

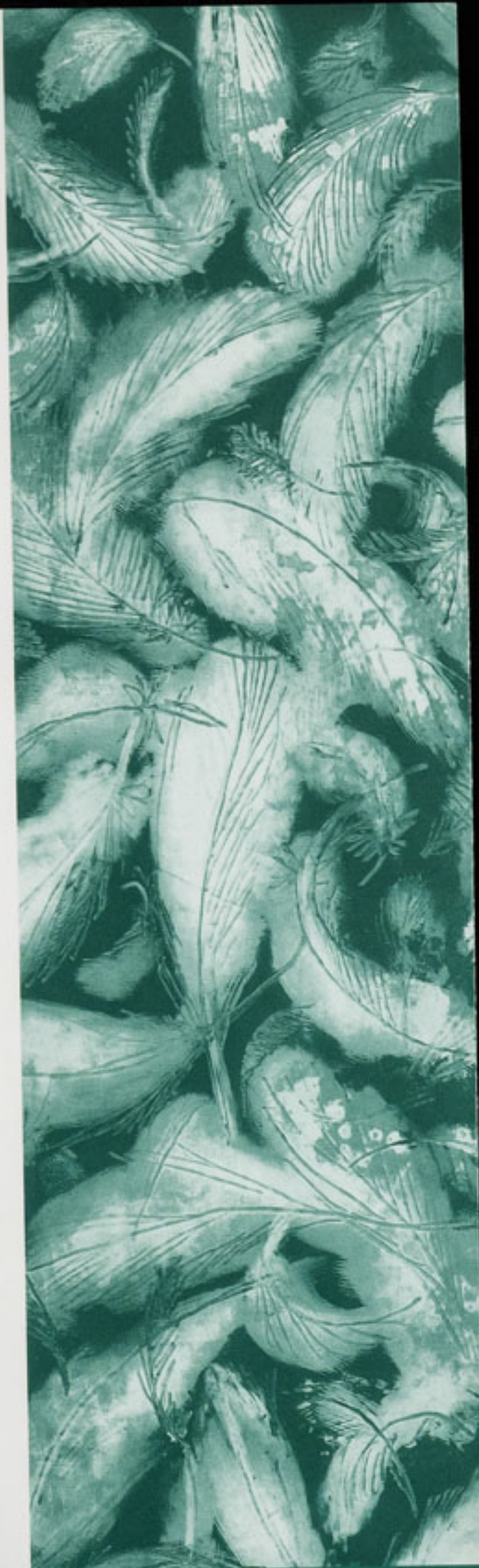


CHESTER

1999 ZOO REVIEW

Annual Report of the North of England Zoological Society

nineteen ninety nine



Saving Animal and Plant 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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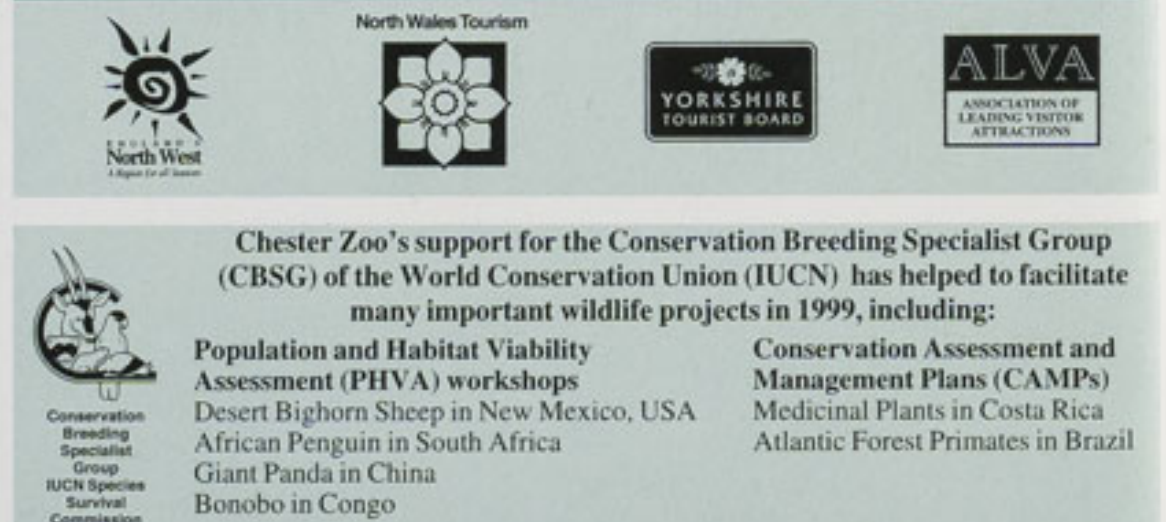
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AFFILIATIONS

PARTNERS IN CONSERVATION AND EDUCATION



PARTNERS IN TOURISM



AWARDS

Some of the twenty international, national and regional awards won by the Society in 1999





Best-ever financial year

Turnover (£10.4 million) was the highest in our history. Paying visitors – at 965,721 – were a handsome 4.8% up on 1998 – itself the best year since 1978. Our millionth visitor (including the under threes) was four year old Emma Rogan from Gatley, Cheshire who was given a large soft tiger toy.

'Jewel of the North West'

Former Upton residents, John Prescott and his wife Pauline returned to the Zoo on 12th July for the award of our Gold Medal to the Deputy Prime Minister for his work in conservation, animal welfare and the environment. He met the elephants and toured *Monkey Islands* and the *Twilight Zone*. 'Chester Zoo is in the lead, not only here in Britain but in Europe' he said, adding 'Chester Zoo is the jewel of the North West'. He also spoke before the first meeting of the National Zoo Forum in the Lecture Theatre.



Chairman and John Prescott

Gardens of delight

Glorious Grasses, complete with bamboo hut, canalside boardwalk and interpretation panels is now open. Its companion in East Zoo, the *Roman Garden* – on the site of a former off-show nursery plot, and linked to the *Oakfield* – is substantially complete. These are the first major gardens developments for more than a decade.

Food and Play

The £800,000 refit of the *Jubilee* began in September, with re-opening scheduled for February 2000. This flagship of the new Visitor Services Division, to be titled *Ark Restaurant*, brings our catering back to mainstream best practice. On the opposite side of the lawn is the cheerful new *Noah's Park* play area.



Ark Restaurant across the lake

Elephant husbandry progress

In a year of considerable progress, the bull house extension was completed to house *Chang* and *Upali*. Pregnancy tests on *Jangoli* and *Thi Hi Way* were positive (with births expected in mid and late 2000 respectively) and Phase I of the National Asiatic Elephant Centre started with ground works for the paddock extension, landscaping and bathing pool.

Spirit of the Jaguar plans approved

Chester City Council gave formal planning approval for the £2 million *Spirit of the Jaguar* development on the old car park in East Zoo. Construction begins in Spring 2000. Parallel outreach proposals are being prepared in Mesoamerica, with important links to the Wildlife Conservation Society field support programme for jaguars.

Important links with China

We have made significant progress in setting up veterinary and animal welfare links in two visits to the Republic of China. Chief Curator Chris West joined a Manchester Chamber of Commerce mission to Beijing and Chengdu in April. In December, Chairman of Scientific and Veterinary Committee Brian Livingstone, Chris West and Veterinary Resident, Stephanie Sanderson happily secured a formal twinning with Chengdu Panda Breeding Centre and Chengdu Zoo and visited Wolong Panda Reserve.

We have adopted an island!

We have made a stewardship commitment to help conservation work in Polillo Island in the Luzon archipelago in the Philippines. Chief Curator, Chris West and General Curator of Higher Vertebrates, Dr Roger Wilkinson made a visit. Support plans were agreed, funding an Assistant Conservation Warden. Practical support at Chester will include housing four Philippine Spotted Deer, the rarest deer in the world.

Score of awards

There were eight 'gold' awards including those from The Universities' Federation for Animal Welfare (for the *Twilight Zone* Bat Cave); Zoo Federation; North West Tourist Board and the Duke of Westminster Award for Business and Industry (Not for Profit section). We gained twelve awards in the 'silver' section, including a national EASE commendation for Tourism for All.

Presentation

Education have continued their special events for children with great success: a week-long imaginary *Trip to Africa* in the summer holidays, and other days at the half terms. Presenters have formally transferred to Education, forming an important link with visitors. Around the Zoo, more top class interpretation material has been erected.

Better working arrangements

In a significant organisational change that followed a work structuring consultancy exercise across the Zoo, a sixth division – *Visitor Services* – has been created to cover customer care, amenities, catering and retail operations. A major, zoo-wide job relativities review has been conducted by a special staff committee supported by Celia Long, Chair of the Staff Association, with help from ACAS. First steps towards implementation were taken at the year-end staff review. Jayne Quinn, Personnel Manager has been promoted to Head of Division in recognition of the importance of staff matters.

Order, Order at Penguins!

We were greatly honoured when The Speaker of the House of Commons, the Rt Hon Betty Boothroyd (left) came to declare the *Rare Penguin Breeding Centre* officially open in May. Penguins eating from her hand matched her performance with MPs at Westminster.



**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
Our Vice President renews the historic connection between the Zoo and the Lever family.

COUNCIL

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



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



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



Graham Pollard BSc, LLB, MA, CBiol, MIBiol
Biologist and Environmental lawyer.



Vice Chairman
Brian Coles BVSc, MRCVS, DipECAMS
Consultant avian veterinary surgeon, lecturer, author, govt wildlife inspector.



Jean Dixon CChem, FRSC
Retired Research Chemist. Wildlife photographer.



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



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



John Brown
Public Affairs Manager with major international petrochemical company.



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



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



Tony Williams
Recently retired from being Assistant General Manager with a major Chester-based bank.



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



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



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



Professor Peter Wheeler BSc, PhD
Dean of Division of Science and Humanities. Director of School of Biological and Earth Sciences, Liverpool John Moores University. (co-opted 1990)

COUNCIL COMMITTEES**Finance Committee***

Recommends financial policy, including pricing, revenue and capital budgets, long term forecasts, long and short term borrowing and lending. Meets the Auditors at least annually to discuss their reports.

Alan Sharples (Chairman)	Hamilton Howatt
Keith Maybury	John Makinson
Prof Gordon McGregor Reid (Director)	Tony Williams
Alan Sykes (Staff)	Michael Johnson (Staff)
Chris West (Staff)	Chris Vere (Staff)

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.

Kathryn Edwards (Chairman)	Karen Davies
Jean Dixon	Graham Pollard
Maria Warrington (Member)	Prof Gordon McGregor Reid (Director)
Stephen McKeown (Staff)	John Regan (Staff)
Chris Vere (Staff)	Chris West (Staff)
Alan Woodward (Staff)	Maureen Allsopp (Secretary)

Pension Fund

Manages the superannuation fund scheme, and authorises payments in accordance with its deed and Council instructions. Advises on Pension policy.

Trustees

Michael Johnson (Chairman)	Alan Du Cros
Jean Dixon	Tony Williams
John Makinson	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)
Dr John Charles-Jones
Brian Coles
Dr David Cooke
Brian Edwards
Derek Lyon
Dr Spenser Madden
Chris Mahon
Keith Maybury
Prof Peter Wheeler
Pat Wisniewski

Staff

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

Consultant Noel Walker (Gatehouse Veterinary Hospital)

Remuneration Committee*

Determines remuneration and conditions of service for the Director and Heads of Divisions and other fundamental financial matters.

Keith Maybury (Chairman) Alan Sharples

Zoo Estates Panel

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

Society

Prof Gordon McGregor Reid
Michael Johnson
Stephen O'Brien
Jayne Quinn
Alan Sykes

Denton Clark & Co.

Michael Scott
Julian Mellis

* Committees of Council.



We are delighted to report that 1999 produced extraordinarily good results – topping 1998, which also set record achievements. We had 1.065 million visitors in total, and nearly 966,000 paying visitors (which excludes the under threes). This is 4.8% above 1998 and 17% above budget – a 22 year record. We may well be the most visited wildlife attraction in the UK. Certainly, we are the most all round successful zoo.

Takings (net of VAT) ended at 8.5% above 1998. Annual turnover exceeded £10 million. Capital expenditure – for animal welfare, conservation, education, science, visitor and staff facilities – was £2.2 million (double any previous year). All of this was achieved in the face of stiff competition from our nearest large commercial rival *Blue Planet Aquarium*, and other EU subsidised or Millennium Commission funded attractions. Overall, we have had the best results in the history of the Society. This is a great credit to our enthusiastic and dedicated staff and management team, our supportive and progressive Zoo Council and, of course, our loyal members, volunteers, patrons, sponsors and visitors. For this, we extend our warm appreciation and thanks to all concerned.

Somehow, we imagined it would be impossible to cap our 1998 score of 11 awards, culminating in *Zoo of the Year* from the *Good Guide to Britain 1999*. Not so! The total number of national and regional awards gained this year is a staggering 20. These are in diverse areas including animal welfare, conservation, breeding, horticulture, education, exhibition, environment, marketing, tourism, business and disabled access. Regionally, for example, we gained the title *Cheshire Family Attraction of the Year* and nationally, the top *Universities Federation for Animal Welfare Award* for the *Twilight Zone* (bat cave). The Consumers Association, publishers of *Which* conducted a survey of 20 well known British zoos in 1999 for their winter magazine *Holiday Which?* Members will be pleased to note that Chester Zoo was rated as the *Best Zoo in the UK* and the only *Five Star Zoo*. Describing Chester as *thoroughly modern*, highly rated aspects include our spacious enclosures, excellent viewing, educational interpretation, guidebook, attractive well-landscaped gardens, transport, disabled provision, and two recent, large exhibits: *Monkey Islands* and the *Twilight Zone*.

Our public profile has never been higher and we were delighted to have a visit from the Speaker of the House of Commons, The Rt Hon Betty Boothroyd MP, to open our Penguin Pool (*Rare Penguin Breeding Centre*). We also presented the Deputy Prime Minister, The Rt Hon John Prescott MP, with the Gold Medal of the North of England Zoological Society for his distinguished contributions to conservation and the environment.



Order, Order for the penguins

While we have good reason to enjoy and celebrate the core success of the Zoo, there is no reason to become complacent. Saving species from extinction worldwide,

including those in Britain, must remain at the front of our minds and at the heart of our mission and future planning. For the great majority of species on our planet, the threats to survival increase rather than decrease. In 1999, the human population for the first time reached 6 billion – about

double the number of the 1960's. The global population continues to increase at more than 80 million per year and could, in theory at least, reach 12 billion in about ten years from now. This rapidly burgeoning population is sprawling over the earth's surface killing or displacing wild animals, destroying or degrading their habitats and damaging the life support systems upon which everything ultimately depends.

Of course zoos only represent one component of the solution. Nevertheless, every zoo must do its part to help, in line with the *World Zoo Conservation Strategy* (CBSG/WZO). For this reason the Animal Division began work in 1999 on a comprehensive *Animal Collection Plan* which objectively re-examines our role in breeding, re-evaluates our successes and failures and prioritises target species for the future. This landmark exercise, to be completed in 2000, has been conducted mainly in terms of conservation, education and science. Particularly close attention has been paid to the development of vital outreach activities in the habitat countries. Through our efforts this year we have already forged stronger outreach links with the Philippines, West Africa, Mesoamerica and China. In the last case, the twinning of Chester Zoo with Chengdu Zoo and the Giant Panda Breeding base was a major triumph – endorsed by Privy Councillor, The Rt Hon Margaret Beckett MP.

Clearly, we must retain the necessary public interest at home to provide financial backing for our emerging plans and charitable aspirations. Hence, we have this year engaged on a new *Physical Masterplan* for the Zoo and its wider estates to provide an appropriate setting for the revised animal collection. In this strategic context we have set the planning and development of major capital works: *Islands in Danger*, *National Elephant Centre* (Phase II), *Entrance Concourse*, *Roman Garden*, *Glorious Grasses*, *Wildlife Discovery Centre* and the new *Ark Restaurant* (all scheduled to be fully operational for 2000); and the *Spirit of the Jaguar* project (for 2001, massively supported by the Jaguar Car Company).

We have, with the help of external consultants, also followed through on major exercises in *Project Planning*, *Work Structuring*, *Job Evaluation* and *Staff Training*. Programmes were also initiated to produce for 2000 an *Education Development Strategy*, *Review of Volunteering in the Zoo* and *Draft Proposals for the Organisation of Council*. This purposeful, ongoing process of review, reform and improvement will we believe place us in a strong position to build on our successes well into the new Millennium.

Chairman
Keith Maybury

Director
Professor Gordon McGregor Reid



The Rt Hon John Prescott, MP receives the Gold Medal of the Society from the Chairman on 12th July 1999



FUNCTIONS	OBJECTIVES	HIGHLIGHTS
ANIMALS AND PLANTS - To manage and care for the Society's animals and plants to the highest possible standards for the purposes of conservation, education, outreach support and benign scientific study. - To increase our relevant zoological and botanical knowledge. - 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.	- To improve the management, good husbandry, planning, development and welfare of the Zoo's collection. - Select the best species balance to support the conservation, educational and scientific objectives of the Society, and balance these with reasonable public expectations. - Play an active role in supporting national and international zoo and wildlife programmes. - To utilise the scientific experience and skills of staff and other collaborators.	- Significant births: Bornean Orang utan, Buffy-headed Capuchin, Anoa, Lion-tailed Macaque, Caribbean Flamingo, Thick-billed Parrot, Mountain Peacock Pheasant, Wrinkled Hornbill, Pink Pigeon and Bali Starling. - Acquisition and breeding of Barombi Mbo Cichlids. - Completion of Elephant bull pen facility. - Completion of Animal Collection Plan review. - Recruitment of Veterinary Resident and Scientific Officer and development of Conservation Co-ordinator role. - Co-ordinated Animal and Plant planning for new projects, e.g. Jaguar and Elephant. - Growth of quality outreach programmes: Philippines, Nigeria and Kenya. - Appointment of new General Curator: Horticulture and Botany.
EDUCATION - To explain the collection for visitors by provision of appropriate signage, presenters and other means. - To provide teaching services and materials for schools, colleges, universities and other interest groups. - To support education outreach programmes at home and abroad and organise resources to meet these aims.	- Increase knowledge and empathy for animals and their environment and the role of the Zoo for the general public, schools, colleges and professional educators at all levels. - Enhance the Zoo's information, interpretation and library services. - Provide educational input for conservation in selected habitat countries.	- First ever <i>Africa Week</i> held for children. - Presenters join Education team. <i>Glorious Grasses</i> interpretation completed. <i>Islands in Danger</i> interpretation completed, ready for installation in 2000. - Interpretation and signage audit completed. - Expansion of teaching programmes for secondary age range. - Provision of extra facilities in library, including CD-ROMs, laptop PC lending system, internet and email access for library users.
ESTATES - To maintain the Zoo fabric, upgrade facilities and manage capital works. - To offer engineering and technical support for works, ensuring efficiency in the design and commissioning of projects. - Ensure we meet all the legal criteria including health and safety and environmental codes. - To make the Zoo a well-maintained, safe environment for animals, staff and public. - Compatible use of our land and property including the wider estate.	- Continually maintain and develop our services and public facilities to standards expected of a top leisure attraction. - Efficient use of utilities. - Optimise use of buildings and land. - Keep abreast of latest designs for animal exhibits. - Upgrade and refurbish infrastructure. - Construct new capital building projects to highest quality value mix. - Liaise with building contractors. - Service requests for maintenance. - Develop an environmental strategy.	- Major projects started include, Elephant Paddock extension, Jubilee Cafeteria refurbishment, <i>Glorious Grasses</i> and <i>Roman Garden</i>. - Successful completion of Penguin Pool life support system, Elephant Bull Pen, <i>Islands in Danger</i> Phase I and Hornbill aviaries in the Elephant building. - Buying mechanical sweeper to improve litter collection and road cleaning. - New digital remote control system on the overhead railway. - Implementation of planned maintenance system. - Continued refurbishment, including many new roofs and improved insulation.
VISITOR SERVICES - To provide high quality customer care and visitor services, to exceed or match other major UK tourist sites. - To achieve or exceed robust trading targets through high quality retail and catering operations. - To continuously improve the standards of visitor amenities, including transport, gardening and cleanliness throughout the Zoo.	- Promote visitor satisfaction, encouraging repeat visits. - Maximise trading income. - Enthuse, motivate and train staff of the new Division in their co-ordinated service role. - Review catering operations after opening of new restaurant with particular reference to the Oakfield. - Review, support and develop Events and Functions activities.	- Recruitment process for new Divisional head at first interview stage. - Transfers from Estates and Marketing have filled key departmental appointments in Catering and Gardening and Amenities. Division structure thus operational. - Refit and refurbishment programme for former <i>Jubilee</i> – now to be <i>The Ark Restaurant</i> – is ahead of schedule and on budget at year-end. - Pilot run of well subscribed evening promotion for Father Christmas.
MARKETING AND DEVELOPMENT - To achieve or exceed visitor attendance targets through cost effective marketing. - Enhance the stature and awareness of the Society through appropriate communications and publications. - To obtain major external funding for capital projects. - To sustain growth of membership and adoptions.	- To be seen as the UK's leading wildlife conservation and education facility. - Surpassing visitor targets, through sampling and increasing awareness and loyalty. Identifying and penetrating new market sectors. - Secure external funding support for major schemes and develop further support initiatives. - Support the Society's public relations with positive communications at all levels.	- Excellent year for publicity, with BBC TV 30 part series <i>Vets to the Rescue</i>. - External promotion at shows and exhibitions across the region using <i>Noah's Ark</i> reaches over 1.5 million potential visitors. - Major team participation in 2nd International Marketing Conference in Amsterdam (WZO/EAZA). - Continued representation at national, regional and local consortia. - PR Manager and Events Office Manager went on Zoo Federation Study tour to <i>Disney Animal World</i> and related sites in Spring. - Web site improved, including additional on-line shopping.
FINANCE AND ADMINISTRATION - Accounting and financial control, including planning budgets. - Management of visitor admissions. - Information technology management. - Company secretarial administration.	- Plan and manage cash flows. - Provide timely financial information to Council and management. - Operate gates efficiently. - Advise on the financial aspects of all Zoo developments. - Administer the staff pension fund.	- Zoos' VAT Tribunal – obtained appeal in European Court. - Installation of new accounting system. - Installation of new gate computers. - Time and attendance system installed.
PERSONNEL - Personnel administration recruitment and training. - Zoo secretarial administration.	- Operate personnel, secretarial and office functions. - Identify and provide appropriate training support for Zoo staff.	- Implementation of organisational restructuring. - Job Relativities review progressed. - Recruitment of key staff. - Project Management training delivered.

PERFORMANCE

DIRECTIONS FOR 2000

- Top UFAW award for Animal Welfare for the *Twilight Zone*.
- UK Zoo Federation Awards for *Twilight Zone*, Rhino Breeding and Parrot environmental enrichment.
- Major expansion of conservation outreach and research activities.
- Twinning of Chester Zoo with Chengdu Zoo and Giant Panda Breeding Base.
- Safe arrival of Red Birds of Paradise and Komodo Dragons.
- Many welfare related improvements.
- Staff training and development progress.

- Opening of Phase II, *Islands in Danger*, Elephant Paddock and pool development, Philippine Spotted Deer and other exhibits.
- Integration of Conservation Zoology and Botany.
- Further expansion of outreach conservation programme - including Jaguar partnership with Wildlife Conservation Society, New York.
- Further expansion of research approach - *in situ* and *ex situ*, and publication of findings.
- Wider promotion and advocacy of our conservation mission by publication of *Conservation Prospectus*.
- Development of *Native Species Programme* and local biodiversity initiatives.

- Zoo Federation Best Education Project Award for *Dinosaur Experience* teaching programme.
- Commendation in *Interpret Britain 1999 Awards* for *Monkey Islands* interpretation.
- 31% increase in directly-taught pupils/students (compared to 1998).
- 114% increase in Library usage (compared to 1998).
- Successful launch of Zoo CD-ROM.
- Completion of new *Wildlife Discovery Centre* and extension to *Wildlife Activity Centre*.
- Completion of electronic database for Zoo library with increased access.

- Conduct review of role of volunteers in the Zoo.
- Support business planning of new Educational initiatives.
- Develop Education pages within Zoo web site.
- Install interpretation suites for *Spirit of the Jaguar*, *Roman Garden* and Elephant extension.
- Develop Education outreach programme.
- Develop and implement new activities for *Wildlife Discovery* and *Activity Centres*.
- Increase our market share of school and college bookings.
- Develop archiving system for Zoo.

- North West Tourist Board 'Gold' award for *Tourism and the Environment*
- Implementation and execution of planned maintenance system.
- Increased number of capital and maintenance works completed.
- Project cost control analysis and project tracking documentation introduced.
- Increased reliability of the overhead railway.
- Improved infrastructure facilities, new borehole and high voltage electricity.
- Work restructuring of Estates Division.
- Review of Zoo owned properties within the external Zoo estate.

- Successful completion of major projects, *Ark Restaurant*, *Elephant Paddock Extension*, *Islands in Danger Phase II*.
- Improve project tracking and cost control.
- Re-structure of Maintenance Department.
- Development of environmental strategy.
- Review of security procedures.
- Development of health and safety strategy and positive response to Disabilities Discrimination Act (DDA) Access Audit points.
- Review of radio system, litter bin and refuse collections and baby changing/baby feeding facilities.
- Review of Estate rented properties.
- Review office accommodation needs.
- Assisting in production of *Physical Masterplan*.

- National EASE Commendation Award, Zoo Federation award for disabilities provision.
- Three regional gardening awards. Participation at first Royal Horticultural Society Show at Tatton Park.
- Record profit contribution from catering operations notwithstanding *Jubilee* closure from September.
- Two major gardening projects substantially completed (jointly with Animal and Plant Conservation Division).
- New children's play area, *Noah's Park* built on lawn in East Zoo.
- Investment in labour saving amenity equipment continues.
- Very successful *Disabilities Awareness Evening* in June.

- Divisional Head to be appointed and unified office set up.
- Division to establish role in zoo planning and operations.
- Staff training in new roles.
- *Access Audit* to be completed.
- *Visitor Service Plan* to be written for internal visitor related operations to parallel *Marketing Plan* for external activities.
- Develop Christmas promotion in light of high demand in 1999.
- Participation in *Volunteer Review*.

- Rated *Best Zoo in the UK* (and only 5 star rating) in *Holiday Which* report. Two 'gold' awards; Duke of Westminster Award for Business and Vale Royal of England Tourism Association. A further seven awards at 'silver' level, including commendation for our Guide Book at WZO/EAZA 2nd International Marketing Conference in Amsterdam.
- Substantial growth in visitor figures likely to place us higher in the *British Tourist Authority Top Twenty* national listings.
- Independent research again confirms excellent *value for money* in terms of *cost per hour*. *Top Ten* in *Sunday Times* and *Mail on Sunday* tourist surveys.
- Membership is at all-time high. Major upgrade of software substantially completed.
- Steady growth in development income. Assistant Development Manager appointed.

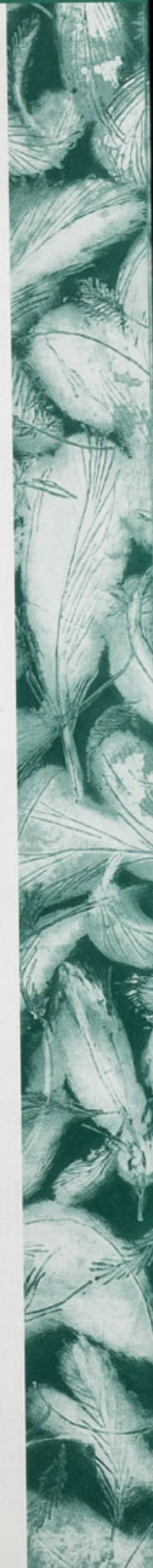
- Promotional support for important new exhibits and anticipated births to consolidate visitor levels at close to one million.
- Completion of restructuring review with transfer of visitor-related responsibilities to new Visitor Services Division.
- Refocusing of departmental tasks, to prioritise on cost effective advertising, PR communications and promotional outreach.
- Substantial review of electronic media, including videos, CD ROM and further extensions of web site operations.
- Statistical evaluation of visitor base.
- Substantial growth of Development Department with successful Elephant Appeal, new literature and additional initiatives.

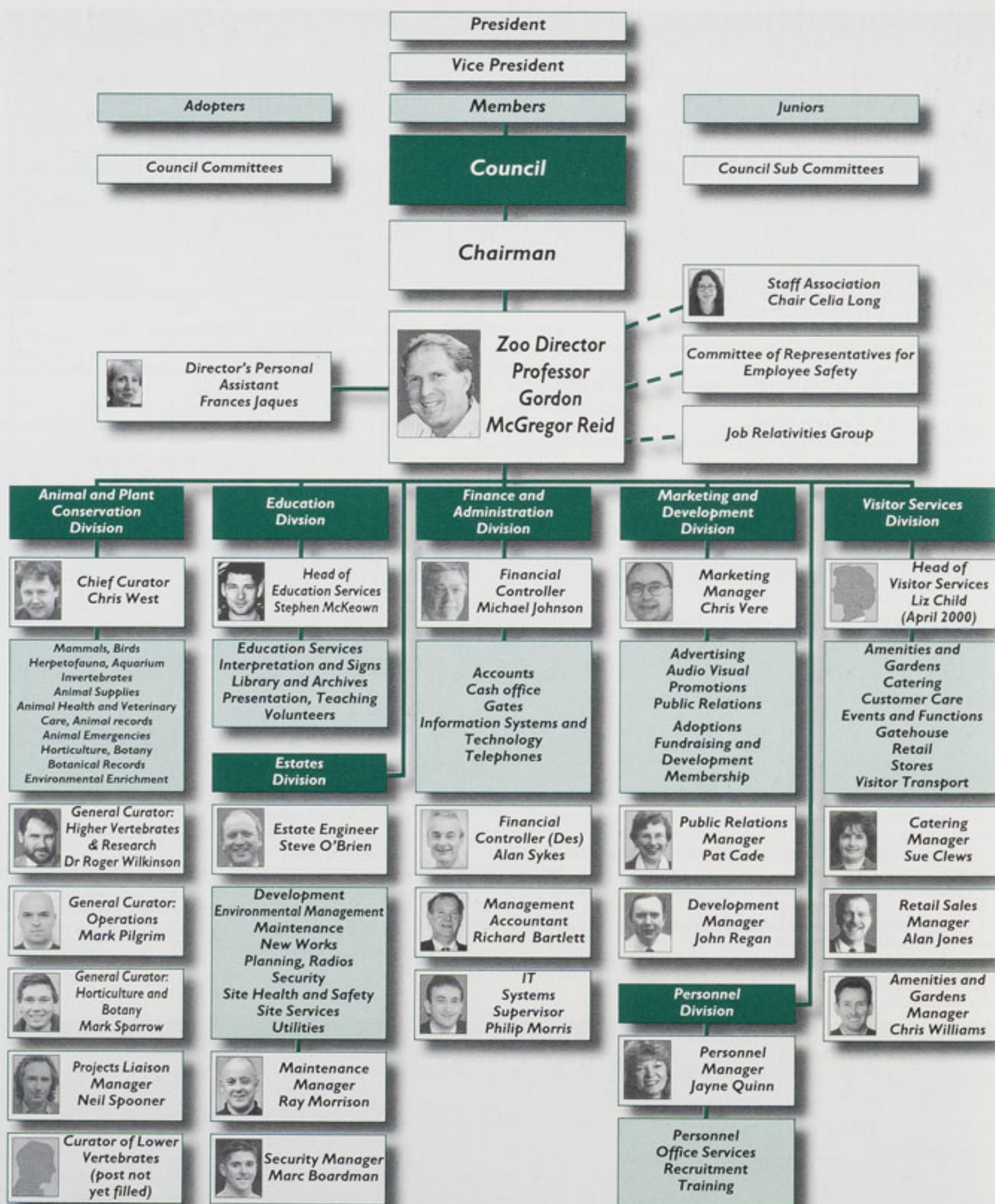
- Yet again, a record financial year.
- No discernable effect from *Blue Planet* Aquarium competition.
- No bank overdraft at year end.
- Better queue management at the gates.

- Better capital expenditure co-ordination across Divisions.
- Finalise new office plans.
- Extend computer network.
- Improve management accounting information.
- Work on 3 year strategic financial plan.

- Major work structuring exercise facilitated across the Divisions.
- Formal staff appraisals completed.
- Planning of comprehensive middle management training completed.

- Final implementation of the Job Relativities scheme.
- Staff appraisal to be integrated into new payment system.
- Middle management training programme to be implemented.





FUNDRAISING ADVISORY BOARD

In 1999, Neville Chamberlain CBE kindly agreed to be the Chairman of the Society's Fundraising Programme. Among his many achievements are his former roles as Deputy Chairman of *British Nuclear Fuels Limited* (BNFL) and as Chairman of the *North West Business Leadership Team*. Finding the right person to carry out this pivotal task involved a process of investigation for more than two years, and sometimes proved extremely frustrating. The Society is now delighted that someone of Neville Chamberlain's considerable stature has agreed to associate himself with us in this way.

John Conlan resigned from the group during the year due to

his changing portfolio of commitments. Bill Landels, formerly Managing director of *MANWEB* also left us, moving to head up *Pacificorp*, Scottish Power's newly acquired business in Utah, USA.

In both cases the Society owes a huge debt of gratitude to these individuals. We are delighted to welcome Julian Hulse (Chief Executive of the *Manchester Chamber of Commerce*) and Stephen Brauner (Assistant Editor of the *Daily Post*) to the Board.

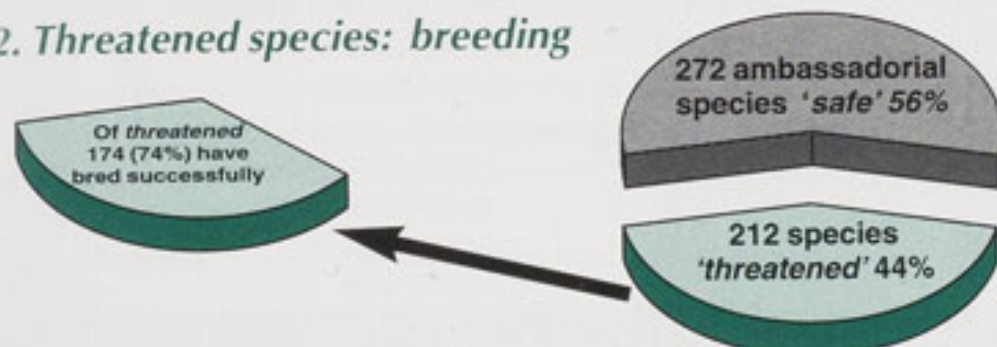


Neville Chamberlain, CBE

1. Peer Group Visitor benchmarking

We now have two complete years of visitor performance benchmarking from research commissioned by the Association of Leading Visitor Attractions (ALVA) – the 'million and over' group of UK tourist attractions. The full details are confidential to the 27 ALVA members who took part. Chester Zoo has once again performed excellently in *dwell time* where we were again the second highest in the survey, having added 50 minutes since the equivalent period of 1998. We are very pleased with our retail performance, achieving highest ratings of all for *overall retailing*, *retailing staff friendliness*, *retailing value for money* and for *quality of merchandise*. In what is probably the most important benchmark in the survey, *overall value for money*, we were in the top 40% of the group researched.

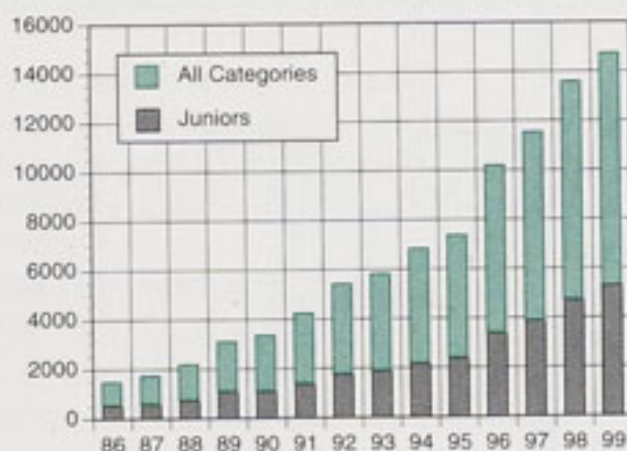
2. Threatened species: breeding



3. Membership Growth

Total membership has continued to grow steadily and, at 14,924, is the highest in our history. Year over year growth was 8%. Approaching half the adult membership now pay by direct debit.

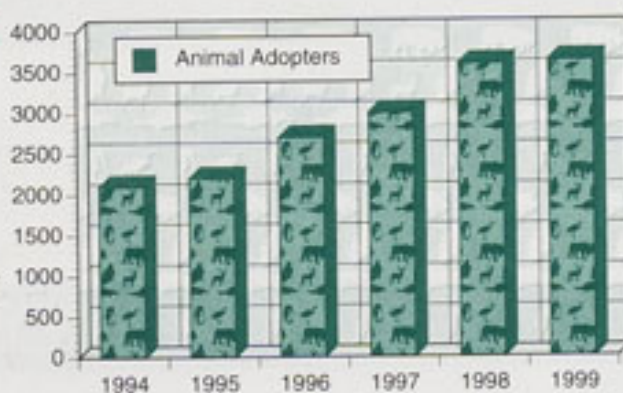
Source: Membership and Adoptions Office



4. Animal Adoption Growth

We have 3532 generous individual adopters – virtually the same as in 1998. This results in £114,000 being raised for the Society for animal foods – 3% above the 1998 figures – and is the highest in our history. We are very grateful to all our adopters for their support which makes such a material contribution to our results.

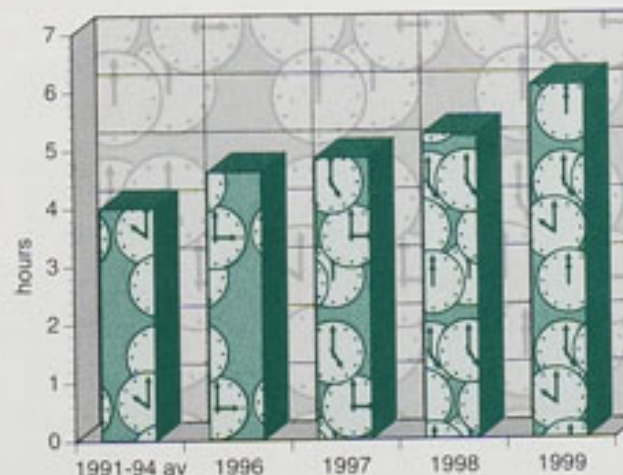
Source: Adoptions and Membership Office



5 'Five hour plus' high season 'dwell time'

There has been a considerable growth in High Season 5 hour+ dwell time in 1999, rising by 11 percentage points to 85%. We believe that this is probably due to the *Twilight Zone* and *Monkey Islands* developments and the presence of our presenters. It will be interesting to see if we achieve similar gains in 2000, with the anticipation of the opening of the *Islands in Danger* and the elephant developments. The average summer time visit length is now 15% longer at 6 hours 5 minutes (50 minutes longer than 1998).

Source: ALVA July – Aug 1999 research data

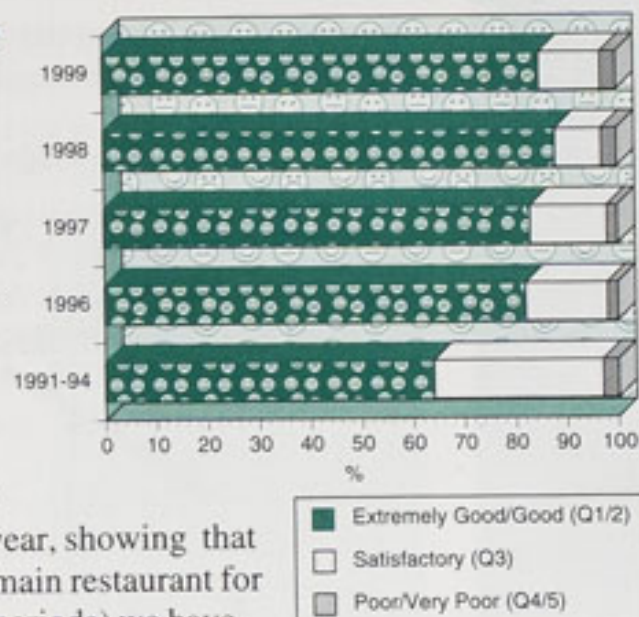


6. Ratings for value for money

We continue to achieve excellent value for money ratings.

In the overall 1999 data, five out of six visitors (85%) gave ratings in the two highest ratings (Q1/2), *excellent* and *very good*. This is very similar to the previous year, showing that (despite having had no main restaurant for one of the three survey periods) we have substantially maintained performance standards.

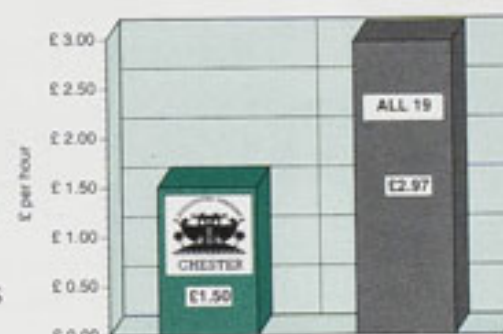
Source: ALVA overall 1999 data



7. Value for money comparisons with other top UK tourist sites

Independently conducted research of the top nineteen paid for tourist sites in the British Tourism Authority lists confirms our very strong position. We have the *best adult cost per hour* for family attractions and are third overall. Our cost per hour is half the average of all sites.

Source: John Arden Associates, 1999 data

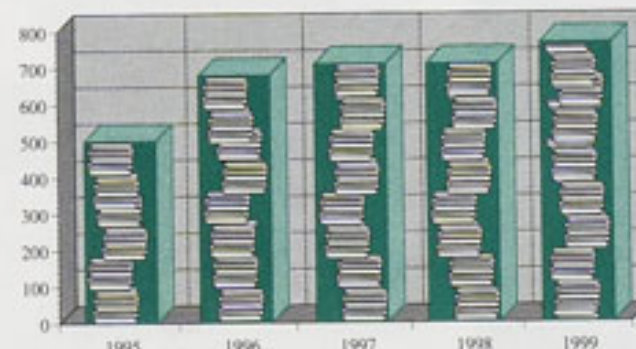


8. Recorded publicity – Press Cuttings

Cuttings for the year have exceeded the high levels reached in 1997 and 1998.

Interest in the Photographic Competition where we had major sponsorship from Air Mauritius, *Twilight Zone* Bat Cave, and major National Surveys – such as *Daily Mail* and *Sunday Times* have increased coverage for the Zoo. Local press support continues to be magnificent.

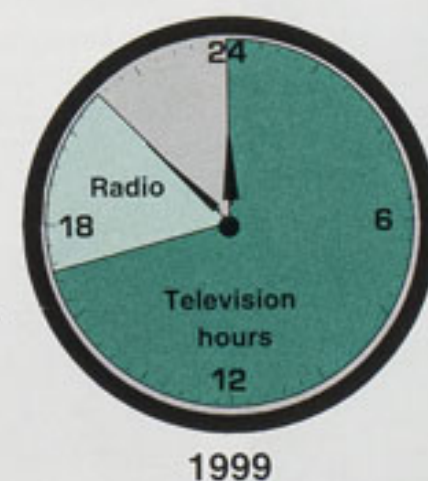
Source: Zoo Log of Press Cuttings



9. Editorial Television and Radio Air Time

We achieved just over 17 hours, 5 minutes of editorial television coverage in 1999 across UK terrestrial and satellite stations. The BBC 1 series, *Vets to the Rescue* was the most important. Total editorial radio airtime was 4 hours, 10 minutes – reflecting our interest to the network of BBC regional and local stations, and well as local independent (ILR) stations.

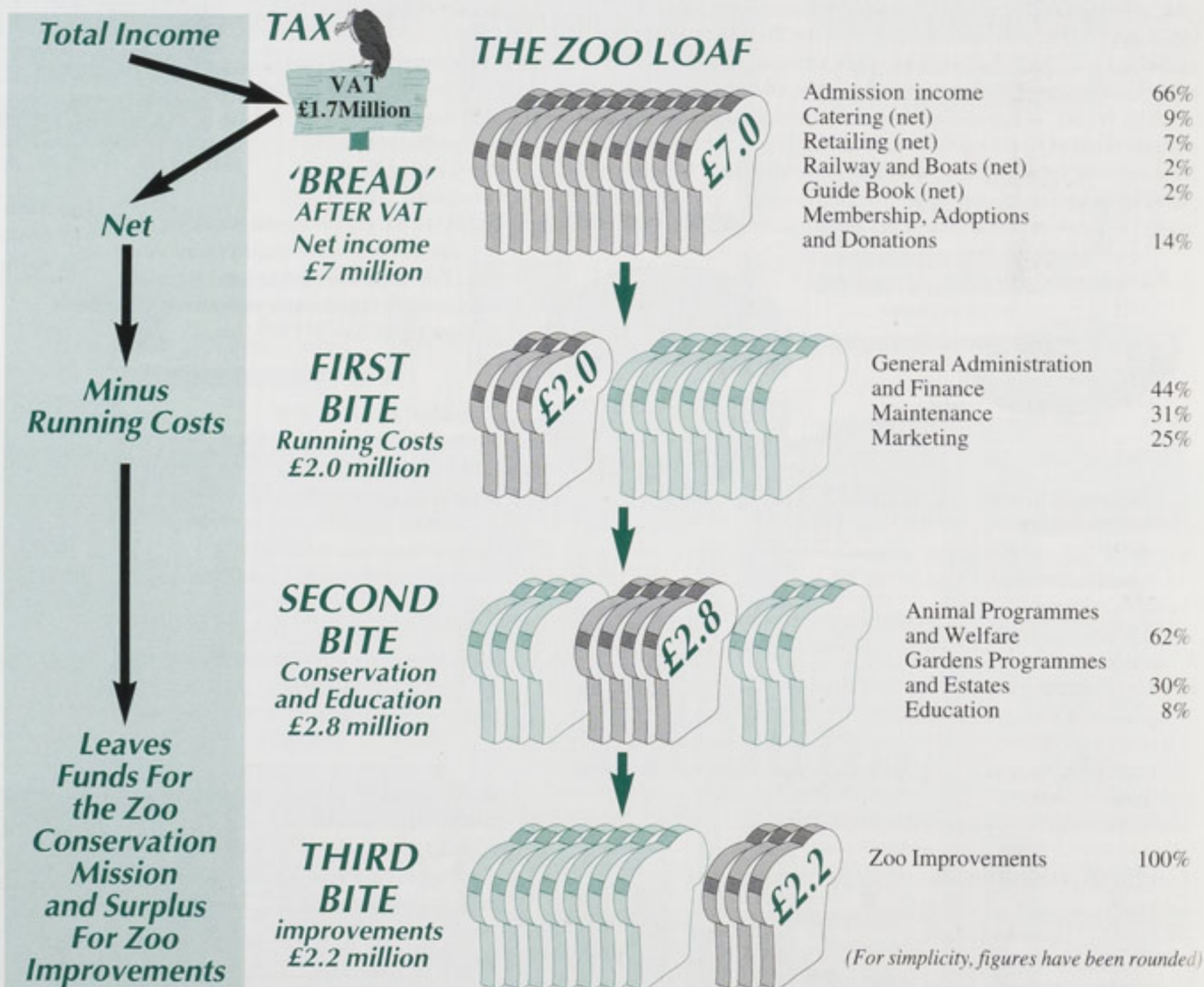
Source: Zoo Airtime Logs.



Notes: Percentages are rounded throughout. Press cuttings are based on a simple unduplicated count and do not include technical/specialist media. There is no attempt to weight by readership or to assess 'space value'. Similarly TV and radio airtime is a simple time count across all stations. Advertisements are not included in any of these counts.

We show below where our income comes from, and what is available for conservation expenditure and Zoo improvements after deducting running costs and tax (VAT).

Zoo improvements provide better facilities for animals, visitors and staff.



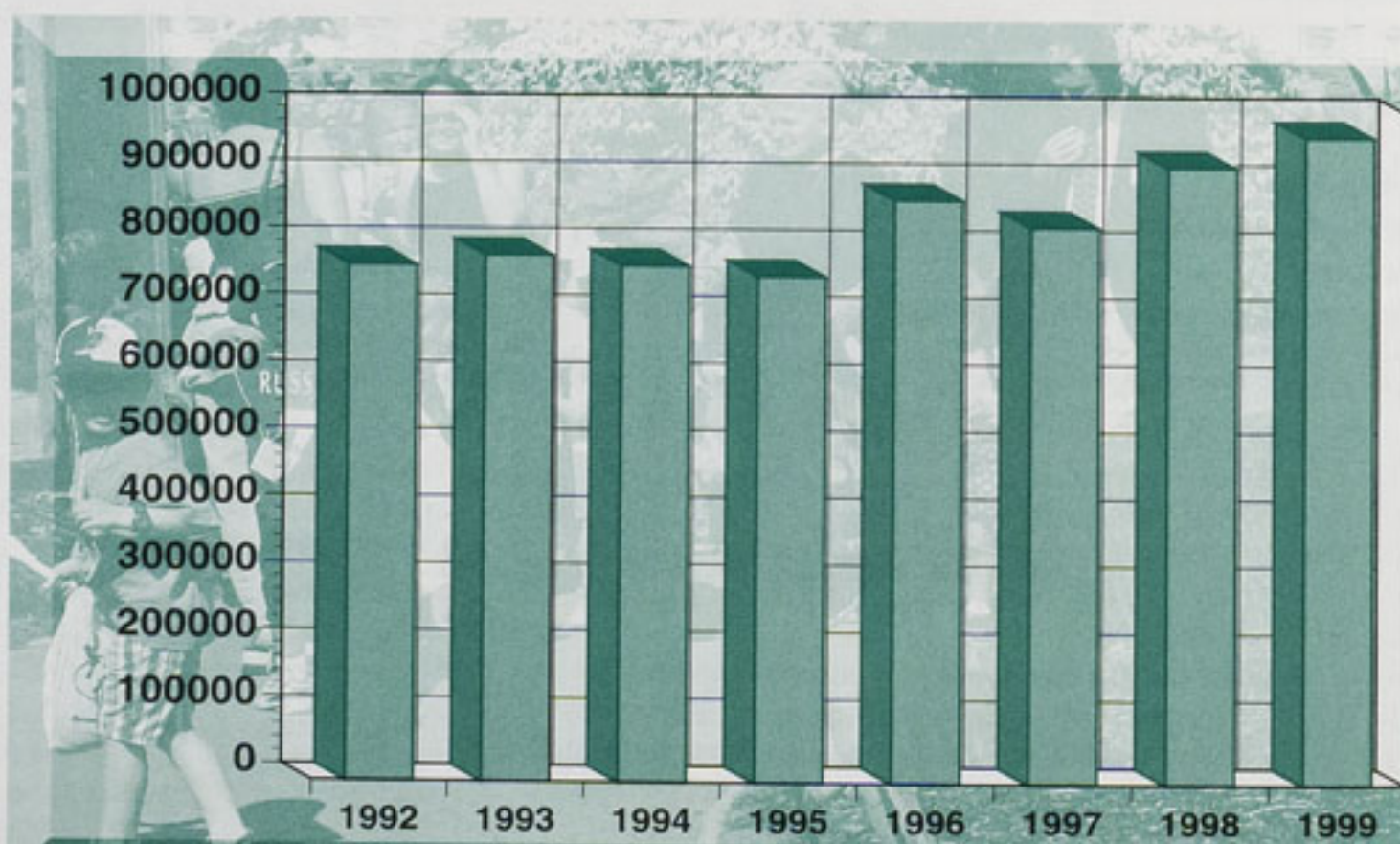
ZOO VISITORS 1992-99

ANNUAL ZOO VISITORS

1999 visitor levels have been the best for twenty two years and are well above the figures in the period 1992-1995



Under 3's
With children under three included in our visitor total, the entire zoo visitation figure is 1,065,343 for 1999



The Zoo discharges its full legal obligations for public safety and animal welfare under the *Zoo Licensing Act 1981* and the *Dangerous Wild Animals Act, 1976*. The current Zoo Licence is valid to March 2001, after an interim inspection in 1998. Mike Elkerton's appointment as our Volunteer Disability Advisor has helped towards compliance with the *Disabilities Discrimination Act 1996*, which became law in October 1999.

As Zoo Federation members we were closely involved in discussions with the Government in setting improved zoo standards across the European Union. The first formal meeting of the new UK Zoo Forum was held here in July.

Discussions continue with Cheshire County Council and Chester City Council on the Zoo's position in the *Cheshire Structure Plan* and the *Chester District Local Plan*. We have been represented at steering meetings organised by the Cheshire County Council Environmental Forum.

A *Biodiversity Audit of North West England* was prepared in

January by the *Regional Biodiversity Steering Group*. We maintain links with Cheshire Wildlife Trust (CWT), and received excellent publicity for joint programmes for the Harvest Mouse. In October, Cheshire Ecological Services, completed an *Ecological evaluation and enhancement scheme* for us. The Wildfowl and Wetlands Trust (WWT) *Wetlands Advisory Service* completed a report in September: *Advice on reed bed creation and marginal planting at Chester Zoo*. Twilight Zone staff are working on surveys with local bat conservation groups.

A 'greener' Zoo uses wood from fallen trees for seats, landscaping, and better animal habitats. An interpreted reed bed is part of the *Elephant Breeding Centre* works. We are installing wooden fencing within softer landscaping. We have designated wild flower areas and the Zoo's own *Green Forum* has regular meetings. We are reviewing recycling projects for a more comprehensive environmental policy in 2000.

Professor Gordon McGregor Reid, Zoo Director

ZOO HEALTH AND SAFETY

Our commitment to the health, safety and welfare of staff and those affected by it, is unaltered. To the best of its knowledge, the Society fulfils the *Health and Safety at Work Act 1974* and all subordinate legislation.

The major health and safety audit of 1999 was a reappraisal of our premises on changes in fire regulations. Risk assessments of all locations were carried out, and changes were introduced to ensure compliance with the requirements of the *Fire Precautions (Workplace) Regulations 1997*.

The Committee for Representatives of Employee Safety (CRES) meets regularly with the Director and Heads of Divisions to address staff safety matters.

Provision of first aid was carried out as in previous years. During 1999 a total of 1278 requests for first aid assistance was dealt with – of these, 973 were visitors and 305 were staff, 88 cases were referred to hospital for further treatment.

Donald Dinning, Safety Officer



ZOO PERSONNEL

Personnel practice and administration improved greatly, in response to national and European legislation. The need to have equitable recruitment practices has led to more rigorous procedures than were once demanded. Streamlining seasonal recruitment to meet statutory requirements is an ongoing challenge. Recruitment of specialist staff has included a Teacher, Assistant Development Manager, Director's PA, Veterinary Resident and Management Accountant. Overall staff turnover was 11%.

A consultant-led review of work organisation resulted in major changes to divisional structures and work responsibilities. Christian Schumacher of *Work Structuring Ltd* conducted a review, working at all levels. His proposals were adopted by the Director and Divisional Heads and approved by Council. After full staff briefing, changes began in the autumn, and continue into 2000. The creation of

a Visitor Services Division involves recruitment of a new Head of Division, targeted for Spring 2000.

Capital Bank kindly developed a training programme for us for management and supervisory skills.

A *Job Relativities* exercise reviewed jobs in the Zoo. An independent joint staff/management Working Party presented a scheme which was approved. ACAS advised us throughout and, following the scheme's publication, recommended an appeal protocol. This will be followed through in 2000.

Through the year, the Staff Association gave management significant assistance and help with communication.

Jayne Quinn, Personnel Manager

ZOO ACCESS FOR ALL

Over 8,000 came to the *Disability Awareness Evening* in June. The highspots were the presentation of a powered scooter by the *Welsh Health Centre*, and two manual wheelchairs from *Mobility North West*. From a start in 1996, our 'powered fleet' has grown to ten: seven scooters, two adult and a child's powered chair.

We received a commendation in the national *Ease of Access, Service and Employment (EASE)* awards.

We helped organise the *Accessible Britain* conference held in Chester in November. The *Disability Discrimination Act (DDA)* is now law and we will need to train all members of staff. We have sound induction loops at the Lecture Theatre, Gates and Education and new large-print versions of the Guide and menus. We are working with the Chester's Principal Access Officer, Timothy Metcalfe on an *Access Audit*.

Michael Elkerton, Volunteer Disability Advisor

If anything, 1999 was even busier than a tremendously busy 1998! We are focussing greater resources on our Conservation mission with increasing results and are striving to demonstrate that a modern conservation zoo can achieve the highest possible levels of animal welfare. Broadly, our activities can be divided into those that are predominantly zoo-based and those that are wider afield.

Zoo based activities

Conservation breeding.

Chester is a major participant in managed programmes and fully supports the ongoing role of zoos in maintaining insurance populations of critically endangered species, as appropriate. Highlights in 1999 were the birth of four Maned Wolves, a Bornean Orang utan and the rearing of Mountain Peacock Pheasants, Wrinkled Hornbills, Thick-billed Parrots, Sand Lizards, Aruba Island Rattlesnakes and Red-eyed Tree Frogs.

Collection Plan

A revision was completed during 1999 so that we maximise the use of our accommodation for the most endangered species. Clearly the plan requires continuous review to ensure that included species are, where possible, part of international programmes. These will ideally encompass outreach support of habitat, relevant research and, where appropriate, reintroduction. *Conservation value* (incorporating current thinking of Dr Andrew Balmford and others) was the major criterion for species selection. Other criteria used were usefulness for Conservation education, relevance for benign research, our ability to look after the animals and breed them and, vitally, their interest and excitement to the visiting public whose support we rely on.

The collection planning carried out by Dr Roger Wilkinson, Mark Pilgrim, Chris West, Isolde McGeorge and Mike Crumpler was co-ordinated and facilitated by Alexandra Zimmermann. It was also discussed with the Zoo Director and the Scientific and Veterinary Committee and carefully aligned with other ideas on the longer term strategic development of the Zoo.

Planning and development

New facilities continue to be planned and prioritised, mainly on welfare and conservation grounds. They are designed, costed and then built to provide for visitor interest, education and enjoyment. In 1999 major projects completed were the Elephant Bull Pen and *Glorious Grasses*. Significant progress was made on the design and interpretation of *Islands in Danger* (Komodo Dragons, Red Birds of Paradise and other rare island species), Elephant paddock and pool, the new

Black Rhino development and *Spirit of the Jaguar*. Project Liaison Manager, Neil Spooner, with strong support from Mark Pilgrim and his Team Leaders, (and colleagues in Estates and Education Divisions) is doing a vital job, extremely well.

Research and Environmental Enrichment

Developments here are too many to itemise fully. However academic collaboration, standards of science and the process of ensuring that projects are completed and published have improved significantly. This is due in large part to the efforts of Research Officer, Stephanie Wehnelt and the

Environmental Enrichment Group, comprising keepers who are empowered to identify, develop and carry out sound environmental enrichment projects.

Health and Welfare standards

These remain high but can always be improved. With the recruitment of Stephanie Sanderson as full time Veterinary Resident – working along with our consultants from the Gatehouse Veterinary Hospital and with support from all staff – we are already seeing some of the fruits of a general *Animal Health and Welfare Review*. We are, for example, looking at housing, nutrition, preventative medicine and social environments.

Outreach Activities

There has been a very exciting expansion during 1999. We are concentrating on a number of areas of threatened biodiversity where Chester's contribution can really make a difference. For our programme to be successful and continue to expand we carefully select co-workers in the field and, where possible, make a commitment to long term support. Dr Roger Wilkinson lists examples in his report on page 18.

The philosophy we are following is that a modern zoo, acting as a conservation NGO (non-governmental organisation) must have a strong outreach programme for key habitat areas, supported by research and education. Paradoxically, it is sometimes forgotten that outreach *begins at home* and we are also expanding our support of native UK species. Examples are Penny Rudd's Harvest Mouse work, liaison with the Cheshire Wildlife Trust and International Tree Foundation, close and positive links between *Twilight Zone* staff and local Bat Group workers and the controlled release of native crayfish into the *Monkey Islands* water system.

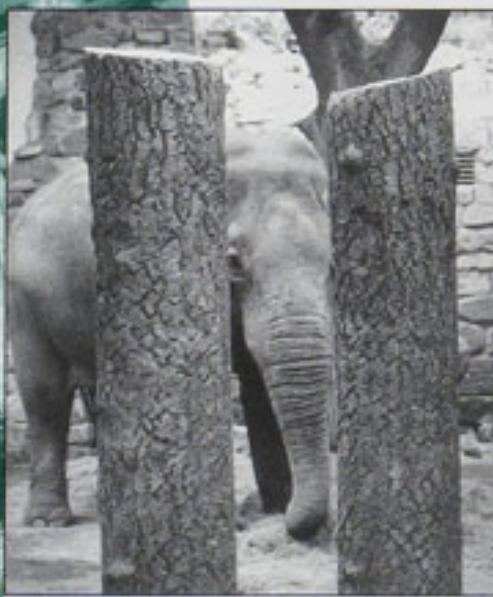
Advocacy and explanation of what conservation work we do, why and what is planned, is an increasingly vital aspect of outreach. While Chester enjoys considerable success in conservation, we know that many people who would support our mission remain unaware of the value and potential of our activities. Consequently, Alexandra Zimmermann, acting as a conservation co-ordinator, has drawn together a draft *Prospectus* which spells out our mission in detail and presents key programmes and plans. We intend to progress this for 2000. There is not enough time to thank everyone by name who has contributed to our successful programme overall but the Animal Supplies Team have overcome low staffing levels, David Brunger has overhauled our Animal Records systems, Karen King-Sharp acts as a vital administrative 'hub', and all of the keepers care for their animal charges with dedication and kindness. They deserve our high praise.

Chris West, Chief Curator



Baby Bornean Orang utan, Bengara with his mother Bella

Photo Andrew Price



New elephant bull pen

In the summer of 1999, the BBC TV series *Vets to the Rescue* was recorded. Featuring Trude Mostue, it ran for six weeks from October. Part of the programme highlighted daily veterinary activities in the Zoo and was extremely popular with viewers. The programmes demonstrated the care and concern for high welfare standards at Chester.

This was another busy and interesting year for our own veterinary team. One major event concerned *Manyara*, our youngest Black Rhino. She had a severe rectal prolapse in January which was reduced twice by one of the Gatehouse Veterinary Team. The third recurrence required surgical intervention and *Manyara* was sedated and transported to Leahurst where Professor Barry Edwards carried out a life-saving operation. He resected damaged tissue and *Manyara* was reunited with her mother *Esther* overnight to reduce stress to both of them.



Black rhino calf *Manyara*'s severe rectal prolapse

One month later, as people were just beginning to hope all was well, a further prolapse occurred and abdominal surgery had to be carried out at Leahurst. *Manyara* has made a full recovery and is now thriving – a tribute to the dedication and teamwork of keepers, Gatehouse Veterinary surgeons and Leahurst colleagues.

Sithami the baby elephant is developing well, growing fast and co-operating with keepers. The two pregnant cows, *Thi Hi Way* and *Jangoli* have been monitored closely, and with two births pending, 2000 promises to be exciting. Elephant foot care is continuing, especially with *Sheba* and *Kumara* who have chronic toenail problems. Team Leader Mick Jones has trimmed nails and dead skin to relieve pressure due to infection. This is unfortunately a relatively common problem in zoo elephants and, in this case, relates to housing conditions long before they came to Chester. Good progress is being made so that both animals are increasingly more comfortable.

Late in the year *Mosha* the elderly female Cheetah eventually succumbed to a *Helicobacter* infection. The male is having treatment and should continue to thrive. Also,

through the latter part of the year *Bella* a female Bornean Orang utan gave cause for initial concern – and then celebration! She has a long-standing upper respiratory tract infection and periodically goes off her food. This happened at the end of the summer 1999 and she was seen to be increasing in abdominal size. *Bella* has only ever been housed with the male *Sibu*. He has never previously sired a youngster, due to an earlier penile injury, hence there was a surprise when Leahurst colleagues found, by an ultrasound examination, that *Bella* was pregnant. A healthy male, *Bengara*, was born on Christmas Eve (see page 12).



During October, Stephanie Sanderson (right) joined the Zoo Veterinary Team as Veterinary Resident. Her presence has allowed better diagnostic follow-through and the reporting of clinical cases. There is also enough time for a thorough review of all aspects of the health and welfare of the animals in our care. We are committed to our aim of having the highest standards possible to facilitate the overall conservation mission of the Society.

In finishing it is important to thank all the members of the healthcare team – advisors, technicians and keepers as well as veterinary colleagues – for their hard work and dedication.

During the year, the Scientific and Veterinary Committee met four times, to review and audit the provisions of animal health care in the zoo. With the increasing resources now available, plans for more formal provisions for animal health care, husbandry and welfare have been made. These will be implemented throughout the year. This is essential to support Chester Zoo's existence as an *ex situ* conservational collection.

Healthcare summary statistics for 1999:

	Case load, including follow up treatments %	Post mortem examinations %
Mammals	789 (50)	65 (25)
Birds	484 (30)	141 (53)
Reptiles	323 (20)	57 (22)
Total	1596	263

Noel Walker, Consultant Veterinary Surgeon
Stephanie Sanderson, Veterinary Resident

ANIMAL SUPPLIES DEPARTMENT

The overall cost of feeding the animal collection fell for the third consecutive year, from £211,060 in 1998 to £202,442 in 1999. This was made possible by a purchasing strategy with the emphasis on both cost effectiveness and nutritional quality.

Continued use of the retail surpluses has brought further cost benefits and dietary variety, as has the increased use of locally grown crops. These also support the hard pressed farming and fruit growing industries. Our new fish cold store is now fully operational, giving all the advantages of bulk purchase and an economic and efficient storage facility.

Considerations of zoo animal nutrition and the need to provide as natural a diet as possible are just as relevant as those of cost. The department is now increasingly involved with nutrition and its implications for food supply. I attended the first ever *European Zoo Nutrition Conference*, in the Netherlands. This is an indication of a growing awareness among the zoo community of this subject's importance.

Anthony Hutchinson, Animal Supplies Manager



New Operational Structure

1999 saw the beginning of a new structure for the mammal and bird sections which were brought together into seven teams in a single department. Seven Team Leaders were appointed to head them. The Team Leaders have been given extra responsibilities, befitting their experience and skills.

With assistance of the Team Leaders, I have begun to make changes to the collection reducing the numbers of individuals of some species – while increasing others in order to make best use of our space and facilities; and to fulfil our commitment to the breeding of threatened species and animal welfare.

With exciting plans for new projects – and the continuing improvements in existing facilities and animal husbandry – we look forward to the new millennium.

**Mark Pilgrim, General Curator:
Animal Operations**



Elephant Team



Elephant Paddock extensions

The new year started with a new team managing the elephants, myself, Alan Littlehales, Richard Hughes, Don Plant and Susanne Bäuml (a new member, who started in December). March saw the timely commissioning of the new bull area. Our breeding bull *Chang* had begun using it by the end of the month.

Alan Roocroft from San Diego Zoo visited us and kindly gave some advice on a foot care programme. We have implemented this and are already beginning to see benefits.

Work began on the exciting new elephant paddock extension at the end of the year. We look forward to creating not only a much larger paddock, but also one which provides greater stimulation and interest for the elephants. It will include a large pool and waterfall, and a number of environmental enrichment items to set a high standard for keeping these wonderful and intelligent animals.

Mick Jones, Elephant Team Leader.



Rhino Team*



Pangani on the south paddock

The most notable rhino event during 1999 was that our young Black Rhino *Manyara* developed health problems through a rectal prolapse. She was taken to Leahurst Veterinary hospital on three occasions. Were it not for the skilled and dedicated staff at Leahurst and the

zoo, she would not be with us now. She is currently doing very well. *Kitani* our other young Black Rhino became independent and was separated from her mother *Pangani*. She has settled down well.

Elsewhere on the section we had births in the Blackbuck, Nilgai, Gemsbok, Scimitar-horned Oryx, Sitatunga, Bison, Burmese Brow-Antlered Deer, Père David's Deer, Wallabies and the Prairie Marmots. We also exchanged male Onagers with Whipsnade Wild Animal Park to mutual benefit.

We would like to thank the Presenters for their talks. These highlight the plight of all rhino species and particularly our work towards conservation of the Black Rhinoceros



Chas Mackenzie, Rhino Team Leader.

Bird Team



**Young Red Bird
of Paradise**

The arrival of a second pair of Great Indian Hornbills put Chester in the unique position of holding two pairs of this spectacular species. They soon settled down and both pairs are showing signs of breeding for 2000.

We achieved an outstanding success with our rare Mountain Peacock Pheasants, with the rearing of four chicks. Hitherto, only one other chick had been reared at Chester, back in 1997. Other Galliformes bred included Malay Crestless Fireback Pheasants and Satyr Tragopans.

Breeding highlights for the *Tropical Realm* included Emerald Starlings, Golden Heart Pigeons (which reared chicks for the first time), three Wrinkled Hornbills, two Bali Starlings and a Pink Pigeon.

We had one of our most successful years with our Caribbean Flamingos with eight chicks reared, bringing our flock to 59. We continued our remarkable success with Waldrapp Ibis.

We were very excited with the arrival of a pair of Vietnamese Pheasants and a spectacular young pair of Red Birds of Paradise to be housed in our dramatic new *Islands in Danger* exhibit.

Wayne McLeod, Bird Team Leader.



Parrot Team*



Mount Apo Lorikeet

The incubation and rearing centre had a productive year. Significant waterfowl reared include Smew, Marbled Teal, Ferruginous Duck, Ross's Snow Goose and Black-billed Whistling Duck.

Parrots bred included Cuban Amazons, Golden-capped and Slender-billed Conures, Thick-billed and Vasa Parrots,

Mount Apo Lorikeets, Yellow-backed Chattering and Duyvenbode's Lories (the latter a first for the Zoo). We were able to obtain a mate for our male Red-tailed Amazon. The re-pairing of our Palm Cockatoos has resulted in a very compatible pair: our hopes are high for the 2000 season!

Following EEP guidelines on genetic representation, only two Humboldt's Penguins were raised during the year, the first by the keepers and the second parent reared.

Two team members attended the 4th International Conference on Environmental Enrichment, and presented a well received poster on *Environmental Enrichment of Parrots at Chester Zoo*.

Andrew Bagnall, Parrot Team Leader



Primate Team



Sumatran Orang utan

It has been a year of much change for the primate staff – forming the new team by linking members of the previous monkeys and apes sections. By combining the two sections, joint experience, knowledge and ideas can be better utilised and acted upon.

This was another good year for births, including a Bornean Orang utan, a Buffy-headed Capuchin, several lemurs, (Ring-tailed and Ruffed), numerous Sulawesi Black Macaques and a Lion-tailed Macaque – which was the first for Chester Zoo in over twenty years!

Each member of the primate team has an equally important role. They are all dedicated to enriching the lives of the animals in their care, by changing feeding methods, improving diets and changing the enclosure layout and design. In doing this, we hope for continuing breeding success, along with happier healthier animals.

We all hope to continue this success into 2000. In order to set up vital new breeding programmes for rare and endangered primates, some animals will be leaving us early in the new century for zoos abroad. This will ensure that these complex and interesting species are around for many more years to come.

Andrew Lenihan, Primate Team Leader.



Carnivore Team*



Young Asiatic Lions

Zoo staff and visiting research students combined to make 1999 a year of real action.

Four young Asiatic Lions were transferred



Mara and young

Cats within the Chester collection and the Lynx and the Persian Leopards to new collections. We hope that the arrival of a new male Bongo will now provide a new blood line for the three females born at the zoo. Hopefully, a calf of this critically endangered species will be born in 2000.

In this, its first year, the *Twilight Zone* bat cave became one of the most popular attractions in the whole zoo. We received the prestigious *Universities Federation for Animal Welfare (UFAW)* Award, which is a great credit to all the keeping and presenting staff involved.

We will continue to enhance the enclosures to provide more naturalistic habitats.

Alan Woodward, Carnivore Team Leader



Giraffe Team*



Congo Buffalo calf

We achieved two Chester Zoo 'firsts', with the successful breeding of the Lowland Anoa, and Maned Wolf. Four Maned Wolf cubs were born in March – two male and two female. One of the females will be moved to Jersey to form part of their breeding programme. Added to these were the regular annual births of Coatis, Arabian Gazelles, Meerkats and Congo

Buffalo. *Asterix*, the male Lowland Anoa calf was successfully parent reared within the group. A female Babirusa, *Sangai* arrived and we all hope that she will mate successfully with *Elliot* to produce young in the coming year.

To bring new blood to our Bactrian Camels, we acquired *Nelson*, a male from Whipsnade Wild Animal Park. He came in exchange for our male, *Henry*.

We all have our fingers crossed for at least one successful giraffe birth in 2000.

Tim Rowlands, Giraffe Team Leader



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

1999 has been a year of change and much adjustment for the reptile, amphibian and invertebrate department.



Hatchling in special accommodation in *Tropical Realm*

The biggest project for the year was the successful acquisition of one male and three unrelated female Komodo Dragons. The three females, hatched at the Miami *Metrozoo* in September 1998, arrived at the beginning of December and are now housed in three separated purpose-built enclosures off-show (above). They may be viewed via CCTV in the *Tropical Realm*. The alpha male Dragon will be arriving from Cincinnati Zoo in Spring 2000 and will be in the new *Islands in Danger* from Easter.

Further work within the department to improve environmental conditions for the animals continued well into

the Spring/Summer period and good breeding results were achieved with Bearded Dragons, Thailand Water Dragons, Prehensile-tailed Skinks, Box Turtles, Honduran Milk Snakes and Aruba Island Rattlesnakes.

The Sand Lizard Conservation project continues to flourish and this year saw two more successful hatchings adding fourteen more offspring to the programme. Discussions are now underway for the reintroduction of Chester's animals to localities yet to be decided on.

New arrivals to the collection included Flap-necked Chameleons, which have since mated and produced eggs, Yellow-footed Tortoises, Helmeted Lizards and Gaboon Vipers.

The Poison Arrow Frogs which we have bred consistently now for several years, have been much in demand for breeding programmes in collections in Europe.

All invertebrate species held, bar the Red-knee Tarantula (we are currently waiting for a male) have successfully bred. This section of the department is now expanding to incorporate many new species for the coming year.

Isolde McGeorge, Herpetologist



AQUARIUM

We were granted a licence from *English Nature* to collect 100 White Clawed Crayfish *Austropotamobius pallipes*. These were released into the *Monkey Islands* moats early in the year and are evidently thriving. A tank was set up in the food preparation area to exhibit four specimens which were reared in the Aquarium.

Our Seahorses, *Hippocampus kuda* are breeding well, and young have been sent to other collections including London Zoo, The National Marine Aquarium, Plymouth; *Deep Sea World*, Edinburgh; Weymouth Sea Life Centre, Maryport Aquarium, Toronto Zoo, Zoo Plack, Poland; London Aquarium, Moscow Zoo, Underwater World, Bournemouth Oceanarium and The Scripps Institute, USA. A further species, the Knysna Seahorse, *Hippocampus capensis*, was acquired in January from the National Marine Aquarium, Plymouth. These settled in very quickly and produced their first youngsters in May: 110 young were sent to London Aquarium in November, and 100 are going to Antwerp Zoo in the spring of 2000.

Our endangered livebearer species continue to breed well. Other notable species bred in the year include Lake Kutuba Rainbow fish, *Melanotaenia lacustris*, Madagascan Cichlids, *Ptychochromis 'Côte Est' oligocanthus*, Banggai Cardinal fish, *Pterapogon kauderni*, Freshwater Stingrays, *Potamotrygon motoro* and Lake Victoria Cichlids, *Yssichromis 'Argens'*.

Three more Red-tailed Catfish, *Phractocephalus hemiopterus*, and a Tiger Shovel-nosed Catfish, *Pseudoplatystoma fasciatum* were added to the pool in the *Twilight Zone*. These impressive Catfish are increasingly popular with the visitors.

The second *National Aquarium Workshop* was held in

November. The first day's lectures were in our Lecture Theatre and the second day at *Blue Planet* Aquarium. This event brings together professionals from all the public Aquaria in the UK, as well as veterinarians, fish importers and many fish hobbyists. This year Justin Bell (Chester Zoo staff) and Colin Grist (*Blue Planet* Aquarium) organised the event.

Five species of Lake Barombi Mbo Cichlid fishes were acquired. This lake in Cameroon, West Africa is in the crater of an extinct volcano. Eleven species of cichlid are endemic to the lake. Amongst the threats to the fish are deforestation and water abstraction for the increasing human population, but greater tectonic activity is another major concern.

The activities of the Fish and Aquatic Invertebrate Taxon Advisory Group (FAITAG) were strongly supported through our European Association of Zoos and Aquaria (EZA) meeting in Basel, Switzerland and a European Union of Aquarium Curators

(EUAC) meeting in Hirsthals, Denmark. An international FAITAG workshop was held in Chester early in the year and a revised programme for a European Endangered Species Programme (EEP) was set up by EZA. The FAITAG cichlid fishes programme resulted in a study tour for Justin Bell to the University of Leiden and the Leiden Museum in The Netherlands



Nautilus

Photo Justin Bell

Michael Crumpler, Aquarist



It was a very busy year in the Gardens with many projects and events taking place involving the team of gardeners.

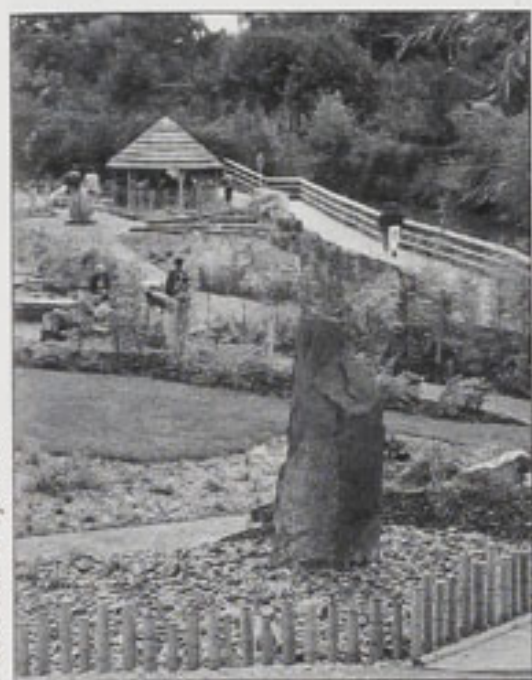


Photo Mark Sparrow

The *Glorious Grasses* garden (left) was planned, constructed and planted up between February and August. It was created on the site of the old Rose Garden, which was a very flat site containing some old and sick plants, since removed. The new undulating landscape contains many interesting features and has a strong educational message

about the importance of grasses to humans. There are edible grasses, turf grasses, sand dune grasses as well as ornamental grasses including bamboo.

The *Roman Garden*, located on the site of the old kitchen garden adjacent to the *Oakfield*, was in the final stages of construction by the end of the year. A contractor, Planit, was appointed to undertake the work and an expert on Roman Gardens, Dr Linda Farrer, was our consultant. She used an excellent project report prepared by Joan Springett. The idea was to create an authentic garden, using plants and architectural features that were available to the Romans, circa 200AD. The garden will feature the three main styles of gardening practised in Roman times, the ornamental garden, the medicinal garden and the *hortus* or domestic garden. The whole garden will be planted and ready for the public opening by Easter 2000.

Other smaller planting schemes were carried out – including the area around the *Wildlife Discovery Centre*, the Orang utan exterior borders and interior wall beds, the South American bed, the new Hornbill enclosure in the Elephant quarters and an area of wildflowers along the canal walk north of the *Tropical Realm*. Work also began on the landscaping of the interior and exterior of the *Islands in Danger*. The fences around the two large cedar trees in front of the *Oakfield* were removed following removal of dead wood and installation of safety cables. Tree surgery was carried out in other areas of the Zoo, as part of an ongoing maintenance programme to ensure public safety.

The Curator, Mark Sparrow, undertook a number of visits to other zoos, institutions and nurseries during the year. In September, together with Mark Hargreaves and Rob Duncan, he attended the UK Zoo Federation Plant Group AGM, held at the Durrell Wildlife Conservation Trust in Jersey. He then went on to attend the Association of Zoological Horticulture (AZH) annual conference in San Diego, USA. Other places visited during

the year by the Curator and staff included Paignton Zoo, Cotswold Wildlife Park, Liverpool Museum (Dept. of Botany), Welsh National Botanic Garden, Ness Botanic Garden, Stapeley Water Gardens and Bridgemere Nurseries. In October, we spent three days investigating nurseries in the Netherlands, choosing large and unusual tender plants for the *Islands in Danger* interior displays.

We took part in the Royal Horticultural Society's first event at Tatton Park in July and Southport Flower Show in August. The Noah's Ark Float was used as the centrepiece of the Chester Zoo displays and was tastefully decorated with grasses at Tatton and tropical foliage plants at Southport. The stand at Southport was awarded a Silver Gilt Medal, the first time that the Zoo has received any award at this show. (see page 23)



The Zoo received the *North West in Bloom* trophy, in the best large tourist attraction category, and was highly commended in the *Chester in Bloom* competition.

Chris Williams and Mark Sparrow gave a number of guided tours for horticultural organisations. These included the Wallasey Gardening Society and The Institute of Horticulture, who also held their AGM in the Zoo. John Johnson continued to give his lectures about the bedding displays at Chester to a number of local gardening clubs. John retired as Deputy Head Gardener at the end of the year, after nearly 30 years service in the Zoo. His expertise in the growing of bedding plants will be greatly missed.

Three of the Garden's staff continued with their horticultural training. Nigel Wood is studying for the RHS Diploma in Horticulture and Rob Duncan and Paul Harrison are studying for the RHS General exam. Chris Williams, Al Millington and Barry Grain attended a tree planting and establishment training course at Castle Howard, organised by the PlantNet Tree Forum of Britain. A restructuring of staff in 1999 has led to six gardeners going to the new Amenities and Gardens Department within Visitor Services Division led by Chris Williams. The remainder of the staff joined the Botany and Horticulture Department of the new Animal and Plant Conservation Division.

Mark Sparrow,
General Curator: Horticulture and Botany



Association of Zoological Horticulture Conference at San Diego Zoo

Chester Zoo's mission to increase its conservation and research activities and support was strengthened in 1999 by these having a dedicated budget under the control of a specific manager, assisted by an advisory panel and two part-time staff. Chaired by the General Curator: Higher Vertebrates and Research, the advisory panel includes the Zoo Director, Chief Curator and Chairman of the Scientific Committee. Alexandra Zimmerman kindly provided assistance with conservation collection planning and developing a draft conservation prospectus. Research activities in the zoo were also greatly enhanced through the dedicated work of Stephanie Wehnelt who was involved in assisting over 90 undergraduate and postgraduate research projects. Stephanie now represents Chester Zoo as a member of the Zoo Federation Research Group. The Chester Zoo Studentships continue to be important in supporting promising university students engaged in valuable research initiatives. In 1999 substantial



Photo Dr Roger Wilkinson

Visayan Tarictic Hornbill

Department of the Environment and Natural Resources regarding a Memorandum of Agreement relating to Hornbill conservation in the Philippines.

Other partnerships strengthened in 1999 were those with Save the Rhino International, the Worldwide Fund For Nature and the Zoo Outreach Organisation, India. The successful translocation of 20 black rhinos to Tsavo from other parks in Kenya was co-ordinated by Kenya Wildlife Service and jointly funded by Chester Zoo and Save the Rhino. This was a major achievement. Through WWF we funded the building of a Research accommodation at Gashaka Gumti National Park in Nigeria.

New ventures included visits by senior staff to China and to the Americas in order to forge relationships regarding assistance with Giant Panda conservation and Jaguar outreach programmes. The Chief Curator chaired part of the meeting of the International Committee for Reproduction of Giant Panda in Chengdu where a memorandum of agreement between Chester Zoo, Chengdu Giant Panda Breeding Base and Chengdu Zoo was signed to advance further collaborative developments. Relationships were also initiated with Wildlife Conservation Society, New York, regarding Jaguar conservation initiatives.

International collaboration was further advanced by the Director's chairing two CREO (Committee for Recently Extinct Organisms) Advisory Group meetings in New York, and participation in an Upper Guinea Conservation Prioritisation Workshop in Ghana. The Director and the three curators attended the European Association of Zoos and Aquaria (EAZA) meeting in Basle, Switzerland and Dr Roger Wilkinson participated in the 7th World Conference on Breeding Endangered Species at Cincinnati, USA.

Dr Roger Wilkinson,
General Curator: Higher Vertebrates and Research



Photo Save the Rhino International

Translocation of Black Rhino to Tsavo Park, Kenya

support was given to expeditions to and projects in the Philippines, China, West Africa, Mexico and Kenya.

Major projects and research receiving financial support from Chester Zoo in 1999 are tabulated on page 47. Of particular note is our increased commitment to supporting conservation in the Philippines in partnership with Dr William Oliver representing Fauna and Flora International. This year we extended our support for Philippine Spotted Deer to other wildlife of the Western Visayas and 'adopted' Polillo Island financing and supporting two 'ecology wardens'. Additionally we began negotiations, in partnership with Vogelpark Avifauna in the Netherlands, with the Philippine



In December 1999 we celebrated our agreement with Chengdu Giant Panda Breeding Base and Chengdu Zoo



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

Major projects in bold

North and South America

1 Canada

- Seahorse transfer to Toronto Zoo

2 Costa Rica

- Director's visit to San José on conservation support

3 Mexico

- Financial and logistic support for visit of two biologists to investigate collaboration on biotic resources programme with research centres in North West England

4 USA

- Team Leader and Keeper's husbandry research visit to Bronx Zoo, New York; returning accompanying Red Birds of Paradise
- Director's chairing of Advisory Group for Committee on Recently Extinct Organisms (CREO), New York
- Chief Curator and Development Manager's meeting re Jaguar Outreach with Wildlife Conservation Society, New York
- Curator's participation in *Breeding Endangered Species* meeting, Cincinnati.
- Curator's attendance at Association of Zoological Horticulture conference, San Diego.
- Keeper's participation in International Seahorse Conservation Workshop, Shedd Aquarium, Chicago
- Marketing staff on Federation Study Tour visit to Disney *Animal Kingdom*, Florida and other collections.
- Development Manager's visit to West Coast Zoos
- Seahorse transfer to the Scripps Institute

Europe

5 Austria

- Projects Liaison Manager and Keeper's participation in Elephant Meeting, Vienna

6 Belgium

- Scientific Officer's participation in Bird Research meeting, Antwerp

7 Denmark

- Director and staff participation European Union of Aquarium Curators (EUAC) Fish and Aquatic Invertebrate meeting, Hirtshals
- Visit of Board of Directors of Aalborg Zoo to Chester Zoo.

8 Eire

- Head of Education Services and staff participation at British and Irish Zoo Educators' Conference, Fota, Cork

9 Germany

- Curators' participation in EEP Bird Meeting, Walsrode

10 Greece

- Financial support for Mediterranean Monk Seal conservation

11 Netherlands

- Director and staff participation in 2nd International Zoo Marketing conference, Amsterdam, including visits to Dutch Zoos
- Cichlid programme study visit by aquarium staff to University of Leiden and Leiden Museum
- Head of Education Services and staff participation at Zoo Educators' Conference, Beeske, Bergen

12 Poland

- Seahorse transfer to Zoo Plack

13 Russia

- Seahorse transfer to Moscow Zoo

14 Switzerland

- Director and Curators' participation in European Association of Zoos and Aquariums (EAZA)/EEP meeting, Basel

15 UK

- Harvest Mouse conservation programme
- Tadpole Shrimp and freshwater Crayfish conservation programme
- International Planning Workshop of EUAC and EAZA, Chester Zoo
- Support of laboratory mycobacterium disease study for African Cichlids
- Support of research on iron storage disease in Toucans

- Keeper exchange with Jersey Zoo

- National Aquarium Workshops, London Zoo

- Support of zoo behavioural research on Asiatic elephants, Chimpanzees and Maned Wolves

- Cheshire Wildlife Trust biodiversity survey of Chester Zoo estate

- Seahorse transfers to nine Zoos/Aquaria

Africa

16 Ghana

- Director's participation in Conservation Priority Setting Workshop, Accra
- Visit to East Kakum National Rainforest Park
- Financial support through Chester Zoo Studentship for primate project, Bia Forest.

17 Kenya

- **Substantial funding in partnership with Save the Rhino International for Kenya Wildlife Service's Black Rhino translocation**

18 Namibia

- Chester Zoo Members' guided safari tour.
- Financial support for AFRICAT Foundation

19 Nigeria

- Financial support for building new research accommodation at Gashaka Gumti, in partnership with WWF**
- Director's participation in Nigerian Field Society meeting, Whipsnade Wild Animal Park, UK Poster presentation by staff

20 Zambia

- Research support for behavioural study of Helmet Shrikes
- Support for Kafue Park Biodiversity Study

21 Zimbabwe

- Financial support for African Hunting Dog research

Asia

22 China

- **Chief Curator, Scientific Committee Chair and Veterinary Resident's participation in Giant Panda workshop, Chengdu**
- **Twinning of Chester Zoo and Chengdu Giant Panda Breeding Base and Chengdu Zoo**
- Financial support for Cambridge University Yunnan expedition

23 India

- **Support for Zoo Outreach India and Bat Conservation network**

24 Malaysia

- Financial Support for China Sea Coral Reef Biodiversity studies and Pulau Banggai Reefs Expedition

25 The Philippines

- Expansion of support for FFI Philippines Conservation Projects partnership:
- **Philippine Spotted Deer, West Visayas and Hornbill projects**
- **Curators' liaison visit to the Philippines**
- **Adoption of Polillo Island, financial support for ecology wardens**
- **Financial support for Oxford University/ University of the Philippines Los Banos Polillo expedition**
- Sponsorship of FFI Philippines Hornbill conservation poster
- Support of Birdlife International through 'adoption' of Visayan Wrinkled Hornbill, *Birds to Watch 3*
- **Financial support for Manchester Metro University study of Palawan Peacock Pheasants**

26 Vietnam

- Visit from Education Officer, Hanoi Zoo

Australasia

27 Australia

- Financial support of Newcastle University expedition to Kimberley.

During 1999, Education raised its profile as one of the Zoo core functions. Perhaps one of the most fundamental changes during the year was the recognition that, although schools and colleges will always remain a vital part of our work, we have ever increasing opportunities to expand our activities with the visitors. 1999 saw this happen in two main areas: interpretation and presentation.

We now have the biggest interpretation programme of any UK zoo and have upgraded our signage to match and, exceed expectations. Seventy five major interpretation items were installed, including some innovative interactive devices. Education staff are now involved in new exhibit design from the concept stage. This integrated approach gives a more effective end product. Interpretation interface is an important means of communicating our conservation messages. It was gratifying to be the first UK zoo to receive a commendation in the *Interpret Britain 1999 Awards* for our *Monkey Islands* interpretation.

On a sadder note, the wildlife artist Les Grandy, who did the majority of our artwork, died in March. The Zoo enjoyed a 20 year association with Les, who produced thousands of illustrations in our characteristic house style.



Photo Dominic Briffa

Children making African paper during an activity day

Large crowds congregated at feeding times throughout the summer to hear our excellent new Presenters deliver *interpretation on the hoof*. One thousand and fifty talks were given. This is the first time we have tried this and everyone is delighted that it has worked so well. There is a permanent Presenter presence in the *Twilight Zone* to enhance the visitor experience.

Our new teaching programmes had much success with 13,500+ students. About 50% of the schools and colleges returned evaluation forms, allowing us to upgrade our packages, making sure they tied in closely with curricular needs.

The major new *Wildlife Discovery Centre* was completed and landscaped in 1999. This offers opportunities for closer contact with the Animal and Plant Kingdoms via hands-on

sessions. It concentrates on a family-based learning approach during school holidays and at weekends. During term-time the *Discovery Centre* is used as an additional teaching area. It will be fully operational in 2000.

Library usage more than doubled (by 114%). This coincided with the establishment of a Library Steering Group which looked at ways of enhancing the Library's role. All books were registered on a database and we began a computer-based journals catalogue. The Library entered the new information age, in time for the Millennium, by offering internet access. An average of 60 requests per day were made via the Library computer. We increasingly moved over to CD-ROM for bulky works such as *Birds of the Western Palaerctic* and *Encyclopaedia Britannica*, freeing up much-needed shelf space. A more efficient lending system for staff was introduced and it has proved very successful.

Members of Education staff attended and gave presentations at the Zoo Marketing Conference in Amsterdam, and the European Zoo Educators' Conference in Beekse, Bergen (Netherlands). Five staff went to the British and Irish Zoo Educators' Conference at Fota Wildlife Park in Ireland.

Stephen McKeown completed his third year as Chair of the Zoo Federation Education Committee, during which time two important national documents were produced: *Recommended Education Standards* and (in draft form) *Guidelines for Animal Close Contact*, both intended for use in Federation collections. Stephen also continued to serve on the International Association of Zoo Educators' Executive Committee and attended two meetings in the Netherlands. In addition, he was invited to join the EAZA Exhibit Design and Education Committee – thus giving us input at national, European and international levels in the Zoo education field.

Education Volunteers donated 7744 hours to the Zoo in various areas of operation. It was decided, however, that, in the light of the zoo-wide restructuring exercise, we should examine the volunteer function in a similar way. The existing Volunteer Scheme came to an end on 31st December 1999, for a full review during 2000.

Ann Bridges became our Artist-in-Residence via an arrangement between ourselves, Chester City Council and North West Arts. Ann specialises in a contemporary style known as 'monoprinting' where paint is pushed through stencils using rubber rollers. Her initial work in 1999 was largely inspired by fish in the aquarium. The Zoo acts as a base from which Ann, who is recently qualified, hopes to launch her professional career as an artist.

We continued our support for foreign zoo educators by hosting a visit from Ms Do Than Hoa, the Education Officer, Hanoi Zoo, Vietnam. Together with other leading UK and Dutch zoos, we gave advice on setting up an education service, including an interpretation scheme.

In 2000 we will extend and improve the different elements of the Division's services. For the first time we will be venturing into the realms of educational outreach work in habitat countries. We will strengthen links with other zoo educators in the UK and abroad, to benefit from shared experiences. Within the Zoo we will be embarking on a major exercise in archiving the Society's historical material and making it available for staff and researchers.

Stephen McKeown, Head of Education Services

1999 was another exciting year for Estates during which we welcomed a new member of staff, Barbara Williams, who joined us as Divisional Secretary.



'Rockwork' being built for the Komodo Dragon enclosure

Major developments were the successful completion of the Penguin Pool life support system and re-landscaping; the Elephant Bull facility, with a new integrated hornbill enclosure in the Elephant building; Phase 1 of the

Islands in Danger

project (erection of the building) and Phase 2 (completion of the exhibit design and landscaping). The Waterfowl/Crane enclosure has been completely re-fenced and the *Wildlife Discovery Centre* built. The Giraffe accommodation has a new heating system and a completely new timber shingled roof installed. *Glorious Grasses* has been completed on the site of the old rose garden alongside the canal in East Zoo. We topped the main entrance building with a handsome clock feature,



The new clock tower at the main entrance

Extensive infrastructure development continues. A new high voltage electricity supply has been installed. This is a much needed service requirement in order for us to continue with the development programme. A new borehole has been completed with a Licence to extract an additional 100,000 cubic metres of water per annum.

Two separate off show facilities have been built in the *Tropical Realm*: for Komodo Dragons and Birds of Paradise.

Major projects that have started and are due for completion in 2000 include: *Glorious Grasses* garden; a new *Roman Garden* feature to celebrate the Millennium adjacent to the *Oakfield*; and the *Ark Restaurant* (formerly the *Jubilee*) with seating doubled to 400. The biggest scheme for completion is the *New Elephant Paddock*. This is an extension to the Elephant island and will incorporate a major expansion of the existing paddock. Also included are: elephant environmental enrichment, extensive landscaping, additional viewing facilities, a water feature and (most importantly) an animal friendly moat design to replace the original scheme.

We are routinely demolishing exhibits which no longer meet the requirements and standards of a modern, progressive zoo. The old Small Mammal and Cat Houses have now gone.

Projects at the design stage include:

Spirit of the Jaguar. Thanks to sponsorship from Jaguar Cars, we are developing a world class exhibit for 2001. This will be on the former north car park, adding a completely new dimension to the Zoo.

We are also pursuing the extensive redevelopment of the Rhino paddocks to the west side of the Zoo; a new administrative office on the site of the old car park in East Zoo; and Orang utan and Chimpanzee Island landscaping

The Oakfield Lodge gained a new roof and internal refurbishment. Outside the Zoo, extensive maintenance work has been carried out on other properties. Our Christmas Grotto proved to be a great success and now that electrical equipment has been installed, the promotion can be easily repeated.

Maintenance

The Maintenance Department had another very busy year with around £600,000 spent on both planned and essential maintenance. The number of Maintenance Requests completed during the year increased to 480. All inspections under statutory regulations have been successfully completed.

Groundstaff and the Overhead Railway

We bought a new *Scarab* roadsweeper, enabling us to maintain the roads and pathways to even higher standards. The increase in visitors put a huge amount of work on the team, who coped extremely well.

The railway was fitted with sophisticated improvements including a new drive system with digital (as opposed to analogue) motor speed control and improved radio signalling, giving a safer, more efficient visitor service.

Steve O'Brien, Estate Engineer



Roman Garden approaching completion

VISITOR SERVICES DIVISION

A major recommendation of the Work Structuring Consultancy was the creation of a Division to handle visitor related facilities, tasked to give visitors 'a great day out'. We appointed Liz Child as Divisional Head in March 2000, to start in April.

Pending this appointment, the Estate Engineer and Marketing Manager covered the role. Staff regrouped into the new Division in the autumn. The Stores and Gatehouse team from Finance and Administration, Groundstaff,

Transport staff and some of the Gardeners from Estates, and the Retail, Catering and Events Office from Marketing form the Division. Chris Williams is Amenities and Gardens Manager, with two teams, *East* led by Peter Thompson and *West*, led by Peter Hughes. They cover transport, maintenance and general gardening, keeping the zoo tidy, car parking and gatehouse. Sue Clews as Catering Manager now controls catering stores and the *Oakfield*. Events Office sells our facilities and functions capabilities.

The Division is responsible for key administrative processes and controls. The organisational restructuring has focussed on the core duties, with the stores and gatehouse staff transferring to Visitor Services. A new Management Accountant post was created. With this, and the new *Sage* accounting software installed, we are now set to give better financial control support to client Divisions.

Results for the year are better than ever and relevant observations are made in the Council Report (p 25).

Capital expenditure tracking is a new system, installed during the year, across all Divisions. Dates are stipulated to take major projects through from early planning to completion. Responsibilities are highlighted and progress reviewed at

weekly meetings. Clearly, project cost control is crucial as the current year's expenditure totals over £4 million.

The VAT claim continues, and the Zoos' case for cultural exemption (against which HM Customs and Excise are appealing) was passed on by the High Court through to the highest European Court. The case may not be heard for at least eighteen months. Nevertheless, if we are successful, there will be major financial benefits to the Society.

Finally, I will be retiring shortly to be replaced by Alan Sykes who has been with the zoo for nine years. I wish Alan every success in his challenging new post!

Michael Johnson, Financial Controller

INFORMATION TECHNOLOGY

Work has continued steadily through the year to improve our IT facilities, and to upgrade hardware and software. We now have 52 PCs and 9 servers in 8 locations, so that access is available to all members of staff. The Oakfield offices are networked to the Animals and Plant Conservation Division, Education, Estates and the entrances. Efficient e-mail communication is now standard.

Staff are actively encouraged to improve their IT skills and attain nationally recognised computer qualifications. A scheme of work based training is in development and will be in place by the end of the year. Staff are, in addition acquainted with the *Individual Learning Account* (ILA). A claim of £150 in government funding can be made as part of the *Learning is for Life* program. This money has many uses including the cost of books, videos courses and childcare while on a course.

Information technology is an enabler – and systems will continue to develop, with information empowerment as our objective. Information needs to flow freely, unrestricted by technology or skills. We will continue to develop network resources and make them available to all employees where

practicable. Network links will continue to be extended and upgraded with the use of wireless networking and digital subscriber line (DSL) technologies. The moves towards the centralised computing model continues and benefits are shown with improved services and reduced ownership cost.



Web site home page

It is important that data flows in and out of our organisation in a controlled and directed manner. The public will be gradually offered more access to our archive data. For this purpose, the Internet is a perfect media for delivery of high quality information, and will play a large part in the dissemination of our resources. The *Information Super Highway* is only just around the corner!

Recent advances in television broadcast technologies allow the *Internet* to be accessed from a television set. Our web presence will be a first point of contact for many people, and development will continue to make the site more presentable and informative. There are now over 2,000 Zoo site 'hits' per month and this is increasing. The commercial opportunities in terms of, say, ticket sales and zoo product marketing remain to be fully explored.

Phillip Morris
Information Technology Systems Supervisor

JUNIOR MEMBERS

Junior Membership has now topped 5,000. Our monthly events have been very well supported, with up to 130 enthusiastic junior members joining us for some of the



Field trip to Northern Ireland at Giant's Causeway

in-house events! The twelve monthly events have included some of the old favourites – *Contact Session*, *Tracks and Signs*, *Day with the Keeper*, Anglesey day trip, Deer rut at Tatton, *Shugborough Home Farm* and the Summer and Christmas Parties. New venues included *Loggerheads Country Park* and the *Museum of Science and Technology* in Manchester. Our thanks for all the adult supporters' time! The action-packed week long residential field trip to Northern Ireland was a great success once again.

All our activities have helped to raise Juniors' awareness of conservation and native species whilst having fun at the same time. This vital group now have a thirst for knowledge, and will make sure that future conservation issues are in safe hands. Long may this support continue!

Penny Rudd, Junior Club Organiser

How did we pass 1998's record year? In part, we are beginning to see critical mass benefits from previous zoo improvements. The innovative exhibits of 1998 have settled and improved – both *Twilight Zone* and Penguins are cases in point. We have sharpened our advertising, with better media buying. We had 28 days of *Noah's Ark* presence at outside events, with contact with 1.5 million potential visitors. Successful special events including the *Disabilities Awareness Evening* and the Father Christmas promotion turning the cave of the *Twilight Zone* into an imaginative (double) grotto. We owe much to the other Divisions for their help.

Catering – now a single department led by Sue Clews – made major improvements in trading, notwithstanding the closure of the *Jubilee* from September for extension and refit. Retail have held high satisfaction levels in the ALVA research and maintained results when, nationally, the whole sector has been depressed.

Vets to the Rescue, the BBC 30 part series was filmed here in the summer so we had much more than our share of TV, radio and press cover in a year that lacked *mega fauna* births. PR Manager Pat Cade and Events Manager, Jane Lawson deservedly learned 'how Disney do it' on the Federation Florida study tour in February. *Chester Zoo Life* and *Chester Zoo News* have had their highest print runs. Our photographic competition had over 900 entries thanks to most generous sponsorship by Air Mauritius.

We put ten new awards in the Director's display case – and, in particular, thank Mike Elkerton for his major efforts in the



Noah's Ark at Southport Flower Show

Disability Awareness Evening and the EASE commendation.

Marketing downsizes substantially in the restructuring with Catering, Events and Retail moving to Visitor Services. We link with John Regan's team to regroup as the Marketing and Development Division. At the year-end, we said *au revoir* to Richard Casson after almost ten years stalwart Oakfield service. With Jane, he welcomes you all to the *Bells of Peover*!

Chris Vere, Marketing Manager



Noah's Park is the new play area on the picnic lawn in East Zoo

MEMBERSHIP AND ADOPTIONS

Membership in 1999 rose faster than the previous year to a new record of 14,924 (30%). A new IT system introduced towards the end of the year experienced the inevitable teething problems. Once fully developed, it promises to provide a smoother service for Members and allow for much greater growth. Our apologies to members who experienced any difficulties – and our congratulations to Membership and Adoptions Officer, Maureen Allsopp who has struggled bravely to implement the necessary changes. The Society also introduced a new discount for those opting to pay by Direct Debit. Many Members find this more convenient, and this system also

saves the charity a good deal of administrative time.

Adoptions also continued to bring in much needed revenue and two 'Adopta days' were highly successful. Pauline McKee now looks after this important part of our activities.

Our imaginative *Keeper for the Day* scheme has proved popular with the public, thanks to Andrew Lenihan and the keepers. We are now running the publicity for this 'in house' so all enquiries should go to Pat Cade on 01244 650208.

John Regan, Development Manager

1999 saw the agreement of Neville Chamberlain CBE to act as Chairman of the Society's fundraising programme. Among Neville's many achievements are his former roles as Deputy Chairman of British Nuclear Fuels Ltd (BNFL) and as Chairman of the North West Business Leadership Team. Finding the right individual to carry out this pivotal task involved a process of investigation for more than two years and was sometimes extremely frustrating. The Society is now delighted that someone of Neville's considerable stature has agreed to associate himself with us in this way.

The Legacy Pledge Club blossomed throughout 1999 and is now extended to some 14 members, many of whom enjoyed a special 'behind the scenes' tour in September led by Keeper, James Andrewes. Anyone interested in registering with the Club should contact Hazel Russell, our new Assistant Development Manager on 01244 650229. Hazel joined us at the end of 1999.

We were especially grateful for a 20K legacy from the estate of the late Mr Norman Horrocks. This was achieved through subscription to the *Discretionary Legacy Service* provided by consultant solicitors.

Meetings were held with Jonathan Browning, the new Managing Director of Jaguar Cars in Coventry and with colleagues at the Wildlife Conservation Society (WCS) based at the Bronx Zoo in New York, who have also received generous sponsorship from Jaguar Cars. It is hoped to develop the relationship with Jaguar notably in joint outreach work planned by ourselves and WCS.

The Development Department organised the official opening of the new Penguin Pool by the Rt Hon Betty Boothroyd MP, Speaker of the House of Commons and the presentation of our Gold Medal to the Deputy Prime Minister, the Rt Hon John Prescott MP. These high profile occasions, a CBI event for all the North West's MPs and many other overtures have developed the Society's network of support and contacts significantly.

Exciting opportunities also presented themselves in respect of British commercial, cultural and political contacts with China. The Development Office has been working very closely with the Chief Curator in exploring the possibilities in this area.

Donations, Grants, Sponsorships and Bequests

	£
Committee for the Public Understanding of Science (COPUS)	10,000
Estate of Mr Norman Kendall Horrocks	20,000
Estate of Mr J. W. Prince	2,000
Estate of David Tinston	500
Bristol Myers Squibb	8,000
Marks and Spencer plc	10,500
British Salt (allocation of Landfill Tax)	8,148
Environmental Action Fund	16,000
Ronald and Kathleen Pryor Charity	11,000
Mr J. Franklin	3,000
Mr and Mrs Wall	3,000
Mr John Blewett	4,155
Capital Bank	3,246
F. Davies	2,000
Mr Peter Rickett	500
Mrs Chapman	300
Anonymous	89
Total	£102,438

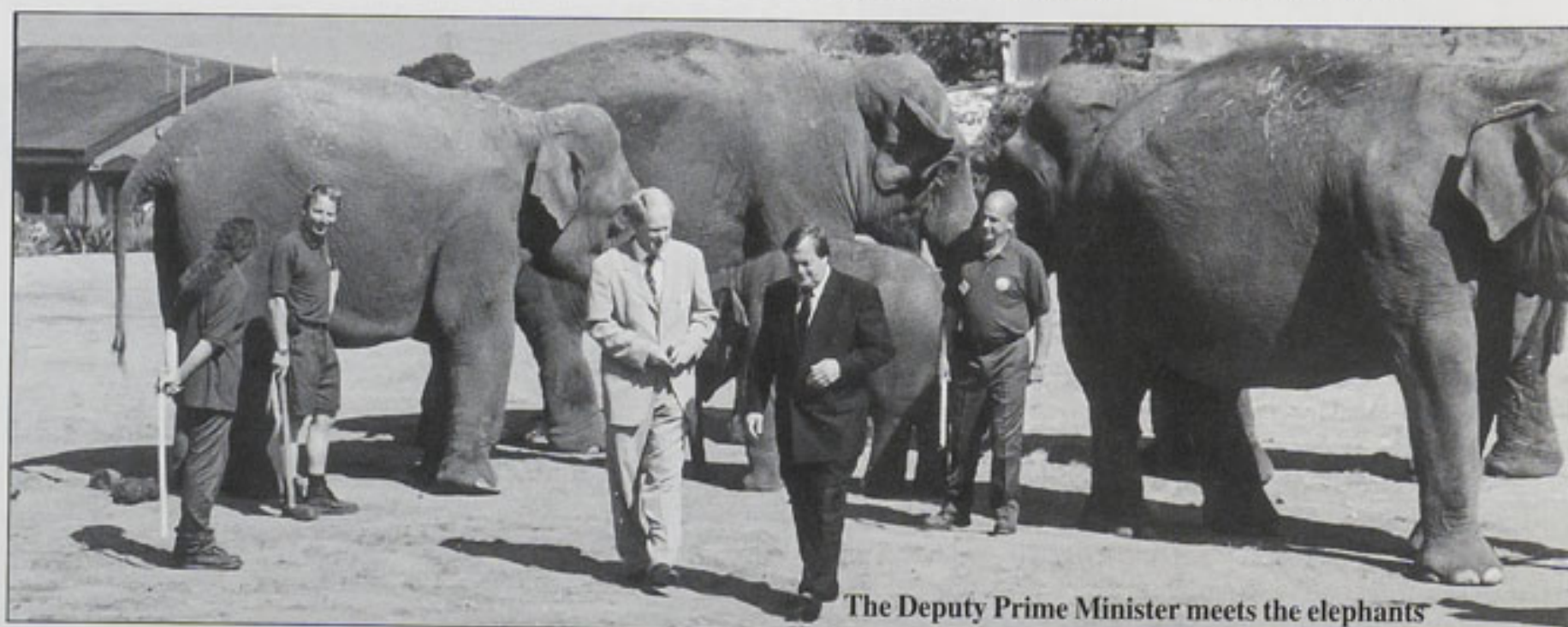
Air Mauritius generously sponsored our Photographic Competition. As luck would have it the holiday was won by a couple about to get married!



Noah's Ark at the Jaguar staff families day in Coventry



Veterinary Resident, Stephanie Sanderson meets her first Panda



The Deputy Prime Minister meets the elephants

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, Chester Zoo Enterprises Ltd, whose profits are covenanted to the Society.

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

The principal advisors of the Society are:

Auditors	PricewaterhouseCoopers, Liverpool
Bankers	Barclays Bank plc, Liverpool
Legal Advisors	Mace, Jones, Grundy Kershaw, Liverpool Walker, Smith & Way, Chester

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 strategic direction and policies of the Society are determined by the elected Council as Trustees, with consultation and discussion with the Director of the Zoo as Chief Executive and his staff who implement policy. The Trustees have six formal meetings a year, together with an Annual General Meeting. The Council Committee structure is indicated against the names (above right).

The development, activities and achievements of the Zoo in 1999 are detailed fully in this Annual Report, principally in the Chairman's and Director's Review (page 5) and in the Financial Overview (page 10).

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

FINANCIAL REPORT AND ANALYSIS

Financial results 1999 (1998 comparative in brackets):

The net incoming resources for the year of £1,511,000 (£1,875,000) results from a turnover of £10,369,000 (£9,558,000) less expenses of £8,858,000 (£7,683,000). These figures are derived from consolidated accounts for the group (the Society and Chester Zoo Enterprises Limited).

These figures include special income of £100,000 (£100,000) which has been received from Deep Sea Leisure plc, for maintenance of goodwill and to avoid disruption to trade and £625,000 (£602,000) which has been generously donated by our sponsor Jaguar Cars Ltd.

A reorganisation of the management team, referred to in the Chairman's and Director's Review on page 5, has led to an increase in expenses in a number of departments. The increased scope of conservation outreach activity has also required an allocation of financial resources.

The operating activities generated a cash flow of £2,403,000 (£2,195,000). This was used for the capital expenditure of £2,216,000 (£1,193,000) - see Estates Report, on p21. The expenditures of 1999 will continue into 2000 and will produce dramatic improvements within the Zoo. The net cash position of £229,000 (£80,000) at December 1999 will revert to a more normal net debt of over £1,000,000 by Spring 2001.

The Council as elected by the members are:

Committees	Finance	Remuneration	Programmes and Membership	Scientific and Veterinary	Pension Fund**
Trustees*					
Keith Maybury (Chairman)	•	•	•	•	
John Brown					
Brian Coles (Vice Chairman)				•	
Dr David Cooke				•	
Karen Davies			•		
Jean Dixon (May 1999)			•		•
Kathryn Edwards (May 1999)			•		
Prof Brian Gardiner (May 1999)					
Brian Livingstone				•	
Derek Lyon				•	
Chris Mahon (May 1999)				•	
John Makinson (May 1999)	•				•
Graham Pollard			•		
Alan Sharples	•	•			
Tony Williams	•				•

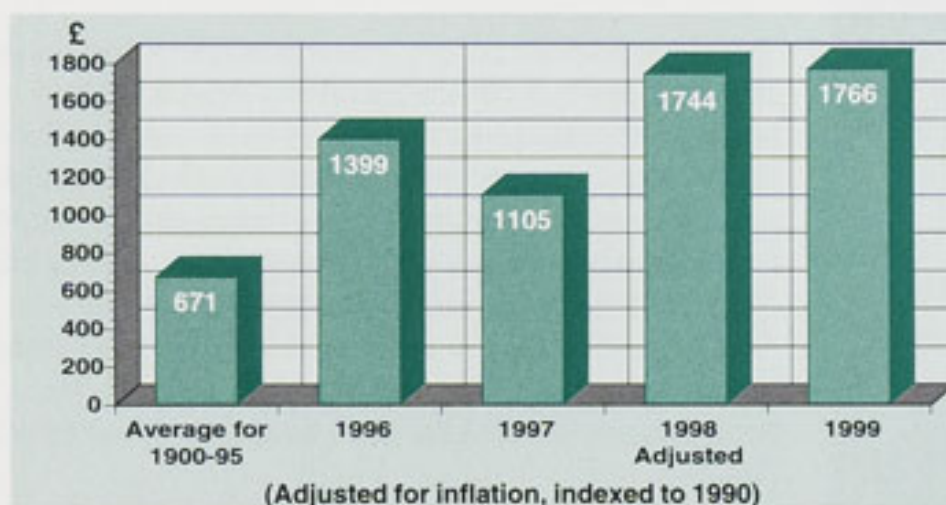
* Dates of election in brackets

** Not formally a Committee of Council.

Prof Peter Wheeler was co-opted in September 1999

OPERATING CASH FLOW PER 1,000 VISITORS

A new measure was introduced in the 1998 Annual Review and is now updated to highlight our improved cash flow generation.



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 Zoo 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 and *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 performance of the Society.

Approved by Council and signed on its behalf:

Michael Johnson
Company Secretary
31 March 2000

COUNCIL'S RESPONSIBILITIES IN RELATION TO 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. These accounting records 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 by:
Michael Johnson,
Company Secretary
31 March 2000

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

We have audited the financial statements on pages 27 to 32.

Respective responsibilities of trustees and auditors

The Council of the charity 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 have been appointed as auditors under section 43 of the United Kingdom's Charities Act 1993 and report in accordance with regulations made under section 44 of that Act.

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 Charities Act 1993. We also report to you if, in our opinion, the Council report is not consistent with the financial statements, if the Charity has not kept proper accounting records or if we have not received all the information and explanations we require for our audit.

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 charity'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.

Opinion

In our opinion the financial statements give a true and fair view of the state of the charity and group affairs at 31 December 1999 and of incoming resources and cash flows for the year then ended and have been properly prepared in accordance with the Companies Act 1993.

PricewaterhouseCoopers
Chartered Accountants and Registered Auditors
Liverpool
31 March 2000



CONSOLIDATED STATEMENT OF FINANCIAL ACTIVITIES FOR THE YEAR TO 31 DECEMBER 1999

		1999	1998
	NOTES	£ 000's	£ 000's
INCOMING RESOURCES			
Turnover of charitable trading activities	3	5,334	4,861
Other incoming resources			
Members' subscriptions		304	290
Animal adoptions (restricted)		114	111
Donations & legacies (see below)		86	124
Contribution from Deep Sea Leisure Plc.	4	100	100
Property rents received - external		43	42
Property rents received - from trading subsidiary	5	276	297
Profit on sale of property		75	0
Net income of trading subsidiary	5	898	965
		1,896	1,929
TOTAL INCOMING RESOURCES		7,230	6,790
RESOURCES EXPENDED			
Gross expenditure of charitable trading activities	3	1,024	988
Direct charitable expenditure			
Animal welfare		2,375	1,995
Education		336	241
Gardens		464	341
Property maintenance		618	469
		3,793	3,046
Other expenditure			
Fundraising and publicity		593	531
Management and administration		309	350
		902	881
TOTAL RESOURCES EXPENDED		5,719	4,915
NET INCOMING RESOURCES / MOVEMENT IN FUNDS 6			
Accumulated funds brought forward		1,511	1,875
		4,737	2,862
ACCUMULATED FUNDS CARRIED FORWARD		6,248	4,737

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 £114,000 (1998 £111,000) and donations, grants and legacies of £51,000 (1998 £80,000) all held for, or expended on, specific projects. (see note 16)

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

The notes on pages 30 to 32 form part of these financial statements.

BALANCE SHEETS AT 31 DECEMBER 1999

	NOTES	CONSOLIDATED		SOCIETY	
		1999 £000's	1998 £000's	1999 £000's	1998 £000's
FIXED ASSETS					
Tangible assets	10	6,059	4,528	5,925	4,441
Investment in subsidiary company	11			0	0
		<u>6,059</u>	<u>4,528</u>	<u>5,925</u>	<u>4,441</u>
CURRENT ASSETS					
Stocks	12	253	276	39	42
Debtors	13	1,040	1,024	973	949
Cash at bank and in hand		587	322	587	301
		<u>1,880</u>	<u>1,622</u>	<u>1,599</u>	<u>1,292</u>
CREDITORS:					
AMOUNTS FALLING DUE WITHIN ONE YEAR	14	1,691	1,413	1,276	997
NET CURRENT ASSETS		<u>189</u>	<u>209</u>	<u>323</u>	<u>295</u>
TOTAL ASSETS LESS CURRENT LIABILITIES		<u>6,248</u>	<u>4,737</u>	<u>6,248</u>	<u>4,736</u>
NET ASSETS		<u>6,248</u>	<u>4,737</u>	<u>6,248</u>	<u>4,736</u>
FUNDS EMPLOYED					
INCOME FUNDS - RESTRICTED		<u>76</u>	<u>62</u>	<u>76</u>	<u>62</u>
INCOME FUNDS - UNRESTRICTED					
Designated funds		3,379	2,858	3,379	2,858
Other charitable funds		2,793	1,817	2,793	1,816
		<u>6,172</u>	<u>4,675</u>	<u>6,172</u>	<u>4,674</u>
TOTAL FUNDS EMPLOYED	16	<u>6,248</u>	<u>4,737</u>	<u>6,248</u>	<u>4,736</u>

The notes on pages 30 to 32 form part of these financial statements.

The financial statements on pages 27 to 32 were approved by Council and were signed on its behalf by :

.....
Keith Maybury,
Chairman of Council
31 March 2000

.....
Alan Sharples,
Chairman of Finance Committee
31 March 2000

**CONSOLIDATED CASH FLOW STATEMENT
FOR THE YEAR TO 31 DECEMBER 1999**

	NOTES	1999 £000's	1998 £000's
CASH FLOW FROM OPERATING ACTIVITIES			
Net incoming resources		1,511	1,875
Net interest (receivable) / Payable		(29)	16
(Profit) on sale of fixed assets		(75)	0
Depreciation charges net of amortisation of capital grants		759	589
Decrease / (Increase) in stocks		23	(8)
(Increase) in debtors		(13)	(836)
Increase in creditors due within 1 year		198	578
Net cash inflow from operating activities		2,374	2,214
RETURNS ON INVESTMENTS AND SERVICING OF FINANCE			
Interest received		30	26
Interest paid - bank and other		(1)	(45)
Net cash inflow / (outflow) from returns on investments and servicing of finance		29	(19)
TAXATION			
Net cash outflow from taxation		(38)	(37)
CAPITAL EXPENDITURE			
Receipts from disposal of tangible fixed assets		103	-
Payments to acquire tangible fixed assets	10	(2,319)	(1,193)
Net cash outflow from capital expenditure		(2,216)	(1,193)
NET CASH INFLOW			
		149	965
CASH			
	17		
(Increase) / Decrease in bank overdraft		(116)	694
Increase / (Decrease) in cash at bank and in hand		265	271
INCREASE IN CASH IN THE YEAR			
		149	965

The notes on pages 30 to 32 form part of these financial statements.

NOTES TO THE FINANCIAL STATEMENTS FOR THE YEAR ENDED 31 DECEMBER 1999

1. ACCOUNTING POLICIES

These accounts have been prepared in accordance with the Statement of Recommended Practice (SORP) for Accounting by Charities.

The following accounting policies have been applied in dealing with items which 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 1998 financial statements.

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.

- (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.
- (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 1999 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 property** - 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, prolonging its useful life and making any depreciation provision immaterial. Repairs and maintenance costs are charged against income in the year that they are incurred.
- (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 instalments under such leases, net of finance charges, are included with 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 instalments. 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) **Turnover** - Turnover represents cash and invoiced amounts of admission charges, goods sold and services provided (stated net of value added tax).
- (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.

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 at Section 505 Income and Corporation Tax Act 1988 and Section 256 Taxation of 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

	1999		1998	
	£ 000's	£ 000's	£ 000's	£ 000's
Turnover				
Zoo admissions	4,716		4,285	
Monorail and boats	310		294	
Guides and other	308	5,334	282	4,861
Gross expenditure				
Zoo admissions	661		604	
Monorail and boats	259		244	
Guides and other	104	1,024	140	988
		4,310		3,873

4. CONTRIBUTION FROM DEEP SEA LEISURE PLC.

Under the terms of an agreement dated 15 August 1996, between the Society and Deep Sea Leisure Plc. (*Blue Planet*) 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.

5. TRADING SUBSIDIARY - CHESTER ZOO ENTERPRISES LIMITED

	Catering	Shops	Sponsorship	Total	1998
	£ 000's	£ 000's	£ 000's	£ 000's	£ 000's
Turnover	2,223	1,465	636	4,324	4,030
Direct Costs	1,561	972	-	2,533	2,280
Gross profit	662	493	636	1,791	1,750
Indirect Costs					
- property rents paid to parent company	139	137	-	276	297
- management charges paid to parent company	348	178	-	526	412
- other overheads	87	4	-	91	76
Net profit	88	174	636	898	965
Amount covenanted to the Society				898	965
Retained in subsidiary				0	0

6. NET MOVEMENT IN FUNDS

	1999		1998	
	£ 000's	£ 000's	£ 000's	£ 000's
This is after charging:				
Auditors' remuneration - audit (Society: £ 8,000, 1998 £ 8,000)		12		12
- non-audit		38		10
Depreciation (net of grant amortisation)		759		589
Hire of equipment		48		21
Interest payable - bank	2		42	
Less: Interest receivable	31	(29)	26	16
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 £1,511,000. (1998: £1,875,000)

7. DIRECTORS

(a) Remuneration and expenses

The members of Council, being charity trustees, received no remuneration (1998, Nil).

Two trustees (1998, one) were reimbursed during the year for travelling expenses necessarily incurred. The aggregate amount of those expenses was £110. (1998 £144).

(b) Transactions with trustees.

The Society entered into one contract with an organisation with which a Trustee has business connections. (1998, one) Mr. C. M. Mahon is Managing Director of Cheshire Ecological Services, the consultancy arm of Cheshire Wildlife Trust which was paid £1,919 to carry out an ecological survey of the Zoo estate. (1998, £1,414)

(c) Trustee indemnity insurance

Insurance costing £2,000 (1998 £3,000) 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

	1999	1998
	£ 000's	£ 000's
Wages and salaries	3,419	3,023
Social security costs	284	257
Other pension costs	209	193
	<u>3,912</u>	<u>3,473</u>

(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:

	1999	1998
	Number	Number
From £40,001 to £50,000	2	1
From £50,001 to £60,000	2	1
From £60,001 to £70,000	1	-

(c) Number of persons employed

The average (full time equivalents) throughout the financial year was as follows:

	Permanent	Temporary	Permanent	Temporary
Animal Welfare	61	9	58	5
Maintenance and gardens	46	15	47	11
Education	7	1	6	-
Publicity and fundraising	7	-	6	-
Catering and shops	30	47	24	50
Administration	22	7	22	5
	<u>173</u>	<u>79</u>	<u>163</u>	<u>71</u>

9. PENSIONS

Pension contributions are determined by a qualified actuary on the basis of triennial valuations using the projected unit method. The assumptions which have the most significant effect on the results of the valuations are those relating to the valuation rate of interest (9% pa.) the rate of future salary inflation and future increases in Lower Earnings Limit (7% pa.) the rate of future pension increases (4% pa.) and the rate of future dividend growth (4.5% pa.). The most recent valuation was at 31 December 1996 which showed that the market value of the scheme's assets was £3,088,000 and that the actuarial value of those assets represented 107.4% of the benefits that had accrued to members, after allowing for an increase in pensions, in line with the increase in the Retail Prices Index, with effect from 1 January 1998.

In addition to the cost of reinsuring the lump sum death benefit, the contributions made to the scheme have been:

	Members	Society
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 1999 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.

Contributions amounting to £22,000 were due by the Society at the year end and are included in creditors (1998 £20,000.)

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 1999	575	4,988	1,522	759	1	7,845
Additions	81	1,730	0	508	0	2,319
Disposals / Written off	(13)	(201)	0	(123)	0	(337)
At 31 December 1999	<u>643</u>	<u>6,517</u>	<u>1,522</u>	<u>1,144</u>	<u>1</u>	<u>9,827</u>
DEPRECIATION						
At 1 January 1999	-	1,536	1,391	390	0	3,317
Provided during year	-	476	53	246	0	775
Disposals / Written off	-	(201)	-	(123)	0	(324)
At 31 December 1999	-	<u>1,811</u>	<u>1,444</u>	<u>513</u>	<u>0</u>	<u>3,768</u>
NET BOOK VALUE						
At 31 December 1999	<u>643</u>	<u>4,706</u>	<u>78</u>	<u>631</u>	<u>1</u>	<u>6,059</u>
At 1 January 1999	575	3,452	131	369	1	4,528
The net book value at 31 December 1999 represents fixed assets used for:						
Charitable trading activities	-	871	78	101	-	1,050
Direct charitable purposes	-	3,086	-	273	1	3,360
Other purposes	643	749	-	257	-	1,649
	<u>643</u>	<u>4,706</u>	<u>78</u>	<u>631</u>	<u>1</u>	<u>6,059</u>
The depreciation charged for the year to 31 December 1999 was allocated:						
Charitable trading activities	-	46	53	15	-	114
Direct charitable purposes	-	399	-	132	-	531
Other purposes	-	31	-	99	-	130
	-	<u>476</u>	<u>53</u>	<u>246</u>	-	<u>775</u>

Animal purchases of £3,000 (1998, £NIL) and sales of £1,000 (1998, £5,000) have been treated as revenue transactions.

Included in the net book value of fixed assets is £17,000 (1998, £35,000) in respect of the Monorail system acquired under 'finance' leases.

Depreciation for the year on these assets was £17,000 (1998, £17,000)

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

TANGIBLE FIXED ASSETS - Continued

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 £000's	DEPRECIATION £000's	NET BOOK VALUE £000's
At 1 January 1999	553	271	282
Additions	416	0	416
Disposals	(123)	(123)	0
Provided during year	0	202	(202)
At 31 December 1999	846	350	496

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 1999 will be filed with the Registrar of Companies.

12. STOCKS

	GROUP		SOCIETY	
	1999 £000's	1998 £000's	1999 £000's	1998 £000's
Goods for resale	214	239	4	5
Consumables	39	37	35	37
	253	276	39	42

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

13. DEBTORS

	£000's	£000's	£000's	£000's
Trade debtors	774	744	34	26
Intra group debtor	-	-	570	581
Other debtors	231	248	336	310
Prepayments and accrued income	35	32	33	32
	1,040	1,024	973	949

14. CREDITORS - AMOUNTS FALLING DUE WITHIN ONE YEAR

Bank overdraft (secured)	359	242	322	207
Corporation tax	0	38	0	38
Trade creditors	872	653	768	589
Other taxes and social security costs	340	360	86	53
Other creditors	26	28	26	28
Accruals	94	92	74	82
	1,691	1,413	1,276	997

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 V.A.T.) arose on income. However in 1993 the Inland Revenue raised an assessment on certain of the catering and souvenir retailing activities in respect of the financial years up to 1991. A settlement figure of £225,000 was agreed, payable in 6 equal instalments of £37,500, interest free, from 1994 to 1999.

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 1999 £000's	New Funds £000's	Funds Utilised £000's	Balance 31 December 1999 £000's
Restricted Income Funds				
Animal adoptions scheme	0	114	114	0
Animal welfare projects	33	20	17	36
Education projects	24	24	8	40
Other capital projects	5	6	11	0
	62	164	150	76
Designated Fund				
Animal welfare projects	1,775	2,483	1,253	3,005
Education projects	123	0	123	0
Other capital projects	960	215	801	374
	2,858	2,698	2,177	3,379
Other Charitable Funds	1,817	4,368	3,392	2,793
Total Funds Employed	4,737	7,230	5,719	6,248

17. ANALYSIS OF CHANGES IN NET DEBT DURING THE YEAR

	Balance 1 January 1999 £000's	Cash Flow in 1999 £000's	Balance 31 December 1999 £000's
CASH			
Bank overdraft	(242)	(116)	(358)
Cash at bank and in hand	322	265	587
Total Net Cash	80	149	229

18. FINANCIAL COMMITMENTS

	GROUP		SOCIETY	
	1999 £000's	1998 £000's	1999 £000's	1998 £000's
Capital expenditure, contracted for but not provided:	946	383	946	383
There is an annual commitment in respect of operating leases which expire within two to five years of:-	8	8	8	8

19. CONTINGENT LIABILITIES

Nil.

Table i - SUMMARY - LIVESTOCK GENERAL HOLDINGS - TOTALS AS AT 31ST DECEMBER 1999

	Number of Species	(End 98)	Number of Specimens	(End 98)	Species Bred & Reared	(End 98)	Specimens Bred & Reared	(End 98)
Mammals	61	65	656	652	27	36	37	70
Birds	196	209	944	958	62	73	196	222
Reptiles	47	45	252	268	8	10	94	127
Amphibians	13	13	158	232	3	3	65	115
Fishes	132	129	2952	3163	39	43	not included	not included
Invertebrates	35	36	1742	1407	16	20	not included	not included
Total	484	497	6704	6680	155	185	392	534

Table ii - SUMMARY - 'THREATENED SPECIES' 1999 (IUCN AND MANAGED PROGRAMMES)

Threatened species	212	Threatened species bred to date	156
% of all livestock	44%	% of threatened species bred	74%

Table iii - SUMMARY OF THREATENED SPECIES BY CATEGORY

	IUCN Red List	Managed Programmes	Total IUCN/Managed Programmes
MAMMALS	48	32	53
BIRDS	81	57	96
REPTILES	12	3	14
AMPHIBIANS	1	0	1
FISHES	28	19	34
INVERTEBRATES	4	13	14
TOTALS	174	124	212

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

EW	6	LRcd	9
CR	21	LRnt	38
EN	28	DD	4
VU	68		
		TOTAL	174

Table v - 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

REFERENCES CITED

Bemment, N. (Ed) (1998). Joint Management of Species Annual Report 1997. Federation of Zoological Gardens of Great Britain and Ireland, London.

IUCN (1996) IUCN Red List of Threatened Animals, compiled and edited by Jonathan Baillie and Brian Groombridge. Gland, Switzerland/Cambridge, U.K.: 368pp

Rietkerk, F., Smits, S., Brouwer, K., & Kurtz, M. (eds). EEP Yearbook 1997/1998. EAZA Executive Office, Amsterdam.

Table vi - SUMMARY OF TRANSFERS TO OTHER COLLECTIONS 1999

Mammals	23 species were sent to 16 collections	Reptiles	7 species were sent to 3 collections
Birds	49 species were sent to 22 collections	Aquarium	23 species were sent to 15 collections

NOTE ON STOCKLISTS

The few discrepancies between stock reported for 31/12/1998 in this and last years report result from the accidental omission of several species in last years report, sexing of stock during 1999, and more accurate estimates of the numbers of some colony groups.

Roger Wilkinson

General Curator: Higher Vertebrates and Research



Threatened Species

- 1 At Chester we aim to increase the percentage of the most threatened species year by year to maximise our conservation breeding performance. We will use the same criteria as in Table v on page 33 to ensure consistency in presentation of our progress.
- 2 Ambassador species are not simply for exhibition – in fact every species has to 'justify' its inclusion in our Collection planning on grounds of, if not conservation threatened status, education value and/or relevance to field, husbandry and welfare programmes.
- 3 The emphasis now is on 'quality' not '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

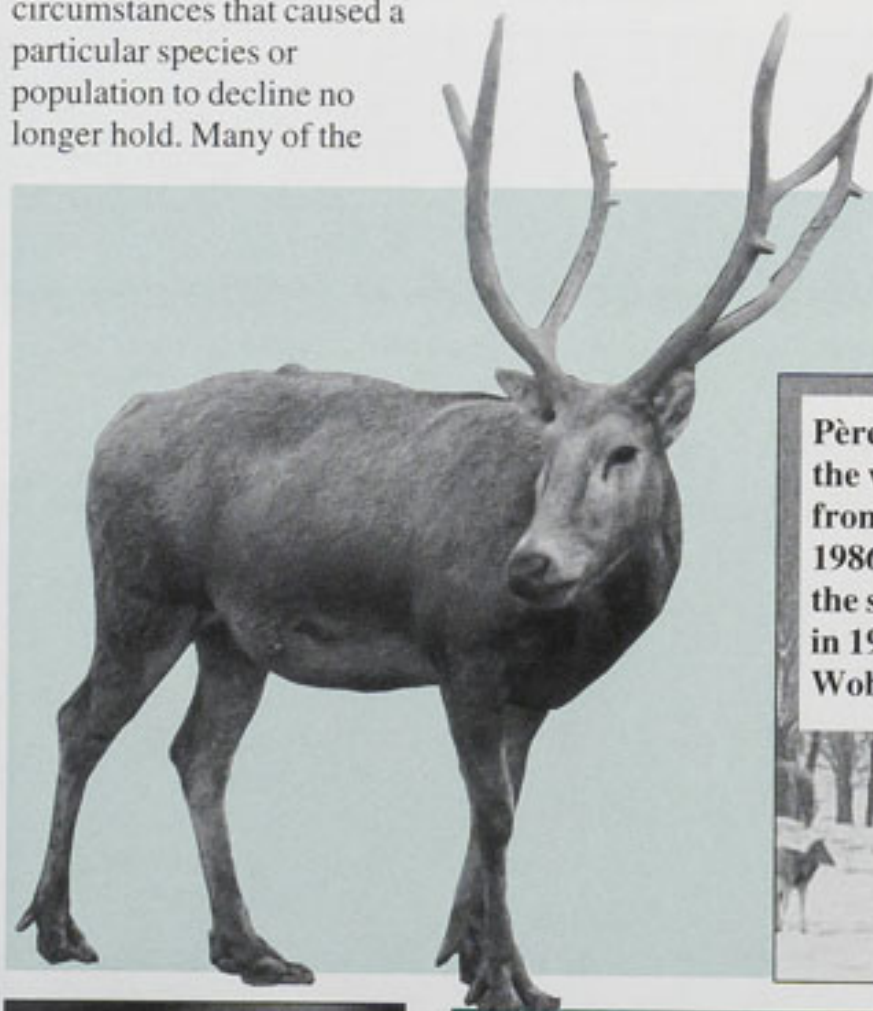
Reintroduction Programmes

Keeping safe animal populations for future reintroductions is one of a number of important reasons for maintaining animals in zoos. Other reasons include maintaining animals as ambassadors for their species, to tell important stories and excite, enthuse and educate our visitors about the natural world. Reintroductions are appropriate when the circumstances that caused a particular species or population to decline no longer hold. Many of the

threatened animals held at Chester Zoo have been the subject of reintroduction programmes. These include Père David's Deer where we played a direct role in that animals from Chester Zoo were returned to China. For other species such as Bali Starlings, of which only a few dozen remain in the wild, our role in maintaining a global zoo population is less direct but just as important. Chester Zoo is increasingly becoming involved with local programmes where our conservation breeding expertise can be directly linked to reintroduction. Such current initiatives include our work, in partnership with English Nature, on Sand Lizards and the development, with Cheshire Wildlife Trust of a reintroduction programme for Harvest Mice.

Roger Wilkinson

General Curator: Higher Vertebrates and Research



Père David's deer (Milu) have been successfully re-introduced to the wild in China at Da Feng. A group of 39 of these animals from UK including 11 from Chester were returned to China in 1986. This is one of the classical stories in conservation, for after the species became extinct in China during the Boxer rebellion in 1900, it only remained in the Duke of Bedford's herd at Woburn, from whence groups were established at UK Zoos.



We have successfully bred the Bali Starling.

We support native species breeding and reintroduction schemes including the Barn Owl - where approaching 100 have now been released locally, the Sand Lizard (below) with 21 successful hatchings in 1998/9 for eventual release on the Welsh and Sefton coastal habitats and the Harvest Mouse (right) where we have plans for controlled release on Zoo land.



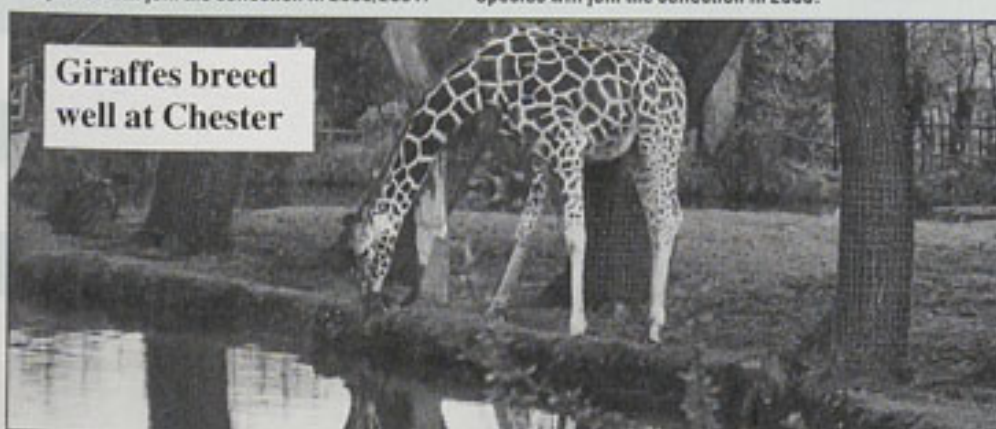
Photo Ian Walker



Maned Wolf – we reared our first litter of four cubs in 1999

MAMMALS			BRED 99	BRED <99	IUCN Red List	Managed Programme
1	Western Grey Kangaroo	<i>Macropus fuliginosus</i>		X	LRnt	
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	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>	X	X	CR	
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	LRnt	ESB/JMSP
12	Chimpanzee	<i>Pan troglodytes</i>		X	EN	JMSP
13	Bornean Orang utan	<i>Pongo pygmaeus pygmaeus</i>	X	X	VU	EEP/ISB
14	Sumatran Orang utan	<i>Pongo pygmaeus abelii</i>		X	VU	EEP/ISB
15	African Crested Porcupine	<i>Hystrix cristata</i>		X	LRnt	
16	Capybara	<i>Hydrochoerus hydrochaeris</i>		X		JMSP
17	Mara	<i>Dolichotis patagonum</i>	X		LRnt	JMSP
18	Maned Wolf	<i>Chrysocyon brachyurus</i>	X		LRnt	EEP/ISB
19	Bush Dog	<i>Speothos venaticus</i>		X	VU	EEP/ISB
20	Oriental Small-clawed Otter	<i>Amblyonyx cinereus</i>			LRnt	JMSP
21	Jungle Cat	<i>Felis chaus</i>		X		
22	European Lynx	<i>Felis lynx</i>		X		
23	Serval Cat	<i>Felis serval</i>		X	EN	
24	Amur Tiger	<i>Panthera tigris altaica</i>		X	CR	EEP/ISB
25	Asiatic Lion	<i>Panthera leo persica</i>		X		ISB
26	** Jaguar	<i>Panthera onca</i>	N/A		LRnt	
27	Cheetah	<i>Acinonyx jubatus</i>			VU	EEP/ISB
28	Californian Sealion	<i>Zalophus californianus</i>		X		ESB/JMSP
29	Asiatic Elephant	<i>Elephas maximus</i>		X	EN	EEP
30	Persian Onager	<i>Equus hemionus onager</i>		X	EN	ISB
31	Przewalski Horse	<i>Equus przewalskii</i>		X	EW	EEP/ISB
32	South American Tapir	<i>Tapirus terrestris</i>		X	LRnt	
33	Black Rhinoceros	<i>Diceros bicornis</i>		X	CR	EEP/ISB
34	Babirusa	<i>Babirusa babirusa</i>			VU	EEP/ISB
35	Guanaco	<i>Lama guanicoe</i>	X	X	VU	
36	Chilean Pudu	<i>Pudu pudu</i>		X	VU	EEP/ISB
37	Burmese Brow-antlered Deer	<i>Cervus eldi thamin</i>	X	X	LRnt	ISB
38	*** Philippine Spotted Deer	<i>Cervus alfredi</i>	N/A		EN	
39	Père David's Deer	<i>Elaphurus davidianus</i>	X	X	CR	
40	Giraffe	<i>Giraffa camelopardalis</i>		X	LRcd	EEP
41	Lowland Anoa	<i>Bubalus depressicornis</i>	X		EN	EEP/ISB
42	Barasingha	<i>Cervus duvauceli duvauceli</i>			VU	
43	Nilgai	<i>Boselaphus tragocamelus</i>		X	LRcd	
44	Congo Buffalo	<i>Syncerus caffer nanus</i>	X	X	LRcd	
45	American Bison	<i>Bison bison</i>	X	X	LRcd	
46	Bongo	<i>Tragelaphus eurycerus isaaci</i>		X	LRnt	EEP/ISB
47	Sitatunga	<i>Tragelaphus spekei</i>	X	X	LRnt	
48	Sable Antelope	<i>Hippotragus niger</i>			LRcd	JMSP
49	Kalve Flats Red Lechwe	<i>Kobus leche kufensis</i>		X	VU	JMSP
50	Scimitar-horned Oryx	<i>Oryx dammah</i>	X	X	CR	EEP/ISB
51	Gemsbok	<i>Oryx gazella gazella</i>	X	X	LRcd	
52	Blackbuck	<i>Antelope cervicapra</i>	X	X	VU	
53	Arabian Gazelle	<i>Gazella gazella arabica</i>	X	X	LRcd	JMSP

** Species will join the collection in 2000/2001. *** Species will join the collection in 2000.



Giraffes breed well at Chester

BIRDS

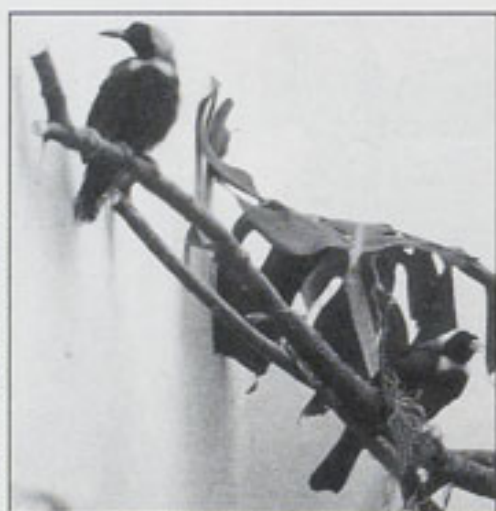
			BRE	BRE	IUCN	MAN PR
1	Common Rhea	<i>Rhea americana</i>	X	X	LRnt	
2	Humboldt's Penguin	<i>Spheniscus humboldti</i>	X	X	LRnt	EEP
3	Dalmatian Pelican	<i>Pelecanus crispus</i>			VU	EEP
4	Black Stork	<i>Ciconia nigra</i>				ESB
5	Waldraup Ibis	<i>Geronticus eremita</i>	X	X	CR	EEP/ISB
6	Black-billed Whistling Duck	<i>Dendrocygna arborea</i>	X	X	VU	
7	Lesser White-fronted Goose	<i>Anser erythropus</i>			VU	
8	Red-breasted Goose	<i>Branta ruficollis</i>		X	VU	
9	Hawaiian Goose	<i>Branta sandvicensis</i>		X	VU	
10	Baikal Teal	<i>Anas formosa</i>		X	VU	
11	Laysan Teal	<i>Anas laysanensis</i>		X	VU	
12	Baer's Pochard	<i>Aythya baeri</i>		N/A	VU	
13	Ferruginous Duck	<i>Aythya nyroca</i>	X		VU	
14	Marbled Teal	<i>Marmaronetta angustirostris</i>	X	X	VU	
15	Meller's Duck	<i>Anas melleri</i>		X	LRnt	EEP
16	Mandarin Duck	<i>Aix galericulata</i>	X	X	LRnt	
17	White-winged Wood Duck	<i>Cairina scutulata</i>		X	EN	
18	White-headed Duck	<i>Oxyura leucocephala</i>		X	VU	
19	Andean Condor	<i>Vultur gryphus</i>		X		EEP
20	Mauritius Kestrel	<i>Falco punctatus</i>		X	EN	
21	Blyth's Tragopan	<i>Tragopan blythii</i>			VU	ISB
22	Satyr Tragopan	<i>Tragopan satyra</i>	X	X	LRnt	
23	Temminck's Tragopan	<i>Tragopan temminckii</i>		X	LRnt	
24	Brown-eared Pheasant	<i>Crossoptilon mantchuricum</i>		X	VU	
25	White-eared Pheasant	<i>Crossoptilon crossoptilon</i>		X	VU	
26	Golden Pheasant	<i>Chrysolophus pictus</i>	X	X	LRnt	
27	Lady Amherst's Pheasant	<i>Chrysolophus amherstiae</i>		X	LRnt	
28	Palawan Peacock Pheasant	<i>Polyplectron emphanum</i>		X	EN	EEP
29	Mountain Peacock Pheasant	<i>Polyplectron inopinatum</i>	X	X	VU	ISB
30	Edwards' Pheasant	<i>Lophura edwardsi</i>		X	CR	EEP/ISB
31	Malayan Crestless Fireback	<i>Lophura e. erythrophthalma</i>	X		VU	
32	Vietnamese Pheasant	<i>Lophura hatinhensis</i>		N/A	EN	(ISB)

Waldraup Ibis



33	Green Peafowl	<i>Pavo muticus</i>		X	VU	
34	Congo Peafowl	<i>Atrypa congensis</i>		X	VU	EEP/ISB
35	Red-crowned Crane	<i>Grus japonensis</i>		X	VU	EEP/ISB
36	White-naped Crane	<i>Grus vipio</i>			VU	EEP/ISB
37	Wattled Crane	<i>Bucconas carunculatus</i>			VU	JMSP/ISB
38	Blue Crane	<i>Anthropoides paradisea</i>			VU	EEP
39	West African Crowned Crane	<i>Balearica pavonina pavonina</i>		X		ESB/JMSP
40	Gough Island Moorhen	<i>Gallinula comeri</i>		X	VU	
41	Pink Pigeon	<i>Columba mayeri</i>	X	X	CR	EEP/ISB
42	Nicobar Pigeon	<i>Caloenas nicobarica</i>	X	X	LRnt	
43	Mountain Witch Dove	<i>Geotrygon versicolor</i>	X	X	LRnt	
44	Blue Crowned Pigeon	<i>Goura cristata</i>			VU	EEP/ISB
45	Common Bronzewing Pigeon	<i>Phaps chalcoptera</i>		X	LRnt	
46	Mindanao Bleeding-heart	<i>Gallicolumba criniger</i>			VU	ESB
47	Luzon Bleeding-heart	<i>Gallicolumba luzonica</i>		X	LRnt	ESB
48	Mount Apo Lorikeet	<i>Trichoglossus johnstoniae</i>	X	X	VU	ESB
49	Red and Blue Lory	<i>Eos histrio</i>		N/A	EN	ESB
50	Black-winged Lory	<i>Eos cyanogenia</i>			VU	(ESB)
51	Blue-streaked Lory	<i>Eos reticulata</i>			LRnt	JMSP
52	Yellow-backed Chattering Lory	<i>Lorius garrulus flavopalliat</i>	X	X	VU	(ESB)
53	Palm Cockatoo	<i>Probosciger aterrimus</i>			LRnt	EEP
54	White-tailed Black Cockatoo	<i>Calyptorhynchus latirostris</i>		N/A	VU	ESB
55	Leadbeater's Cockatoo	<i>Cacatua leadbeateri</i>		X	LRnt	
56	Blue-eyed Cockatoo	<i>Cacatua ophthalmica</i>		X		ESB/JMSP
57	Red-vented Cockatoo	<i>Cacatua haematuropygia</i>		N/A	CR	EEP
58	Kea	<i>Nestor notabilis</i>		X	LRnt	ESB
59	Scarlet-chested Parrot	<i>Neophema splendida</i>	X	X	VU	
60	Derbyan Parakeet	<i>Psittacula derbiana</i>		X	LRnt	
61	Hyacinthine Macaw	<i>Anodorhynchus hyacinthinus</i>			VU	EEP
62	Blue-throated Macaw	<i>Ara glaucogularis</i>		N/A	EN	EEP/ISB
63	Scarlet Macaw	<i>Ara macao</i>				JMSP
64	Red-fronted Macaw	<i>Ara rubrogenys</i>		X	EN	EEP
65	Illiger's Macaw	<i>Ara maracana</i>		X	VU	(ESB)
66	Red-masked Conure	<i>Aratinga erythrogenys</i>		X	LRnt	
67	Golden-capped Conure	<i>Aratinga auricapilla</i>	X		VU	
68	Queen of Bavaria Conure	<i>Guaruba guarouba</i>		X	EN	EEP/ISB

Photo Dr Roger Wilkinson



Red Birds of Paradise are a notable addition to the Chester Zoo Bird collection. A new aviary is being constructed for them in the *Island in Danger* complex. These young birds will be the foundation for our breeding group



Arowana

FISHES

		BRED 99	BRED <99	IUCN Red List	Managed Programme
1	Black Ruby Barb	<i>Puntius nigrofasciatus</i>	X	X	LRcd
2	Cherry Barb	<i>Capoeta titteya</i>	X	X	LRcd
3	Silver Shark	<i>Balantiocheilus melanopterus</i>			EN
4	Omani Blind Cave Fish	<i>Garra barreimiae</i>	X	X	VU
5	Pla Eesok	<i>Probarbus jullieni</i>			EN
6	Red Rainbow Fish	<i>Glossogobius aureus</i>	X	X	VU
7	Boeseman's Rainbow Fish	<i>Melanotaenia boesemani</i>	X	X	EN
8	Lake Tebera Rainbow Fish	<i>Melanotaenia herbertaxelrodi</i>	X	X	DD
9	Lake Kutubu Rainbow Fish	<i>Melanotaenia lacustris</i>	X	X	VU
10	Dwarf Rainbow Fish	<i>Melanotaenia praecox</i>		X	DD
11	Dwarf Loach	<i>Botia sidhimunkii</i>			CR
12	Lake Victoria Cichlid	<i>Yssichromis argens</i>	X	X	EW
13	Lake Victoria Cichlid	<i>Astatoreochromis alluaudi</i>	X		EEP
14	Lake Victoria Cichlid	<i>Yssichromis pyrrhocephalus</i>	X	X	VU
15	Lake Victoria Cichlid	<i>Haplochromis riponensis</i>	X	X	EEP
16	Lake Victoria Cichlid	<i>Haplochromis sauvagei</i>	X	X	VU
17	Lake Victoria Cichlid	<i>Haplochromis xenognathus</i>	X	X	EEP
18	Otjikoto Tilapia	<i>Tilapia guinasana</i>		X	CR
19	Madagascar Cichlid	<i>Ptychochromis Côte Est oligacanthus</i>	X		EEP
20	Barombi Mbo Cichlid	<i>Konia eisenbrauti</i>			CR
21+	Barombi Mbo Cichlid	<i>Pungu macleari</i>			CR
22+	Barombi Mbo Cichlid	<i>Sarotherodon linnellii</i>			CR
23+	Barombi Mbo Cichlid	<i>Sarotherodon sp.</i>			CR
24+	Barombi Mbo Cichlid	<i>Stomietapia pindu</i>			CR
25	Asiatic Arowana	<i>Scleropages formosus</i>			EN
26	Killifish	<i>Nothobranchius korthausae</i>		X	VU
27	Nosy Bé Killifish	<i>Pachypanchax homalonotus</i>	X	X	EEP
28	Killifish	<i>Pachypanchax sakaramyi</i>	X	X	VU
29	Butterfly Goodeid	<i>Ameia splendens</i>	X	X	EW
30	Bold Characodon	<i>Characodon audax</i>	X	X	VU
31	Golden Saw-finned Goodeid	<i>Skiffia francesae</i>	X		EW
32	Solo Goodeid	<i>Xenopophorus captivus</i>	X	X	EN
33	Crescent Zoe	<i>Zoogoneticus tequila</i>	X	X	EEP
34	Swordtail	<i>Xiphophorus clemenciae</i>	X	X	DD

* Not on IUCN Red Data list but thought to be extinct in the wild.

INVERTEBRATES

		BRED 99	BRED <99	IUCN Red List	Managed Programme
1	Partula Snail	<i>Partula mirabilis</i>	X		EW
2	Partula Snail	<i>Partula taeniata</i>	X	X	EW
3	Partula Snail	<i>Partula varia</i>	X	X	CR
4	Mexican Red-knee Tarantula	<i>Brachypelma smithii</i>		X	LRnt
5	Tadpole Shrimp	<i>Triops cancriformis</i>		X	ENP/JMSP
6	Frog Spawn Coral	<i>Euphyllia divisa</i>			EEP
7	Bowl Coral	<i>Turbinaria pelata</i>			EEP
8	Star Coral	<i>Favia sp.</i>			EEP
9	Leather Coral	<i>Sarcophyton trocheliophorum</i>			EEP
10	Soft Coral	<i>Xenia sp.</i>	X	X	EEP
11	Soft Coral	<i>Sinularia sp.</i>			EEP
12	Soft Coral	<i>Cladiella sp.</i>	X	X	EEP
13	Zoanthid Colony	<i>Zoanthid sp.</i>	X	X	EEP
14	Mouse Ear Coral	<i>Lobophytum crassum</i>	X	X	EEP

We hold three young female Komodo Dragons



REPTILES

		BRED 99	BRED <99	IUCN Red List	Managed Programme
1*	Aldabra Giant Tortoise	<i>Geochelone gigantea</i>			VU
2	Greek Tortoise	<i>Testudo graeca</i>	X		VU
3	Hermann's Tortoise	<i>Testudo hermanni</i>	X		LRnt
4	Horsfield's Tortoise	<i>Testudo horsfieldii</i>			VU
5	Mississippi Alligator	<i>Alligator mississippiensis</i>			JMSP
6	West African Dwarf Crocodile	<i>Osteolaemus tetraspis</i>			VU
7	Rhinoceros Iguana	<i>Cyclura cornuta</i>	X		VU
8	Philippine Sail-fin Lizard	<i>Hydrosaurus pustulatus</i>	X		DD
9	Prehensile-tailed Skink	<i>Corucia zebrata</i>	X		JMSP
10+	Komodo Dragon	<i>Varanus komodoensis</i>	N/A		VU
11	Cuban Boa	<i>Epicrates angulifer</i>	X		LRnt
12	Jamaican Boa	<i>Epicrates subflavus</i>	X		VU
13	Madagascan Tree Boa	<i>Sanzinia madagascariensis</i>	X		VU
14	Aruba Island Rattlesnake	<i>Crotalus unicolor</i>	X	X	CR

Axolotl



AMPHIBIANS

		BRED 99	BRED <99	IUCN Red List	Managed Programme
1	Axolotl	<i>Ambystoma mexicanum</i>	X		VU

THE ANIMALS ARE LISTED IN THE WORLD-WIDE STANDARD SEVEN COLUMN TEXT LISTINGS, pp37-42

Col 1 - Beginning year stock, normally agrees with end 1998. Minor adjustments from re-sexing and detection of minor errors. (See note on page 33)
 Col 2 - Stock that has come to the collection from outside sources.
 Col 3 - This is the addition to our stocks through breeding.
 Col 4 - Stock bred in the Zoo which did not survive more than 30 days. Although col 3/4 are appropriate for breeding performance of many species, they are inappropriate for those with large numbers of small/microscopic young, most of which are unlikely to survive until they are of countable size. For these, col 4 is ignored, and only countable survivors shown in col 3.
 Col 5 - Animals which died or were humanely destroyed for reasons of ill-health.
 Col 6 - Animals removed from the collection other than for reasons in Col 5 above.
 Col 7 - Closing stock as at 31st Dec 1999.
 In each column known males are shown 'M', females 'F' and as yet unsexed/young are shown 'Y/?'



Sumatran
Orang utans



Asiatic Lion cubs

MAMMALS STOCKLIST

		STOCK 31/12/98			RECEIVED			BORN/H'CH			D.N.S. 30 DAYS			DEATHS OTHERS			DISPOSALS			STOCK 31/12/99			
		M	F	Y/?	M	F	Y/?	M	F	Y/?	M	F	Y/?	M	F	Y/?	M	F	Y/?	M	F	Y/?	
MARSUPIALIA																							
Red-necked Wallaby	Macropus rufogriseus	9	9	0	0	0	0	4	4	0	0	0	0	1	0	0	11	0	0	1	13	0	
Western Grey Kangaroo	Macropus fuliginosus	2	5	0	0	0	0	0	0	0	0	0	0	1	1	0	0	1	0	2	3	0	
CHIROPTERA																							
Rodrigues Fruit Bat	Pteropus rodricensis	18	15	1	0	0	0	4	4	4	2	0	3	0	1	1	0	0	0	20	18	1	
Seba's Short-tailed Bat	Carollia perspicillata	0	0	140	0	0	0	0	0	52	0	0	4	0	0	14	0	0	0	0	0	174	
PRIMATES																							
Ring-tailed Lemur	Lemur catta	14	16	0	0	0	0	1	4	4	0	0	3	0	0	1	1	7	0	14	13	0	
Black and White Ruffed Lemur	Varecia variegata variegata	3	3	0	0	0	0	2	1	0	0	0	0	1	0	0	0	1	0	4	3	0	
Red Ruffed Lemur	Varecia variegata rubra	4	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	4	1	0	
Cotton-top Tamarin	Saguinus oedipus	2	3	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2	3	2	
Buffy-headed Capuchin	Cebus apella xanthosternos	2	2	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	2	2	1	
Colombian Black Spider Monkey	Ateles fusciceps robustus	3	5	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	3	5	1	
Lion-tailed Macaque	Macaca silenus	2	2	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	1	3	0	
Sulawesi Crested Macaque	Macaca nigra	6	12	0	0	0	0	1	2	0	0	0	0	1	0	0	0	4	0	6	10	0	
Griwet Monkey	Chlorocebus aethiops	1	2	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	2	1	
Campbell's Monkey	Cercopithecus campbelli	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	
Mandrill	Mandrillus sphinx	1	3	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	3	0	
Chimpanzee	Pan troglodytes	5	23	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	5	23	0	
Bornean Orang utan	Pongo pygmaeus pygmaeus	2	5	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	3	5	0	
Sumatran Orang utan	Pongo pygmaeus abelii	2	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	3	0	
RODENTIA																							
Prairie Marmot	Cynomys ludovicianus	0	0	70	0	0	0	0	0	0	0	0	0	0	0	53	0	0	0	0	0	17	
African Crested Porcupine	Hystrix cristata	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	0	
Mara	Dolichotis patagonum	3	3	0	0	1	0	0	0	6	1	2	2	0	0	0	0	0	0	2	2	4	
Capybara	Hydrochoerus hydrochaeris	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	
CARNIVORA																							
Maned Wolf	Chrysocyon brachyurus	1	1	0	0	0	0	2	2	0	0	0	0	0	0	0	0	0	0	3	3	0	
Bush Dog	Speothos venaticus	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	0	
Coati	Nasua nasua	1	12	0	0	0	0	5	1	3	2	0	3	0	2	0	3	0	0	1	11	0	
Oriental Small-clawed Otter	Amblyonyx cinereus	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	
Slender-tailed Meerkat	Suricata suricatta	5	1	0	0	0	0	1	6	2	0	3	2	0	0	0	0	0	0	6	4	0	
Jungle Cat	Felis chaus	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	
European Lynx	Felis lynx	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	
Serval	Felis serval	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1	0	
Asiatic Lion	Panthera leo persica	4	5	0	0	0	0	0	0	0	0	0	0	0	0	0	1	3	0	3	2	0	
Amur Tiger	Panthera tigris altaica	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	
Persian Leopard	Panthera pardus saxicolor	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	
Cheetah	Acinonyx jubatus	1	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	
PINNIPEDIA																							
Californian Sealion	Zalophus californianus	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	0	
PROBOSCIDEA																							
Asiatic Elephant	Elephas maximus	2	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	6	0	
PERISSODACTYLA																							
Przewalski's Horse	Equus przewalskii	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	
Grant's Zebra	Equus boehmi	2	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	6	0	
Persian Onager	Equus hemionus onager	1	7	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	7	0	
South American Tapir	Tapirus terrestris	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1	0	
Black Rhinoceros	Diceros bicornis	1	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	4	0	
ARTIODACTYLA																							
Babirusa	Babirusa babirusa	1	1	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1	0	
Guanaco	Lama guanicoe	6	10	0	0	0	0	1	2	0	0	0	0	0	1	0	1	0	0	6	11	0	
Bactrian Camel	Camelus bactrianus	2	2	0	1	0	0	0	0	0	0	0	0	0	0	0	2	0	0	1	2	0	
Chilean Pudu	Pudu pudu	1	2	0	0	0	0	0	1	0	0	1	0	0	1	0	0	1	0	1	0	0	
Axis Deer	Cervus axis	3	7	0	0	0	0	2	1	2	2	0	2	1	0	0	0	8	0	2	0	0	
Barasingha	Cervus duvauceli duvauceli	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	
Burmese Brow-antlered Deer	Cervus eldi thamin	2	5	0	0	0	0	2	0	2	2	0	0	0	0	0	0	0	0	2	5	2	
Père David's Deer	Elaphurus davidianus	2	8	0	0	0	0	1	2	0	0	0	0	2	2	0	0	0	0	1	8	0	
Reindeer	Rangifer tarandus	3	10	0	0	0	0	0	0	0	0	0	0	1	0	0	1	2	0	1	8	0	
Giraffe	Giraffa camelopardalis	2	4	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	2	4	0	
Nilgai	Boselaphus tragocamelus	2	8	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	8	0	
Lowland Anoa	Bubalus depressicornis	2	1	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	2	1	0	
Congo Buffalo	Syncerus caffer nanus	2	8	0	0	0	0	2	0	0	0	0	0	1	1	0	0	0	0	3	7	0	
American Bison	Bison bison	4	8	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	5	9	0	
Bongo	Tragelaphus eurycerus isaaci	1	4	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	2	3	0	
Sitatunga	Tragelaphus spekei	1	3	0	0	0	0	1	0	2	1	0	0	0	0	0	0	0	0	1	3	2	
Sable Antelope	Hippotragus niger	3	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	1	0	0	
Kafue Flats Red Lechwe	Kobus lechwe kafuensis	6	23	0	0	0	0	0	0	0	0	0	0	0	0	0	5	6	0	1	17	0	
Scimitar-horned Oryx	Oryx dammah	1	11	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	12	0	
Gemsbok	Oryx gazella gazella	1	4	0	0	0	0	1	1	0	0	1	0	1	0	0	0	0	0	1	4	0	
Blackbuck	Antilope cervicapra	11	21	2	0	0	0	9	4	5	3	2	3	4	1	3	7	11	1	6	11	0	
Arabian Gazelle	Gazella gazella arabica	6	16	0	0	0	0	1	1	0	0	0	0	2	2	0	3	0	0	2	15	0	
Number of specimens		656	174 335 213			3 2 0			45 39 0			15 9 23			19 15 72			42 47 1			146 305 205		
Number of species		63																					
Number of species at year end		61	722			5			84			47			106			90			656		

BIRDS STOCKLIST

		STOCK 31/12/98			RECEIVED			BORN/H'CH			D.N.S. 30 DAYS			DEATHS OTHERS			DISPOSALS			STOCK 31/12/99		
		M	F	Y/?	M	F	Y/?	M	F	Y/?	M	F	Y/?	M	F	Y/?	M	F	Y/?	M	F	Y/?
STRUTHIONIFORMES																						
Ostrich	<i>Struthio camelus</i>	1	1	0	0	2	0	0	0	0	0	0	0	0	1	0	0	0	0	1	2	0
RHEIFORMES																						
Common Rhea	<i>Rhea americana</i>	2	3	0	0	0	0	0	0	2	0	0	1	0	0	1	0	0	0	2	3	0
CASUARIIFORMES																						
Emu	<i>Dromaius novaehollandiae</i>	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0
SPHENISCIFORMES																						
Humboldt's Penguin	<i>Spheniscus humboldti</i>	16	19	9	2	1	0	0	0	4	0	0	1	0	1	1	2	4	0	16	15	11
PELECANIFORMES																						
White Pelican	<i>Pelecanus onocrotalus</i>	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0
Dalmatian Pelican	<i>Pelecanus crispus</i>	5	5	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	5	4	0
CICONIIFORMES																						
Little Egret	<i>Egretta garzetta</i>	3	3	0	0	0	0	0	0	14	0	0	14	0	0	0	0	0	0	3	3	0
White Stork	<i>Ciconia ciconia</i>	2	2	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	2	1	0
Black Stork	<i>Ciconia nigra</i>	1	1	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	1	0
Waldraap Ibis	<i>Geronticus eremita</i>	11	9	9	0	0	0	0	0	10	0	0	1	1	0	1	1	0	7	9	9	10
Scarlet Ibis	<i>Eudocimus ruber</i>	3	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	3	0
Eurasian Spoonbill	<i>Platalea leucorodia</i>	2	2	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2	0
Chilean Flamingo	<i>Phoenicopterus chilensis</i>	13	10	25	0	0	0	0	0	4	0	0	2	0	0	0	0	0	0	13	10	27
Caribbean Flamingo	<i>Phoenicopterus ruber ruber</i>	16	14	25	0	0	0	0	0	9	0	0	1	2	1	0	0	0	0	14	13	33
ANSERIFORMES																						
Black-billed Whistling Duck	<i>Dendrocygna arborea</i>	3	2	0	0	0	0	2	0	0	0	0	0	2	0	0	0	0	0	3	2	0
Black-necked Swan	<i>Cygnus melanocoryphus</i>	1	2	0	0	0	0	0	0	3	0	0	0	0	0	1	0	0	2	1	2	0
Lesser White-fronted Goose	<i>Anser erythropus</i>	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0
Ross's Snow Goose	<i>Anser rossii</i>	1	1	0	0	0	0	1	0	1	0	0	1	0	0	0	0	0	0	2	1	0
Red-breasted Goose	<i>Branta ruficollis</i>	6	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	6	0
Hawaiian Goose	<i>Branta sandvicensis</i>	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0
Common Shelduck	<i>Tadorna tadorna</i>	2	4	0	0	0	0	0	0	0	0	0	0	1	4	0	0	0	0	1	0	0
Baikal Teal	<i>Anas formosa</i>	0	2	0	4	2	0	0	0	0	0	0	0	2	2	0	0	0	0	2	2	0
Falcated Teal	<i>Anas falcata</i>	5	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	3	0
Northern Shoveler	<i>Anas clypeata</i>	1	2	0	0	0	0	4	4	0	0	0	0	2	2	0	2	3	0	1	1	0
Chilean Pintail	<i>Anas georgica spinicauda</i>	1	2	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1	0
Red Shoveler	<i>Anas platalea</i>	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
Laysan Teal	<i>Anas laysanensis</i>	3	1	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	2	0	0
Meller's Duck	<i>Anas melleri</i>	1	1	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0
Garganey	<i>Anas querquedula</i>	1	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0
Chiloe Wigeon	<i>Anas sibilatrix</i>	1	4	0	0	0	0	0	0	0	0	0	0	0	0	0	1	4	0	0	0	0
Ringed Teal	<i>Callonetta leucophrys</i>	2	1	0	0	0	0	0	0	0	0	0	0	2	1	0	0	0	0	0	0	0
Marbled Teal	<i>Marmaronetta angustirostris</i>	4	5	1	0	0	0	5	5	16	1	1	10	1	1	1	3	1	0	4	7	6
Common Eider	<i>Somateria mollissima</i>	2	2	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	3	3	0
Baer's Pochard	<i>Aythya baeri</i>	3	3	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	3	2	0
Ferruginous Duck	<i>Aythya nyroca</i>	3	1	0	0	0	0	2	2	5	1	0	5	0	0	0	0	0	0	4	3	0
Tufted Duck	<i>Aythya fuligula</i>	4	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	1	0
Rosy-billed Pochard	<i>Netta peposaca</i>	3	2	0	0	0	0	0	0	0	0	0	0	0	0	0	3	2	0	0	0	0
Red-crested Pochard	<i>Netta rufina</i>	3	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	2	0
Mandarin Duck	<i>Aix galericulata</i>	20	13	0	0	0	0	1	2	2	0	0	2	0	4	0	1	2	0	20	9	0
Carolina Duck	<i>Aix sponsa</i>	4	6	0	0	0	0	2	6	0	0	0	0	1	2	0	1	1	0	4	9	0
White-winged Wood Duck	<i>Cairina scutulata</i>	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
Smew	<i>Mergus albellus</i>	3	2	0	0	0	0	3	1	3	0	0	3	0	1	0	0	0	0	6	2	0
Hooded Merganser	<i>Mergus cucullatus</i>	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0
Ruddy Duck	<i>Oxyura jamaicensis</i>	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	0
White-headed Duck	<i>Oxyura leucocephala</i>	1	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	3	2	0
FALCONIFORMES																						
Turkey Vulture	<i>Cathartes aura</i>	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1	0
American Black Vulture	<i>Coragyps atratus</i>	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0
Andean Condor	<i>Vultur gryphus</i>	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	0
Griffon Vulture	<i>Gyps fulvus</i>	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0
European Black Vulture	<i>Aegypius monachus</i>	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0
Crested Caracara	<i>Polyborus plancus cheriway</i>	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
Crested Caracara	<i>Polyborus plancus</i>	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
Mauritius Kestrel	<i>Falco punctatus</i>	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0
GALLIFORMES																						
Grey-headed Chachalaca	<i>Ortalis cinereiceps</i>	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0
Chinese Painted Quail	<i>Excalfactoria chinensis</i>	1	1	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	1	1	0
Red-legged Partridge	<i>Alectoris rufa</i>	1	2	0	0	1	2	0	0	13	0	0	9	0	1	4	0	0	0	1	2	2
Roullouil Partridge	<i>Roullulus roullouil</i>	3	4	0	0	0	0	4	2	4	0	0	4	1	0	0	1	1	0	5	5	0
Blyth's Tragopan	<i>Tragopan blythii</i>	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	0
Satyr Tragopan	<i>Tragopan satyra</i>	2	2	0	0	0	0	0	0	4	0</											

A black and white photograph of two white cockatoos perched on a thick, dark branch. The cockatoos are facing forward, with their heads slightly turned. They have white plumage and dark, hooked beaks. The background is dark and out of focus.

Luzon Bleeding-heart Pigeon

		STOCK 31/12/98			RECEIVED			BORN/H'CH			D.N.S. 30 DAYS			DEATHS OTHERS			DISPOSALS			STOCK 31/12/99		
		M	F	Y/?	M	F	Y/?	M	F	Y/?	M	F	Y/?	M	F	Y/?	M	F	Y/?	M	F	Y/?
CHELONIA																						
Malayan Box Turtle	<i>Cuora amboinensis</i>	1	3	7	0	0	0	0	0	2	0	0	0	0	0	1	0	0	0	1	3	8
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
Greek Tortoise	<i>Testudo graeca</i>	6	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	4	0
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
Red-legged Tortoise	<i>Geochelone carbonaria</i>	1	5	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	2	4	0
Aldabra Giant Tortoise	<i>Geochelone gigantea</i>	1	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0
Yellow-footed Tortoise	<i>Geochelone denticulata</i>	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0
Matamata Turtle	<i>Chelus fimbriatus</i>	1	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	4	0
CROCODYLIA																						
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
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
RHYNCHOCEPHALIA																						
Tuatara	<i>Sphenodon punctatus</i>	3	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	5	0
SAURIA																						
Sand Lizard	<i>Lacerta agilis</i>	3	3	7	0	0	0	0	0	14	0	0	0	0	0	0	0	0	0	3	3	21
Madagascar Giant Day Gecko	<i>Phelsuma madagascariensis grandis</i>	2	3	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2	1	0
Tokay Gecko	<i>Gekko gekko</i>	1	8	3	0	0	0	0	0	5	0	0	0	1	3	0	0	0	0	0	5	8
Leopard Gecko	<i>Eublepharis macularius</i>	3	13	2	0	0	0	0	2	26	0	0	1	0	2	0	0	8	13	3	5	14
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
Rhinoceros Iguana	<i>Cyclura cornuta</i>	1	3	0	1	0	0	0	0	0	0	0	0	0	1	0	0	1	0	2	1	0

		STOCK 31/12/98			RECEIVED			BORN/H'CH			D.N.S. 30 DAYS			DEATHS OTHERS			DISPOSALS			STOCK 31/12/99		
		M	F	Y/?	M	F	Y/?	M	F	Y/?	M	F	Y/?	M	F	Y/?	M	F	Y/?	M	F	Y/?
Plumed Basilisk	<i>Basiliscus plumifrons</i>	2	2	3	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	2	1
Collared Lizard	<i>Crotaphytus collaris</i>	1	1	0	0	1	0	0	0	0	0	0	0	1	2	0	0	0	0	0	0	0
Bearded Dragon	<i>Acanthodactylus vitticeps</i>	3	1	18	0	0	0	0	0	24	0	0	0	2	0	5	0	0	37	1	1	0
Eastern Water Dragon	<i>Physignathus lesuerii lesuerii</i>	1	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	3	0
Thailand Water Dragon	<i>Physignathus cocincinus</i>	1	5	0	0	0	0	0	0	9	0	0	1	0	1	1	0	0	2	1	4	5
Philippine Sail Fin Lizard	<i>Hydrosaurus pustulatus</i>	2	3	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2	1	0
Prehensile-tailed Skink	<i>Corucia zebrata</i>	5	3	0	0	0	0	0	0	1	0	0	1	2	1	0	0	0	0	3	2	0
Black and White Tegu	<i>Tupinambis teguixin</i>	0	1	0	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	1	3	0
Desert Monitor	<i>Varanus griseus konieczyi</i>	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
Salvador Monitor	<i>Varanus salvator</i>	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Komodo Dragon	<i>Varanus komodoensis</i>	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0
Helmeted Lizard	<i>Corytophanes cristatus</i>	0	0	0	0	0	6	0	0	0	0	0	0	0	0	3	0	0	0	0	0	3
Flap-neck Chameleon	<i>Chamaeleo dilepis</i>	0	0	0	2	2	0	0	0	0	0	0	0	1	1	0	0	0	0	1	1	0
SERPENTES																						
Sunbeam Snake	<i>Xenopeltis unicolor</i>	3	2	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	2	11
Royal Python	<i>Python regius</i>	2	1	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	1	0	0
Green Tree Python	<i>Chondropython viridis</i>	3	2	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	3	1	0
Cuban Boa	<i>Epicrates angulifer</i>	3	2	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	2	0
Brazilian Rainbow Boa	<i>Epicrates cenchria cenchria</i>	1	2	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	2	0
Jamaican Boa	<i>Epicrates subflavus</i>	1	4	11	0	0	0	0	0	0	0	0	0	0	2	1	0	0	0	1	2	10
Rubber Boa	<i>Charina bottae</i>	1	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0
Madagascan Boa	<i>Sanzinia madagascariensis</i>	4	4	1	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	3	3	1
Pacific Boa	<i>Candoia carinata</i>	1	3	0	0	0	0	0	0	0	0	0	0	1	3	0	0	0	0	0	0	0
Boa Constrictor	<i>Constrictor constrictor</i>	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0
Green Anaconda	<i>Eunectes murinus</i>	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0
Honduran Milk Snake	<i>Lampropeltis triangulum</i>	2	3	2	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	2	3	6
Red-tailed Racer	<i>Gonyosoma oxycephala</i>	0	0	0	1	1	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0
Central American Indigo Snake	<i>Drymarchon corais melanurus</i>	2	2	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	2	1	0
Indian Cobra	<i>Naja naja</i>	1	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	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	1	0	0
Gaboon Viper	<i>Bitis gabonica</i>	1	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	1	0	3
Tropical Rattlesnake	<i>Crotalus durissus colileneatus</i>	2	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0
Aruba Island Rattlesnake	<i>Crotalus unicolor</i>	1	3	3	0	0	0	1	0	10	0	0	1	1	1	1	0	0	10	1	2	1
		78	115	68	7	10	11	1	2	95	0	0	4	16	30	14	0	9	62	70	88	94
		261			28			98			4			60			71			252		
No of specimens		252																				
No of species		49																				
No of species at year end		47																				

AMPHIBIANS STOCKLIST

aq indicates species kept by the Aquarium

		STOCK 31/12/98			RECEIVED			BORN/H'CH			D.N.S. 30 DAYS			DEATHS OTHERS			DISPOSALS			STOCK 31/12/99		
		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>Ambystoma mexicanum</i>	aq	0	0	44	0	0	0	0	0	0	0	0	0	0	1	0	0	32	0	0	11
do (White Form)	"	aq	0	0	100	0	0	0	0	0	0	0	0	0	0	1	0	0	79	0	0	20
Japanese Fire-bellied Newt	<i>Cynops pyrrhogaster</i>	aq	0	0	8	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	6
Red Eyed Tree Frog	<i>Agalychnis callidryas</i>	0	0	0	0	0	40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	40
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
Black and Green Poison Arrow Frog	<i>Dendrobates auratus</i>	0	0	6	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	7
Yellow Striped Poison Arrow Frog	<i>Dendrobates leucomelas</i>	0	0	8	0	0	0	0	0	32	0	0	0	0	0	0	0	0	12	0	0	28
Argentine Ornate Horned Frog	<i>Ceratophrys ornata</i>	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
African Bullfrog	<i>Pyxicephalus adspersus</i>	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	0
South African Clawed Frog (Albino)	<i>Xenopus laevis</i>	aq	4	4	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	3	3	0
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
Surinam Toad	<i>Pipa pipa</i>	aq	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6
		12	12	190	0	0	40	0	0	65	0	0	0	0	0	4	1	1	123	11	11	136
		214			40			65			0			4			125			158		

Number of specimens 158
Number of species 13

FISHES STOCKLIST

* Denotes species bred in 1999

		STOCK 31/12/99		STOCK 31/12/99	
OSTEOGLOSSIDAE					
South American Arowana	<i>Osteoglossum bicirrhosum</i>	3		Cherry Barb	<i>Capoeta titteya</i>
Black Arowana	<i>Osteoglossum ferreirai</i>	2		Goldfish (various)	<i>Carassius auratus</i>
Asiatic Arowana	<i>Scleropages formosus</i>	4		Mirror Carp	<i>Cyprinus carpio</i>
MORMYRIDAE				Koi Carp	<i>Cyprinus carpio</i>
Blunt Jaw Elephant Trunkfish	<i>Gnathonemus elephas</i>	3		Omani Blind Cave Fish	<i>Garra barreimiae</i>
Elephant Trunkfish	<i>Gnathonemus ibis</i>	3		Golden Orfe	<i>Idus idus</i>
Long-nosed Elephant Trunkfish	<i>Gnathonemus petersi</i>	11		Pla Eesok	<i>Probarbus jullieni</i>
Angolan Elephant Trunkfish	<i>Campylomormyrus cassiaicus</i>	4		Black Ruby Barb	<i>Puntius nigrofasciatus</i>
Down Poker	<i>Campylomormyrus rhynchophorus</i>	4		Golden Rudd	<i>Scardinius erythrophthalmus</i>
Short-nosed Elephant Trunkfish	<i>Marcusenius angolensis</i>	4		CYPRINODONTIDAE	
Short-faced Elephant Trunkfish	<i>Mormyrus longirostris</i>	1		Nosy Bè Killifish	<i>Pachypanchax homalonotus</i>
Round-nosed Elephant Trunkfish	<i>Pollimyrus castelnaui</i>	3		Killifish	<i>Pachypanchax sakaramyi</i>
CHARACIDAE				Butterfly Goodeid	<i>Ameca splendens</i>
Blind Cave Fish	<i>Astyanax jordani</i>	47		Bold Characodon	<i>Characodon audax</i>
Red-eyed Characin	<i>Arnoldichthys spilopterus</i>	2		Golden Saw-finned Goodeid	<i>Skiffia francesae</i>
Long-finned Characin	<i>Brycinus longipinnis</i>	150		Solo Goodeid	<i>Xenoporphus captivus</i>
Congo Tetra	<i>Phenacogrammus interruptus</i>	1		Crescent Zee	<i>Zoogoneticus tequila</i>
Gold Tetra	<i>Hemigrammus rodwayi</i>	3		Swordtail	<i>Xiphophorus clemenciae</i>
Rummy-nosed Tetra	<i>Hemigrammus bleheri</i>	15		HEMIRAMPHIDAE	
Emperor Tetra	<i>Nematobrycon palmeri</i>	3		Halfbeak	<i>Nomorhamphus ebrardti</i>
HEMIDONTIDAE				Halfbeak	<i>Nomorhamphus ravnnaki australe</i>
Dwarf Pencilfish	<i>Nannostomus marginatus</i>	5		COBITIDAE	
CYPRINIDAE				Clown Loach	<i>Botia macracantha</i>
Silver Shark	<i>Balantiocheilus melanopterus</i>	6		Dwarf Loach	<i>Botia sidhimunki</i>
				ELECTROPHORIDAE	
				Electric Eel	<i>Electrophorus electricus</i>

Photo Chris West



Giant Panda

In the next twelve month cycle, the newly integrated Divisional team will work to prevent extinction of animals and plants. There are many ongoing tasks to complete, others to start, new horizons of outreach and research to explore and higher welfare standards to attain.

Within the Zoo, we will be starting to implement an action programme comprising a Five year *Animal Collection Plan* exercise and a longer-term *Physical Master Plan*. The aim of the *Collection Plan* is to increase the proportion of species that we hold and breed that are of **urgent** conservation relevance. Priority will be given to species for which there is a need for 'insurance' conservation breeding; and which have a realistic longterm chance of reintroduction such as the Mallorcan Midwife Toad and St Lucia Parrot. Selection criteria also include educational and research value and, of course, attractiveness to our visitors. The *Physical Master Plan* translates as a development exercise for improvement of the whole Zoo including landscaping and botanical aspects, engineering infrastructure and visitor amenities. The conservation context relates to the educational themes of habitat, ecology, geography and biology.

Projects that will unfold in 2000 are the completion of the new Elephant Area (with its safe ha-ha's, pool and landscaping) the *Roman Garden*, planting and stocking of the *Islands in Danger* (notably with Komodo Dragon and Birds of Paradise) and creating a much more arboreal environment for our unique chimpanzee colony on their large island. Other projects in the design phase include the *Spirit of the Jaguar*. This, of course, will be world-beating in terms of conservation, welfare and education and a fascinating visitor experience.

Photo C. Dani, I. Jeske Zoo de Doue



Jaguar

Spirit of the Jaguar will soon move to the building phase. In addition, we are planning to improve our Black Rhino accommodation in order to continue and expand our excellent breeding record and demonstrate the fauna and flora of an East African savannah area. Longer-term concepts include upgrading accommodation for Orang utans, Parrots and Sealions and developing botanical and aquatic conservation showcases. External fundraising is being investigated for a new veterinary facility. This would support our animal health and welfare programme and allow for benign research with our many scientific co-workers.

For every major development programme within the Zoo we are endeavouring to set up 'twin' outreach projects. For example, we are supporting *Save the Rhino's* work in Kenya; a wide range of projects in the Philippines (through Dr William Oliver of FFI); and a number of Central and South American initiatives relating to Jaguars and their habitat. Part of the excitement of these programmes lies not only in their direct conservation value but in the additional and sometimes unexpected opportunities to contribute that they present. For example, a year ago we had no idea that we were going to be invited to twin with Chengdu Giant Panda Breeding Base – with the tremendous challenge of supporting Sichuan flora and fauna in their natural habitat. Closer to home, we are embarking on ambitious, but realistic, plans to develop our outer estate as a Regional Wildlife Park for British native species such as the Harvest Mouse. Adopting a 'green' philosophy of environmental responsibility overall, we are carrying through a whole series of other eco-friendly policies.

In short, we are a hugely busy and growing conservation organisation which also manages a 'five star' Conservation and Educational Zoo. From this one of our most important aims in the year 2000 is to publish, on paper and electronically, *Prospectus* material which will explain our mission, successes and further capabilities to a wider audience – look out for it!

Chris West, Chief Curator

Photo Ian Walker



Harvest Mouse

DIRECTOR'S DEPARTMENT

Director of Chester Zoo and Chief Executive
Professor Gordon
McGregor Reid, BSc, PhD, CBIOL, FIBiol

Director's Assistant and Oakfield House Manager
Frances Jaques, BA, Assoc IPD

PERSONNEL DIVISION
Personnel Manager
Jayne Quinn, BA, PG Dip HRM, Dip RSA, MIPD

Personnel Assistant
Carol Karim+

Telephonists
Carol Karim+
Marie Lewis
Eunice Manning

FINANCE AND ADMINISTRATION DIVISION
Head of Division and Company Secretary
Michael Johnson, MA, FCA, FCMA, MIMC

Financial Controller (Designate)
Alan Sykes, FCA, Dip BA

Management Accountant
Richard Barnett

IT Systems Supervisor
Philip Morris, HNC, Dip AMITA

Accounts Supervisor
Carol Campion

Accounts and Payroll
Chris Capner
Sue Davies
Elaine Mulreay *
Barbara Stewart*

Cash Office Supervisor
Carmel Pearson

Cash Office and Gate Cashiers
Lorraine Richardson
Joyce Lucas
Julie Bird
Sylvia Delves*

EDUCATION DIVISION
Head of Education Services and Head of Division
Stephen McKeown, BSc, PGCE

Divisional Secretary
Teresa Gibson, BA
(Resigned January 2000)

Librarian
Jane Woodward, BA, ALA*

Administration and Teachers
Dominic Briffa, BSc, PGCE
Mark Powleson, BA
Sara Ruks, BSc, PGCE
Jason Sheridan, BSc, PG Dip, PGCE
Gill Waters, Cert Ed#

Presenters
Fiona Angwin, BSc*
Debbie Edgeley, BA *
Myfanwy Griffiths, BSc, MSc*
Elizabeth Marrs, BA, PGCE*
Vicky Powell, BSc*
Karen Willson BA, MSc

Interpretation Consultant
Ian Hughes*

Education Volunteers

Thelma Ackroyd
Olga Adderton
Mary Ball
Julie Bates
Cynthia Bergstrand
Jane Bie
Jean Booth
Stuart Booth
Carole Bowness
Violet Brickland
Eric Chesworth
Doreen Coulson
Janis Coulson
Brain Cox
Margaret Cox
Colin Davies
Shirley Davies
Margaret Dromgoole
Joyce Duxbury
Peter Duxbury
Hazel Edwards BSc, PGCE
Will Edwards Sqn. Ldr (RAF ret'd)
Bett Ellwood
Mavis Fazey
Meical Fieldhouse†
May Fielding
Dorothea Fisher
Bill Fletcher
Margaret Fletcher
Dave Gerrard
Tracey Green
Annabelle Grey†
Beryl Griffiths
Gill Hanks
Bill Hanks†
Heather Harrison
Rose Harrison
Janet Henderson
Di Holbrook
Neil Holbrook
Margaret Hoerswill
Beryl Howard
Don Howard
Geoffrey Knapp
Trudy Knight
Annette Latham
Anne Lighten
Margaret Lister
Bill Longworth
Iris Markham
Joan Mead†
Ian Mellor
Maureen Miles
Alice Milner
Bill Milner
Sarah Molyneux
Pam Morrey
Jean Needham
Mollie Nevell
Joan Norman
Ian Ogden
Evelyn Parkinson
Brenda Passey†
Sue Patch
Eileen Perry
June Potter
Lynn Potts
Sheila Price MBE
Vicky Pugh†
Prof Ron Ackroyd PhD, D Eng, FIEE
Margaret Rushton†
Allan Saxton†
Jean Schofield
Edna Scovell†
Jean Seddon
Glenys Sherwin
Margaret Shilliday
Joan Springett
Neil Stuart†
Margaret Stubbs
Debbie Tatum†
Geoffrey Taylor†
Ivy Thompson
Keith Thompson
Alison Todd
Debbie Tong
Ann Turley
Vikki Turtle
Geoff Varley
Irene Varley
Dennis Vickers
Derenda Walters
Maurice Whitehead
Alan Whitwell

Stella Wilkinson
Noel Williams
Irene Woods

† = Left during 1999
‡ = died in service during 1999

ANIMAL AND PLANT CONSERVATION DIVISION

Chief Curator and Head of Division
Chris West, BVetMed, MRCVS, CBIOL, MIBiol

Divisional Secretary
Karen King-Sharp

Administration
Louise Selfe*#

General Curator: Higher Vertebrates and Research
Dr Roger Wilkinson, BSc, PhD

General Curator: Operations
Mark Pilgrim, BSc

General Curator: Lower Vertebrates and Invertebrates
Vacant

Registrar
Penny Rudd, BA, Dip RSA

Projects Liaison Manager
Neil Spooner

Conservation Co-ordinator
Vacant

Research Officer
Stephanie Wehnelt, Dipl.Biol.*#

Veterinary Resident
Stephanie Sanderson, MA, Vet MB, MRCVS

Veterinary Laboratory Technician
Gail Mills, BSc (resigned January 2000)

Student Co-ordinator
Alan Woodward, Dip Anim Mgt+

Records Administrator
Dave Brunger, Dip Anim Mgt

Team Leaders
Andrew Bagnall, BSc, PGCE
Andrew Lenihan
Mick Jones
Chas MacKenzie, Dip Anim Mgt
Wayne McLeod
Tim Rowlands
Alan Woodward, Dip Anim Mgt+

Keeping Staff
James Andrewes
Susanne Baumler
Shane Blake
Jason Boyer
Mark Cleave, Dip Anim Mgt
Nick Davies, MSc
Karen Davies
Joyce Dodd
John Frost, Dip Anim Mgt
Dave Hall
Glyn Hayes, GNVQ
Geoff Harper, Dip Anim Mgt
Paul Howse, BA, Dip Anim Mgt
Richard Hughes, BA

Darren Langford, Dip Anim Mgt
Carl Laven
Chris Lavender
Claire Lightfoot, Dip Anim Mgt

Alan Littlehales, Dip Anim Mgt

Leanne Lowton
Simon Marsh

Nick Manning
Phil Molyneux, Dip Anim Mgt

Anne Morris, Dip Anim Mgt

Paul Morris, Dip Anim Mgt

Niall Ormerod
Belinda Porter

Don Plant
Beryl Ramsay

Allan Reid, Dip Anim Mgt, SVQ3

Suzanne Thomas, BSc

James Thwaite, BSc, Dip Anim Mgt

Steve Williams, Dip Anim Mgt

John Willis
Andrew Woolham

Chris Yarwood, Dip Anim Mgt

Herpetologist
Isolde McGeorge

Herpetology Keeping Staff
Sara Cocks, BSc
Steven Nash, BSc

Aquarist
Mike Crumpler

Aquarium Keeping Staff
Justin Bell, Dip Anim Mgt
Ray Packwood, Dip Anim Mgt

Animal Supplies Manager
Anthony Hutchinson

Animal Supplies Staff
Ken Newey
Mervyn Ranasinghe

Pest Controller
Colin Humphries*

General Curator: Horticulture and Botany
Mark Sparrow, Kew Dip Hort, CGLI Hort

Supervisor, Botanical Horticulture
Mark Hargreaves, NVQ2 (From Jan 2000)

Horticulture Staff
Keith Done
Rob Duncan, NVQ2
Barry Grain, NVQ2
Paul Leach, NVQ2
Ray Newey
John Richardson, NVQ2
Nigel Wood, NVQ2

ESTATES DIVISION
Estate Engineer and Head of Division
Steve O'Brien, HNC, Dip SURV

Divisional Secretary
Barbara Williams HNC#

Temporary Project Engineer
Keith Woods, HNC, MBIAT#

CAD Technician
Paul Evans, BSc, HNC#

Maintenance Manager
Ray Morrison, AIMBM, CGLI, NVQ3

Foreman, Building and Civil
Paul Lindop, HNC

Foreman, Mechanical and Electrical
Brian Goss, CGLI

Maintenance
Ian Blythe
Denis Kinsella, CGLI
Anthony Lennon
Bernard McCone, CGLI
Kevin McDonagh
Richard Read, COSIRA
George Scott, CGLI
Jason Spencer, NVQ3
Nick Young, CGLI

Site Supervisor
Peter Owens

Site Staff
Chris Bridges
Dave Holder

Transport and Plant Manager
Peter Bartley, HNC

Health and Safety Officer
Don Dinning*

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

Promotions Manager
Vacant

Office Manager
Vacant

Development Manager
John Regan, BA, MA, MICFM

Assistant Development Manager
Hazel Russell, BA, HNC

Membership and Adoptions Officer
Maureen Allsopp

Adoptions and Secretarial Support
Pauline McKee

VISITOR SERVICES DIVISION
Visitor Services Manager and Head of Division
Liz Child (April 2000)

Events Manager
Vacant

Events Office Manager
Jane Lawson

Events Assistant
Taj Pinder*

General Catering Manager
Sue Clews^

Deputy Catering Manager
Brian Lloyd^

Supervisors
Johanna Glossop^
Richard Jobson, BA^
Phyllis Keay^
Debbie McLeod^
Ian Patten (& Chef)^
Barbara Smith^

Chefs
Liam Adamson^
Darren Davies^
Mark Ormerod^

General Catering
Jeanette Barlow^
Jo-Anna Birmingham^
Dee Jones^
Darren Keay^^
Tracey Pleavin^

Catering Stores
Mark Fallon
Brendan O'Brien

Amenity and Gardens Manager
Chris Williams, CGLI Hort

Amenity and Gardens Supervisors
Peter Hughes
Peter Thompson

Senior Amenity and Gardens Assistants
Mark Hughes
Darren Paech

Amenity and Gardens Staff
Hazel Dean
Ruth Deane
Wesley Evans
Stephen Gilyeat
John Green
Paul Harrison, NVQ2
Ray Head
Gwyn Hewitt, NVQ2
Richard Hoddinott, NVQ3
Peter Hutchins
Cyril Jones
Malcolm Lloyd
Al Millington, NVQ2
George O'Connor
Peter Powell
Peter Quayle
Lyn Quirk*
Derek Toms
Steve Rowlands

Retail Sales Manager
Alan Jones

Assistant Retail Sales Manager
Susanne Stanton

Buyer and Merchandise Controller
Wendy Locker

Buyer and Retail Supervisor
Celia Long

Retail Sales Assistants
Janet Aldis
Rachel Bestwick
Brenda Jones
Bill Robson
Alison Hughes*
Elaine Bunn
Daniel Newcombe

Volunteer Disabilities Awareness Advisor
Michael Elkerton

1999 STAFF ASSOCIATION
Committee Chairman and Retail and Catering
Celia Long

Vice Chairman and Keepers
Andrew Lenihan

Gardens and Groundstaff
Paul Harrison

Keepers
Sarah Cocks

Maintenance
Paul Lindop

Education and Administration
Mark Powleson

JOB RELATIVITIES COMMITTEE

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

COMMITTEE OF REPRESENTATIVES FOR EMPLOYEE SAFETY (CRES)

Committee Chairman
Susanne Stanton

Members
Mark Cleave
Brian Lloyd
Ray Morrison
Mark Pilgrim
Chris Williams

LEAVERS

Lois Bassett
Nigel Brooks
Andrew Burton
Richard Casson
Julie Croucher
Linda Davenport
Gary Dodd
Nicholas Ellerton
Teresa Gibson
Jonathan Humphreys
Jeanette Hutchinson
Sandra Jebb
Leigh Jones
Paul Kitching
Catherine McLoughlin
Gail Mills
Fiona Nelson
Danny Reading
Gaynor Robinson
Dan Stevenson
Bruce West
John Wilkinson

RETIRED 1999
John Johnson

DEATH IN SERVICE 1999
Phil Whalley

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

Professor Gordon McGregor Reid, Director

- President, British Cichlid Association
- Visiting Professor, Department of Veterinary Clinical Science and Animal Husbandry, University of Liverpool
- Member, World Zoo Organisation (IUDZG/WZO); and Co-ordinator, WZO Marketing Committee
- 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 Conservation Council, 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 and Aquatic Invertebrate Taxon Advisory Group
- Member, Executive Board, European Union of Aquarium Curators (EUAC)
- Chairman, CREO Fishes Advisory Panel, Center for Biodiversity and Conservation, American Museum of Natural History, New York
- Member, Scientific Committee, International Aquarium Congress, Oceanographic Museum, Monaco
- Member, British Association for the Advancement of Science
- Member, Council, Association of Leading Visitor Attractions (ALVA)

Chris 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, North West Committee
- Member, UK Zoo Federation Bat Monitoring Group

Dr Roger Wilkinson, General Curator: Higher Vertebrates and Research

- Honorary Research Fellow, University of Keele
- Member, Council, Avicultural Society
- Scientific Advisor, World Parrot Trust
- Member, Committees of World Pheasant Association and Congo Peafowl Trust
- Member, International Management Committee for the Mountain Peacock Pheasant
- Member, Joint Management of Species Committee, Federation of Zoological Gardens of Great Britain and Ireland; and Member, Zoo Federation Research Group
- Member, British Ornithologists' 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

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, The Federation of Zoological Gardens of Great Britain and Ireland
- A Director, The North West Tourist Board
- Alternate Member, Council, Association of Leading Visitor Attractions

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
- Chairman, Education Committee, The Federation of Zoological Gardens of Great Britain and Ireland
- Member, Council, The Federation of Zoological Gardens of Great Britain and Ireland
- Member, Educational Employers' Liaison Group, Manchester Metropolitan University
- Member, EAZA Exhibit Design and Education Committee

Penny Rudd, Registrar and Research Administrator.

- Secretary/Co-ordinator, Fauna and Flora International, North West Group
- Member, Reaseheath College of Agriculture Animal Care Course Industrial Liaison Group
- Member, Cheshire Wildlife Trust Personnel Group
- Member, Liverpool University/Chester College Steering Group for BSc in Animal Behaviour and Welfare and HND in Animal Behaviour
- Harvest Mouse Co-ordinator, Cheshire Wildlife Trust

Jayne Quinn, Personnel Manager

- Member, Advisory, Conciliation and Arbitration Service (ACAS) Chester Personnel Group

Chris Vere, Marketing Manager

- Member, Marketing and Benchmarking Committees, Association of Leading Visitor Attractions
- Joint Secretary, *Favourite Days Out* Tourist Consortium Group
- Member, Committee, Chester (Hapsford) M56 Tourist Information Centre Steering Group
- Member, Committee, *Cheshire Oaks* Tourist Information Point Steering Group.

Stephanie Wehnelt, Research Officer

- Member, Research Group, The Federation of Zoological Gardens of Great Britain and Ireland

Alan Woodward, Team Leader

- Member, AFRICAT North West 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 Co-ordination, page 46].



More than 50 lectures were given in our lecture theatre during the year, together with numerous presentations to schools and colleges organised by Education and Marketing Divisions. The Director and Animal Division staff gave several lectures to University Seminars and Zoological Conferences. FFI = Fauna and Flora International, MM = Members' Meeting, SM = Special Meeting

9 Jan	<i>The Ape That Stood Upright: The First Steps of Human Evolution</i> Professor Peter E Wheeler (MM)	17 Sep	<i>An Evening of Primate Conservation</i> Stephen Brend (FFI)
5 Feb	Cheshire Tourism Meeting (SM)	2 Oct	British Chelonia Group Symposium (SM)
13 Feb	<i>Conservation and Exhibition</i> Mark Pilgrim (MM)	21 Oct	<i>Biodiversity and Conservation in the Philippines</i> William Oliver (FFI)
19 Feb	<i>Conservation in the Galapagos</i> Chris McFarling (FFI)	22 Oct	Chester City Council, Environmental Planning Department (SM)
26 Feb	Veterinary Meeting, Liverpool University (SM)	23 Oct	<i>Alligators and Crocodiles: Marsh Monsters or Swamp Sophisticates?</i> Professor Mark Ferguson (MM)
13 Mar	<i>My First Twelve Months</i> Chris West (MM)	5 Nov	Tourism Forum, Chester City Council Development (SM)
19 Mar	<i>Badgers of the New Forest</i> Alistair Kilburn (FFI)	16 Nov	Volunteers' Meeting (SM)
23 Mar	<i>Diseases of Big Cats and Pinnipeds</i> Greendale Laboratories (SM)	19 Nov	<i>African Hunting Dogs</i> Alistair Pole (FFI)
10 Apr	<i>Zoo Review</i> Professor Gordon McGregor Reid (MM)	20 Nov	National Aquarium Workshop (SM)
16 Apr	<i>Nepal - A Himalayan Journey</i> Tim Loseby (FFI)	21 Nov	Royal Photographic Society (North West Region) and Chester Photographic Society - RPS slide portfolio (SM)
23 Apr	Navajo Indian Evening (SM)	27 Nov	<i>Messages: The Art and Science of Interpretation in the Zoo</i> Stephen McKeown (MM)
22 May	AGM of the NEZS (MM)	11 Dec	<i>Chester Zoo, Past, Present and Future</i> Professor Gordon McGregor Reid (MM)
14 Jun	<i>AFRICAT</i> Lise Hanssen (FFI)	17 Dec	International Veterinary Students Association Symposium (SM)
17-18 Jun	ABWAK Parrot TAG Meeting (SM)		
12 Jul	<i>Zoo Forum</i> (SM)		

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 comparable programmes organised by the European Union of Aquarium Curators (EUAC).

Taxon

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

Chair

Dr Roger Wilkinson
Prof Gordon McGregor Reid (Co-chair)

BREEDING PROGRAMME CO-ORDINATORS

Chester Zoo is an active participant in 15 national Federation Joint Management of Species Programmes (JMSPs) and international European Endangered Species Programme (EEP) studbooks 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)
Philippine Sailfin 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
Isode McGeorge
Justin Bell
Justin Bell assisting Dr Peter Burgess
Justin Bell assisting John Jarvis
Ian Hughes
Ian Hughes

**THIRTY OF THE CONSERVATION OUTREACH, RESEARCH AND WELFARE PROJECTS
SUPPORTED BY CHESTER ZOO IN 1999**

Subject	Co-ordinator/ Researcher	Details
Philippine Conservation	Dr William Oliver Fauna and Flora International (FFI)	West Visayas and Polillo Island projects. Hornbill educational posters
Gashaka Gumti Nigeria	Richard Barnwell Worldwide Fund for Nature (WWF)	Building of Research Accommodation
Mexican Biodiversity	Dr R Pineda Lopez and Dr Contreras MacBeath	Visit of Mexican Biologists to North West Universities, on Biotic Resources project
Zoo Outreach Organisation, India	Sally Walker	Zoo Outreach Organisation and Asian Chiroptera network
Black Rhino Translocation	<i>Save The Rhino</i> / Kenya Wildlife Service	Translocation of 20 Black Rhinos to Tsavo National Park, Kenya
Palawan Peacock Pheasant Study	Dr Stuart Marsden Manchester Metro U	Distributional Survey of Palawan Peacock Pheasants on Palawan, The Philippines
Oxford University/ UPLB Polillo '99	Katie Hampson and colleagues	Study of the herpetofauna of Polillo Island, The Philippines
Cambridge University / Yunnan '99	Marcus Eichorn and colleagues	Study of snub-nosed monkeys in Yunnan, China
Newcastle University / Bia '99	Hazel White	Survey of endangered primates in Bia Forest, Ghana
AFRICAT Foundation	Lise Hanssen	Cheetah and Leopard Conservation, Namibia
African Hunting Dog Study	Alistair Pole	Study of African Hunting Dogs, Zimbabwe
Rio de Janeiro Primate Centre	Rio de Janeiro Primate Centre	Operational funding support
CREO Handbook	Committee for Recently Extinct Organisms (CREO)	Support of publication costs. CREO Center for Biodiversity Conservation, American Museum of Natural History, New York
Mycobacterium Studies	Dr Heather Hall Zoological Society of London (ZSL)	Research on mycobacterium disease in African cichlid fishes
Chimpanzee study	Dr Filippo Aureli	Research into social dynamics of Chimpanzees at Chester
Asiatic Elephant Study	Dr Paul Rees	Research on behaviour of Asiatic Elephants at Chester
Iron storage in Toucans	Adrian Fowler, Bristol Vet School	Research on iron storage disease in Toucans
Monk Seal Conservation	Hellenic Society	Support for study and protection of Mediterranean Monk Seals, Greece
Pulau Banggai Reefs	Kevin Welch	Greenforce Expedition, Malaysia
China Sea Coral Reef Biodiversity	Catherine Spence	Greenforce Expedition, Malaysia
Kafue Park Biodiversity	Suzanne Ryan	Greenforce Expedition, Zambia
21 st Century Tiger	Sharon Ament, Zoological Society of London (ZSL)	Sponsoring funding support, India
Birds to Watch 3	Birdlife International	Sponsoring dissemination of copies of BTW 3 in 3 rd World
Operation Wallacea Indonesia	Anna Easton, Nottingham University	Expedition to Sulawesi
Harvest Mouse Project	Penny Rudd	Internal project with Cheshire Wildlife Trust
Chester Zoo Biodiversity Survey	Chris Mahon	Cheshire Wildlife Trust survey of Zoo lands and ponds
Maned Wolf Study	Kathryn Humphreys	Study of Maned Wolves in UK collections
Kimberley '99	Sarah Dixon and Katharine Nugent	Newcastle University Expedition to Australia
Shark Husbandry Manual	Dr Mark Firth EUAC European Elasmobranch Society	Support for publication costs
Responsible Marine Aquarists' Manual	Dr Elizabeth Wood Marine Conservation Society	Support for publication costs

We are grateful to 83 Research Associates and Students who undertook on site research

First Name	Last Name	Qualification	Subject	University/College	Zoo area of study
Dr Filippo	Aureli	Research Assoc	Primate behaviour	Liverpool John Moores	Chimpanzees
Robert	Austin	BSc	Zoology	Aberdeen	Tuata, social organisation
Laura	Barfoot	BSc	Geography	Hull	Carnivores, enrichment
Lois	Bassett	MSc/Research Assoc	Animal Behaviour and Welfare	Edinburgh	Mandrills
Emma	Baxter	BSc	Behavioural Ecology	Manchester Metro	Primates, species interactions
Samantha	Beran	BSc	Animal Behaviour and Welfare	Chester C	Tigers
Lynda	Birke	Research Assoc	Orang utan behaviour	Independent (Leahurst)	Orang utans, enrichment, welfare
Mary Louise	Blanchard	MSc	Human Anatomy	Liverpool	Primates, species interactions
Minna	Bonkanen	BSc	Zoology	Liverpool	Chimpanzees, communication
Emily	Bradley	MSc	Biological and Earth Sciences	Liverpool John Moores	Macaques, oestrus, female behaviour
Peter	Brown	BA	Human Sciences	Durham	Primates, competition, enclosure utilisation
Rachel	Brown	BSc	Animal Behaviour	East Anglia	Elephants
Richard	Brown	PhD	Biology	Leeds	Goats, phylogeny
Lesley	Carlile	MSc	Behavioural Ecology	Manchester Metro	Lemurs, post conflict behaviour
Sharon	Chawke	BSc	Behavioural Ecology	Manchester Metro	Meerkats, visitors, enrichment
Elizabeth	Clarke	BSc	Animal Behaviour	East Anglia	Marmots, social organisation
Jo	Clarke	MSc	Applied Animal Behaviour	Edinburgh	Coatis, dominance, husbandry
Odette	Cousin	BSc	Biology	Imperial C, London	Visitor survey
Nichola	Crummack	BSc	Behavioural Ecology	Manchester Metro	Marmots, territoriality
Rebecca	Cunningham	BSc	Applied Biology	Liverpool John Moores	Meerkats, enrichment, visitors
Paul	Curran	BSc	Zoology	Wales, Bangor	Tigers, enrichment
Joanna	Dally	BSc	Biology	Liverpool	Chimpanzees, stress and tension coping
Kathryn	Dransfield	BSc	Behavioural Ecology	Manchester Metro	Tigers
Lauren	Duggan	BA	Design Studies	Salford	Animal themes
Debbie	Edgeley	BSc	Behavioural Ecology	Manchester Metro	Lions, enrichment
Gwendoline	Everton	BSc	Animal Behaviour	Chester C	Elephants, calf behaviour
Mandy	Farr	BSc	Animal Behaviour	Chester C	Elephants, communication, calf behaviour
Andrea	Fidgett	PhD	Zoology	Jersey	Parrots, nutrition
Mark	Foster	BSc	Animal Behaviour	Liverpool John Moores	Orang utans, enrichment
Hayley	Francis	BSc	Behavioural Ecology	Manchester Metro	Chimpanzees, dominance
Georgina	Frodsham	BSc	Applied Biology	Liverpool John Moores	Chimpanzees, dominance
Gordon	Guthrie	MEng	Engineering	Strathclyde	Owls, enrichment
Lynn	Hallam	BSc	Biology/Psychology	Bolton Institute	Lemurs, sub-species comparison
Lisa	Hannah-Stewart	MSc	Evolutionary Psychology	Liverpool	Chimpanzees, communication, coalition
Sarah	Harris	BSc	Animal Behaviour	East Anglia	Hornbills, breeding, husbandry
Timothy	Harris	BSc	Zoology	Wales, Aberystwyth	Breeding programmes
Stephen	Herald	BSc	Environmental and Behavioural Biology	St Andrews	Sealions, fasting behaviour
Kathryn	Hill	MSc	Evolutionary Psychology	Liverpool University	Orang utans, communication
George	Hilton	BVSc	Veterinary science	Leahurst, Liverpool	Orang utans, Lions, Maned Wolves
Kirsty	Hosford	BVSc	Veterinary Science	Leahurst, Liverpool	Otters, Maned Wolves, Zebras
Kathryn	Humphreys	BSc	Environmental Science	Chester C	Maned Wolves, husbandry
Damian	Jensen	MSc	Behavioural Ecology	Manchester Metro	Lemurs, parental care, mate choice
Neil	Jordan	BSc	Behavioural Ecology	Manchester Metro	Zebra, dominance, Przewalski's Horses, husbandry
Rosie	Lewis	BVSc	Veterinary Science	Leahurst, Liverpool	Elephants, Bats
Deborah	Lawlor	BSc	Zoology	Liverpool	Przewalski's Horses, dominance, conflict
Joanna	Lawton	PhD	Zoology	Chester C	Blackbuck, husbandry, welfare
Jennifer	Litten	BSc	Applied Zoology	Liverpool John Moores	Macaques, post grooming behaviour
Christine	Livesey	BSc	Zoology	Liverpool	Lemurs, aggression
Adele	Lloyd	BSc	Behavioural Ecology	Manchester Metro	Scimitar-horned Oryx, social organisation
Maria	Lloyd	HND	HND Applied Biology	Sparsholt C	Tigers, enrichment
Rebecca	Long	BSc	Psychology/Theology	Hope C Liverpool	Chimpanzees, parental care
Hazel	Lord	MSc	Conservation Biology	Manchester Metro	Bats, foraging
Neil	Lovick	BSc	Leisure Management	Bolton Institute	Marketing strategies
Saul	Malloy	MPhil/PhD	Zoology	Bolton Institute	Lemurs, conflict
Gillian	McManus	MEng	Engineering	Strathclyde	Parrots, husbandry
Heidi	Mitchell	MSc	Zoology	East Anglia	Tigers, enrichment
Michael	Murray	MEng	Engineering	Strathclyde	Carnivores, enrichment
Marloes van der	Ouderaa	BVetMed	Veterinary Medicine	Royal Veterinary C, London	Wallabies, husbandry, welfare
Rachel	Payne	BSc	Zoology	Liverpool	Orang utans, locomotion
Minna	Ponkanen	BSc	Human Evolution	Liverpool	Chimpanzees, communication
Kari Rae	Radbourne	BSc	Zoology	Liverpool	Zoo Education
Dr. Paul	Rees	Research Assoc	Zoology	Salford	Elephants, husbandry, social organisation
Abi	Rosenbloom	MSc	Environmental Biology	Chester C	Congo buffalo, welfare, enrichment
Gina	Sagar	BSc	Animal Behaviour and Welfare	Chester C	Przewalski's Horses, grooming
David	Savage	BSc	Zoology	Liverpool	Primates, communication
Jane	Seaman	BSc	Conservation Biology	Manchester Metro	Macaques, enrichment
Dr. Colleen	Schaffner	Research Assoc	Zoology	Chester C	Spider monkeys, conflict, husbandry, breeding
Phat	Sim	BSc	Conservation Biology	Manchester Metro	Cranes, breeding
Pamela	Singh	BSc	Behavioural Ecology	Manchester Metro	Mara, husbandry, food competition
Gail	Smith	BSc	Zoology	Liverpool	Orang utans, juvenile development
Gareth	Smith	BSc	Animal Behaviour/Ecology	East Anglia	Marmots, vigilance
Philip	Speakman	BA	Psychology	Hope C, Liverpool	Chimpanzees, dominance
Lucilla	Spini	D Phil	Biological Anthropology	Oxford	Chimpanzees, morphology, juvenile development
Joanne	Stanway	BSc	Animal Behaviour and Welfare	Chester C	Przewalski's Horses, grooming
Elizabeth	Steel	BSc	Zoology	Liverpool John Moores	Meerkats, behavioural differences, adult/juveniles
Laura	Stevens	BSc	Behavioural Ecology	Manchester Metro	Orang utans, visitors, husbandry
Chikako	Suda	MSc	Evolutionary Psychology	Liverpool	Chimpanzees, food competition
Jo	Thompson	BSc	Animal Behaviour and Conservation	Chester C	Giraffes, welfare, husbandry
Katie	Tucker	BA	Psychology	Hope C, Liverpool	Chimpanzees, dominance
Helen	Turner	BSc	Animal Behaviour	Chester C	Giraffes, welfare, husbandry
Tara	Vallance	BSc	Applied Zoology	Liverpool John Moores	Parrots, preening
Kate	Wade	BA	Psychology	Hope C, Liverpool	Chimpanzees, case study
Tina	Walton	BSc	Environmental and Resource Science	Salford	Elephants, behaviour of pregnant cows
Robert	Ward	BA	Psychology	Hope C, Liverpool	Chimpanzees, dominance
Clare	Wareing	BSc	Applied Biology	Liverpool John Moores	Chimpanzees, dominance, grooming
Ruth	Watkins	BSc	Zoology	Liverpool	Macaques, adaptive behaviour
Sarah	Welsby	BSc	Animal Behaviour	Chester C	Orang utans, behaviour
Dr Martin	Whitehead	BVSc	Veterinary Science	Leahurst, Liverpool	Hoofstock, parasites
Hannah	Whiteley	BA	Psychology	Hope C, Liverpool	Chimpanzees, dominance
John	Wilkinson	BSc	Biochemistry	Salford	Carnivores, parasites
Lisa	Williams	BSc	Zoology	Liverpool	Elephants, enrichment, welfare
Nadine	Woodruff	BA	Psychology	Hope C, Liverpool	Chimpanzees, dominance
Debbie	Woollacott	BSc	Animal Science	Leeds	Lions, enrichment
Oliver	Youngs	BA	Anthropology	Durham	Orang utans, play

We are very grateful to 105 students who gave work experience time to the Zoo * = Junior member

First Name	Surname	Course and College/ School/University	Home	First Name	Surname	Course and College/ School/University	Home
Hareth	Abdulla	Veterinary Science, Liverpool U	Wirral	Peter	Lodge	Prince's Trust Training Scheme	Wrexham
Laura	Antlett	Post A Levels, Pre Vet Science	Chester	Jodee	Lysaght	Post Grad, Environmental Biology, Curtin U, Australia	Perth, Australia
Simon	Armes	National Dip, Fisheries Studies	Frodsham	Clare	McAra	Post A's, Pre Vet Science	Knutsford
Gillian	Bailey	A Levels, Pre Vet Science	Helsby	Jonathan	McCulloch	Advanced GNVQ, Business Studies, Wirral Metro C	Birkenhead
Louisa	Baillie	A Levels, Pre Vet Science	Cheadle	Hannah	McKerchar	Veterinary Science, Edinburgh U	Sheffield
Jenny	Baker	Veterinary Science, Selwyn C, Cambridge U	Lincolnshire	Morven	McLeman	BSc Zoology, Bath U (Industrial one year placement)	Stratford-upon-Avon
Sara	Basu	Veterinary Science, Liverpool U	Liverpool	Heather	Metcalf*	GCSEs, Malbank S, Crewe	Malbank
Simon	Bate	Veterinary Science, Glasgow U	Peckforton	Sian	Millar*	GCSEs, Brynhyfryd S, Ruthin	Corwen
Maaïke	Bausch	BSc Animal Management at Van Hall Instituut, Leeuwarden	Netherlands	Peter	Milligan	Post A's, pre overseas travel (Reptiles)	Oxfordshire
Emma	Bessant	A Levels, Pre Vet Science	Ellesmere Port	Katy	Molyneaux	BTEC First Diploma in Animal Care, Welsh C of Horticulture	Saughall, Chester
Femke	Bijlsma	BSc Animal Management at Hogeschool Delft (University)	Netherlands	Melissa	Oliviera	Post Graduate Biologist, pre PGCE equivalent	Brazil
Emma	Bond	The Chestnut Centre (Staff development) AM Course	Chapel-en-le-Frith	Angharad	Owens	Post A Levels, Pre Vet Science	Hereford
Emma	Bowyer-Warner	Lecturer, South Trafford C, MSc Behavioural Ecology	Manchester	Victoria	Parr	A Levels at Casterton S, Kirby Lonsdale, Pre Zoology	Kendal
Natalie	Boyd	ND Musical Instrument Technology, and Zoo Animal Management	Stockport	Bethan	Patchett	A Levels, Sir John Dean's S, Pre Vet Science	Northwich
Stephen	Bridgewater*	GCSEs, Pre Nat Dip Animal Care, Reaseheath C	Northwich*	Shaun	Patton	ND in Animal Care at Bishop Burton C, East Yorks	Scunthorpe
Heather	Brierley	BSc Zoology, U of Wales, Cardiff	Burnley	Emma	Pennington*	Animal Science, West Cheshire C	Wirral
Chris	Brittain*	GCSEs	Chester	Danielle	Pleuvry	Veterinary Science, Selwyn C, Cambridge U	Cambridge
Alexa	Burton	Veterinary Science, Liverpool U	Altrincham	Helen	Plummer	Post A Levels, Pre Vet	Tattenhall
Adam	Cadamateri*	GCSEs, Reptiles	Keighley	Emma	Poore	BSc Zoology, U of Wales, Cardiff	Tamworth
Lisa	Cadell	A Levels, Pre Vet Science	Warrington	Sian	Pritchard	ND Animal Care, Llysfas C, Ruthin	Wrexham
Jenny	Capon	National Certificate in Animal Care Lackham C	Chippenham	Adrian	Prydden	A Levels, Pre Vet Science, Abbey Gate C, Chester	Penyffordd
Samantha	Castle	Veterinary Science, Liverpool U	Wetheral	Rachel	Quick	Derwen Workshops, Oswestry	Chester
Nicola	Chapman	A Levels, Penryncoch S	Aberystwyth	Katherine	Redmond	A Levels, Pre Vet Science	Liverpool
Sonia	Clayton	Post graduate, Primate placement pre overseas work	Leeds	Vincent	Rouwhorst	BSc Animal Husbandry, Delft University, Holland	Netherlands
Caroline	Dawes	A Levels, Pre Vet Science	Hartford	Robin	Rumney*	GCSEs	Saughall
Jonathan	Dickinson	A Levels, Pre Vet Science	Ashton	Ben	Sapsford	Veterinary Science, Liverpool U	Kirby Lonsdale
Joanne	Dodd	GCSEs, Hawarden High S	Hawarden	Patrick	Sells	A Levels at Merchant Taylors' S, Liverpool, Pre Vet Science	Liverpool
Robyn	Dower	GCSEs, The Warriner S	Banbury	Kate	Shaw	ND Animal Care, Reaseheath C	Wallasey
Amy	Duggan*	GCSEs, Upton S	Great Sutton	Thomas	Shorrocks	A Levels, International S, Tokyo, Japan. Pre Vet Science	Minatu Ku, Japan
Vicky	Fishlock	Post A Levels, Pre Vet Science	Northwich	Judith	Soentpiet	BSc, Animal Management, Van Hall Instituut, Leeuwarden	Netherlands
Sarah	Fitton	ND Animal Care, Reaseheath C	Nantwich	Lucie	Stanley	Post A Levels, Pre Vet Science	Llanferres
Rachel	Franks	Veterinary Science, Selwyn C Cambridge U	Liverpool	Helen	Stevens*	A Levels at Sir John Dean's S, Pre Vet Science	Northwich
Sarah	Friday*	GCSE's	Ainsdale	Andrew	Storer	The Chestnut Centre, (Staff development)	Derbyshire
Emma	Gatcliffe	BSc Zoology, Liverpool JMU	Manchester	Richard	Storey	A Levels (Reptiles)	Crewe
Jonathan	Gibbs	BSc Marine Zoology, U of Wales, Bangor	Oldham	Stacey	Sutton	ND Animal Care, Llysfas C	Wrexham
Ines	Grassl	Post Masters Practical (Elephants)	Germany	Monique	Thomas	ND Animal Care, Reaseheath C	Chester
Stephanie	Gray	Post A Levels, Pre Vet Science, Edinburgh U	Wallasey	Gemma	Thomson	BSc Zoology, Sheffield U, (Industrial one year placement)	Chorley
Jane	Grosse	BSc Health and Community Studies, Chester C	Manchester	Iain	Turner	BSc Zoology, Liverpool JMU, (Industrial Placement)	Liverpool
Jenni	Hall	A Levels, Pre Marine Biology	Glossop	Michelle	Utterback	BSc Wildlife Biology at Northern Arizona U, USA	San Diego, USA
Emily	Hancock	Post A Levels, Pre Vet Science	Stockport	Tina	Walton	BSc Environmental and resource Sciences, Salford U	Manchester
Lindsay	Harris	Veterinary Science, Robinson C, Cambridge U	Lydney, Glos	Cathy	Whibley	BSc Zoology, Leeds U	Leamington Spa
Martine	Helmink	BSc Animal Management at Van Hall Instituut, Leeuwarden	Netherlands	Craig	Williams*	ND Animal Care, Reaseheath C	Crewe
Sarah	Higgin	BSc Biology, Chester C	Chester	Lisa	Williams	BSc Zoology, Liverpool U	Scarborough
Jennifer	Holden	Post A Levels, Pre Zoology, Royal Holloway C	Cumbria	Catherine	Williams	Veterinary Science, Lucy Cavendish C, Cambridge U	Amersham
Jo	Hughes	Post Graduate, Cell Biology	Huddersfield	Catrin	Wilson	Veterinary Science, Edinburgh U	Ruthin
Sara	Humphries	ND in Animal Care, Reaseheath C, Heald Green Cheshire	Knutsford	Victoria	Woods	A Levels, Pre Vet Science	Conwy
Vanessa	Hunter	Post A Levels, Pre Vet Science	Knutsford	Lindsay	Worthington*	GCSEs, Upton S	Chester
Laura	Kelly	ND in Animal Care, Reaseheath C	Chester	Helen	Wright	Zoo Animal Management Course	Chester
Sarah	Kirkham	Veterinary Science, Bristol U	Oldham	Phil	Wright	Animal Science Course, West Cheshire C	Ellesmere Port
Andrew	Kohn	BA Animal Behaviour, Bucknell U, Philadelphia, USA	Gettysburg, USA	Garry	Wynne*	GCSEs, Sutton High S	Ellesmere Port
Marc	Kovacs	GCSEs (Catering), Whitby High S	Chester				
Jennie	Kozlowski	GCSEs (Catering), Kingsway S	Chester				
Tracy	Latham	A Levels, Pre Vet Science, Alsager C, Crewe	Crewe				
Anna	Le Cozanet	A Levels, Wirral Grammar S, Pre Vet Science	Wirral				
Katie	Leviston	Post A's, Pre Vet Science	Tattenhall				
Elizabeth	Lock	A Levels, Barrowhall C	Warrington				

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The Rufous Paradise Flycatcher (*Terpsiphone cinnamomea*) only occurs in the Philippines, where it survives in the remaining lowland forest, including that on Polillo Island.

This painting by Dr William Oliver, the Philippines Conservation Programmes Co-ordinator for Fauna and Flora International was our 1999 Zoo Christmas Card



Chester Zoo – The North of England Zoological Society – is a Charitable Trust, independent of the Government and Local Authorities. Its main source of income is from paying visitors and it welcomes sponsorship



CHESTER

North of England Zoological Society

The Society would like to thank everyone who has helped in 1999 — Council, Members, Fund Raising Advisory Board, Benefactors, individual and corporate Adopters, permanent and seasonal Staff, Work Experience Students, Visiting Researchers, Chester City Council, Cheshire County Council, Volunteers and our many Visitors and Friends.

We are also grateful to Suppliers and Contractors for often achieving that 'extra' for us that makes all the difference.

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Licenced under the Zoo Licensing Act 1981

For further information please write to:

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Chester Zoo
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Chester CH2 1LH

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The sidebar design is special feathers motif, specially designed for the report by Ann Bridges, Artist in Residence 1999-2000. Ann's tenure is jointly funded by the City of Chester and North West Arts.



Lion and Ram is one of the statues in the new Roman Garden

THE NORTH OF ENGLAND ZOOLOGICAL SOCIETY
Chester Zoo, Chester, CH2 1LH

NOTICE OF THE 66th ANNUAL GENERAL MEETING
to be held at 2.30 pm on Saturday, 3 June 2000 at the Russell Allen Lecture Hall, Chester Zoo

A G E N D A

- 1 Apologies for absence.
- 2 Minutes of the Extraordinary General Meeting held on 22 May 1999.
Minutes of the 65th Annual General Meeting held on 22 May 1999.
- 3 Presentation of Accounts and Balance Sheet and Auditors' Report for the year ended 31 December 1999.
- 4 Presentation of Council's Report for the year ended 31 December 1999.
- 5 Re-appointment of Auditors.
- 6 Announcement of names of retiring Members of Council:

Miss J P Dixon, Dr D A P Cooke, Professor B Gardiner, Mr J Makinson, Mr T Williams
- 7 Announcement of names of five members recommended by Council at its meeting on 31 March 2000 for election as Members of Council, the list having been posted at the Society's Registered Office 28 days prior to the date of the Annual General Meeting:

Dr D A P Cooke	Member No 674
Professor B Gardiner	Member No 11317
Mr G K Jump	Member No 2118
Mr J B Makinson	Member No 1137
Professor P Wheeler	Member No 7325

Announcement of the names of other members offering themselves for election to Council and duly proposed under Articles 23 (list of such names to be closed by noon Saturday, 20 May 2000).

Already received: Mr D Wall Member No 6620

- 8 Appointment of scrutineers and ballot for the election of **FIVE** Members of Council.
- 9 Any other business.

Alan Sykes
Company Secretary

5 May 2000

Members are reminded that they may vote by proxy, using the forms enclosed, provided the form of proxy reaches the Company Secretary at Oakfield House, Zoological Gardens, Chester, CH2 1LH by **noon, Thursday, 1 June 2000**.

The Articles of Association are available for inspection at the Society's Registered Office at Oakfield House during normal working hours (Monday-Friday 9.00 am-5.00 pm **except Monday, 29 May 2000**).



**MINUTES OF THE 66TH ANNUAL GENERAL MEETING OF THE
NORTH OF ENGLAND ZOOLOGICAL SOCIETY
HELD ON SATURDAY, 3 JUNE 2000 AT 2.30 PM IN THE
LECTURE HALL**

39 members were present

Mr Keith Maybury in the Chair

1. APOLOGIES FOR ABSENCE - received from 11 Members.

2. MINUTES OF THE EXTRAORDINARY GENERAL MEETING & PREVIOUS ANNUAL GENERAL MEETING held on Saturday, 22 May 1999 were read, confirmed as a correct record and signed by the Chairman.

3. PRESENTATION OF THE ACCOUNTS AND BALANCE SHEET AND AUDITOR'S REPORT FOR THE YEAR ENDED 31 DECEMBER 1999.

During his review of the Financial Statements which had been circulated to Members with the 1999 Zoo Review, the Financial Controller told the meeting that the year under review had produced the best financial results in the Society's history. During 1999 visitor numbers increased by 4.5%, the total incoming resources increased by 6.5%, direct charitable expenditure increased by £747,000 (nearly a quarter) and £2,216,000 was spent on capital expenditure items, leaving £149,000 improvement in the cash position.

Mrs Claire Duce of PricewaterhouseCoopers was introduced to the meeting and invited questions from the Members relating to the Auditors' Report. The report was taken as read. No queries were raised.

4. PRESENTATION OF COUNCIL'S REPORT

The report was taken as read.

5. APPOINTMENT OF AUDITORS

The Chairman proposed that PricewaterhouseCoopers be reappointed Auditors to hold office until the conclusion of the next Annual General Meeting at which accounts are laid, and that their remuneration be fixed by Council. Proposed by Mr B N Livingstone, seconded by Mr H Howatt and carried unanimously.

continued/...

6. ANNOUNCEMENT OF NAMES OF RETIRING MEMBERS OF COUNCIL

The Chairman announced the names of the five retiring members of council. These were: Dr D A P Cooke, Miss J P Dixon, Professor B Gardiner, Mr J B Makinson, Mr T Williams.

7. ANNOUNCEMENT OF NAMES OF THE FIVE MEMBERS RECOMMENDED BY COUNCIL FOR ELECTION

The Chairman read the five names of the members recommended by Council: Dr D A P Cooke, Professor B Gardiner, Mr G K Jump, Mr J B Makinson, Professor P Wheeler. A sixth candidate - Mr D Wall - had offered himself for election and had been duly proposed in accordance with Article 23 of the Articles of Association.

8. APPOINTMENT OF SCRUTINEERS AND BALLOT

The Chairman asked the floor for approval to appoint Mr Richard Barnett (Management Accountant) and Mr Chris Vere (Marketing Manager) to act as scrutineers. Proposed by Mr M A R Johnson, seconded by Mr A du Cros.

Before the ballot, the candidates were asked to identify themselves.

The ballot was taken. When he received the report of the scrutineers, the Chairman announced that the votes cast were:

	<u>Votes (including those by proxy)</u>
Dr D A P Cooke	222
Professor B Gardiner	215
Mr G K Jump	134
Mr J B Makinson	212
Mr D Wall	208
Professor P Wheeler	181

The Chairman declared that the following five members: Dr D A P Cooke, Professor B Gardiner, Mr J B Makinson, Mr D Wall and Professor P Wheeler were elected to serve on Council.

9. ANY OTHER BUSINESS

The Chairman paid tribute to Council Members for their attendance and hard work during the year; Members of the Society, all of whom must be delighted to observe the many substantial improvements around the zoo; the Director, Professor Gordon McGregor Reid, and his staff, all of whom have worked so hard during the year to produce the improvements.

There being no further business, the meeting concluded.

4. ANNOUNCEMENT OF NAMES OF RETIRING MEMBERS OF COUNCIL

The Chairman announced the names of the five retiring members of Council. These were Dr D A P Cooke, Professor B Gushko, Mr J B Macdonald, Mr J B Macdonald and Mr J B Macdonald.

5. ANNOUNCEMENT OF NAMES OF THE FIVE MEMBERS RECOMMENDED BY COUNCIL FOR ELECTION

The Chairman read the five names of the members recommended by Council. These were Dr D A P Cooke, Professor B Gushko, Mr J B Macdonald, Mr J B Macdonald and Mr J B Macdonald. A vote was taken and the following members were elected: Dr D A P Cooke, Professor B Gushko, Mr J B Macdonald, Mr J B Macdonald and Mr J B Macdonald.

6. APPOINTMENT OF SECRETARIES AND BALLOT

The Chairman asked the vote for the appointment of the Secretaries. The vote was taken and the following members were appointed: Mr J B Macdonald and Mr J B Macdonald.

Before the ballot the candidates were asked to signify themselves.

The ballot was taken. When the result of the ballot was announced, the Chairman announced that the vote was as follows:

For the following candidates:

107
105
104
103
102
101
100

Dr D A P Cooke
Professor B Gushko
Mr J B Macdonald
Mr J B Macdonald
Mr J B Macdonald
Mr J B Macdonald
Mr J B Macdonald

The Chairman declared that the following five members of Council were elected to serve in Council: Dr D A P Cooke, Professor B Gushko, Mr J B Macdonald, Mr J B Macdonald and Mr J B Macdonald.

7. ANY OTHER BUSINESS

The Chairman read tribute to Council members in their retirement and then went on to discuss the work of the year. He mentioned the work of the year and the work of the year. He mentioned the work of the year and the work of the year.

There being no further business, the meeting concluded.

The North of England Zoological Society

Nominees for Council 2000

David Cooke - Member No 674

A long serving member of Council and a retired General Medical Practitioner. His special interests are conservation and natural history.

Brian Gardiner - Member No 11317

Professor of Zoology at Kings College, University of London and the Past President of the Linnean Society of London. A member of Council since 1996. A speaker at Chester Zoo's Members' meetings.

Graeme Jump – Member No 2118

Senior partner of Mace and Jones, a leading North West firm of Solicitors. A past President of the Manchester Law Society, and a previous Council member.

John Makinson - Member No 1137

A Life Member of Chester Zoo. A local retired Solicitor, 40 years in Chester and a long term supporter of zoo activities. A member of Council since 1996.

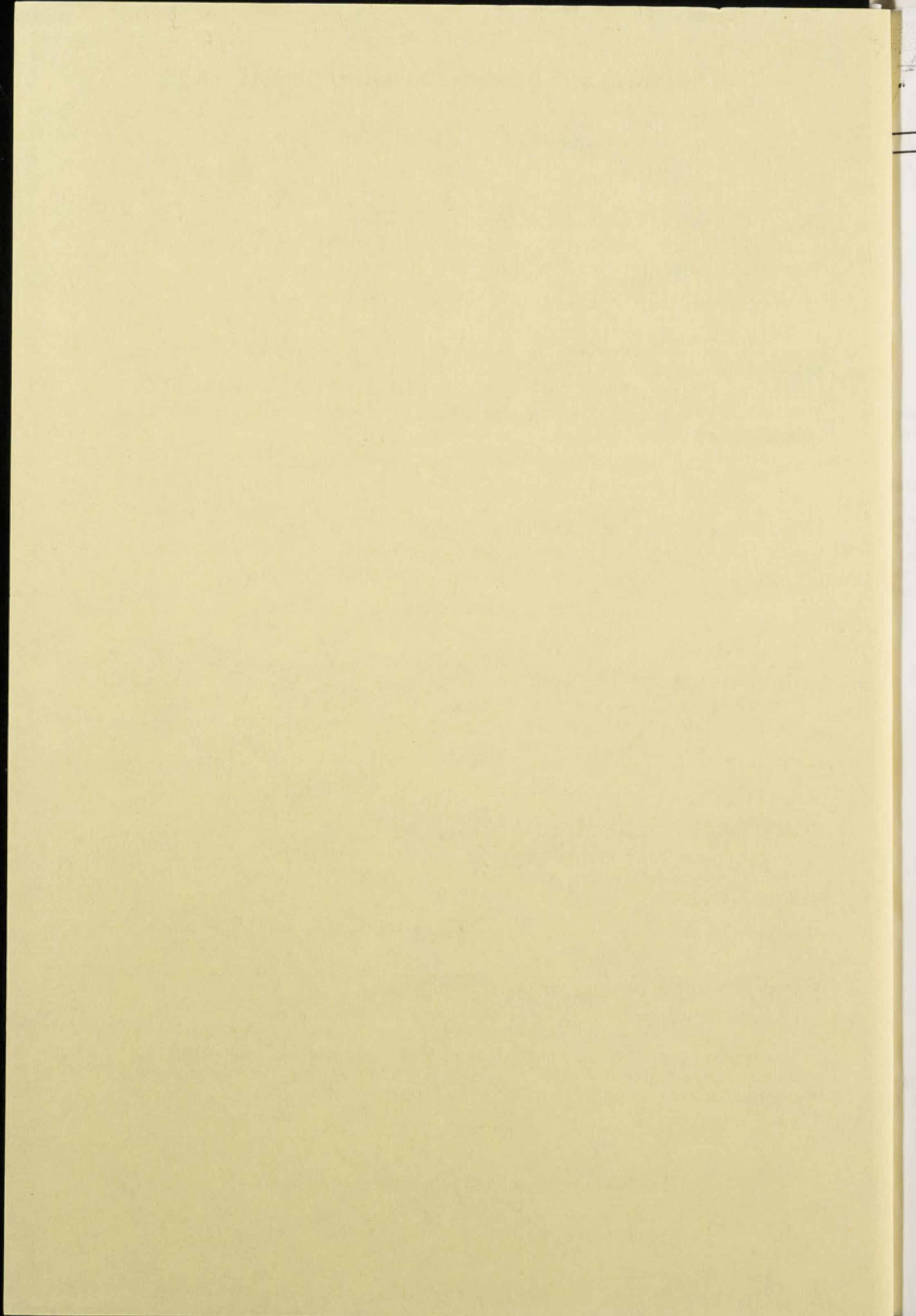
David Wall – Member No 6620

A computer Technical Support Analyst with an international chemical company. A member for eight years. Has raised £17,000 to fund new facilities in the Elephant House.

Peter Wheeler - Member No 7325

Director of Biological and Earth Sciences, and currently Dean of Sciences, Education and Health at Liverpool John Moores University. Holds a degree and Ph.D in zoology from the University of Durham. Current main area of research is human and ape evolution, having previously worked on temperature regulation in reptiles and mammals. Accomplished wildlife photographer having travelled extensively throughout Africa, Asia and the Americas.

Members may vote for 5 out of the 6 nominees



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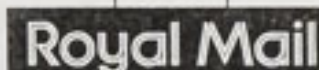
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THE NORTH OF ENGLAND ZOOLOGICAL SOCIETY

AUTHORISATION FOR PROXY VOTE

I Member number

of the Society, whose subscription is not in arrears hereby appoint

the Chairman of the Meeting

or, failing him

.....

Member number

or, failing him

.....

Member number

as my proxy to vote on my behalf at the General Meeting of the Society to be held on Saturday, 3 June 2000 and at any adjournment thereof.

Signed this day of 2000

Signature

**This form is to be used to elect 5 Members of Council.
Unless otherwise instructed the proxy will vote as he thinks fit.**

Agenda Item 8. Election of Members of Council - *you may only vote for 5 candidates*

Cooke, Dr D A P	
Gardiner, Professor B	
Jump, Mr G K	
Makinson, Mr J B	
Wall, Mr D	
Wheeler, Professor P	

Though Council is charged with nominating candidates to fill vacancies and has included the names of its nominees with the Notice of Meeting, the final list of candidates will not close until noon Saturday, 20 May 2000. Members wishing to vote by proxy may wish to defer giving their instruction until after this date. A list of candidates will be displayed on the Society's Notice Board in Oakfield House, Chester Zoo, and will be sent to those who intend to vote by proxy and who have asked by 25 May 2000 for the final list to be posted to them.

**This proxy form is to reach the Company Secretary at Oakfield House,
Zoological Gardens, Chester, CH2 1LH by noon Thursday, 1 June 2000**

NOTE: New members who submitted their applications to join the Society on or after Sunday 7 May 2000 are not entitled to vote at the Annual General Meeting on 3 June 2000, 28 days not having elapsed in the meantime.

