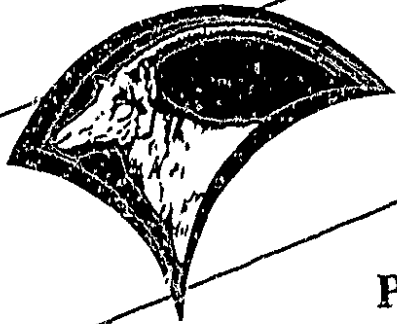
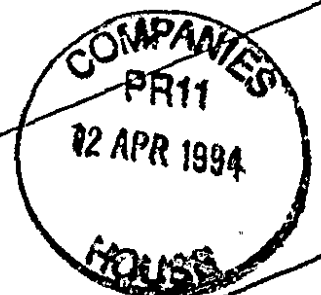


# ANNUAL REPORT 1993



# MARWELL

PRESERVATION TRUST LIMITED



# THE MARWELL PRESERVATION TRUST LIMITED

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J.M. Knowles, OBE

## SECRETARY

W.D.W. Barr

## BANKERS

National Westminster Bank PLC,  
Old Bank Branch,  
105 High Street,  
Winchester

## AUDITORS

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Southampton

## SOLICITORS

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(Curator, Marwell Zoological Park)

(SVO, Ministry of Agriculture, Fish and Food)

(Pathology Adviser)

(Director, Conservation and Consultancy, Zoological Society of London)

(Curator, Whipsnade Wild Animal Park)

(Zoologist and Population Geneticist)

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(Veterinary Consultant)

(Veterinary Consultant)

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(Trustee, Marwell Preservation Trust Limited)

(Education Department, Hampshire County Council)

(Director, Marwell Zoological Park)

(Education Department, Hampshire County Council)

(Education Department, Hampshire County Council)

(Education Department, Hampshire County Council)

(Head of Education, Marwell Zoological Park)

## STAFF as at 31 December 1993

### ADMINISTRATION

Director: J.M. Knowles, OBE

General Manager: P.J. Hickman

Assistant General Manager: A.H. Blake

Financial Controller: Miss J. Carpenter

Personal Assistant to Director: Miss L.J. Stafford

Reception and Party Bookings: Mrs. J. Hills • Mrs. S. Smith

Press and Public Relations Officer: Mrs. G. Worman

Adoptions Secretary: Miss M. Walton

### EDUCATION SERVICE

Head of Education: C. Sulston, BSc

Deputy Head of Education/Graphics Artist: Mrs. S. Millar, BSc

Education Officers:

D. Worley, BSc, CertEd (until July 1993)

Miss A. Middleton, BSc(Hons), CertEd

Miss J. Tanner, BSc(Hons) (from Jan. 1993)

Miss P. Harwood, BSc(Hons) (from Oct. 1993)

### GRAPHIC ILLUSTRATOR

Ms. P. Weeks

### GATE STAFF

A. Burchett • E. Grove

### GROUND STAFF

B. Kerswell • A. Maddocks • J. Frost

R. Organ • J. Hughes

### BUILDING MAINTENANCE

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### RETAIL STAFF

Mrs. E. Chester

(plus seasonal staff)

### ANIMAL COLLECTION

Curator: P. Bircher

Assistant Curator: P. Small

Data and Records Keeper: Miss N. Hart

Biologist: S. Wakefield, MSc

Carnivore Section:

P. Hindmarsh (Head Keeper)

S. Hawker (Assistant Head Keeper)

East Section:

G. Campbell (Head Keeper)

S. Holdsworth (Assistant Head Keeper)

Mrs. S. Boxall • Miss A. Last • I. Goodwin

A. Platt • S. Large • Miss R. Cooper

North Section:

W. Hall (Head Keeper)

Miss L. Dalby (Assistant Head Keeper)

D. Baldwin • Mrs. N. Trollope • A. McFarlan

D. Stroud • Miss S. Hadley

South Section:

G. Read (Head Keeper)

S. Belcher (Assistant Head Keeper)

R. Dawkins • D. Schofield • P. Elson

Encounter Village:

Miss S. Davis (Head Keeper)

Miss A. Stickler

Animal Maintenance:

A. Milton • T. Cooper

### TRAIN DRIVERS

B. Masters • B. Empringham • M. Lavington • G. Cook

### PROMOTION DISTRIBUTION

M. Newell

# Letter from the Chairman and Director

It is our pleasure to report that 1993 was another year of progress for both the Marwell Preservation Trust and its Zoological Park.

Growth is the word that best summarises the Trust in 1993 in every respect of its activities, both within and without the Zoological Park boundaries. All of this is recorded within these pages. We are pleased that the overall growth has been sustained by a record number of paying visitors and consequently a record surplus, which will go some way to support our local and international conservation efforts. In addition, visits by members of the Marwell Zoological Society reached record numbers and, for the first time, these are recorded in this report.

None of the achievements of 1993 would have been possible without the wholehearted and enthusiastic work of a dedicated staff, supported by our committed fellow Trustees and the Marwell Zoological Society's Council and volunteers.

The success of 1993 spurs us to further efforts for the future in our part of the battle to preserve some of the unique animal forms which share this planet with the human race.

Nicholas Jonas · John Knowles



Marwell's Director, John Knowles, and Meridian Broadcasting Presenter, Debbie Thrower, hold Marwell's 21st Anniversary cake, while Geoff Read, Head Keeper, South Section, and Wacker, our riding Camel, look on

Philip Tull

## 1993 – 21st Anniversary Year –

began under the continuing shadow of the recession of previous years, so expectations for visitor numbers were not high. Appalling weather for the Easter period brought the lowest number of visitors ever for that usually important holiday period. However, the year improved thereafter and eventual numbers of paying visits exceeded those of any year in our history. A combination of many circumstances produced this record, but a significant contribution to this was certainly the 'in house' organisation of our advertising and promotional leaflet distribution.

Actual attendance by category was as follows:

General visitors ...	315,879
Society visitors ...	21,788
Complimentary visitors ...	2,471
<b>TOTAL ...</b>	<b>340,138</b>

Our mission is not to make money and yet that is something we have to do, as every aspect of our mission involves spending money. As we all know, one cannot, for long, spend without earning.

Once acquired, there is no shortage of projects, at Marwell and elsewhere, where money is needed for causes far more worthwhile than the millions spent or wasted on environmentally destructive projects such as weaponry or ill thought out projects such as dams that are destructive of habitats and wildlife.

In the Accounts section, readers will notice some rather different presentation to previous annual reports, including a report from the Director Trustees. This apparently confusing nomenclature reflects the fact that Marwell is a company limited by guarantee, as well as a charitable Trust. We are therefore meeting legal requirements.



Visitors to Marwell's 21st Anniversary Exhibition enjoy the items in the Veterinary Section  
Phil Chamberlain

# The Animals

The 1993 statistics are, as usual, recorded towards the end of this report. Close scrutiny of these reveal the bare details of births and deaths, as well as arrivals and departures. Behind these lie many stories, including the fruits of plans laid long before, some disappointments and much hard work on the part of the curatorial and keeping staff.

Last year only the **Coquerel's Dwarf Lemurs** (*Microcebus coquereli*) reared their young. All the other Lemur species were either newly established or too young to be experienced parents. In 1993 they blossomed, with the **Red Ruffed Lemurs** (*Varecia variegata ruber*) rearing three youngsters, and the **Ring-tailed Lemurs** (*Lemur catta*) and **Black and White Ruffed Lemurs** (*Varecia v. variegata*) each rearing two. Having been the stars of 1992 in the Lemur group, the Coquerel's produced and reared only one youngster.

Also amongst the primates, it is pleasing to record that we once again have the strikingly handsome **Emperor Tamarin** (*Saguinus imperator*) and that the **Sulawesi Macaques** (*Macaca nigra*) are now making full use of their island, to which further furniture has been added. This,

combined with the scattering of their food across the whole topography of the island, creates an infinitely interesting opportunity for behavioural studies.

The number of **Red Panda** (*Ailurus fulgens*) movements recorded reflect the activities of our Curator, Peter Bircher, as Sub EEP Co-ordinator of this species for the British Isles.

Amongst the hoofed animals, the growth of the **Roan Antelope** (*Hippotragus equinus*) herd and the productivity of the **Babirusa** (*Babyrusa babyrussa*) are particularly gratifying, and it is encouraging that a relaxation of the quarantine regulations within the European Community has made it easier for us to introduce new animals to existing groups, thereby strengthening their genetic base. Of particular importance is the establishment of two female **Bongo** (*Tragelaphus euryceros*) received on breeding loan from Antwerp Zoo from a line not previously represented in the British Isles. These females are with a male on breeding loan from Howletts Zoo Park.

Owing to the impossibility to date of obtaining a male **Malayan Tapir** (*Tapirus indicus*), our sole female spent



A group of Sulawesi Crested Macaques with a favourite snack

Bob Aylott, Express Newspapers



Isla Campbell meets some friends in the Rabbit Mound

Sylvia Jarvis

the summer at Howletts Zoo Park, from whence she returned hopefully pregnant. The Brazilian Tapirs (*Tapirus terrestris*) disappointed us with a non-viable birth of a youngster to the present female, who is a first-time mother.

Another achievement was the hand-rearing of a female Grevy's Zebra (*Equus grevyi*), whose first time mother refused to accept her. This is unusual and may have been occasioned by the fact that the birth took place in the paddock with all the other Grevy's Zebras present and interested. Like most equines, Grevy's Zebras normally choose seclusion for a birth, which assists in the establishment of the mother/offspring bond.

Inevitably, there were disappointments and heartbreaks, the most severe of which was the loss of a female Somali Wild Ass (*Equus africanus somaliensis*) from a pair received on breeding loan from Mrs. Stamm, Stiftung zur Erforschung der Tier-Und Pflanzenwelt Mullerhagli, Switzerland. This apparently very quiet animal was startled by a vehicle movement and impacted herself fatally on a fence. The event was totally unexpected and unavoidable but nevertheless tragic for this highly endangered species.

A review of the activities of the animal collection would not be complete without reference to the Encounter Village, the second phase of which was completed early in 1993. In addition to giving great pleasure to young visitors of all ages by allowing close contact with certain animals and the thrill of being able to pretend that the visitor is a rabbit, it is coming close to fulfilling its educational role of relating domestic animals to the history of mankind and relationship with their wild cousins. This is particularly demonstrated by the choice of Exmoor Pony (*Equus caballus*), the only British pony of established ancient lineage and with certain characteristics, such as a mealy nose, which demonstrates resemblance to the Przewalski's Wild Horse (*Equus przewalskii*). The third and final phase of the Encounter Village will be completed during 1994.

Regretfully, no progress was made in our collaborative efforts to re-establish free-living populations of Przewalski's Wild Horse in Mongolia due to a complexity of political, bureaucratic and financial reasons. However, we were able to contribute more Golden Lion Tamarins to the co-operative release programme in Brazil.



## ADOPTION SCHEME

The Adoption Scheme again played a vital role in the funding of Marwell's work and its income showed an increase of £2,405 over the previous year.

We are very grateful to every adopter, whether they support us with a children's adoption or with the adoption of a Rhino or Giraffe. Adoptions come in all shapes and sizes and can suit any occasion, solemn or light-hearted. As a gift or as a 'thank you', as an anniversary marker or as a memorial, an adoption gives a special link with the Zoo and with a particular well-loved animal.

Young visitors are enthusiastic adopters, as the increasingly successful children's adoption scheme has shown. Schools, Colleges, Guides, Brownies, Scouts, Cubs and Beavers all demonstrate their care and concern for the world's wildlife by working to raise money for their adoption. Everyone can be fitted into the adoption scheme, whatever level of contribution they can manage.

Amongst our valued substantial commercial adopters during 1993 were:

ABN AMRO BANK Computer Centre  
Ace Office Supplies  
Animed Veterinary Hospital  
Batik of Romsey • British Gas (Junior Flames)  
Campbell Keegan Limited  
Dicks (Electrical Installations) Limited  
H.J. Dunford & Son (Motors) Ltd.  
Dutton Gregory & Williams  
Esso Communications • F.G. Finch & Son Ltd.  
Howard Davies Paper  
John Lewis Partnership • Lawnswood Limousines  
Lynx Distribution Network • Llamasoft  
Manor Insurance Services • Marsh Plant  
Marwell Resort Hotel  
Mills & Boon • C.P. Moxon Ltd.  
Oxfordshire Narrowboats • Padgett Bros  
KPMG Peat Marwick  
r2b2 Computer Consultants  
Royal Mail, Southampton • Russ Berrie  
Sealink Stena Line • Security Sign Services  
Shield Veterinary Centre  
Topsail Ltd.  
Webbs Country Foods Ltd.  
White & Bowker Ltd.  
Wimpey Homes



# DEVELOPMENT

The Marwell Preservation Trust's Annual Report for 1987, published in 1988, included a fifteen year development plan, which was the result of considerable debate, discussion and research during 1987.

At the end of 1994, we will have nearly reached the half-way mark in this plan, so it is timely to review progress to date.

To paraphrase a song from a popular musical show, "time changes everything" and thus inevitably some of the plans so confidently expounded upon in 1987 have changed radically, whilst others remain as goals, but still in need of funding.

In some cases, practical considerations force changes of direction upon us and, in others, there have inevitably been philosophical changes to the mission and vision of the Trust.

The 1987 plan divided proposals into what were allocated to 1987, 1988 and 1989 and the longer term. In other words, what should have been done by now and what still remains in the category of aspirations.

Highlighted below are those aspects of the plan in the first category.

Marwell Resort Hotel is built and functioning and has been of great benefit to the Zoological Park, as well as a successful hotel operation for Messrs. Resort Hotels plc. The Car Park Extension, which was planned both to compensate for the loss of some car parking space to the hotel and growing visitor numbers, has not been possible. Our woodlands are regarded by the planners as sacrosanct and therefore any extension of the car park into the woodland is forbidden by a Tree Preservation Order. We are therefore having to think again on this problem. As Marwell itself develops, so does the length of time that visitors spend with us and therefore, on peak days, car park spaces do not get 'recycled'. This is a welcome but also somewhat intractable problem.

A major part of the published plan was the Extension of the Railway system, to provide a means of public transport around the whole Park. Detailed contour studies showed that this was impossible at a reasonable cost coupled with satisfactory landscaping. Consequently, the track train terminates at the south eastern boundary of the Park, though the balance of the Park is served by a road train. This change led to something unforeseen in the 1989 plan, but which has been spectacularly successful – the Sulawesi Macaque Island. For the train to be able to travel continuously with the engine in a pulling mode, it was necessary to develop loops at both ends of the Park. The loop near the Black Swan pond was both easy to accomplish and fitted in well with the existing landscaping, but at the eastern end it simply left a large area of land vacant. This was absolutely right to transform into the Macaque island as we see it today. For those not familiar with the ways of trains, they do not really like going uphill to any significant extent and they need a large area in which to turn back on themselves. Notwithstanding this, "Marwell's Wonderful Railway" has been a great success and is extremely popular with our visitors.

Adjacent to the island a house was built for our expanding herd of Roan Antelope, who use the paddock formerly used by a second group of Przewalski's Horses, and this to some extent replaces one of the new Ungulate Houses foreseen



Ring-tailed Lemur and young at home in the World of Lemurs Philip Tull

originally. Other parts of the shorter term plan which have been completed include Wallaby Wood and Upgraded Paddocks, both on the East Section and the South Road Section for Rhino and Greater Kudu.

The World of Lemurs foreseen in 1987 is now a fact and is much enjoyed by both visitors and the Lemurs themselves.

A little of the longer term planning has been accomplished ahead of schedule. Again on the eastern part of the Park, what in 1987 was called the Children's Farmyard is now the Encounter Village, of which the last phase will hopefully be completed in 1994. Housing for small ungulates in the form of a Pudu House has also been accomplished, but other plans for the heavily wooded section side of the South Road have been changed to accommodate our expanding Babirusa group, as well as the Collared Peccaries.

Penguins were planned for the longer term and were shown on the original plan as being close to the Tiger enclosure, but, as Society members will know, it is now planned that these should be positioned in an area adjacent to Tree Tops Restaurant, making use of the natural slope of the land to provide underwater viewing. This area is also suitable, as it benefits from the absence of large trees... as, with all Penguins, falling leaves can be the source of fatal fungal infections. The Society fund-raising for this project is well on target and it is hoped building operations can commence in 1995.

The major projects remain still a dream. These include the development of the African Bowl on the land not currently part of the Park, but in the ownership of the Trust, an exhibit for Anthropoid Apes and a purpose-built Education Centre.

The above review is by no means exhaustive, but gives some indication of what has been achieved and of the plans and hopes that remain fully alive, except for the necessary funding.

# MARWELL ZOOLOGICAL SOCIETY

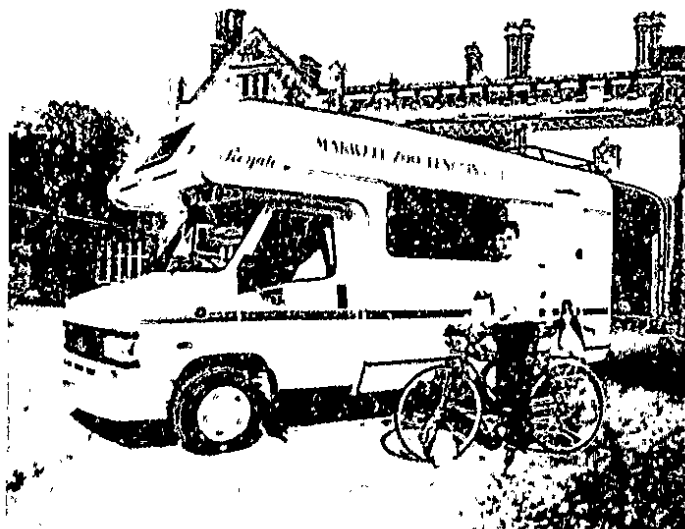
This invaluable charity, which is in many ways our 'other half', continues to grow in the number of members of both categories and their activities.

Throughout 1993 the Society's fund-raising was centred on PENGUIN WORLD, with many activities (great and small) directed to building up the coffers for this. Whilst it is by no means easy to raise £¼ million, progress is encouraging. It is hoped that design work will begin in 1994 and that the funds will be such that construction may begin in the autumn of 1995.

Winter Wonderland is the time when volunteer work by Society members is at its most obvious, with literally hundreds taking part and with some stalwarts appearing every day. Without them it would not be possible and the Trust owes everyone who took part a great debt of gratitude. The 1993 event was the largest to date, but unfortunately suffered bad weather conditions on more days than in any previous years, which caused rather more strains than usual.

Many stalwarts had contributed to Winter Wonderland before the event itself, with hours of parcel wrapping, and during the rest of the year the Trust benefited from leaflet stuffing, car parking, wishing well emptying (a particularly unattractive task) and in far too many other ways to catalogue here. Thank you one and all.

The Education Department benefited from volunteers, some of whom also carry out other volunteer activities.



Angus Malcom undertook a sponsored cycle ride from Edinburgh Zoo to Marwell Zoo – a distance of 400 miles – in aid of the PENGUIN WORLD appeal (his support vehicle was kindly lent by Tarquis Motorhomes)

Sylvia Jarvis

Recognition of Education Volunteer work appears in their Department's report, but mention must be made here also of this vital work. Space permits mention of only one (of many) activities – Animal Handling – which gave pleasure and instruction to 9,905 people in families and earned £7,924 towards the Education Department's costs.

During 1994 the Society's financial year end will be changed to be in line with that of the Trust, so that a more complete Marwell picture may be painted.



Annette Stickler and Sue Davis walk Dancer and Prancer in readiness for the Reindeers' Winter Wonderland appearance

Gaynor Worman



Assistant General Manager, Alan Blake, briefs volunteers in the Hall before a busy Winter Wonderland day

Gaynor Worman





# EDUCATION DEPARTMENT

During the year this Department again found many outlets for its energies and talents, in addition to the teaching of some 25,000 school children. The Department experienced staff changes, as outlined in the inside cover of this report.

A level courses increased in popularity, as did Adult Education classes in association with Southampton University and Toynbee College, Eastleigh. Other courses have been custom tailored for specialist groups, such as one on the workings of the Zoo for RSPCA officers. For many of these courses it is necessary to research new areas and to involve other Marwell staff members, such as the Biologist, Curators and Keepers.

Development of 'Safari boxes' continued, for which the Department won an award from the British Zoo Federation.

Staff were involved in the production of part of Hampshire Education Authority's new CD ROM 'Horizon Project', which should help schools find out more about Marwell. Still in the area of Information Technology, Marwell hosted an 'Ask an Expert' day, which involved a class of local school children linking up with schools all over the world via modems and computers to answer questions on wildlife conservation and zoos.

In order to get 'the message' across to the general visiting public, we have devoted more time to the design and production of new graphics. This is in addition to the animal identification signs, which need replacing quite regularly (every one to three years). Sally Millar is responsible for new interpretive graphics at the Tigers and in the Encounter Village ... and there's much more to do! Graphics must be fun, as well as informative. Many thousands of people must also have read about the conservation and education work of the Zoo at the 21st Birthday Exhibition in Marwell Hall, to which we contributed.

We are continually planning new activities, which encourage visitors to have contact with Zoo staff. The Animal Handling sessions are now a firm

favourite, as are the Touch Tables and Senior Citizens' guided tours. In 1993 we expanded this form of education in the new Encounter Village classroom, with a different touch table, an exhibition, brass rubbing (well, plastic actually!) and face painting. All of this would be impossible but for our team of Education Volunteers. Between them they freely gave over 4,000 hours to Marwell – a truly commendable effort. Although the Volunteer scheme requires considerable administration and preparation work by Education staff, the benefits achieved by the Zoo are well worth the effort. The initial training of sixty or so new volunteers in 1993 took place in February and March, in addition to the on-going training of Education Volunteers from previous years, which takes place the year round.

Every opportunity is taken to exchange information and experiences with colleagues and so we attend zoo related education conferences as regularly as possible. Sally Millar attended the European Zoo Educators meeting in Barcelona, whilst the Department also had a presence at the British Zoo Educators meeting at the Arundel branch of the Wildfowl and Wetlands Trust in November. Regional workshops also enable zoos and others involved in environmental and wildlife conservation to get together and share ideas. Marwell hosted one such workshop in March.



Brian MacDonald and children from Otterbourne during 'Ask an Expert' day at Marwell

Gaynor Worman





# EDUCATION CENTRE

## ANIMAL COLLECTION 1.1.93 to 31.12.93

COMMON NAME	SCIENTIFIC NAME	GROUP 1.1.93	ARRIV.	BORN	NEO-NATAL DEATH	DEATH	DEP'D	GROUP 31.12.93
<b>STYLOMMATOPHORA</b>								
African Land Snail	<i>Achatina marginata</i>	70	—	100 *	—	—	100	0.0.70
<b>PHASMIDAE</b>								
Thorny Stick Insect	<i>Eurycanthus horridum</i>	29	—	100 *	—	29	70	0.0.30
Macleay's Spectre Stick Insect	<i>Exatasoma tiaratum</i>	58	—	200 *	—	58	100	0.0.100
<b>ANURA</b>								
African Clawed Toad	<i>Xenopus laevis</i>	23	—	—	—	2	—	10.10.1
Natterjack Toad	<i>Bufo calamita</i>	6	—	—	—	—	—	2.4.0
<b>SAURIA</b>								
Leopard Gecko	<i>Eublepharus macularius</i>	7	—	—	—	—	—	0.7.0
Sand Lizard	<i>Lacerta agilis</i>	—	23	24	—	—	—	6.11.30
<b>SERPENTES</b>								
Royal Python	<i>Python regius</i>	7	—	—	—	—	—	3.0.4
Rainbow Boa	<i>Epicrates cenchria</i>	2	—	—	—	—	—	0.2.0
Red-tailed Boa Constrictor	<i>Boa constrictor</i>	1	1	—	—	—	—	0.0.2
Bull Snake	<i>Pituophis melanoleucus sayi</i>	3	—	—	—	—	—	0.3.0
Corn Snake	<i>Elaphe guttata guttata</i>	9	5	—	—	—	—	10.4.0
Yellow Rat Snake	<i>Elaphe obsoleta quadravittata</i>	4	—	—	—	—	4	—
<b>RODENTIA</b>								
Gerbil	<i>Meriones unguiculatus</i>	4	—	—	—	—	—	0.4.0
Rat	<i>Rattus norvegicus</i>	23	1	—	—	5	—	1.18.0
*Approximate								



Face painting by Education Volunteers at the Tiger Touch Table is always popular

Anita Middleton



Education Volunteers, Julie Milsom and Darren Knight, visiting a school, use a python skin to illustrate a conservation point

# MARWELL INTERNATIONAL

In keeping with our perceived mission, the Trust continues to seek ways of supporting conservation activities that are of particular relevance to our own work and where we can be of very real help.

Such an activity is the Chipangali-Marwell Duiker Research and Breeding programme (reported below).

We continue membership of the Madagascar Fauna group, which supports in-situ conservation of Lemurs and other Madagascan Fauna and is a parallel function with Marwell's 'World of Lemurs'.

Participation in the GMPWG (Global Management Plan Working Group) for the Przewalski's Wild Horse was another activity which the Director continued, although, disappointingly, our collective efforts to establish free-living Przewalski's Horses in a restored habitat have made no progress.

The Director continued active membership of the IUDZG (International Union of Directors of Zoological Gardens) and CBSG (Captive Breeding Specialist Group), of which he is Vice-Chairman. In addition to the annual CBSG meetings, the Director attended a Future Strategy Meeting for this group in Jamaica and a Structural Review in Minneapolis during the year.

He also served as Chairman of ISIS (International Species Inventory System) and a Trustee of the IRF (International Rhino Foundation).

Curator, Peter Bircher, was Co-Chair of the European Pigs and Peccaries TAG (Taxon Advisory Group), as well as Sub EEP Co-ordinator for the Red Panda in the British Isles. In addition, he was a member of the EEP African Hunting Dog Committee and the EC Genome Banking project.

During 1993, our staff Biologist, Simon Wakefield, was EEP Co-ordinator and International Studbook Keeper for Grevy's Zebra, EEP Co-ordinator for Scimitar-horned Oryx, UK Representative for the Przewalski's Wild Horse EEP and Co-Chair of European Antelope and Equid TAGs.

Niki Hart, Data and Records Keeper, continued as International Studbook Keeper for Hartmann's Mountain Zebra.

Head of Education, Clare Sulston, continued membership of IZE (International Association of Zoo Educators) and Sally Millar, Deputy Head of Education, attended their annual meeting in Barcelona.

## CHIPANGALI/MARWELL DUIKER RESEARCH AND BREEDING CENTRE PROGRAMME

COMMON NAME	SCIENTIFIC NAME	GROUP 1.1.93	ARRIV.	BORN	NEO-NATAL DEATH	DEATH	DEP'D	GROUP 31.12.93
Blue Duiker	<i>Cephalophus monticola bicolor</i>	16	—	4	1	3	—	16
Blue Duiker	<i>C.m. Usicolor</i>	5	—	2	—	—	—	7
Maxwell's Duiker	<i>C. maxwelli</i>	6	3	—	—	2	—	7
Red Duiker	<i>C. natalensis</i>	4	—	2	2	—	—	4
Yellow-backed Duiker	<i>C. sylvaticus</i>	3	—	1	—	—	—	4
Black Duiker	<i>C. niger</i>	—	3	—	—	2	—	1
Bay Duiker	<i>C. dorsalis</i>	—	3	—	—	—	—	3
Red-flanked Duiker	<i>C. rufilatus</i>	—	1	—	—	—	—	1
Grey Duiker	<i>Sylvicapra grimmia</i>	24	2	5	2	2	—	27



Yellow-backed Duiker

Viv Wilson



The large kudu's Duiker, the easily recognisable Zebra Duiker and Bay Duikers

Viv Wilson

# Acknowledgements

There are two battles being waged at Marwell – the first is the conservation battle – the campaign to save endangered species. Everyone who visits Marwell quickly becomes aware of what we are endeavouring to do. Not everyone realises the enormous costs of running such an institution. This is the second 'front'.

We are grateful to everyone who supports us and we acknowledge on this page and elsewhere our indebtedness to local authorities, charitable trusts, those who make bequests, commercial sponsors, society members and animal adopters. Our visitors provide our basic 'raft' of income, but we would much prefer our Ark to have more of the strength of a battleship!

Marwell's operation becomes more complex each year, as we play our growing part in international breeding programmes, as we research the diet and management of animals and as we support fieldwork such as the Chipangali-Marwell Duiker project in Zimbabwe. Measured against wealthy zoos in, for example, North America, Marwell has some way to go, but we have the potential in every respect – what we lack is a firmer capital base upon which to build and which would provide us with funds for projects as they arise.

In our daily business, we find that friends accumulate. Many companies who supply us with goods become interested and help us either in kind or with an animal adoption. Marwell's animals work their own particular magic and make an appeal which touches the heart and mind of all who come here. The help which has been given over the years has led us to this point – a Zoo with an internationally recognised reputation. The pressure on wildlife is growing and our needs grow in parallel.



A Meerkat pops up in just the right place!

Dave Allen

## EXTERNAL FUNDING

We are most grateful to the following bodies for their continued support:

Hampshire County Council	(Education Authority) ....	£51,080
Southampton City Council	(Adoption) .....	£130
Eastleigh Borough Council	(Adoption) .....	£200
Hampshire County Council	(Grant for Encounter Village) .....	£70,000
Hart District Council	(Adoption and Grant) .....	£350

Winchester City Council has, as in previous years, forgiven us that portion of the National Non-domestic Rate, which is not subject to mandatory relief for a registered charity.

Support was also gratefully received from the following charitable trusts and legacies:

Richard Kirkman Trust .....	£250
Margaret Misselbrook Trust .....	£250
A private Hampshire charitable trust .....	£250
The late James Philip Watson .....	£83.28

Invaluable support in kind has been received from:

S. & J. New ...  
supply of diesel for Marwell's Wonderful Railway  
Solvay Duphar ...  
supply of vaccines and veterinary pharmaceuticals  
Webbs County Foods Limited ...  
supply of foodstuffs

British Airways Assisting Nature Conservation ...  
provide valuable support to our conservation work  
in transporting both personnel and animals



# MARWELL IN BRITAIN

Our work with Sand Lizards has been more successful than last year, with a total of 24 being born. A public viewing exhibit will be erected during 1994, funded by British Gas.

The Natterjack Toad population is currently too immature to breed, but we are hopeful of some activity during 1994.

Through the Federation of Zoos, Joint Nature Conservancy Council and English Nature, Marwell has become involved in a programme to build up the number of Reddish Buff Moths for release in Hampshire and the Isle of Wight, its native habitat.

Marwell staff were active within Britain as follows:

The Director served as Chairman of the WWAP (Whipsnade Wild Animal Park) Management Board, a Council member of ZSL (the Zoological Society of London) from September, a member of ZSL's International Zoo Year-Book Editorial Board and a Council member of the Federation of Zoological Gardens of Great Britain and Ireland.

Our Biologist, Simon Wakefield, again served on the JMSC (Joint Management of Species Committee) and, through this Committee, assisted with the organisation of a SPMAG (Small Population Management Advisory Group) training course. In addition to continuing as Studbook Keeper for Scimitar-horned Oryx, Sable Antelope and Addax, he co-chaired the JMSC Bovid and Equid TAGs, was a member of the Felid TAG and served on the Federation of Zoos Conservation and Animal Management Committee.

Clare Sulston continued as a member of the Education Committee of the British Zoo Federation.

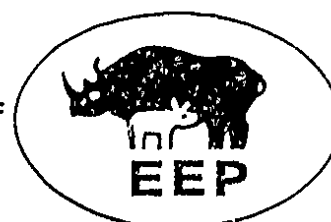


Paul Edgar, Sand Lizard and Natterjack Toad Project Co-ordinator, receives a British Gas Grassroots Action award from Ken Whitmarsh, British Gas Southern District General Manager



Siberian Tiger cubs – Sofia, Varna and Ivan

Philip Tull



Many zoological collections across Europe are now co-operating in the breeding programmes for endangered species. Each breeding programme or EEP, which stands for Europäisches Erhaltungszucht Programm or European Endangered Species Programme, has a co-ordinator and a species committee, whose job it is to make annual breeding recommendations and develop husbandry guidelines for their particular EEP species. Marwell is the EEP co-ordinator for the Grevy's Zebra and Scimitar-horned Oryx EEPs.

The EEP species at Marwell are:

## BIRDS

Red-crowned Crane (*Grus japonensis*)  
Moluccan Cockatoo (*Cacatua moluccensis*)

## PRIMATES

Ruffed Lemur (*Varecia variegata ssp*)  
Colton-topped Tamarin (*Saguinus oedipus*)  
Sulawesi Crested Macaque (*Macaca nigra nigra*)

## CARNIVORES

Maned Wolf (*Chrysocyon brachyurus*)  
Red Panda (*Ailurus fulgens ssp*)  
Siberian Tiger (*Panthera tigris altaica*)  
Snow Leopard (*Panthera uncia*)  
Persian Leopard (*Panthera pardus saxicolor*)  
Cheetah (*Acinonyx jubatus*)

## PERISSODACTYLES

Przewalski's Horse (*Equus przewalskii*)  
Grevy's Zebra (*Equus grevyi*)  
Hartmann's Mountain Zebra (*Equus zebra hartmannae*)  
Kulan (*Equus hemionus kulan*)  
Malayan Tapir (*Tapirus indicus*)  
White Rhinoceros (*Ceratotherium simum*)

## ARTIODACTYLES

Babirusa (*Babirusa babirusa*)  
Pygmy Hippopotamus (*Choeropsis liberiensis*)  
Vicugna (*Lama vicugna*)  
Southern Pudu (*Pudu pudu*)  
Okapi (*Okapia johnstoni*)  
Scimitar-horned Oryx (*Oryx dammah*)  
Arabian Oryx (*Oryx leucoryx*)  
Bongo (*Tragelaphus euryceros*)

# Behavioural Enrichment

The behavioural enrichment studies carried out in the Park have been helped greatly in 1993 by a generous donation of £3,000 from the Marwell Zoological Society and the proceeds from the Marwell 10K Road Race, which was revived in 1993 as an annual event to raise money for the enrichment programme.



A Ring-tailed Coati enjoys working for his food

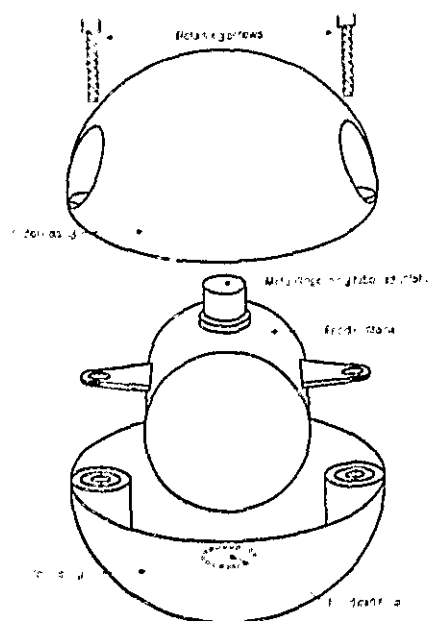
Two trainees came to the Park for work experience in this field and have been invaluable in assisting with changes to the enclosures, making behavioural observations, and the input and analysis of the data. Dr. Rory Putman, a lecturer in behavioural ecology, has advised on the collection and analysis of behavioural data – and, when the analysis of each of the enrichment projects carried out in 1993 has been made, significant findings will be submitted to behaviour journals such as *Animal Welfare* (produced by the Universities Federation for Animal Welfare, of which we are a corporate member).

Several changes to enclosures have been made and the subsequent changes in the activities of their occupants recorded:

- A large bed of wood shavings was added to the Babirusa enclosure; this provided a place to forage for hidden food.
- A browse feeder was added to the Giraffe enclosure as an artificial tree.
- New platforms were added to the Lion enclosure to increase its spacial complexity and provide additional vantage points.
- A pilot study was made of a new feeding device – a foodball (see Fig. 1) – with the Ring-tailed Coatis, a species which spends a large proportion of its daily activity engaged in foraging. This foodball has been designed and developed by the Scottish Agricultural College and is based on a larger version for use with domestic Pigs. This was the first use of such a foodball with zoo animals.

A detailed analysis of the results of each of these studies has yet to be made. However, the initial results of use of the foodball by the adult male Coati in our breeding group (see Fig. 2) shows a significant change in his activity pattern

Fig. 1: Components of the foodball



Drawn by Paul Wakefield

towards manipulation of the foodball. Its design reflects the natural foraging behaviour of the Coati, with food pellets being dispensed from the food chamber as it is rolled around. The rate at which pellets are dispensed from the internal chamber can be regulated by the position of the metal dispensing tube and will fall through the single exit hole in the outer casing randomly in both space and time.

In this way, a proportion of the daily food ration can become a foraging challenge for a considerable length of time, rather than the few moments usually spent eating each daily feed.

The foodball is easy to use and to keep clean. A longer term study is planned to assess fully its value to such an active species, as the pilot study has demonstrated its potential.

Fig. 2: The effect of the provision of a foodball on the behaviour profile of a male Ring-tailed Coati (Error Bars = S.E.M.)



Drawn by Paul Wakefield

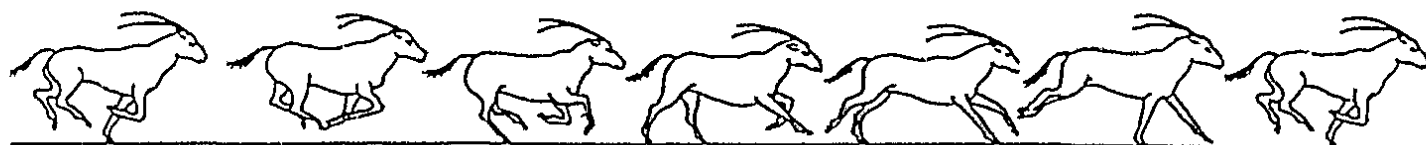
# MARWELL ZOOLOGICAL PARK

## ANIMAL COLLECTION 1.1.93 to 31.12.93

COMMON NAME	SCIENTIFIC NAME	GROUP 1.1.93	ARRIV.	BORN	NEO-NATAL DEATH	DEATH	DEP'D	GROUP 31.12.93
<b>MARSUPIALS</b>								
Bennett's Wallaby	<i>Macropus rufogriseus</i>	43	—	18	3	6	19	5.24.4
Parma Wallaby	<i>Macropus parma</i>	9	—	6	—	3	—	1.6.5
Grey Kangaroo	<i>Macropus fuliginosus ocydromus</i>	5	2	—	—	2	—	2.3.0
<b>PRIMATES</b>								
Coquerel's Dwarf Lemur	<i>Microcebus coquereli</i>	7	—	1	—	—	—	2.2.4
Ring-tailed Lemur	<i>Lemur catta</i>	8	—	4	2	1	—	2.7.0
Red Ruffed Lemur	<i>Varecia variegata ruber</i>	4	—	3	—	—	—	4.2.1
Black and White Ruffed Lemur	<i>Varecia v. variegata</i>	5	—	2	—	—	—	3.4.0
Red Mantled Tamarin	<i>Saguinus fuscicollis illigeri</i>	3	1	2	2	1	—	2.1.0
Emperor Tamarin	<i>Saguinus imperator</i>	—	4	—	—	—	—	2.2.0
Cotton-top Tamarin	<i>Saguinus o. oedipus</i>	6	2	3	3	—	—	3.5.0
Golden Lion Tamarin	<i>Leontopithecus r. rosalia</i>	11	1	2	—	1	3	5.5.0
Golden Headed Lion Tamarin	<i>Leontopithecus chrysomelas</i>	2	—	—	—	—	—	2.0.0
Coeldi's Monkey	<i>Callimico goeldii</i>	3	—	1	1	—	—	1.2.0
Squirrel Monkey	<i>Saimiri sciureus</i>	6	—	—	—	—	—	4.2.0
Sulawesi Macaque	<i>Macaca nigra</i>	14	—	3	1	—	—	7.7.2
De Brazza's Monkey	<i>Cercopithecus neglectus</i>	2	—	—	—	—	—	1.1.0
Siamang Gibbon	<i>Hylobates syndactylus</i>	6	—	—	—	—	—	3.3.0
<b>RODENTIA</b>								
Crested Porcupine	<i>Hystrix cristata</i>	9	—	6	2	—	6	3.4.0
Mara	<i>Dolichotis patagona</i>	12	2	3	2	4	—	4.7.0
Capybara	<i>Hydrochoerus hydrochaeris</i>	3	—	—	—	—	1	1.1.0
Orange-rumped Agouti	<i>Dasyprocta aguti</i>	11	—	—	—	1	—	3.7.0
<b>CARNIVORA</b>								
Maned Wolf	<i>Chrysocyon brachyurus</i>	2	—	—	—	—	—	1.1.0
Ring-tailed Coati	<i>Nasua nasua</i>	8	—	—	—	—	—	2.6.0
Red Panda	<i>Ailurus fulgens</i>	7	—	—	—	1	5	1.0.0
Small-clawed Otter	<i>Amblyonyx cinerea</i>	2	1	—	—	1	—	1.1.0
Striped Skunk	<i>Mephitis mephitis</i>	4	—	—	—	1	2	1.0.0
Dwarf Mongoose	<i>Helogale parvula</i>	3	—	—	—	1	—	1.1.0
Slender-tailed Meerkat	<i>Suricata suricatta</i>	2	2	4	2	2	—	1.3.0
Caracal Lynx	<i>Felis caracal</i>	2	—	—	—	—	—	1.1.0
European Lynx	<i>Felis lynx lynx</i>	4	—	—	—	1	—	2.1.0
Serval	<i>Felis serval</i>	2	—	—	—	—	—	1.1.0
Asiatic Lion	<i>Panthera leo persica</i>	2	—	—	—	—	—	1.1.0
Siberian Tiger	<i>Panthera tigris altaica</i>	9	—	6	3	1	3	3.5.0
Persian Leopard	<i>Panthera pardus saxicolor</i>	2	—	—	—	—	—	1.1.0
Jaguar	<i>Panthera onca</i>	3	—	1	—	—	1	2.1.0
Snow Leopard	<i>Panthera uncia</i>	5	—	2	—	1	—	2.4.0
Cheetah	<i>Acinonyx jubatus</i>	9	—	—	—	1	1	4.3.0

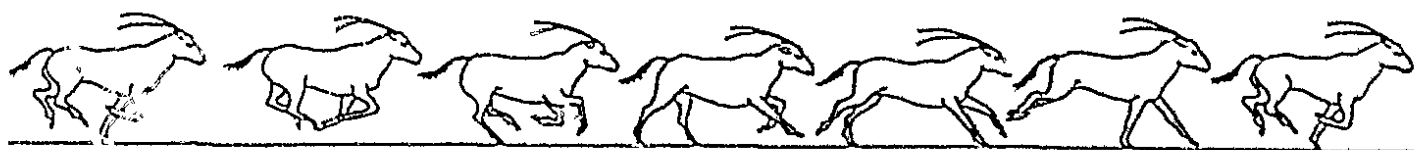


COMMON NAME	SCIENTIFIC NAME	GROUP 1.1.93	ARRIV.	BORN	NEO-NATAL DEATH	DEATH	DEP'D	GROUP 31.12.93
<b>HYRACOIDEA</b>								
Rock Hyrax	<i>Procavia capensis</i>	3	—	—	—	2	—	1.0.0
<b>PERISSODACTYLA</b>								
Przewalski's Wild Horse †	<i>Equus przewalskii</i>	18	—	5	2	2	5	5.9.0
Kulan	<i>Equus hemionus kulan</i>	7	—	1	1	—	—	3.4.0
Somali Wild Ass	<i>Equus africanus somaliensis</i>	—	2	—	—	1	—	1.0.0
Exmoor Pony	<i>Equus caballus</i>	—	2	—	—	—	—	0.2.0
Hartmann's Mountain Zebra †	<i>Equus zebra hartmannae</i>	14	—	—	—	3	—	1.10.0
Chapman's Zebra †	<i>Equus burchelli chapmani</i>	6	—	2	—	—	1	2.5.0
Grevy's Zebra †	<i>Equus grevyi</i>	9	—	3	1	1	1	2.7.0
Malayan Tapir	<i>Tapirus indicus</i>	1	—	—	—	—	—	0.1.0
Brazilian Tapir	<i>Tapirus terrestris</i>	2	—	1	1	—	—	1.1.0
White Rhinoceros	<i>Ceratotherium s. simum</i>	4	—	—	—	—	—	2.2.0
Poiteu Donkey	<i>Equus asinus</i>	3	—	—	—	—	—	1.2.0
<b>ARTIODACTYLA</b>								
Vietnamese Pot-bellied Pig	<i>Sus scrofa</i>	7	—	—	—	1	2	2.2.0
Babirusa	<i>Babirusa babirusa</i>	5	—	5	1	—	1	5.2.1
Collared Peccary	<i>Tayassu tajacu</i>	11	—	7	1	1	—	3.7.6
Pygmy Hippopotamus	<i>Choeropsis liberiensis</i>	2	—	—	—	—	—	1.1.0
Llama	<i>Lama glama</i>	10	—	3	—	1	7	1.4.0
Bactrian Camel	<i>Camelus bactrianus</i>	6	1	—	—	—	—	2.5.0
Vicugna	<i>Lama vicugna</i>	4	—	1	1	—	2	1.1.0
Reeve's Muntjac Deer	<i>Muntiacus reevesi</i>	3	—	1	—	1	—	1.2.0
Axis Deer †	<i>Axis axis</i>	21	—	11	4	1	1	11.15.0
Hog Deer †	<i>Axis porcinus</i>	33	—	15	7	5	3	11.22.0
Barasingha †	<i>Cervus duvauceli</i>	9	—	3	2	1	—	4.5.0
Reindeer	<i>Rangifer tarandus</i>	2	—	—	—	—	—	1.1.0
Chilean Pudu †	<i>Pudu pudu</i>	4	—	2	—	—	1	1.4.0
Okapi †	<i>Okapia johnstoni</i>	2	—	—	—	—	—	1.1.0
Giraffe †	<i>Giraffa camelopardalis</i>	5	—	3	—	—	—	2.6.0
Dwarf Zebu	<i>Bos primigenius</i>	—	2	—	—	—	—	1.1.0
Nyala †	<i>Tragelaphus angasi</i>	13	1	—	—	1	—	1.12.0
Speke's Sitatunga †	<i>Tragelaphus spekei</i>	14	1	8	4	5	2	4.6.2
Greater Kudu †	<i>Tragelaphus strepsiceros</i>	9	1	5	1	—	—	5.9.0
Bongo †	<i>Tragelaphus eurycerus</i>	—	3	—	—	—	—	1.2.0
Ankole Cattle	<i>Bos taurus</i>	10	—	4	—	1	—	4.9.0
Congo Buffalo	<i>Syncerus caffer nanus</i>	8	1	—	—	—	1	4.4.0
Ellipsen Waterbuck †	<i>Kobus ellipsiprymnus</i>	17	—	8	2	1	—	9.13.0
Roan Antelope †	<i>Hippotragus equinus</i>	11	—	6	1	—	—	7.9.0
Sable Antelope †	<i>Hippotragus niger</i>	13	—	8	2	2	—	6.11.0
Gemsbok †	<i>Oryx g. gazella</i>	8	1	5	3	1	—	2.8.0
Arabian Oryx †	<i>Oryx leucoryx</i>	2	4	—	—	—	2	1.3.0
Scimitar-horned Oryx †	<i>Oryx dammah</i>	26	—	7	2	3	11	4.13.0
Addax †	<i>Addax nasomaculatus</i>	10	—	2	1	2	1	1.7.0
Arabian Gazelle †	<i>Gazelle gazella arabica</i>	18	2	—	—	2	4	2.12.0
Dama Gazelle †	<i>Gazelle dama ruficollis</i>	13	—	1	1	—	1	2.10.0
Nigerian Dwarf Goat	<i>Capra hircus</i>	18	—	7	—	—	9	1.15.0
<b>TOTAL: 621 Mammals</b>		<b>616</b>	<b>36</b>	<b>191</b>	<b>59</b>	<b>67</b>	<b>96</b>	<b>621</b>





COMMON NAME	SCIENTIFIC NAME	GROUP 1.1.93	ARRIV.	BORN	REC. NATAL DEATH	DEATH	DEP'D	GROUP 31.12.93
<b>STRUTHIONIFORMES</b>								
Ostrich	<i>Struthio camelus</i>	22	—	2	—	1	20	1.1.1
<b>RHEIFORMES</b>								
Common Rhea	<i>Rhea americana</i>	20	—	9	9	2	2	6.1.9
<b>CICONIFORMES</b>								
Marabou Stork	<i>Leptoptilos crumeniferus</i>	2	—	—	—	—	—	1.1.0
Caribbean Flamingo	<i>Phoenicopterus ruber ruber</i>	* 10	3	—	—	1	—	5.2.5
Greater Flamingo	<i>Phoenicopterus ruber roseus</i>	* 5	—	—	—	1	—	0.4.0
<b>ANSERIFORMES</b>								
Rufus Whistling Tree Duck	<i>Dendrocygna bicolor</i>	1	—	—	—	—	—	0.0.1
Black Swan	<i>Cygnus atratus</i>	2	—	—	—	—	—	1.1.0
Greylag Goose ‡	<i>Anser anser</i>	27	—	—	—	—	6	0.0.21
Australian Shelduck	<i>Tadorna tadornoides</i>	1	—	—	—	—	—	1.0.0
Mandarin Duck ‡	<i>Aix galericulata</i>	2	1	—	—	—	—	1.1.1
Falcated Teal	<i>Anas falcata</i>	2	—	—	—	—	—	1.1.0
Northern Pintail	<i>Anas acuta</i>	4	—	—	—	—	—	3.1.0
Australian White-eyed Duck	<i>Aythya australis</i>	2	—	—	—	1	—	1.0.0
Ringed Teal	<i>Callonetta leucophrys</i>	5	—	—	—	—	—	1.4.0
European Eider Duck	<i>Somateria m. mollissima</i>	4	—	3	2	—	—	2.2.1
Red-crested Pochard	<i>Netta rufina</i>	8	—	—	—	1	—	3.4.0
<b>FALCONIFORMES</b>								
Crested Caracara	<i>Polyborus plancus</i>	2	—	—	—	—	—	1.1.0
Secretary Bird	<i>Sagittarius serpentarius</i>	4	—	—	—	—	2	1.1.0
<b>GALLIFORMES</b>								
Crested Guan	<i>Penelope purpurascens</i>	1	—	—	—	—	—	1.0.0
Satyr Tragopan	<i>Tragopan satyra</i>	2	—	—	—	1	—	0.1.0
Bornean Crested Fireback	<i>Lophura ignita</i>	2	—	—	—	2	—	—
White Eared Pheasant	<i>Crossoptilon crossoptilon</i>	4	—	—	—	—	—	1.3.0
Brown Eared Pheasant	<i>Crossoptilon mantchuricum</i>	5	—	—	—	1	1	1.2.0
Cheer Pheasant	<i>Catreus wallichi</i>	17	—	1	—	4	1	4.8.1
Himalayan Monal Pheasant	<i>Lophophorus impeyanus</i>	2	—	7	—	—	—	1.1.7
Grey Peacock Pheasant	<i>Polyplectron bicalcaratum</i>	6	—	1	—	2	1	2.1.1
<b>GRUIFORMES</b>								
Red-crowned Crane	<i>Grus japonensis</i>	2	—	—	—	—	—	1.1.0
Sarus Crane	<i>Grus antigone</i>	5	—	1	—	1	2	2.1.0
Stanley Crane	<i>Anthropoides paradisea</i>	2	—	—	—	—	—	1.1.0
<b>PSITTACIFORMES</b>								
Sulphur-crested Cockatoo	<i>Cacatua galerita</i>	2	—	—	—	—	—	1.1.0
Moluccan Cockatoo	<i>Cacatua moluccensis</i>	6	—	—	—	2	—	2.2.0
Blue and Gold Macaw	<i>Ara ararauna</i>	2	—	—	—	—	—	1.1.0
Scarlet Macaw	<i>Ara macao</i>	2	—	—	—	—	—	1.1.0
Yellow-naped Macaw	<i>Ara auricollis</i>	4	—	—	—	—	—	2.2.0



COMMON NAME	SCIENTIFIC NAME	GROUP 1.1.93	ARRIV.	BORN	NEO-NATAL DEATH	DEATH	DEP'D	GROUP 31.12.93
<b>PSITTACIFORMES cont.</b>								
Severe Macaw	<i>Ara severa</i>	2	1	—	—	—	1	1.1.0
Lesser Patagonian Conure	<i>Cyanoliseus patagonus</i>	4	2	3	—	1	6	1.1.0
Blue-throated Conure	<i>Pyrrhura cruentata</i>	—	2	—	—	—	—	1.1.0
Slender-billed Conure	<i>Enicognathus leptorhynchus</i>	2	—	—	—	1	—	1.0.0
Red-lored Amazon Parrot	<i>Amazona autumnalis</i>	3	—	—	—	1	2	—
Blue-fronted Parrot	<i>Amazona aestiva</i>	3	—	—	—	—	—	2.1.0
Orange-winged Amazon Parrot	<i>Amazona amazonica</i>	2	—	—	—	—	—	1.1.0
African Grey Parrot	<i>Psittacus erithacus</i>	1	—	—	—	—	1	—
<b>CUCULIFORMES</b>								
White-cheeked Touraco	<i>Tauraco leucotis</i>	2	1	—	—	2	1	—
<b>STRIGIFORMES</b>								
European Eagle Owl	<i>Bubo bubo</i>	6	—	—	—	—	1	3.2.0
Snowy Owl	<i>Nyctea scandiaca</i>	2	1	3	3	1	—	1.1.0
Woodford's Owl	<i>Ciccaba woodfordii</i>	1	—	—	—	—	—	0.1.0
<b>CORACIIFORMES</b>								
Laughing Kookaburra	<i>Dacelo novaeguineae</i>	2	—	—	—	—	—	1.1.0
<b>PASSERIFORMES</b>								
Red-billed Blue Pie	<i>Urocissa erythrorhyncha</i>	—	2	—	—	1	—	0.1.0
Azure-winged Magpie	<i>Cyanopica cyanus</i>	—	4	—	—	1	—	3.0.0
<b>TOTAL: 175 Birds</b>		217	17	30	14	28	47	175

<b>TESTUDINIDAE</b>								
Hermann's Tortoise	<i>Testudo hermanni</i>	46	1	8	—	1	22	2.9.21
North African or Moorish Land Tortoise	<i>Testudo graeca</i>	6	—	—	—	2	—	0.4.0
Spur-thighed Tortoise	<i>Testudo ibera</i>	17	—	5	—	1	3	2.5.11
<b>TOTAL: 54 Reptiles</b>		69	1	13	0	4	25	54

\* Incorrectly recorded in 1992

‡ Free flying – numbers vary

† Species jointly owned by Marwell Preservation Trust and the Zoological Society of London

The following species are also jointly owned, but are not at present represented at Marwell:

Lowland Anoa (*Bubalus depressicornis*)

Blackbuck (*Antelope cervicapra*)

Blesbok (*Damaliscus d. phillipsi*)

Gaur (*Bos gaurus*)

Killdeer (*Boselaphus tragocamelus*)

Pere David's Deer (*Elaphurus davidianus*)

Persian Onager (*Equus hemionus onager*)

Thomson's Gazelle (*Gazella thomsoni*)



**THE MARWELL PRESERVATION TRUST LIMITED**  
(limited by guarantee)

Registered No. 1355272

**FINANCIAL STATEMENTS**  
for the year ended 31 December 1993

**THE MARWELL PRESERVATION TRUST**  
**DIRECTORS' REPORT**

The Director Trustees present their annual report and the audited financial statements for the year ended 31 December 1993.

**Principal activities and business review**

The principal activity of the Trust is the operation of Marwell Zoological Park, with its scientific and educational programmes. A review of the year is given in the Chairman's report.

**Results**

The surplus for the year, including donations, was £347,413 (1992: £190,070). The surplus for the year has been transferred to the General Fund.

**Scientific research**

The Trust is actively involved in the support of animal breeding and conservation programmes in the United Kingdom and overseas.

**Significant changes in fixed assets**

Movements in fixed assets are set out in note 10 to the financial statements.

**Trustees and Trustees' interest**

The Trustees who held office during the year and subsequently are listed facing page 1. Changes to the Trustees were as follows:

The Lord McAlpine of West Green resigned on 24 March 1993.

Sadly, Lt. Colonel Sir James Scott, a Trustee since 1982, died in November 1993.

The Trustees hold no beneficial interest in the Trust. The Trustees have each guaranteed the sum of £1 share capital.

**Conservation expenditure**

The Trust has made contributions amounting to £18,192 during the year (1992: £9,762) to overseas conservation projects. This included support for the Chipangali-Marwell Duiker project in Bulawayo and for the Madagascar Fauna group.

**Trustees' responsibilities**

Company law requires the Trustees to prepare financial statements for each financial period which give a true and fair view of the state of the affairs of the Trust and of the surplus or deficit of the Trust for that period. In preparing those financial statements, the Trustees are required to:

- select suitable accounting policies and then apply them consistently;
- make judgements and estimates that are reasonable and prudent;
- state whether applicable accounting standards have been followed, subject to any material departures disclosed and explained in the financial statements;
- prepare the financial statements on the going concern basis, unless it is inappropriate to presume that the Trust will continue in business.

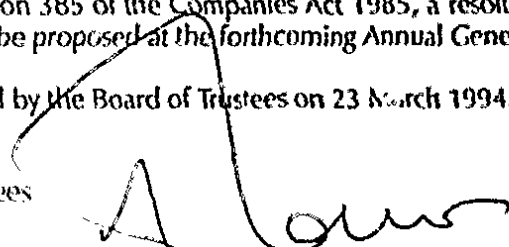
The Trustees are responsible for keeping proper accounting records which disclose with reasonable accuracy at any time the financial position of the Trust and to enable them to ensure that the financial statements comply with the Companies Act 1985. They have general responsibility for taking such steps as are reasonably open to them to safeguard the assets of the Trust and to prevent and detect fraud and other irregularities.

**Auditors**

In accordance with Section 385 of the Companies Act 1985, a resolution for the re-appointment of KPMG Peat Marwick as auditors of the Trust will be proposed at the forthcoming Annual General Meeting.

This report was approved by the Board of Trustees on 23 March 1994.

N. JONAS  
Chairman, Board of Trustees



Marwell Zoological Park  
Colden Common, Winchester, Hampshire

**REPORT OF THE AUDITORS, KPMG PEAT MARWICK,  
TO THE MEMBERS OF THE MARWELL PRESERVATION TRUST LIMITED**

We have audited the financial statements on pages 18 to 24.

**Respective responsibilities of Directors and Auditors**

As described on page 16, the Company's Directors are responsible for the preparation of financial statements. It is our responsibility to form an independent opinion, based on our audit, on those statements and to report our opinion to you.

**Basis of 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 Directors in the preparation of the financial statements and of whether the accounting policies are appropriate to the Company's circumstances, consistently applied and adequately disclosed.

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

**Opinion**

In our opinion, the financial statements give a true and fair view of the state of the Company's affairs as at 31 December 1993 and of its surplus of income over expenditure for the year then ended and have been properly prepared in accordance with the Companies Act 1985.

*KPMG Peat Marwick*

KPMG PEAT MARWICK  
Chartered Accountants  
Registered Auditors  
Southampton

23 March 1994

**REPORT OF THE AUDITORS  
TO THE TRUSTEES OF THE MARWELL PRESERVATION TRUST LIMITED  
PURSUANT TO SECTION 249 OF THE COMPANIES ACT 1985**

We have examined the financial statements of The Marwell Preservation Trust Limited on pages 18 to 24 and of its subsidiary undertaking (listed in note 11) for the year ended 31 December 1993. The scope of our work for the purpose of this report was limited to confirming that The Marwell Preservation Trust Limited is entitled to the exemption from the requirement to prepare group accounts.

In our opinion, the group consisting of The Marwell Preservation Trust Limited and its subsidiary undertaking is a medium-sized group in respect of the year ended 31 December 1993 and The Marwell Preservation Trust Limited is therefore entitled to the exemption from the requirement to prepare group accounts under Section 249 of the Companies Act 1985.

*KPMG Peat Marwick*

KPMG PEAT MARWICK  
Chartered Accountants  
Registered Auditors  
Southampton

23 March 1994

**THE MARWELL PRESERVATION TRUST LIMITED**  
(limited by guarantee)

**INCOME AND EXPENDITURE ACCOUNT**  
for the year ended 31 December 1993

	Note	1993		1992	
		£	£	£	£
<b>Turnover</b>	4				
Income from admissions			1,063,373		834,006
Retail services	5		282,221		223,891
Special events			239,928		211,967
Other income, including animal sales	2		84,714		91,769
			<u>1,670,236</u>		<u>1,361,633</u>
<b>Zoo expenses</b>					
Food and animal care		170,601		163,787	
Park utilities		110,504		123,082	
Park maintenance and depreciation		225,130		215,419	
Salaries and wages	7	388,895		355,397	
Motor, travel and staff expenses		59,826		45,610	
			<u>(954,956)</u>		<u>(903,295)</u>
<b>Administrative expenses</b>					
Advertising, publications and promotions		260,790		173,866	
Salaries and wages	7	160,746		128,745	
Accommodation and office costs		76,494		100,728	
Bank charges		22,242		15,673	
Legal and professional		19,034		10,734	
Overseas conservation expenditure		18,192		9,762	
			<u>(557,708)</u>		<u>(439,508)</u>
<b>Operating surplus</b>			<u>157,782</u>		<u>18,830</u>
Interest receivable			40,017		33,513
Interest payable	8		(454)		—
			<u>197,345</u>		<u>52,343</u>
<b>Donations</b>					
Animal Adoption Scheme	2	62,523		62,324	
Donations and legacies	9	35,492		75,403	
Sale of land		52,053		—	
			<u>150,068</u>		<u>137,727</u>
<b>Surplus of income over expenditure for the financial year</b>	3		<u><u>347,413</u></u>		<u><u>190,070</u></u>

The 1992 income and expenditure account has been restated to reflect the adoption during 1993 of the Statement of Recommended Practice for use by charities.

In both the current and previous years, the Trust made no acquisitions and had no discontinued operations.

There are no recognised gains and losses other than the surplus for the year as reported above.

A statement of movements on reserves is given in note 17.

**THE MARWELL PRESERVATION TRUST LIMITED**  
(limited by guarantee)

**BALANCE SHEET**  
at 31 December 1993

	Note	1993		1992	
		£	£	£	£
<b>Fixed assets</b>					
Tangible assets	10		2,000,670		1,911,418
Animal collection	2		1		1
Investments	11		100		100
			<u>2,000,771</u>		<u>1,911,519</u>
<b>Current assets</b>					
Stocks	12	25,025		16,860	
Debtors	13	85,346		74,949	
Cash at bank and in hand		836,329		516,115	
		<u>946,700</u>		<u>607,924</u>	
<b>Creditors: Amounts falling due within one year</b>	14	<u>(169,767)</u>		<u>(154,757)</u>	
<b>Net current assets</b>			<u>776,933</u>		<u>453,167</u>
<b>Total assets less current liabilities</b>			<u>2,777,704</u>		<u>2,364,686</u>
<b>Deferred income</b>	15		<u>(208,074)</u>		<u>(142,469)</u>
<b>Net assets</b>			<u><u>2,569,630</u></u>		<u><u>2,222,217</u></u>
<b>Reserves</b>					
General Fund	17		<u><u>2,569,630</u></u>		<u><u>2,222,217</u></u>

These financial statements were approved by the Trustees on 23 March 1994 and were signed on their behalf by:

J.M. KNOWLES  
J.L. ADAMS  
N. JONAS  
Trustees

**THE MARWELL PRESERVATION TRUST LIMITED**  
(limited by guarantee)

**CASH FLOW STATEMENT**  
for the year ended 31 December 1993

	1993		1992	
	£	£	£	£
<b>Net cash inflow from operating activities</b>				
Operating surplus				
Depreciation	157,782		18,830	
(Increase)/Decrease in stocks	95,465		97,254	
(Increase)/Decrease in debtors	(8,165)		12,872	
Increase/(Decrease) in creditors	(7,267)		(33,601)	
Amortisation of capital grants	10,135		31,190	
Profit on sale of tangible fixed assets	(4,395)		(2,995)	
	<u>—</u>		<u>(550)</u>	
<b>Net cash inflow from operating activities</b>		<b>243,555</b>		<b>123,000</b>
<b>Returns on investments and servicing of finance</b>				
Interest received	36,887		33,985	
Hire purchase interest	<u>(454)</u>		<u>—</u>	
<b>Net cash inflow from returns on investments and servicing of finance</b>		<b>36,433</b>		<b>33,985</b>
<b>Investing activities</b>				
Payments to acquire tangible fixed assets (a)	(179,842)		(172,317)	
Receipt from sales of tangible fixed assets	<u>—</u>		<u>550</u>	
<b>Net cash outflow from investing activities</b>		<b>(179,842)</b>		<b>(171,767)</b>
<b>Financing</b>				
Animal adoption scheme	62,523		62,324	
Sale of land	52,053		—	
Donations, covenants and legacies	35,492		27,005	
Grant from Hampshire County Council	<u>70,000</u>		<u>10,000</u>	
<b>Net cash inflow from financing</b>		<b>220,068</b>		<b>99,329</b>
<b>Increase in cash at bank and in hand</b>		<b>320,214</b>		<b>84,547</b>

(a) Payments to acquire tangible fixed assets exclude those gifted assets received and capitalised during the year £Nil (1992: £48,398), as these additions do not result in a cash outflow from the Trust.



# THE MARWELL PRESERVATION TRUST LIMITED

(limited by guarantee)

## NOTES

(forming part of the financial statements)

### 1. Trust status

The Marwell Preservation Trust Limited (the Trust) is a Company limited by guarantee (No. 1355272) and registered with the Charity Commission (No. 275433).

The Trustees are advised that the Trust has no tax liability for the period covered by these financial statements.

The members of the Trust have guaranteed the liabilities of the Trust to the extent of £1 each.

### 2. Accounting policies

The following accounting policies have been applied consistently in dealing with items which are considered material in relation to the Trust's financial statements:

#### *Basis of preparation*

The financial statements have been prepared in accordance with applicable accounting standards and under the historical cost convention.

#### *Property*

Property is shown at the cost incurred since the creation of the Park in 1970. Some of the costs relate to periods prior to the formation of the Marwell Preservation Trust Limited.

#### *Depreciation*

No depreciation is provided on freehold land and permanent buildings where the remaining expected life exceeds fifty years. It is the Trust's policy to maintain these buildings in a continual state of sound repair and to make improvements thereto from time to time and accordingly the Trustees consider that the lives of these assets are so long and residual values, based on prices prevailing at the time of acquisition, are so high that depreciation is insignificant.

Other depreciation is calculated as follows:

Animal houses and temporary buildings ...	2%	p.a. straight line
Fencing ...	7½%	p.a. straight line
Plant and equipment ...	15%	p.a. straight line
Railway ...	8½%	p.a. straight line

#### *Grants*

Capital grants received for animal housing are treated as deferred income, from which annual instalments over a period of fifty years are taken to the credit of the income and expenditure account. Revenue grants are credited to the income and expenditure account against the costs to which they relate.

#### *Animals*

The animal collection is shown at a nominal value of £1. The Trustees consider an annual valuation of the collection to be inappropriate. Proceeds of sales of animals are credited and the costs of additions to the collection by purchase or breeding are written off to the income and expenditure account.

#### *Stocks*

Stocks are valued at the lower of cost and net realisable value.

#### *Covenants*

The covenant from Marwell Services Limited is detailed in note 5. Tax recoverable on other covenants is credited when received. The tax recovered for the year ended 5 April 1993 was £7,811 (1992: £6,813) on covenants relating to the animal adoption scheme and sundry donations.

#### *Non-consolidation of Marwell Services Limited*

The Trust has taken advantage of an exemption from preparing consolidated financial statements by virtue of the fact that it meets the requirements of Section 249 of the Companies Act 1985 to qualify as a medium-sized group. The Trust's investment in and income arising from the subsidiary company is disclosed in notes 11 and 5 to these financial statements.

#### *Donations, covenants and legacies*

During 1993, the Trust adopted SORP 2 and recognises such receipts, net of appeal expenses, through the income and expenditure account. The comparative figures for 1992 have been restated. The donation of capital projects is included in the financial statements when the asset has been formally handed over to the Trust by the donor.

#### *Pension costs*

The Trust operates a defined contribution pension scheme for certain employees. The scheme funds are administered by managers independent of the Trust's finances. The pension charge represents contributions payable by the Trust to the fund (see note 7). The scheme is fully funded.

### **Hire purchase contracts**

Fixed assets acquired under hire purchase contracts are capitalised. Interest charges are calculated as a proportion of annual instalments paid based on the sum of digits method.

### **3. Income and expenditure account**

The surplus of income over expenditure is stated after charging the following:

	1993	1992
	£	£
Director's emoluments (including pension contributions)	41,448	35,796
Auditors' remuneration – audit services	5,275	5,020
– non-audit services	3,645	1,775
Equipment hire	12,561	8,065
Depreciation	95,465	97,254

Other than the Zoo Director, no Trustee received any emoluments from the Trust.

### **4. Turnover**

Turnover represents the total amount receivable for sales and services, excluding value added tax.

### **5. Retail services**

The income from retail services comprises:

	1993	1992
	£	£
Guide books	37,303	32,005
Train rides	47,513	38,357
Management charges	35,831	30,208
Catering commission	62,310	49,950
Concession fees	50,541	42,148
Covenanted profits (gross)	48,723	31,223
	<u>282,221</u>	<u>223,891</u>

Income derived from the shops is receivable by Marwell Services Limited, as the receipt of this trading income by the Trust would have been taxable. Marwell Services Limited has covenanted all of its profits to the Trust.

### **6. Revenue grants**

Education and repair grants received during the year have been deducted from the costs incurred as follows:

	1993	1992
	£	£
Repairs	14,766	29,480
Administrative salaries	50,260	50,406
	<u>65,026</u>	<u>79,886</u>

### **7. Staff numbers and costs**

The average number of persons employed by the Trust (including the Zoo Director) during the year, analysed by category, was as follows:

	Number of employees	
	1993	1992
Management	2	2
Administration	14	13
Zoo staff	46	45
	<u>62</u>	<u>60</u>

The aggregate payroll costs of these persons were as follows:

	1993	1992
	£	£
Wages and salaries	536,160	481,072
Social security costs	47,736	42,637
Other pension costs	16,005	10,839
	<u>599,901</u>	<u>534,548</u>

### **8. Interest payable**

Hire purchase interest

	1993	1992
	£	£
	<u>454</u>	<u>—</u>

## 9. Donations

	1993 £	1992 £
Donations, covenants and legacies	48,882	84,891
Less appeal expenses	(13,390)	(9,488)
	<u>35,492</u>	<u>75,403</u>

## 10. Tangible fixed assets

	Freehold land and buildings £	Animal houses, temporary buildings and fences £	Plant and equipment £	Railway £	Total £
<i>Cost or value of gifts</i>					
At 1 January 1993	575,075	1,483,875	346,892	127,444	2,533,286
Additions	—	154,238	26,227	4,252	184,717
	<u>575,075</u>	<u>1,638,113</u>	<u>373,119</u>	<u>131,696</u>	<u>2,718,003</u>
<i>Depreciation</i>					
At 1 January 1993	—	294,978	273,764	53,126	621,868
Charged in year	—	44,235	40,036	11,194	95,465
	<u>—</u>	<u>339,213</u>	<u>313,800</u>	<u>64,320</u>	<u>717,333</u>
<i>Net book value</i>					
At 31 December 1993	<u>575,075</u>	<u>1,298,900</u>	<u>59,319</u>	<u>67,376</u>	<u>2,000,670</u>
At 31 December 1992	<u>575,075</u>	<u>1,188,897</u>	<u>73,128</u>	<u>74,318</u>	<u>1,911,418</u>

## 11. Investments (held as fixed assets)

The Trust owns the whole of the issued share capital of Marwell Services Limited, a company incorporated in England which carries on the business of retail shops. The investment is shown at cost, being one hundred ordinary £1 shares. In the opinion of the Trustees, the aggregate value of the assets of the company are not less than the aggregate of the amounts at which those assets are stated in the Trust's balance sheet. At 31 December 1993, the aggregate of the subsidiary's capital and reserves amounted to £100 (1992: £100), and retained profits for the year then ended were £Nil (1992: Nil). Amounts owed by the subsidiary to the Trust are disclosed in note 13.

## 12. Stocks

	1993 £	1992 £
Raw materials and consumables	10,344	8,110
Goods for resale	14,681	8,750
	<u>25,025</u>	<u>16,860</u>

## 13. Debtors

	1993 £	1992 £
Trade debtors	11,547	24,612
Amounts owed by subsidiary undertaking	24,903	23,832
Other debtors	12,181	7,875
Prepayments and accrued income	36,715	18,630
	<u>85,346</u>	<u>74,949</u>

**14. Creditors: Amounts falling due within one year**

	1993 £	1992 £
Hire purchase obligations (note 16)	4,875	—
Trade creditors	114,285	58,252
Other taxes	16,350	20,486
Social security	8,228	7,070
Accruals	26,029	68,949
	<u>169,767</u>	<u>154,757</u>

**15. Deferred income**

	Animal housing grant £	Encounter area grant £	Total £
At 1 January 1993	22,042	120,427	142,469
Received in the year	—	70,000	70,000
Transferred to income and expenditure account	(537)	(3,858)	(4,395)
At 31 December 1993	<u>21,505</u>	<u>186,569</u>	<u>208,074</u>

The encounter area grant, received from Hampshire County Council, is to assist with the development of the children's encounter area within the Zoological Park.

**16. Hire purchase obligations**

The future payments to which the Trust was committed at 31 December 1993 were as follows:

	1993 £	1992 £
Amounts payable within one year	<u>4,875</u>	<u>—</u>

**17. Reserves**

	General fund £
At 1 January 1993	2,222,217
Surplus of income over expenditure for the year	347,413
At 31 December 1993	<u>2,569,630</u>

**18. Commitments**

Capital commitments at the end of the financial year for which no provision has been made:

	1993 £	1992 £
Contracted	57,568	47,000
Authorised but not contracted	<u>45,000</u>	<u>—</u>



A ticklish moment for Assistant Head Keeper Lynda Dalby with Ben the Baby Caracal

Philip Jell



At the opening of the Tiger Observation Screen animals and public find equal fascination

Paul Carter



Sarah Kennedy, visiting Marwell for the series 'Animal Counties', meets one of the two Snow Leopard cubs born at Marwell Park

Philip Worman



Sarah Kennedy with Billie & Eugene, Pallas

Philip Worman

## LEGACIES TO MARWELL PRESERVATION TRUST

Marwell Preservation Trust is a registered charity (No. 275433) and all gifts to it are completely exempt from capital gains tax and capital transfer tax.

Please consider leaving the trust a legacy in your will. The Trust's many educational and conservation activities can only grow through the generosity of individuals and benefactors. A legacy is a very great help.

*Further information and legacies may be obtained from*

**Marwell Preservation Trust, Colden Common, Winchester, Hampshire, SO21 1JH**

Front cover photograph  
Group of Kudu Antelope

Philip Jell

Back cover photograph by  
Peter Dean with Bronwyn  
hand reared Grevy's Zebra  
Snow Leopard cubs, Inna and Yagmur

Philip Worman

Philip Worman

Design and typesetting by IP Graphics  
Editorial artwork by Paddy Weeks  
Printing by Helix Press Limited, Southampton



"In the end, we will conserve only  
what we love. We will love only  
what we understand. We will  
understand only what we are  
taught."

*Baba Dioum*



£5