biology	Ormskirk	Macaques, enclosure utilisation	Chorley
Elizabeth	Barnes	BSc	Combined Honours	Manchester Metro	Bats, nutrition	Bolton
Devon	Batley	BSc	Applied Biology	Liverpool John Moores	Macaques, enclosure utilisation	Surrey
Elena Jane	Bean	BSc	Applied Biology	Chester C	Chimpanzees, grooming, nutrition	Northwich
Dr Lynda	Birke		Research Associate	Independent (Leahurst)	Orang utans, husbandry, visitor effect, enrichment	Llangollen
Helen	Boczek	BSc	Biological Sciences	Manchester Metro	Rhinos, behaviour	Brereton Green
Tanya	Bourne	BSc	Applied Biology	Liverpool John Moores	Macaques, hierarchy	Kendal
Leon	Bowers	BSc	Zoology	Liverpool John Moores	Lions, nutrition	Moreton
Lisa	Braddock	BSc	Animal Behaviour and Psychology	Anglia Polytechnic, Cambridge	Tapirs, behavioural assessment, questionnaire	Cambridge
Alistair	Brown	MEng	Product Design Engineering, 5th year	Strathclyde	Bats, enrichment, engineering	Glasgow
Bradley	Cain	MSc	Conservation Biology	Manchester Metro	Rhinos, genetics	Manchester
Emma	Caunce	BSc	Psychology	Chester C	Tamarins, enclosure utilisation	Chorley
Clare	Caws	Pilot study	Biological and Earth Sciences			
Lesley	Carlile	PhD	Biology	Liverpool John Moores	Chimpanzees, male hierarchy, behaviour	Chester
Emma	Chapman	BSc	Psychology	Bolton Institute	Lemurs, post-conflict, communication	Bolton
Susan	Charlesworth	BSc	Animal Management	Bolton Institute	Chimpanzees, grooming	Northenden
Louise	Chetty	BSc	Biology with Psychology	Sparsholt C	Zebbras, nutrition	Winchester
Adam	Chumbley	BSc	Applied Zoology	Liverpool Hope C	Chimpanzees, parental care	Liverpool
Jennifer	Cole	BSc	Zoology	Liverpool John Moores	Meerkats, interaction	Binfield
Stacey	Conchie	BSc	Psychology	Liverpool John Moores	Primates, aggression, conflict	Nantwich
David	Cowley	MSc	Environmental Management	Liverpool	Chimpanzees, grooming	Liverpool
Kelly-Ann	Cox	BSc	Conservation Biology	Derby	Lizards, breeding, translocation	Derby
Dr Robert	Crompton		Applied Biology Staff of Dept of Human Anatomy and Cell Biology	Liverpool John Moores	Macaques, grooming	Liverpool
Edward	Dakin	BVSc	Veterinary Science	Liverpool	Primates, evolution of bipedality	Liverpool
Leeann	Danton	BSc	Applied Biology	Liverpool	Penguins, visitor interactions, behaviour	Shrewsbury
Jane	Davies	BSc	Psychology	Liverpool John Moores	Chimpanzees, social behaviour, grooming	Liverpool
Gayle	Dower	BSc	Psychology	Liverpool	Chimpanzees, communication	Birkenhead
Andrew	Durham	MSc	Evolutionary Psychology	Liverpool	Chimpanzees, social interactions	Aberdeen
Nicola	Edgell	BSc	Zoology	Liverpool John Moores	Tamarins, behaviour	Moreton
Jonathan	Ekstrom	BSc	Psychology and Biology	Liverpool John Moores	Chimpanzees, communication, conflict	Chester
Michelle	Errington	PhD	Animal and Plant Sciences	Sheffield	Parrots, breeding biology	Chertsey
Rachel	Fenlon	BSc	Animal Behaviour and Welfare	Chester C	Fish, Seahorses, territoriality, welfare	Stalybridge
Silvia	Fiori	BSc	Animal Behaviour	Chester C	Orang utans, enrichment	Oldbury
Sarah	Ford	BVet Med	Biology Veterinary Medicine	Liverpool John Moores	Chimpanzees, behaviour	Italy
Naomi	Forrest	BSc	Animal Behaviour and Welfare	Royal Veterinary C, Hatfield	Chimpanzees, husbandry	Manchester
Mark	Foster	BSc	Psychology and Biology	Chester C	Coatis, behaviour	Crewe
Elizabeth	Garrett	BSc	Zoology	Liverpool John Moores	Orang utans, enrichment	Sheffield
Jennifer	Gill	BSc	Biology with Environmental Studies	Wales	Lories, enrichment, behaviour	Brighton
Beth	Glennie	BSc	Applied Zoology	Manchester Metro	Elephants, communication	Ormskirk
Matthew	Gordon	MSc	Palaeobiology	Liverpool John Moores	Flamingos, behaviour	Oldham
Rachel	Gorman	BSc	Zoology	Bristol	Hominids, maturation, behaviour	Kingswood
Robert	Hadfield	BSc	Applied Biology	Liverpool John Moores	Orang utans, behaviour	Lichfield
Clare	Hamilton-Dyer	BSc	Biology	Chester C	Birds, enrichment	Oldham
Emma	Hankinson	BSc	Applied Zoology	Chester C	Birds, Condors, species interactions, enrichment	Southampton
Lisa	Hannah-Stewart	PhD	Evolutionary Psychology	Liverpool John Moores	Tamarins, carnivores, meercats	Walsall
Rachel	Haywood	BSc	Zoology	Liverpool John Moores	Chimpanzees, post-conflict behaviour	Liverpool
Evonne	Henthorn	BSc	Psychology and Biology	Liverpool	Meerkats, social behaviour	Mansfield
Stephen	Herald	BSc	Environmental and Behavioural Biology	Liverpool John Moores	Chimpanzees, behaviour, agonistic interactions	St. Helens
Stefan	Herczegh	BSc	Biology	St Andrews	Sealions, nutrition	St Andrews
Louise	Heslop	BSc	Animal Behaviour and Welfare	Prague	Chimpanzees, reproductive behaviour	Prague
Margaret	Hill	BSc	Animal Behaviour and Welfare	Chester C	Marmots, vigilance	Fife
Paula	Holroyd	BSc	Zoology	Chester C	Mice, native species, reintroduction, monitoring	Chester
Victoria	Hughes	BSc	Zoology	Liverpool	Chimpanzees, social relationships	Wallasey
Sheena	Hynd	BSc	Zoology	Liverpool John Moores	Lemurs, behaviour	Peterborough
Karen	Ingram	BSc	Animal Behaviour and Welfare	Chester C	Orang utans, visitor effect	Chester
Gail	Jaundrill	BSc	Animal Behaviour and Welfare	Chester C	Parrots, inter-zoo study, behavioural assessment	Frodsham
Damian	Jensen	MSc	Zoology	Liverpool	Primates, conservation	Rhyl
Nick	Johnstone	BSc	Behavioural Ecology	Manchester Metro	Lemurs, juvenile development	Manchester
Claire	Kellett	HND	Zoology	Liverpool	Lemurs, behaviour	Runcorn
			Animal Science	Brackenhurst C	Spider Monkeys, enrichment, nutrition	Newark

First Name	Last Name	Qualification	Subject	University/College	Zoo area of study	Home
Jenny	Kelley	PhD	Environmental and Evolutionary Biology	St. Andrews	Fish, Goodeids, behaviour, morphology, breeding	St. Andrews
Paul	Kieran	BSc	Psychology and Biology	Liverpool John Moores	Lemurs, enrichment	Maghull
Robert	Kucera		Biology	Prague	Chimpanzees, behaviour, locomotion	Prague
Nick	Lewis	BSc	Applied Biology	Chester C	Lemurs, stress, grooming	Upton
Helena	Lucas-Hoyuelos	MSc	Early Hominid Studies	Liverpool	Chimpanzees, behaviour	Liverpool
Diana	Mahoney	BA	Archaeology and Prehistory	Sheffield	Macaques, display	Gainsborough
Zuzana	Masatova		Biology	Prague	Lemurs, behaviour, locomotion	Prague
Andrew	Mayo	BSc	Natural History	Anglia Polytechnic, Cambridge	Rhinos, behaviour	Cambridge
Claire	McAra	gap year			Elephants, behaviour	Knutsford
Annina	McDonnell	BSc	Zoology	Liverpool John Moores	Birds, mixed species, behaviour	Leeds
Carmen	McKenzie	BSc	Psychology	Bolton Institute	Primates, chimpanzees, tool use	Workington
Morven	McLeman	BSc	Applied Biology	Bath	Bats, nutrition	Stratford
Vicky	McQueen	BSc	Biology/Psychology	Liverpool Hope C	Chimpanzees, visitor effects, behaviour	Liverpool
Mary	McVay	BSc	Psychology	Liverpool	Chimpanzees, social interactions	Bristol
Constanze	Melicharek	PhD	Zoology	Vienna	Orang utans, mother-infant behaviour	Vienna
Caroline	Mellor	BSc	Animal Behaviour and Welfare	Chester C	Giraffes, behaviour	Congleton
Janet	Morrow	MPhil/PhD	Animal Behaviour	Bolton Institute	Chimpanzees, Orang utans, visitor effects	Bolton
Sandra	Mulligan	BSc	Biology	Bolton Institute	Coatis, post-conflict behaviour	Preston
Samantha	Munro	BSc	Zoology	Liverpool John Moores	Rhinos, environmental enrichment	Bury St Edmunds
Christine	Murray	BSc	Applied Biology	Liverpool John Moores	Przewalski's Horses, Onagers, hierarchy	Liverpool
Colin	Nagle	BSc	Biology / Computer Science	Chester C	Parrots, enrichment	Wallasey
Gareth	Norris	BSc	Animal Behaviour	Anglia Polytechnic, Cambridge	Bats, behaviour, welfare	Northern Ireland
Kelly	O'Sullivan	BSc	Zoology	Wales	Animals, behaviour	Chester
Victoria	Parks	BSc	Applied Ecology	Liverpool John Moores	Macaques, enclosure utilisation	Durham
Martin	Parry	BSc	Zoology	Liverpool	Orang utans, social behaviour, wild <i>versus</i> captive	Ashford
Nicola	Pattison	BSc	Zoology	Liverpool John Moores	Lemurs, grooming	Liverpool
Cassandra	Peers	BSc	English with Psychology	Chester C	Maras, scent-marking	Great Sutton
Minna	Ponkanen		Human Evolution	Liverpool	Chimpanzees, communication	Liverpool
Rachel	Payne	PhD	Human Anatomy and Cell Biology	Medical School, Liverpool	Orang utans, evolution of bipedality	Newcastle
Darrel	Porter	BSc	Animal Behaviour and Environmental Biology	Anglia Polytechnic, Cambridge	Buffalos, behaviour	Huddersfield
Kersti	Pritchard	BSc	Biological Sciences	Manchester Metro	Zebras, Przewalski's Horses, Onagers, hierarchy	Betchworth
Vicky	Powell	PhD	Biological Sciences	Manchester Metro	Bats, behaviour, nutrition, in situ conservation	Chester
Luisa	Rebecchini	BSc	Biology	Liverpool John Moores	Chimpanzees, behaviour	Italy
Stuart	Reddrop	BSc	Psychology	Liverpool Hope C	Chimpanzees, hierarchy, behaviour	Bristol
Gareth	Redston	BSc	Animal Behaviour	Anglia Polytechnic, Cambridge	Marmots, vigilance	Manchester
Dr. Paul	Rees		Research Associate	Salford	Elephants, behaviour, husbandry, enrichment	Bolton
Lorna	Reynolds	BSc	Biology and Psychology	Liverpool John Moores	Chimpanzees, play, juveniles, social interactions	Southport
Jennifer	Richardson	BSc	Anatomy and Human Biology	New Medical School, Liverpool	Orang utans, evolution of bipedality	Southport
Abigail	Rosenbloom	MSc	Environmental Biology	Chester C	Buffalos, behaviour, enrichment	Chester
Philippa	Rowe	BSc	Applied Zoology	Liverpool John Moores	Mandrills, Grivet monkeys, Campbell's monkeys, social interactions	Roydon
Dr. Colleen	Schaffner		Research Associate	Chester C	Spider Monkeys, behaviour, social structure, hormones	Bromborough
Abigail	Semple	BSc	Zoology	Liverpool	Primates, post-conflict behaviour, vocalisation	Hollywood
Keely	Severn	BSc	Zoology	Liverpool John Moores	Lemurs, behaviour	Grantham
Kathryn	Slater	BSc	Psychology and Biology	Liverpool John Moores	Macaques, hierarchy	Middlesex
Amanda	Smith	BSc	Psychology and Biology	Liverpool John Moores	Chimpanzees, visitor effect, mother-infant interactions	St. Helens
Stacy	Spielman	MSc	Applied Animal Behaviour Welfare	Edinburgh	Tigers, enrichment, pheromones	Dolphinton
Lucilla	Spini	DPhil	Biological Anthropology	Oxford	Chimpanzees, juvenile development, morphology	Oxford
Michelle	Sutton	BSc	Zoology	Liverpool	Elephants, juvenile development, behavioural assessment	Bradford
James	Taylor	BSc	Zoology	Liverpool John Moores	Bush Dogs, social relationships	Little Chalfont
Karen	Thomas	BSc	Zoology	Liverpool	Rhinos, behaviour, welfare	Cuffley
Gemma	Thompson	BSc	Zoology	Sheffield	Rhinos, enrichment, welfare	Chorley
Joanna	Thompson	BSc	Biology (Ecology)	Chester C	Penguins, enrichment	Sheffield
Joanna	Thorne	MSc	Biological Anthropology	Durham	Primates, Lemurs, grooming	Bristol
Katie	Tootle	BSc	Psychology	Liverpool Hope C	Chimpanzees, grooming, dominance, hierarchy	Wallasey
Ian	Tsang	BSc	Psychology and Biology	Liverpool John Moores	Rhinos, enrichment, welfare	Birmingham
Zoe	Turner	BSc	Zoology	Liverpool	Penguins, visitor effect	Bristol
Stephen	Ward	BSc	Zoology	Liverpool	Chimpanzees, research methods	Doncaster
Angela	Watson	BSc	Zoology	Liverpool	Spider monkeys, juvenile development	Chorley
Elizabeth	Watts	BSc	Archaeology and Prehistory	Sheffield	Primates, Carnivores, vocalisation	Ingham
Brigitte	Wesslerle	BSc	Animal Behaviour	Anglia Polytechnic, Cambridge	Maned Wolves, enrichment	Germany
Simon	West	BSc	Biological Science	Manchester Metro	Orang utans, parent-offspring interactions, behaviour	Stockport
Martin	Woods	BSc	Zoology	Liverpool	Reptiles, welfare, stress hormones	Liverpool
Emma	Worsley	BSc	Psychology	Chester C	Elephants, behaviour, 24 hr time budgets	Wigan
Elaine	Wragg	HND	Animal Science	Brackenhurst C	Spider Monkeys, enrichment, nutrition	Dronfield

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**CHESTER**

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The life size statue  
of the Dodo for  
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created in bronzed  
resin by  
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Hughes.

The sidebar design is a special Bat motif, specially designed for the report by Ann Bridges FCA, Artist in Residence 1999 – 2001. Ann's tenure has been jointly funded by The City of Chester and North West Arts.

