



2017 ZOO REVIEW

Annual Review of the North of England Zoological Society

www.chesterzoo.org



Chairman: Bruce Ursell

CHAIRMAN'S STATEMENT



2017 saw the continued improvement of Chester Zoo's performance. This is a tribute to the people working here in Chester, in our outreach teams inspiring the young people in our area, and at our various projects worldwide, not only our full time staff but also our dedicated group of volunteers.

This past year has seen the publication of our Strategic Development Plan, designed to ensure that the zoo develops its ability to fulfill its charitable objectives whilst continuing to attract and stimulate our visitors, the revenue from whom funds all that we do. In that respect we are different from a lot of the major zoos outside the UK, which are funded by their governments. That makes our achievements in terms of recognition through independent rankings particularly pleasing. The development plan will enable us to grow further in a cohesive manner to ensure that we improve our visitor experience, protect more species and focus upon our conservation priorities, all of which will result in more of the changes to our layout that at times requires diverting routes. As with the new Madagascar area and penguin habitat, and the renovated Oakfield, I am confident that any short term disruption will be worth it in the longer term.

We have benefitted from the publicity gained from the TV series "The

Secret Life of the Zoo" which will continue later in 2018 and into 2019. The series shows Chester Zoo in a fine light. That helps not only us but the image of zoos generally. This is important given some of the adverse publicity zoos sadly sometimes attract. There are always critics ready to seize on isolated incidents to castigate zoos as a whole without recognising the vitally important conservation, education and scientific work that goes on, often unseen. Social media provides a fertile outlet for entities and individuals with an agenda that is often badly informed.

In the past we have tended to respond only to specific criticisms but as part of our mission we do feel that zoos have a vital role in the conservation effort so this year we have adjusted our strategic objectives to become a more pro-active voice for change. We have an important voice in British, European and worldwide zoo associations and intend to harness that and any other influence we can bring to bear to provide a counter to those entities that seek to damage us and divert us from our conservation and education aims. As an example, our efforts to turn Chester into the first Sustainable Palm Oil City is a local initiative to change behaviour and minds, plus hopefully, letting others see the nature of one of our non-zoo related efforts.

Our charitable mission is difficult given the pressures upon habitats leading to human wildlife conflict but I am confident that our team is up for the task.

OUR TRUSTEES



Bruce Ursell, Chair

Bruce has held a number of directorships including a FTSE100 company and has chaired a top ten accounting firm. For 12 years he was a non-executive director of Standard Bank plc, during which time he was chairman of companies managing European government and private investments in emerging markets.



Prof Malcolm Bennett

As Professor of Zoonotic and Emerging Disease, Faculty of Medicine and Health Sciences at the University of Nottingham, Malcolm provides advice to veterinary pharmaceutical companies and advises government agencies on infectious diseases and their risk consequences.



Penny Coates

Former Managing Director of the Manchester Airports Group, Director of Asda and Non Executive Director of the Cooperative Society Specialist Businesses, Penny has held senior roles in retail, aviation, manufacturing and financial services. Penny is now semi-retired to allow her to focus on Non-Executive Director and Trustee roles.



Prof Richard Griffiths

Richard is based at the Durrell Institute of Conservation and Ecology (DICE) at the University of Kent. An advocate of the powerful role that zoos can play in conservation, education and applied research, he is a member of the IUCN Reintroductions Specialist Group, and has chaired several working groups on translocation and reintroduction themes.



Malcolm Ardron, Vice Chair (Mission Enabling)

Malcolm is a company managing director and Fellow of the Institution of Mechanical Engineers. After studying Engineering Science at Oxford University his career spanned both public and private sectors. He is currently Managing Director of a company providing engineering and construction services.



Catherine Buckley

Catherine is a retired Headmistress of The Queen's School, Chester. After studying modern languages at Oxford, she spent two years teaching in Southern Germany. She has taught for most of her career at leading independent schools in the North West.



Sandra Donnelly

Sandra is Head of Economics at William Hulme's Grammar School in Manchester. She previously served as the Chief Executive of the Economics, Business and Enterprise Association, where she was responsible for building relationships with a range of stakeholders including government bodies, academics and education professionals and has co-ordinated partnerships with schools in South Africa, China and Australia.



Angela Pinnington

Angela is an independent business consultant experienced in the design and delivery of strategy, project management, business improvement and people development projects. She specialises in the provision of coaching and training. For several years now she has been a trustee of Ariel Trust, an education charity established in 1982.



William Beale, Vice Chair (Mission Delivery)

Will is Head of Programme Operations, WWF-UK. After working for 10 years with Unilever as a Chartered Chemical Engineer in various innovation, development and manufacturing roles, Will joined World Wildlife Fund (WWF-UK) in 2003. His work focuses on developing the organisation, its processes and people, to achieve increased impact and value for money from conservation programmes.



Edwin Christmas

Edwin is a property consultant and Fellow of the Royal Institution of Chartered Surveyors practicing in the commercial and rural property sectors. Formerly the Estate Director at Eaton Estate, Chester and Agent to the 6th Duke of Westminster, he was responsible for the stewardship and management of this 4000-hectare diverse estate.



Prof Russell Newby

Russell was Professor of Biochemistry at Swansea University until retirement in 2008, when he was elected Emeritus Professor. He was also Lead Director of the Biomolecular Analysis Mass Spectrometry Facility. He is currently Chair of the Scientific Advisory Board of Endocrine Pharmaceuticals.



Simon Venables

Simon has worked as Assistant Finance Director and Head of Internal Audit at Bibby Line Group in Liverpool, with previous experience as Audit Senior Manager at KPMG. A Chartered Accountant, he spent 13 years with KPMG in Liverpool after graduating from Cambridge University (Geography) in 2000.



Paula Spence

Paula has been a member of Chester Zoo for over 10 years and regularly visits with her family. A graduate of Liverpool University, she has worked in Health and Social Care for over 15 years, currently holding a senior post for a large charity. Paula also owns her business in the village where she lives.



Dr Mark Pilgrim

CHIEF EXECUTIVE'S REVIEW

As the scale of damage that we humans are inflicting on our beautiful planet and its wondrous variety of biodiversity escalates, NEZS, Chester Zoo must refocus its efforts to play an expanding role in the fight to conserve animals and plants. While no single organisation can address all the issues facing our planet alone, we must ensure that everyone involved with this organisation is united in channelling their skills and passion towards a clear mission. During 2017 we drew up our 5 year strategic plan and from this developed a new more focussed Mission Statement; 'Preventing Extinction', that was launched on the 1st January 2018. This simple statement of what we exist for, means that everyone in the organisation, whether enabling or delivering our mission can use it as a sense check of everything that we do.

Throughout the pages of this annual review you will find many examples of breeding successes; Bornean orangutan, Asian elephant, spectacled bear and some of these such as Bermuda skinks, Montsemy brook newts and Javan green magpies are the first time these species have been bred under human care outside of their range countries. Others may not be first ever breedings, however are just as important as they make a vital contribution to intensively managed European Breeding Programmes. Two Eastern black rhino were born at the zoo in the space of just one, very special week and a real boost for the European-wide breeding programme which is coordinated from Chester Zoo.

Breeding species that are on the very brink of extinction like these gives an immediate boost to these populations. It is also vitally important that we look to the future, to inspiring new generations

of conservationists and citizens who make informed choices about safeguarding their world. With that in mind we offered free school visits at the end of 2017. With much appreciated support from the Trustees, free school visits began in November with 500 students receiving free entry to the zoo each day. Very positive feedback has been received from schools taking advantage of the free entry. Many schools taking up the offer are visiting the zoo for the first time or have not visited for some years, due to monetary constraints of both the schools and pupils' families.

I was delighted that during 2017 we were able to complete the three new exhibits that were postponed from the original Islands project. The new habitats for Malayan Tapir, sun bear and a walkthrough Sumatran forest aviary, have added an extra dimension to Islands. Watching the sun bears exploring their new, beautifully landscaped natural habitat was a real high point for me in the summer.

All of these activities to further our mission rely on us being able to generate income, not only to keep the zoo in top condition but also to invest in our development plans and fund our conservation activities in the field. Ensuring that we provide a great experience for our much appreciated visitors and supporters continues to be at the heart of our day to day work.

It remains an immense privilege to be the CEO of Chester Zoo and to lead this incredible organisation. Each year not only do I witness amazing miracles of nature but I'm also constantly inspired by the skills, dedication and passion of our staff from all of the diverse areas of Chester Zoo.



Jamie Christon

CHIEF OPERATING OFFICER'S REVIEW

Despite the successes of the previous few years, 2017 heralded the start of change within the zoo. Our founder, George Mottershead believed that he should be 'always building' and to maintain our reputation as being one of the best zoos in the world, Chester must continue to change and evolve.

Early in the year, we began some careful and considered consultation around a draft Strategic Development Plan which set out a realistic vision of our intent around physical change to the zoo layout and storyline over the next fifteen years. We spent time meeting with a wide range of stakeholders including members and local residents as well as various agencies that had interest in our future.

Alongside this period of consultation, we were in fact already setting out the first phases of the plan with work well underway at the start of the year on Islands, creating new habitats for a number of species, Oakfield House and the transformation of space in the heart of the zoo as the centre for our theme of Play! All of these projects were time critical with each of these areas being iconic zones of the zoo that we wanted to open to our members and visitors as soon as we were able.

The transformation of Madagascar Play! turned out to be a huge success and has already established itself as a hub for families enjoying the varied themed areas.

Enabling works within Oakfield House resulted in the first phase of refurbishment to be completed in time for us to reopen the original home of the zoo for a number of events across the summer and into the autumn.

Additional habitats for sun Bear, Malayan tapir and a fantastic walk through bird aviary was ready for the summer holidays and based on learning from the Islands projects allowed us to show these species in a new way for the first time as well as highlighting illegal wildlife trade through interpretation.

We were absolutely thrilled to be named the 3rd best zoo in the world by Trip Advisor and again the most popular visitor attraction outside London by The Association of Leading Visitor attractions.

Continued focus on development of our people through initiatives such as World Host® training and an in house leadership programme helped maintain our reputation and this led to further regional, national and international awards.

Part of change includes ensuring Chester Zoo is a year round attraction and during the autumn we promoted 'The Enchantment of Chester Zoo' to our visitors and again in December 'Lanterns' attracted many to come and explore the zoo at night. Work is already underway to make sure this major event is better than ever before for 2018.

Swept up throughout the year was the staggering continual popularity of Channel 4s 'The Secret Life of the Zoo' which has now started filming a further series.

As our Chairman mentioned, one of our Strategic Objectives is around being a 'Voice for Change' and this will develop both in the physical changes within the zoo but also our growing need to shout louder and more strongly about conservation both here in the UK and globally.

Our Mission: Preventing Extinction

STRATEGIC DEVELOPMENT PLAN

Our strategic objectives continue to inform and guide our teams in planning, achieving and developing our mission and supporting business activities.

At the end of 2017 we reviewed the objectives in line with progress and our new mission, "preventing extinction", ensuring they reflect our vision for the next fifteen years which is articulated in our Strategic Development Plan (SDP).

Our Strategic Objectives:

Strategic objective 1

Preventing Extinction - by achieving the greatest conservation impact.

Strategic objective 2

Preventing Extinction - by being a world class visitor attraction.

Strategic objective 3

Preventing Extinction - by providing exceptional animal and plant care.

Strategic objective 4

Preventing Extinction - by ensuring financial sustainability.

Strategic objective 5

Preventing Extinction - by developing our people to be the best.

Strategic objective 6

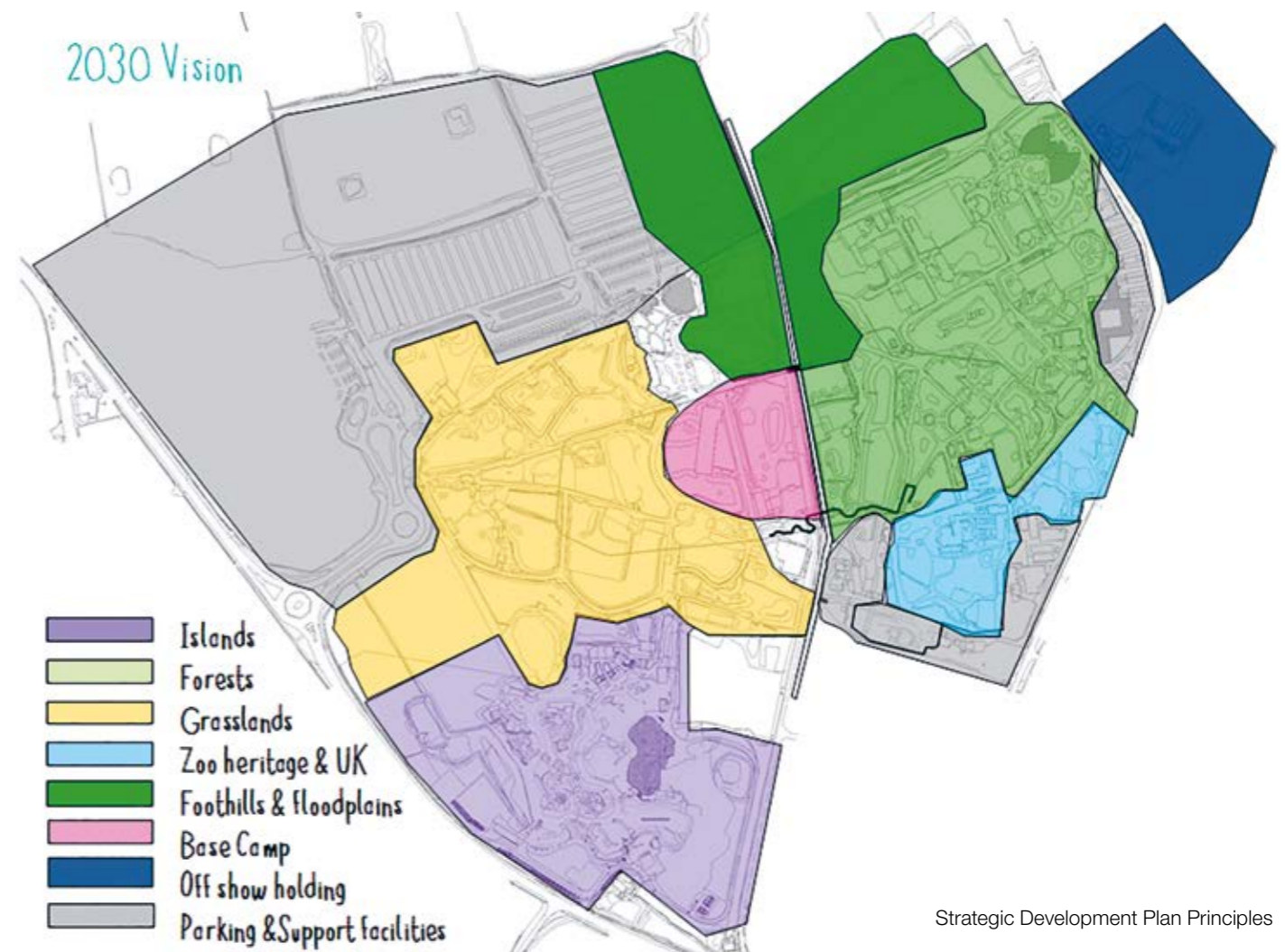
Preventing Extinction - by being a voice for change.



Strategic Development Plan (SDP)

The SDP sets out our plans for the physical development of the zoo, reflecting our work in the world's biodiversity hotspots, as described in the following pages. It also builds on our proud heritage and current achievements to ensure that the physical site of the zoo is focused on the zoo achieving its mission.

The plan improves infrastructure to meet the changing needs of the zoo and all of its stakeholders, including the visitors, staff, trustees and of course its animals, while keeping the zoo's unique character and values. It sets out the development of new zones: Grasslands, Forests, Foothills and Floodplains, to accompany Islands, and promises to create exciting and engaging experiences for our visitors, seeing existing species alongside those coming in to the collection, in world class habitats.





OUR PEOPLE

During 2017, we saw record numbers of job applications and invested in new applicant tracking software. Managers can access job applications on-line without the need to print, criteria is easily assessed and there is a clear audit trail of activity.

At our busiest we had a permanent headcount of 420 along with 407 seasonal and 32 fixed term staff taking our total to 859. 29 new roles were created in order to meet development needs to support the Strategic Development Plan.

Training and Development

We may be a leading zoo but what is even harder than being number one is to stay number one. We get fantastic customer reviews and we want to ensure they keep coming in. Several customer service training providers were assessed and WorldHost® was selected as providing the best all round training with an international track record and closer to home the credit of training the Olympic 2012 'Gamemakers'.

We trained 720 staff in either the Ambassador or Principles of Customer Service module. Staff have really engaged with the training and managers feel there is firm foundation to build on. Plans are already in place to roll out "Customers with Disabilities" and "Service across Cultures" modules. We're also going to refresh seasonal returners this year with an on-line module.

WorldHost was but part of a bigger training picture as in total we delivered an amazing 1,393 training activities covering 45 different types of training ranging from short 30 minute training "Zaps!" to week-long chainsaw and rope skills.

Recognition

Our on-line performance development review (PDR) was enhanced to provide more opportunity to discuss aspirations. We also now have an on-line method to confirm training has been authorised and booked.

WorldHost® were amazed at the numbers we trained in the time and we very pleased to be awarded a recognition award to celebrate Chester Zoo as an organisation delivering exceptional levels of customer service.

Health, Wealth & Happiness

Our health, wealth & happiness programme really picked up the pace this year with a selection of events ranging from cooking classes led by our Executive Head Chef, to photography masterclasses with a

freelance photographer. Our horticulture and botany team delivered top tips for gardeners, which proved extremely popular.

Additional opportunities for staff, under the 'health' banner, included benefits offered by local gyms, and team collaboration in our 'Move for Movember' campaign. Zap sessions were delivered on the theme of Psychological Wellbeing; and the Wealth element was delivered through pension themed zap sessions.

Feedback on all of the above initiatives has been excellent, so we'll build on this in 2018.

Volunteers

2017 saw the visitor engagement volunteer programme go from strength to strength. At the start of the year we recruited and trained 77 new visitor engagement volunteers, taking our total volunteer pool to well over 200. To facilitate this expansion and ensure we continue to provide a high level of quality support to our volunteers.

Having an increased number of trained visitor engagement volunteers on board enabled us to interact with more visitors than ever before, with 261,023 interactions recorded by volunteers during the year. These interactions range from providing a friendly welcome to Islands to engaging visitors with our Sustainable Palm Oil Challenge or helping them find facilities or their favourite animals. New visitor engagement volunteer roles were introduced in the Aquarium, in Monsoon Forest and in the new Sumatran aviary and sun bear area.

Our volunteers undoubtedly provide great benefits to visitors and increase our capacity to engage with people. Between them they donated 19,812 hours to the zoo over the year. However, our visitor engagement volunteer programme was always designed to also provide learning and wellbeing benefits to volunteers themselves. This year we were able to research these benefits using a questionnaire based on a framework created by the National Council for Voluntary Organisations (NVCO). And, following interest from other zoos we extended the research to volunteers at 18 other zoological collections, involving a total of 522 respondents. The volunteers who took part in the study reported positive impacts on their personal development and wellbeing, with higher impacts in areas such as self-esteem, confidence and motivation. They also reported increased social networks and benefits from meeting new people and an increased willingness to try new things. In September we released a report on our findings and circulated this to other BIAZA collections when in October we hosted the Volunteer Managers Working Group Annual Conference.



AWARDS

In 2017, we were delighted to be awarded the following accolades:

- British Coach Tourism Awards**Accessibility Award
- The High Sheriff of Cheshire's Award for Enterprise 2016/17**Chester Zoo Islands: Special Enterprising Project of the Year
- Visit England Awards for Excellence**National Winner: Family Friendly Food & Drink Business of the Year
- Institute of Directors North West** Jamie Christon: Winner, Public Sector/Third Sector Director of the Year
- Institute of Directors North West** Jamie Christon: Winner, Large Company Director of the Year
- Institute of Directors North West** Jamie Christon: Winner, Overall North West Director of the Year
- Whitley Awards** Andean bear conservation project in partnership with WildCRU/Bolivian NGO Prometa: Dr Ximena Velez-Liendo
- Whitley Awards** Philippine Cockatoo Conservation Programme Project in partnership with the Katala Foundation: Indira Lacerna-Widman
- BIAZA**Gold Award for Conservation: Orangutan Veterinary Advisory Group
- BIAZA**Gold Award for Conservation: The Philippine Cockatoo Conservation Programme
- BIAZA**Gold Award for exhibit: Monsoon Forest
- BIAZA**Gold Award for PR, marketing, digital and events: Relaunch of Act For Wildlife
- BIAZA** Gold Award for Education: Evaluating a repeat visit outreach service linked to UK native species
- BIAZA**Gold Award for Research: Ecology, physiology and behaviour in equids: Developing markers for individual status and population health
- BIAZA**Silver Award for Conservation: Reintroduction of partula tree snails into French Polynesia
- BIAZA** National Zoo Photo Awards Runner Up and Commendation: Johanna Rode-Margono for camera trap photographs
- RHS Flower Show, Tatton**Silver Gilt
- Institute of Directors (National)**Jamie Christon: Winner, Gold Award Mid-Market Category Director of the Year
- Cheshire Business Awards** Winner, Business of the Year (over 50 employees)
- BIAZA**Working Mammal Group: Grant awarded for Javan Species Recovery Programme (Hoof stock)
- North West in Bloom**Trophy for Best Large Tourist Attraction
- North West in Bloom** Gold Medal for Best Large Tourist Attraction
- North West in Bloom** Trophy for Biodiversity Award
- UK Heart Safe Awards**Leisure & Tourism Organisation of the Year



Conserving species of

LATIN AMERICA

Andean bear, Lima, with her cub, Madidi

Our Latin American programme this year has continued to involve an incredibly diverse range of species. A first for us here at the zoo (and indeed for the mainland United Kingdom) was the successful birth of an Andean bear cub right at the beginning of the year in January and by May our visitors were able to see 'Madidi' out and about in her habitat. In Bolivia our Chester Zoo Conservation Fellow has been working with various MPs and other politicians to pass a law, the 'Ajayu's' law, to protect the Andean bear and ultimately its ecosystem, they have also been deploying camera traps and recording signs of bear presence such as tree marks, food remains and scats, to gain a better understanding of distribution.

The zoo's work with the Bermudan Government has been hugely successful this year. The Bermuda skinks laid two fertile clutches of eggs which hatched successfully; the first breeding ever outside of Bermuda. The Bermuda snails that we brought to the zoo have also rewarded us with over 1,800 offspring, whilst we have also been successful in breeding the Bermudan killifish and now have over 100 healthy developing offspring. All the species are right on the edge of extinction in Bermuda and these successes pave the way for sending specimens back and future reintroduction efforts to help secure the species in their Bermudan habitats and prevent their extinction.

The zoo is pleased to have received a donation of plants to add to its National Plant Collection of *pleurothallidinae* orchids. The plants were donated by a world authority on these species and the new orchids represent approximately 100 new species to add to the existing

collection of about 700. Most of the pleurothallidinae have not yet been assessed for the IUCN Red List, but many of them are included on Regional Red Lists for their native South American countries and are highly threatened.

Our partners in Brazil have been exceedingly busy and productive in their work on lowland tapir, giant anteater and giant armadillo. In April the giant armadillo work we have supported since 2011 was featured in a BBC2 Natural World documentary entitled 'Hotel Armadillo'. As part of their research into the impact of roads on anteaters our partners also captured an adult male Giant anteater in the Brazilian Cerrado; they named him 'Chester' to honour our long term partnership. 'Chester' was equipped with a GPS harness on which reflective lights were placed in the hope that it will help him avoid any collisions with vehicles in the future, whilst giving important data on anteater movements. Also the lowland tapir work has been very productive with a total of five capture expeditions during the first half of 2017. These recent expeditions in the Cerrado helped them to exceed their goal to capture 30 tapirs in three years. Twenty-one have been equipped with GPS collars helping the team to gather precious information such as the frequency of highway crossings.

In the zoo it has been a busy time with births for our pied tamarins, Colombian black spider monkeys and Rio Cauca caecilians. We were also delighted to obtain two new blue-throated macaws which will hopefully help us to breed this critically endangered species in the future.



Rare African painted dog pups make their playful debut

Conserving species of

AFRICA

It's been a great year for our Africa regional programme with 'firsts' here in the zoo and significant progress in our field activities. Again Eastern black rhinoceros has been at the fore of our fight to prevent extinction; in June we had the momentous birth of two calves within a week of each other to mums 'Kitani' and 'Zuri' whilst at the same time a second-generation calf was born to mum 'Daisy' at our partners reserve in Mkomazi, bringing the total number of black rhinos in the reserve to 30. We have also begun a new Conservation Scholar PhD project which looks at the genetic diversity of the European Eastern black rhino population compared to wild populations and assesses the effects of translocation to assist in conservation planning initiatives. Another new Conservation Scholar PhD project will also be investigating large herbivore management in the face of altering habitats due to climate change.

Our work in Uganda is flourishing and our links with both the Uganda Wildlife Authority (UWA) and Uganda Wildlife Education Centre (UWEC) are growing. In June we funded and participated in the first ever national strategy for giraffe conservation in Uganda just two months after the birth of another Rothschild's giraffe calf to our herd here at the zoo. We have also been conducting a pilot study to investigate the potential presence of okapis in the Semuliki National Park. Our team installed 40 camera traps in the forest and trained 15 UWA rangers to recognise okapi signs. The cameras have already recorded species including chimpanzee, African forest elephant and leopard.

A real highlight to the year in the zoo was the birth of our first ever African wild dog puppies; the eight puppies were born at the end of November and made their debut to our visitors at the very end of the year, leaving their den for the first time on New Year's Eve. We were also delighted earlier in the year with the birth of red river hog twins in

May, and the arrival of red duiker as a new species to share the okapi habitat. Also new to the zoo were Cameroon two-horned mountain chameleon, they came to us as a confiscation from the illegal trade at the airport in Paris and we have already successfully hatched three young from eggs laid soon after arrival.

In Nigeria we continued our work with the National Parks Service to help with the protection of the Gashaka Gumti National Park and obtained camera trap images of 30 species of mammals in the park, including chimpanzees, giant pangolins and golden cats.





Conserving species of

SOUTH ASIA

Wild blue-crown laughing-thrush in Wuyuan County C Xie Xiao-fang

Asian elephants continue to be at the forefront of our South Asian regional programme and this year we were absolutely delighted to have yet another addition to our herd of Asian elephants. Only one month after the December 2016 birth of 'Indali' we had yet another birth in mid-January, this time a healthy male calf called 'Ayyu' born to mum 'Sithami Hi Way'. The three youngsters 'Nandita', 'Indali' and 'Ayyu' have been thrilling visitors all year with their playful antics.

It has been a year in which our 'living with tigers' project working on Bengal tigers and communities in Nepal has been very active. The first season of camera trapping in Bardia National Park yielded tigers in 48 grids out of 97, and 22 grids for leopards; this is really helping to give us an understanding of their distribution and the scale of potential conflict. We have analysed the data from our 2016 household survey of local communities and found that 85% of local community members admitted collecting natural resources, using them mainly for cooking fuel, roof material or to feed their livestock. These local communities are especially at risk of encountering animals such as tigers or leopards because they spend up to half of their day collecting natural resources in national parks or in community forests, yet 80% still agree that tigers and leopards should be protected. We are now conducting a livelihood and market analysis study within our project sites.

In the zoo a new mammal to the collection was the arrival of a pair of Indian muntjac deer, a species that we hope to mix with a number of other Asian ungulates across the zoo in their habitats.

Finally our work in China continues and the conservation sites in the Liang Shan region of Sichuan province that have received long-term Chester Zoo support are now leading the way in conservation practice in the region. We attended a conservation planning meeting with stakeholders for the blue-crowned laughing-thrush in Jianxi province where our continued support has led to protection of sites through a local wardening scheme and awareness raising of the species as part of promotion of the region for tourism.



Constructing area for pinstripe damba at Lake Tseny

Conserving species of

MADAGASCAR & MASCARENES

We appointed a new field programme coordinator for this region in 2017 and a review of our field projects during the year has resulted in a strengthening of our commitment to a number of projects.

In Eastern Madagascar we continued our support for the Mangabe protected area in partnership with Madagasikara Voakajy (MaVoa) where we are helping to protect vital tropical forest habitat for lemurs, chameleons and the critically endangered golden mantella frogs. Two of our lower vertebrate keepers joined the MaVoa team to assist with surveys of golden mantella frogs in Mangabe and these are revealing details of their population structure and movements which will help aid management decisions to boost their populations in the wild. In the zoo, both species of mantella frogs (golden and blue-legged) bred successfully and survival of the tadpoles was much higher than previous years, providing a much needed boost to these important insurance populations.

Also in Mangabe, we supported a new survey of diurnal lemurs using 60 monitoring plots to provide baseline information from which to assess the impact of community projects aimed at reducing the threat from hunting and shifting cultivation. There were a number of successful births within the ring-tailed lemur group at the zoo and we brought in a pair of white-belted ruffed lemurs to add to the lemur species in the collection. We also successfully bred another Madagascar endemic mammal, the lesser Madagascar tenrec hedgehog.

Another Madagascar endemic that we are helping MaVoa to save from extinction is the critically endangered pinstripe damba fish which in the wild is only found in one location, Lake Tseny in the north of the country. Despite its remoteness, Lake Tseny's wildlife is threatened from introduced fish predators and competitors and from unsustainable fishing practices. Construction of a semi-captive area for pinstripe damba in one inlet of the lake was completed and provided a safe area to breed and feed, free from invasive species

and fishing pressure. We also had our first spawning attempt from our pinstripe dambas in the aquarium at the zoo. Although the eggs turned out to be infertile this time, we learnt more about the conditions they require which will be used to encourage further breeding attempts for this vital 'conservation ark' species.

In Mauritius our work to prevent the extinction of a number of highly threatened endemic birds continues. Annual monitoring of echo parakeet, pink pigeon, olive white-eye and Mauritius fody was carried out and in September one of our bird keepers travelled there to work with the Mauritius Wildlife Foundation to manage the captive breeding centre at the Gerald Durrell Endemic Wildlife Sanctuary. She supervised teams of staff and volunteers who were hand-rearing pink pigeons and Mauritius kestrels, and she played a leading role in managing the hand-rearing programme for the Mauritius cuckooshrike.





Conserving species of

SOUTH EAST ASIA

Collection of pitcher plants

South East Asia has the highest proportion of threatened species in the world so it is no surprise that it is our biggest regional programme and 2017 was another busy year.

In the Philippines, we have supported the Katala Foundation to protect and monitor the last remaining wild populations of the critically endangered Philippine cockatoo on the island of Palawan since 2003. We were delighted and extremely proud, therefore, when Katala's CEO Indra Lacerna-Widmann was among the prestigious winners of the Whitley Conservation Award with her project "Partnering with prisoners to safeguard the Critically Endangered Philippine cockatoo." The award was specifically for Katala's work with the Iwahig open prison near Puerto Princesa, where we have supported their work with the prison authorities to provide inmates with employment, protecting and monitoring breeding and feeding areas for the cockatoo within the forested grounds owned by the prison.

A significant birth in April was a male Bornean orangutan, the first to be born at Chester in almost a decade, providing a welcome boost for the population of this critically endangered primate. We are working

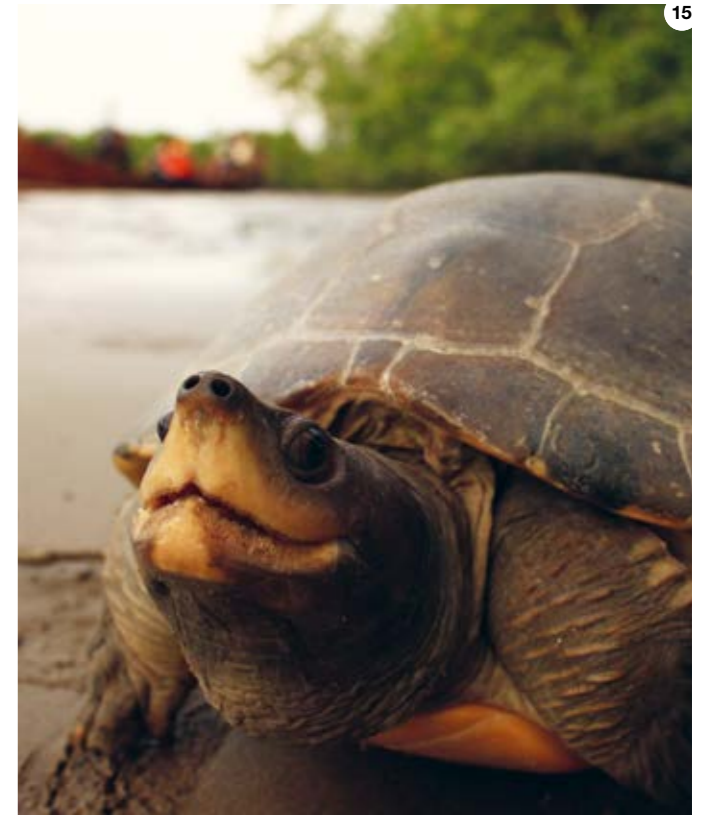
hard to prevent their extinction in Borneo through our partnership with the Hutan-Kinabatangan conservation programme in Sabah (Malaysian Borneo), and evidence of success was provided by a female orangutan and her young who were spotted crossing one of the bridges that we helped to construct in the Lower Kinabatangan Wildlife Sanctuary. The forest here has been regenerating along the river since it was logged about 70 years ago, providing vital habitat for orangutans and a wide range of other wildlife species, including hornbills. Our bird staff worked with Hutan to help hornbills by setting up large nest boxes for them in the forest, after trialling them on our birds in the zoo. We were delighted, therefore, when a pair of wild rhinoceros hornbills moved into one of these during the breeding season to raise a family.

We are making a significant contribution to the efforts to prevent the Javan green magpie from becoming extinct, hatching and fledging two further chicks at Chester, having bred the first birds to hatch outside of Indonesia in 2016. We also strengthened our support for the Cikananga Conservation Breeding Centre (CCBC) in Java who have rescued many birds and made preparations to develop a

breeding programme for some of the most threatened species. Our veterinary manager visited the centre, trained the Centre's veterinarian in basic avian medicine and set up a system for remote veterinary support from Chester Zoo. In the summer, BBC documentary maker Victoria Gill travelled to Indonesia with Chester Zoo staff to film a documentary about the songbird crisis, showcasing our work with the CCBC and with Taman Safari to tackle the problem and the 20 minute-long documentary was aired on BBC News Our World in the autumn.

Our national collection of *nepenthes* (pitcher plant) species was boosted by two newly described species from Thailand, *N. rosea* and *N. krabiensis*. Ours is probably the most important collection of these plants in Europe and is being used in important research involving DNA analysis by staff from Kew Gardens. Much of our work on these and our four other national collections of plants taxa goes on behind the scenes, but in May we were delighted to open our newly refurbished plant habitat at the 'Plant Project' next to June's restaurant. The circulation and layout of the habitat has been completely redesigned and new areas created to showcase our national collections and the important conservation work that we do with them.

In other projects focused on Indonesian species we supported the safe hatching and release of over 1000 critically endangered painted terrapins in Sumatra and the use of infrared cameras to survey Komodo dragons on the island of Flores. Following our discovery in 2016 of the continued presence of the critically endangered Javan warty pig in the wild in West Java, our project explored cultural attitudes to the pigs and revealed the cruel practices around pig fighting. The BBC also highlighted the plight of this species at the end of year.





Conserving species of

UK AND EUROPE

Painted lady in meadow

The expansion of our Nature Reserve, funded by a grant from WREN, progressed quickly with a 3ha wild flower meadow seeded and two ponds and a viewing platform created. In addition a total of 450 whips of native trees were planted which will provide much needed habitat and food supply for a variety of British wildlife species. The new habitats will take time to mature, but there are signs of wildlife already moving in with observations of kingfishers and several bat species recorded hunting over the area during the Wildlife Connections festival. We began an extensive monitoring programme for the reserve in 2017 which will provide us with baseline data and will continue annually to allow us to measure the impact we are having on local biodiversity.

We continued our work with the Vincent Wildlife Trust to reintroduce the pine marten into mid Wales using individuals translocated from a healthy population in Scotland. At least five females successfully bred resulting in the birth of 10 Welsh-born pine marten kits in 2017. One family resulted from a mating in Wales last summer between martens released in 2015, indicating that the pine martens are settling well in their new Welsh home!



We also continued to support the monitoring of the large population of hazel dormice at Bontuchel woodland in Ruthin, North Wales. This forms parts of the National Dormouse Monitoring Scheme and we remain the main coordinators of the North West Dormouse Partnership. This year we trained 20 volunteers in dormouse monitoring and handling techniques and continued nestbox surveys in spring and autumn.



In April, a fire at Heysham Moss, where we are working with the Lancashire Wildlife Trust to reintroduce populations of the locally extinct large heath butterfly, tragically destroyed much of the available habitat and there were fears that the population could not have survived. Incredibly though, observations in late June and July confirmed that some butterflies had emerged so there is hope that this population can build up again as the habitat recovers. It does emphasise, however, the importance of not relying too heavily on single sites and new sites for reintroduction are being considered.

Elsewhere in Europe, we were successful again in breeding our critically endangered bald ibises with eleven chicks hatched in 2017 and we continue to support the reintroduction of this species into the wild in Spain.



Rare newts breed in the UK

Our specialisms

CONSERVATION BREEDING AND MANAGEMENT

The imperative to prevent extinction has never been stronger than it is now, and conservation and breeding management is a vital tool in saving many threatened species. Chester Zoo is an acknowledged world leader in conservation breeding and management and this specialism is central to most of our conservation work. During the year we worked with more than 560 species of animals and more than 1200 important species of plants at the zoo in Chester.

This year has seen several new species which are right on the edge of extinction included in the work we do. Early in the year we began working with Montseny brook newt, a critically endangered European newt which only occurs at a single location in the Catalan Massif in north-eastern Spain. In collaboration with the Catalan government we are now a vital part of the conservation breeding programme for this species. We consolidated our work on Bermudan wildlife with the inclusion of a second snail species; *Poecilozonites circumfirmatus*, coming to the zoo for conservation breeding. We were also delighted that during the year all four of the Bermudan species we are now working with at Chester were successfully bred; paving the way to begin plans for future reintroductions on the island.

The science that underpins this essential specialism continues to go from strength to strength; our conservation scholars completed

research projects on the effects of captive environments on amphibians, the roles of scent communication in rhino social and reproductive interactions, and orchid-fungal symbiosis and propagation. A new conservation scholar began research on the influence of captivity on bird song and strategies for maintaining wild-type bird song in captive populations.

We have again been supporting the work in Indonesia on banteng, running a workshop with our partners Taman Safari in Prigen, Java, to train Indonesian zoo keepers in husbandry and techniques to safely transport animals. This is a vital component of the 'Global Species Management Plan' aiming to manage and conserve all populations of the endangered species, both wild and in zoos.

Coordinated and collaborative breeding programmes are of growing importance for many species to prevent their extinction and during this year we have been involved in more than 130 animal breeding programmes. These cannot be run alone and under the coordination of the European Association of Zoos and Aquaria (EAZA) we cooperate with a large network of zoos across Europe to manage these international cooperative breeding programmes. We also continue to manage five National collections of plants; orchids (*Pleurothallidinae*), pitcher plants (*Nepenthes*) and cacti (*Copiapoa*, *Matucana* and *Turbinicarpus*).



Our specialisms

WILDLIFE HEALTH AND WELLBEING

Sumatran orangutan mum Emma with one day old infant

Our staff are experts in the health and wellbeing of wildlife, caring for more than 560 species of animals at the zoo on a daily basis. These valuable skills are directly transferable to our work in the field with wildlife and our staff are sought after for training wildlife professionals around the world. The veterinary team has had an exceptionally busy year working both in the zoo and abroad on our projects, also acting as veterinary advisors for many of the conservation breeding programmes in which we participate, giving valuable support to BIAZA, EAZA and other partners both at home and abroad.

Support for orangutan conservation has again been a focus of the teams and as well as caring for the thirteen orangutans in the zoo (including baby Bornean and Sumatran orangutans born during the year) we have been actively supporting conservation and training in

Indonesia. In July we supported an Indonesian summer school and symposium on conservation medicine with our partners Orangutan Conservation/ Orangutan Veterinary Advisory Group. We also hosted the veterinary manager from the Sumatran Orangutan Conservation Programme (SOCP) for a three month intensive training placement with us here at the zoo in Chester.

Our fight to find effective preventions and treatments for EEHV to safeguard both captive and wild Asian elephants continues; we have initiated post-doctoral research into the virus and elephant immune systems with a new Conservation Fellow funded through our 'Never Forget' campaign. Also we have now developed new skills and provided the technical equipment necessary to enable us to carry out on site testing for the virus, allowing us to be even more responsive in monitoring and acting to safeguard our herd.



Coloration study on wild Bermudian skinks

Our specialisms

BIODIVERSITY SURVEYS AND MONITORING

We have a wealth of experience of surveying and monitoring biodiversity and the unique opportunity to work so closely with animals and plants in the zoo is critical to these skills. Being able to find and identify wildlife is a first step in protecting and conserving it and our teams have been active around the world this year on a huge variety of species and areas.

At the beginning of the year our staff expedition team headed off to Ecuador again, where they gathered crucial data on new populations of Ecuador amazon parrots and searched for elusive nesting sites. We have also been busy using automatic cameras to monitor wildlife (camera traps) in an effort to survey wildlife that otherwise remains undetected; this year in Nepal for tigers and leopards and in Uganda for okapi, chimpanzee and forest elephants, where we have also been training Uganda Wildlife Authority (UWA) teams in the techniques and skills needed to monitor wildlife. In Indonesia we have been focussing on surveys of some poorly recorded groups, such as reptiles, butterflies and moths, and several plant groups including pitcher plants. It is hoped that such surveys will help to identify important areas for conservation as well as uncovering previously unrecorded species.

Sometimes much more detailed monitoring of individual animals is required and this is where skills learnt in the zoo are often critical to success. In Bermuda we have again been focussing on the critically endangered Bermuda skink; conducting field surveys of four different sub-populations: Castle Island, Nonsuch Island, Southampton Island, and Spittal Pond. Skinks were captured and crucial information collected such as genetic samples, morphometric measurements and other data on the skinks' age and sex. Once captured, the lizards were marked using PIT tags (Passive Integrated Transponders), just as we do in the zoo, in order to gather information on their ecology and distribution in the future.

Much closer to home we have been helping to monitor the endangered Llangollen whitebeam tree; the tree only occurs at two sites on the English – Welsh border. We have been using drones to survey the steep inaccessible cliffs of the Eglwyseg escarpment in Denbighshire, to help identify trees and count the population, whilst at the same time using our botanical skills in the zoo to grow new trees of this threatened species from gathered seeds.



Our specialisms

HUMAN-WILDLIFE CONFLICT

Dr Ximena Velez-Liendo in the Bolivian mountains for her project enabling co-existence of Andean bears & farmers

Some of our large iconic mammals pose a potential threat to life and livelihoods in the wild when they come into contact with human communities, presenting a significant challenge to conservationists working in landscapes under pressure from human encroachment. We are working in partnership with the Wildlife Conservation Research Unit (WildCRU) at the University of Oxford, together with partners in the field in India, Nepal, Bolivia and Brazil to tackle these problems, using systematic approaches to find the best solutions to human-wildlife conflict.

In Nepal our Living with Tigers project, funded by the Darwin Initiative and delivered in partnership with Green Governance Nepal, aims to find ways of enabling people living close to the Chitwan and Bardia National Parks to tolerate tigers and leopards. Our camera traps are revealing increasing incursions of these predators out of the national parks and into the surrounding landscape, threatening people and their livestock. We are providing predator proof pens to allow livestock to be safely locked up at night, and biogas stoves to reduce the need for people to collect firewood from neighbouring forest in order to reduce the risks. It is hoped that this will prevent tiger and leopard populations being isolated inside the national parks and allow animals to travel freely along habitat corridors that connect the landscape.

Our work in Bolivia on Andean bears is run by Conservation Fellow Ximena Velez-Liendo who was honoured with a prestigious Whitley

Conservation Award for the project 'An uphill climb: enabling coexistence of Andean bears and farmers in the Bolivian mountains' in May 2017. This project tackles negative public attitudes to bears because of the belief that they pose a significant threat to livestock. Through a deeper understanding of perceptions of bears amongst local communities we are designing social marketing campaigns to improve the image of the animal and secure a brighter future for them in the Andean mountains of Bolivia.

Our long-running Assam Haathi project in India continues to provide practical solutions to human-elephant conflict in a number of communities in Assam. We disseminated this to Government bodies working in other parts of India through presentations at workshops and circulation of our human-elephant conflict handbook and we are now developing a larger scale project with a new partner that will extend working solutions to conflict mitigation across a much wider area in India.

Our expertise on these ground breaking projects has been brought together through the leadership of the IUCN SSC task force on human-wildlife conflict by Alex Zimmermann, our head of Conservation Science. It was a busy year for Alex who led a number of workshops on elephants, tigers and other big cats over the year and provided advice to international agencies and funders.



Our specialisms

An orangutan bridge under construction in Borneo

LIVELIHOODS & SUSTAINABLE DEVELOPMENT

Many of our field projects have a livelihoods element to them as we work to reduce the threats that people pose to wildlife. Very often unsustainable exploitation of wildlife and natural resources can be tackled through finding sustainable alternative sources of income that can actually lead to improved incomes and standards of living, leading to a win-win situation for people and wildlife.

In Mauritius, the endangered Mauritius fruit bat will visit commercial orchards and help themselves to lychees and mangos, thus damaging the livelihoods of local farmers. The problem is so acute that it has led to Government sanctioned culls, despite the highly threatened status of the species. By working with local farmers on alternative means of excluding the bats from the trees through netting, coupled with a more regular pruning regime, bat damage can be reduced and crop yields increased. Our work in bringing the stakeholders together to develop these alternative methods to culling has so far ensured that no cull has been sanctioned this season.

Our sustainable palm oil campaign recognises the livelihoods of people living in Indonesia and Malaysia as vital to its success. Palm oil is an important source of livelihood for large numbers of people in these two countries which together supply about 85% of the world's palm oil, whether they are small scale producers or plantation workers. Plantations that meet the sustainable palm oil standards not only respect wildlife by not cutting down rain forest and encouraging habitat corridors, but they also support their workers through better employment practices and fair wages. We began a plan to make Chester the first sustainable palm oil city by raising awareness of this issue amongst local restaurant owners and catering outlets, and encouraging them to sign up to our pledge to remove non-sustainable palm oil from their supply chains. By the end of 2017 we already had over 10 organisations who have made the pledge so far, a number of others engaged with us working up to the pledge, and 2 who have gone through the whole process and are now on our website as 'champions'.



Our specialisms

Safari Ranger outreach

VISITOR AND COMMUNITY ENGAGEMENT

Within our Safari Ranger programme, a trial into the effectiveness of repeat visit project based learning with schools was published in the Journal of Zoo and Aquarium Research. It provided strong evidence of the positive impact of our safari ranger workshop programme on the knowledge and attitudes of students towards wildlife and conservation. As a result an ambitious plan to expand the safari ranger programme was agreed and five new safari ranger posts were created, allowing us to spread the programme into Liverpool and Manchester, targeting schools with no previous connection with Chester Zoo.

We continually evaluate the work that we do on our educational programmes and lead research to investigate the short and long term impacts of zoo visits on people's understanding of wildlife and how changing our behaviour can help reduce the threats they face. Our Conservation Social Scientist, Andy Moss, was awarded his PhD in 2017 on 'The educational value of zoos and aquariums' from the Durrell Institute of Conservation Ecology at the University of Kent. The study showed that visitors to zoos and aquariums showed an increase level of their biodiversity understanding and knowledge of actions to help protect biodiversity after being exposed to a global biodiversity education campaign. We also conducted a piece of research and published a report highlighting the impact of volunteering in zoos. 522 individuals volunteering in 19 British and Irish Association of Zoos and Aquariums (BIAZA) collections took part in the research. The analysis revealed significant positive self-reported impacts on the volunteers in areas such as health and well-being, knowledge and skills, personal development, connection with people and support and training.



WELCOMING OUR VISITORS

In order to achieve our mission, all of our staff are engaged in working towards being a world class attraction. Despite being named the world's number three zoo by Trip Advisor during the summer of 2017, we continue to drive towards better standards to constantly improve the experience of all our guests and members.

Ensuring the team has the right skills needed to provide exceptional customer service resulted in over 700 staff being trained in either in the World Host 'Principles of Customer Service' or the 'Ambassador Workshop'. The development courses were well received by the team and have been used this year to set the standard of guest care at the zoo. Plans are already in progress to build on this in 2018 and beyond.

A drive towards developing core visitor related infrastructure included a project to improve car park surface and drainage, further enhancements to guest toilets and a refurbishment of one of our more popular food and retail areas near the main entrance, now renamed Elephant Bazaar.

In the centre of the zoo we created a large Madagascan themed play space, Madagascar Play! The new play area incorporates a wide range of play experiences including water and sand play, adventure ropes and custom design Baobab Tree slide.

A second year of The Enchantment of Chester Zoo, our very own Hallowe'en inspired theatrical event, was hosted during October, and our now annual event at Christmas, The Lanterns welcomed just over 92,000 visitors. Both events proved popular with first time and returning guests alike with new elements being introduced to both to keep them fresh and different.

Our retail team introduced a number of new and exciting products to the shops including a variety of pictures and gift items developed in partnership with renowned artist Steven Brown. The team also won 'Best Retail Initiative' at the Retail Greats Awards for introducing a new Charlie Bear limited edition Hari elephant which when sold helps raise vital research funds to combat EEHV, through our Never Forget campaign.

Our Food and Beverage (F&B) team embraced The Soil Association Food for Life accreditation which supports serving local and fresh food

cooked by chefs who really care about quality and ingredients. For our visitors it means they have the reassurance to know that the majority of food on the menu is freshly prepared, free from undesirable trans fats, sweeteners, additives and uses ingredients from sustainable and ethical sources. The Food for Life accreditation will also build upon our achievements of ensuring that where our products contain palm oil it is from a sustainable source and that all of our fish come from sustainable fishing sources.

The team has also been busy developing a new concept in The Oakfield, the original Grade Two Victorian property at the heart of Chester Zoo. The Oakfield will reopen as a high quality Pub Restaurant and function venue in summer of 2018.

Finally the F&B team won the 'Family friendly business of the year' as part of the Visit England Excellence awards in recognition of the exceptional family focused food service they delivered during the year.





DISCOVERY & LEARNING

During 2017, 118,429 visitors came to the zoo as part of an educational group visit and of those 30,214 attended a curriculum linked workshop. Both figures represent large increases on 2016. Some of this increase was driven by a new free entry initiative which launched in July and offered free entry to schools booking to visit from November 2017 to February 2018. 13,580 people visited as part of this scheme in November and December, with around 24% coming from schools who had never visited the zoo before (a much higher percentage than normal). New or redeveloped workshops for key stages 1, 2 and 3 may also have contributed to the increase in engagement. The new workshops provided links to new areas of the curriculum as well as increasing our use of technology and introducing more interactive activities. The way that we use technology in our workshops was shared with peers at the annual BIAZA Presenters and Educators Conference in November.

In addition to increasing access to the zoo via school visits, we have also increased our outreach work. The outreach team increased from one to six Safari Rangers over the year. This expansion enabled us to increase our reach both in terms of numbers of people engaged and the geographical area we cover. We now travel up to 60 minutes from the zoo to include the urban hubs of Liverpool and Manchester. During the year the Safari Rangers delivered 1,171 sessions, creating 37,298 participations, more than 3 times as many as in 2016. Alongside delivering one off workshops and attending high profile events such as the Just So Festival, the team continued to develop repeated engagement projects working in partnership with schools to engage children and young people in taking action for conservation. In May, the projects we delivered in 2016 won a Gold BIAZA Award.

Our outreach work extended outside the region. Alongside the science and field programmes teams we joined two other BIAZA

collections to engage audiences with the scientific role of zoos through a stand at the New Scientist Live event in London. Science engagement activities were also delivered as part of the Manchester Science Festival in October.

One particularly successful outreach project involved working with St Bernard's RC Primary School in Ellesmere Port. There we worked with teachers to enable them to take on our Sing for Songbirds campaign across the whole of their curriculum, so that all pupils, from reception to year six, learnt about the South East Asian songbird crisis across all subjects as well as learning what they could do to help British songbirds. A particular highlight of the project was the children and teachers organising their own campaign day and going to tell shoppers at Cheshire Oaks shopping centre why they should care about songbirds. A video about the project was shown at the annual EAZA conference as an example of what can be achieved with education work on this subject, as part of the launch of the EAZA Silent Forest campaign. Alongside the Headteacher from St Bernard's, Our Community Engagement Manager also presented the project teachers at an Education First conference. This project has led to a further partnership project between the zoo's learning team and the Ignite Teaching School (for which St Bernard's is the lead organisation). During the 2017/18 academic year we are working with 30 schools on a teacher professional development programme to enable them to create similar conservation inspired curricula for their schools.

The Heritage Lottery Fund supported Wildlife Champions project, the community training arm of our Wildlife Connections campaign, came to end in November. The project has seen us train over 100 Champions, giving them the skills and motivation to create wildlife friendly spaces and run related activities in their communities. Initial evaluation identified a potential reach through the Champions of

8,000 people and overall the project has engaged thousands of people in activities to inspire them to record, protect and create habitat for some of our most precious UK species.

In support of our work to support group leaders, extend a visit and empower teachers to teach more about conservation in their classrooms, we continued to grow our online learning resource platform. During the year more than 27 new resources were added. Market research with teachers has shown the resources are very well regarded, especially by primary school teachers.

Our daily programme of learning activities continued to engage large numbers of zoo visitors, with 244,200 taking part in talks, discover sessions and other events throughout the year. To help us understand the impact of our in-zoo learning work, we commissioned NEF Consulting to work with us to create an evaluation framework. An initial study based on the framework showed some positive results in terms of how our activities contribute to learning and visitor behaviour change and we will continue to refine and develop this work in the coming years.

In September, we hosted the second Wildlife Connections Festival, celebrating UK wildlife and providing opportunities to get involved in nature inspired activities on our nature reserve. This year we also added the first ever public zoo sleepover, with 150 people camping overnight and taking part in nocturnal activities such as bat walks and star gazing.

Throughout the year we developed playful approaches to engage visitors with the zoo and with wildlife. Over the Easter holidays over 3,000 visitors joined us for a variety of animal themed games and activities. Then when Madagascar Play! opened in May we launched a full programme of playful activities for Base Camp including our Wild Adventure interactive show, regular storytelling and games, engaging 14,000 people over the summer period.

Our exhibitions and interpretation team created playful pathways across the zoo and challenged visitors to balance like a gibbon or move playfully along our skipping lane. This was all underpinned by the team working with play experts to reflect on the importance of play and how it can be enabled at the zoo.

Our project to update all of the signage across the zoo made significant progress during the year and is on track for completion mid-2018. A brand new interpretation scheme was also created for the new area of Islands which opened in the summer. With a



strong focus on the illegal wildlife trade, our work with South East Asian songbirds and the Wildlife Witness app, the scheme included traditional signage alongside a new large scale interactive exhibit. This included video, imagery, object and tactile items demonstrating different aspects of the illegal wildlife trade, and in terms of zoo exhibitory represents a much larger scale of interactive exhibit than has previously been installed.

As well as developing our work in the zoo, the Discovery and Learning Team were also involved in sharing work internationally. Our Head of Learning went to work with our field partners Hutan, on the development of a new masterplan for their education work and was also invited by the Chinese Association of Zoological Gardens to advise on the development of new training for zoo educators. Our Community Engagement Manager and Assistant Team Manager (Zoo Rangers) travelled to Java to deliver training for 35 zoo educators from Indonesian zoos, covering a range of topics from education programme design and evaluation through to different delivery techniques. Our Community Engagement Manager also continued to provide active support for education work delivered by the Cikananga Conservation Breeding Centre, building their capacity to deliver effective education and providing an excellent link for our UK based songbirds related work.

Overall, 2017 has seen the Chester Zoo learning team deliver educational experiences to more people than ever before. We have extended our reach both in the zoo and outside, whilst also continuing to develop the quality of the experiences we provide and underpinning our work with evaluation to understand the conservation impact of our work.





Early morning walk to the view point to look for parrots

EXPEDITION 2017 ECUADOR

The 2017 Chester Zoo annual expedition ran from 22nd January - 5th February to tie in with the breeding season of the focal species, the endangered Ecuadorian Amazon parrot.

The trip was organised and delivered in partnership with Fundación Pro Bosque, an Ecuadorian NGO we have worked with since 2012. This was the second expedition to the area – the dry forests and mangroves of the south west coast of Ecuador.

The team consisted of 12 staff, one half with particular skills relating to the research, the other half selected at random from staff wanting to volunteer. This allowed staff who may not as part of their day to day job, gain some valuable first hand experience of field conservation.

The focus of the expedition was to support our ongoing conservation research and monitoring of the species, to share skills and to build new /strengthen existing partnerships.

Over the two weeks, the team managed to gather a huge amount of information. This included over 20 behavioural observations of the species and 30 counts of parrots at their roost sites. They even counted over 300 individuals at a single roost site we previously had not studied.

Additionally, the team gathered a large amount of finely detailed habitat information from the forest, covering over 70,000 square meters. This helps to determine exactly what features of dry forests are so important to the species, which can then be used to test the suitability of other forests around Ecuador.

They also spent time working with the animal care staff at Fundación Pro Bosque, who are responsible for the Rescue Centre which receives confiscated animals from the pet trade.

They were able to introduce simple methods of enrichment and enclosure modifications, to help to improve the welfare of a number of species, using local materials and repeatable methods, such as bamboo enrichment feeders, local timber hanging perches, leaves for substrates and scatter feeding.

Finally, a community survey was piloted, which has now been rolled out across the whole range, gathering information from local community members about the range and distribution of the species, but also about local perception of population trends and the numbers being kept illegally as pets.

Chester Zoo has now been involved with field research on the south west coast of Ecuador for over five years, and the species has been part of the zoo collection for over 30 years. It is a highly endangered species and information from this ongoing work and collected during expeditions, will help inform how best to conserve it into the future.



KEEPER FOR A DAY

Providing veterinary support in Brazil with lowland tapir

The Chester Zoo 'Keeper for a Day' initiative provides a unique opportunity for the public to experience a day in the life of a zoo keeper. The experience includes a full day working alongside keepers on an animal section. In 2017 the income generated from these experiences supported 22 staff to participate in a variety of projects, conferences and meetings; this is in addition to the amount of staff travel that usually occurs as part of our on-going conservation activities. Keeper for a Day supported activities allow staff to utilise specialist skills to support field projects, to engage in activities to learn and share new skills and develop a better understanding and appreciation of conservation projects. These trips can strengthen relationships with conservation partners, and often result in staff returning as 'project champions'. The annual expedition, another great opportunity for staff to visit field projects, is also supported through the Keeper for a Day fund.

This year the fund supported 13 staff to participate in the Ecuador expedition, 9 staff to participate in activities overseas plus supported two project partners to visit Chester Zoo and spend time with our teams to exchange knowledge and skills.

Several keepers accessed the fund to support attendance at conferences and workshops, including the two staff attending and presenting at the Hornbill conference in Sarawak, staff contribution to the Orangutan Veterinary Advisory Group workshop and attendance at the International Rhino Keepers Association Conference in Denver. These events provide great opportunities for staff to gain new skills and knowledge, but also to network with other professionals and share their experience with a wider audience.

A number of staff also used the fund to enable them to visit and participate in field projects, this included assisting with Northern Bald Ibis reintroductions in Spain; helping monitor giraffe populations in Kidepo National Park in Uganda and providing veterinary support to colleagues in Brazil working with lowland tapir and giant armadillo. Members of the Discovery & Learning team also accessed Keeper for a Day funding to visit field projects in Madagascar, providing some great media that will be used as we develop Madagascar themed areas within the zoo. Another Discovery and Learning team member was also able to join a team of Chester Zoo staff who participated

in the Global Species Management Plan (GSMP) workshops for banteng, anoa, babirusa and other SE Asian GSMP species in Indonesia; this resulted in her taking up the official advisory role for education activities for the Sumatran tiger GSMP.





Building works for the lemur walk-through experience

MAINTAINING A SAFE ENVIRONMENT

Maintaining a safe environment for our guests, staff and animals has always been at the forefront of our operations. In order to continually improve there are three key areas that the team focus on – developing a safety culture, monitoring progress and implementing change to drive improvement.

The teams have made significant progress developing the safety culture within the organisation over the past number of years. One key initiative has been to introduce a more comprehensive training and development programme. 2017 saw the continuation of the ARK programme (Attitude/Responsibility/Knowledge) which gave every new member of the team the basic awareness needed to deliver a safe environment for guests and colleagues alike. In addition a total of 28 managers and supervisors were trained in IOSH Managing Safely (Institute of Occupational Safety and Health), 69 members of the team received British Heart Foundation Heart Start training. Also 24 additional members of staff received basic first aid training and 10 of the team were trained in FPOS(I) First Person on Scene intermediate level training. The team won the UK Heart Safe Awards for leisure and tourism for the 3rd year in a row.

Monitoring performance and progress is supported by OSHENS (Occupational Safety, Health and Environmental Notification System) which is used to capture accident and near miss information, risk assessment and contractor management.

One of the key changes this year is the introduction of a new contractor handbook and updated permit to work system which is important to support the increased onsite construction work linked to the strategic development plan. Also to support the safety of our team working across the globe a new digital travel booking system and field working safety training programme was introduced.

Finally a new food safety policy and management system has been introduced to continue the very high standard of food safety achieved by the Food & Beverage team.



Madagascar Play! area

COMMUNICATION AND COLLABORATION

The zoo's PR team generated more than 8,000 pieces of press coverage to promote the zoo in 2017. This created more than 1.3 billion opportunities to see our coverage (the combined circulation of each piece of coverage) - across print, broadcast and online media - with an 'Advertising Value Equivalent' of £16.5 million.

On social media, on average almost 500,000 people per day consumed content from Chester Zoo's pages during 2017 - across Facebook, Twitter and Instagram. Facebook accounted for the majority of this reach, followed by Twitter, while Instagram is the fastest growing channel for the zoo. We remain by far the UK's most followed and most engaged with zoo on social media. Additionally, this extensive social media reach is amplified many times by the accounts of media outlets covering our stories.

This PR activity, with integrated messaging across press and social media, is primarily focused on two overarching and highly interconnected objectives: driving visitors to the zoo and communicating our work to protect biodiversity and preventing extinction.

Conservation focused PR campaigns in 2017 included coverage for our work to tackle unsustainable palm oil and the illegal wildlife trade, among others. The major new Sing For Songbirds campaign generated widespread media coverage regionally, nationally and internationally throughout the year, with the highlight being a dedicated BBC News Channel documentary on the South East Asian songbird crisis and the zoo's response. This aired in December accompanied by extensive coverage across BBC national TV news, radio and online.

The most high profile ex situ news story of the year was the birth of Nurus the Rothschild's giraffe in the zoo in April, which featured in the almost every UK mainstream media outlet, from the Guardian to the Daily Mail and in widespread UK broadcast media from BBC Breakfast to This Morning – as well as a range of high profile international outlets. Our conservation breeding programme allied to our Act For Wildlife field programmes were key messages for the story. On social media, the zoo's footage was viewed more than 20m times, including 13m

views on our own Facebook page after it was shared by some of the world's most top five influential social media outlets.

Meanwhile, series three and four of The Secret Life of The Zoo aired on Channel 4 throughout the year. The programme enhances the zoo's reputation as a world leading centre for conservation and animal welfare with passionate, dedicated staff inspiring a love of nature and a connection with our animals, while also continuing to be a major factor driving visits to the zoo, with increases in visitors from beyond our usual drive time. The show has also aired in more than 80 countries worldwide, correlating with an increase in international visits to the zoo.

Key visitor focussed marketing campaigns which ran across the year were Bloom, in Spring; Play! for the summer months; Enchantment for October half term, and The Lanterns for the Christmas period.

Once again we utilised extensive advertising across digital and traditional platforms to reach new and existing audiences from across the UK, driving visits and sales of memberships.

Our visitor research showed that our success was driven by a number of factors including the continued interest in Islands, our event programming, the impact of tv advertising and 'The Secret Life of the Zoo' on Channel 4, and the Play! campaign.

We increased the number of "lapsed" visitors returning to the zoo and, due to the Play! campaign promoting the new Madagascar play space we welcomed many families, looking for space and events to enjoy time together.

It was also pleasing to learn that visitors on 92% of visits from June 2016 to May 2017 advised they would definitely recommend a visit to the zoo, the highest number and proportion in four years of research.

The number of members of the society increased again in 2017, from 88152 at the end of 2016 to 94905 at the end of 2017. This reflected the growth in support for our work, and a recognition of the valuable and multiple benefits that zoo membership offers.



Fundraising

THANK YOU FOR YOUR SUPPORT

Chester Zoo is enriched by our generous and passionate community of supporters; those who not only provide funds to allow us to make real progress in our global conservation work, but also spread the message through their love and dedication to the charity.

We've been truly inspired by the response to our Never Forget campaign, with even more funds raised thanks to the creativity and panache of our retail partners Charlie Bears, Royal Crown Derby and Joe Davies. And we were super proud to see our exclusive cuddly Hari make an appearance in the 2017 ethical Christmas present guide!

Then there are the grants that help us do incredible educational, scientific and capital projects. Phase 2 of the Nature Reserve is blossoming thanks to a grant provided by WREN's FCC Community Action Fund, and our high-profile 'Wildlife Champions' community programme wouldn't have been possible without the support of the Heritage Lottery Fund (HLF).

We're thrilled to have welcomed new faces to our corporate supporter family; not only backing our conservation work financially, through sponsorship and membership, but also by using our event facilities to have fantastic team days out, by donating their time to assist our teams around the zoo and becoming firm advocates for how businesses and charities can enjoy fruitful and joyous relationships.

2017 saw our local community getting fit and having fun outdoors as part of our 'Summer Stampede' sponsored walk through the zoo, all in aid of our EEHV research. With our ele-ears firmly in place, it was a wonderful festival of learning and family-fundraising, which brought us all together to see the impact our donors genuinely make.

With more and more of you so generously thinking about what the future holds for wildlife, we thank everyone who has given a personal gift to prevent extinction. The incredible gifts in Wills received this year will have a powerful impact on conservation for many years to come. We are truly honoured to fulfil lifetime wishes and celebrate the lives of loved ones.

We say it every year, and please don't ever forget it – you're amazing! Thank you.

With thanks to all our 2017 supporters:

Corporate Champions

Airbus
Bank of America Merrill Lynch
ConvaTec

Corporate Supporters

3D Squared
Darwin Escapes
M&S Bank
Sanctuary Care
Tiger Trailers
Toyota UK

Corporate Adopters

Adlington Hall
CLM
DTM Legal
Hafren Water
Henry Williams & Son Ltd
Investec Wealth & Investment
Macdonald Hotels
Original Cottages
Safer Surfacing
Store First
Thew Arnott
Tower Supplies
Waters Corporation
Zebra Finance

Retail Partners

Charlie Bears
Royal Crown Derby
Joe Davies Ltd

Trusts, Grants & Gifts

The Ampelos Trust
Carole L Brown
Steven Brown
The Eric & Dorothy Leach
Charitable Trust
Heritage Lottery Fund North West
The Philip Barker Charity
The Ronald & Kathleen
Pryor Charity
WREN's FCC Community
Action Fund

Incredible Individual Gifts

David Berry
Dennis and Pauline Dibble
Doreen and Sybil Garth
Lyn Susan Gray
Chris Greatorex
Harry Frederick Hamilton
William Langley Richardson Oliver
Dorothy Procter



And all those celebrated and remembered with love on the Chester Zoo Giving Tree



OUR FINANCIAL PERFORMANCE

2017 was a strong year and, whilst not quite reaching the record levels of 2016, the year generated income of £41.4m (2016: £42.1m). Total expenditure rose by 4% to £38.5m (2016: £36.9m) resulting in a £2.9m net increase in our funds (2016: £5.2m).

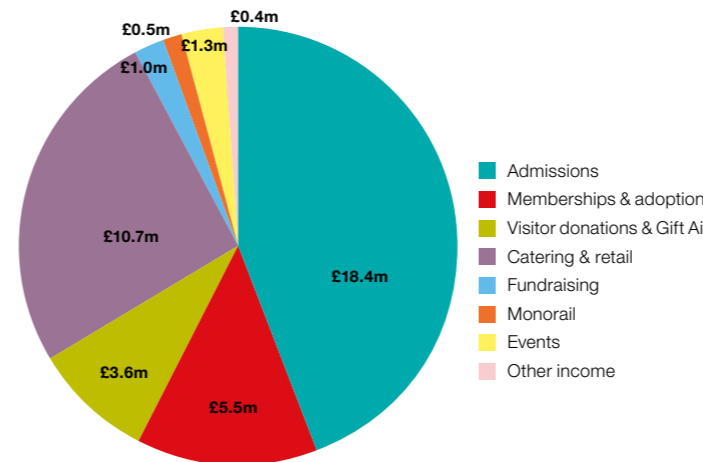
Income

The bulk of the Society's income comes from the Zoo's visitors and members, in the form of admissions and other charges. Following a record year in 2016, total visitor numbers fell by just under 2% from 1,898,059 to 1,866,628 in 2017. Pleasingly, membership numbers increased by 7% to 94,359 during the year and have more than doubled in the last 5 years. Our winter Lanterns event attracted a record number of visitors, and in November we commenced an initiative to provide free school visits during the winter months. Visitor related income for 2017 was £26.3m (2016: £26.9m).

As a registered charity the Society generates voluntary income from visitor donations, Gift Aid, animal adoptions, grants, legacies and other donations. Donations and Gift Aid on Admission fell by £0.2m, but this reduction was offset by a £0.5m increase in grants and other donations, including legacies. Total income from donations and legacies was £4.0m (2016:£3.7m).

The Society's trading subsidiary, Chester Zoo Enterprises Limited, which provides retail and food & beverage offerings across the Zoo site had a turnover of £11.0m in 2017 (2016: £11.4m), this performance was impacted by the closure of Oakfield House for redevelopment during the year.

An analysis of the sources of 2017 income is shown in the following chart:



Expenditure

In 2017 we spent £38.5m (2016: £36.9m), excluding capital expenditure.

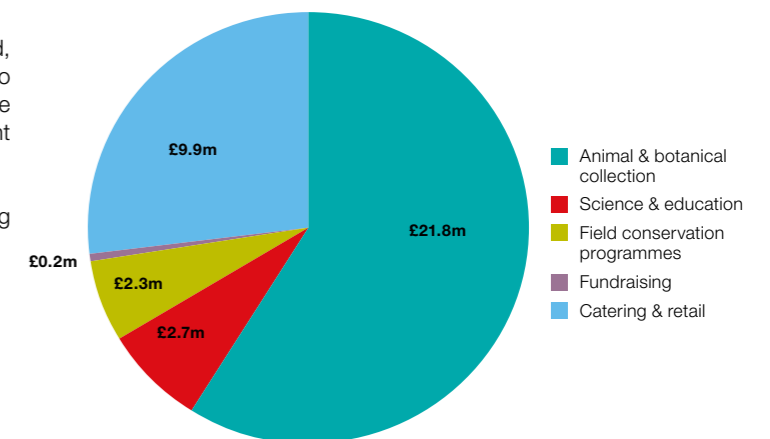
Resources expended on our charitable activities, including the costs of maintaining the animal & plant collection, the visitor facilities, science and education and our field conservation programmes, together with related support costs totalled £26.8m (2016: £25.7m). In addition we spent £0.2m (2016: £0.2m) generating our voluntary income.

Chester Zoo Enterprises Limited had costs of £9.9m, excluding £0.7m of rents paid to the Society, and it made an operating profit of £0.4m in 2017 (2016: £0.6m) which is donated to the Society.

Costs also include a £1.5m contribution to the closed defined benefit pension scheme (2016: £1.0m). At 31 December 2017, the scheme reported a £5.4m surplus (2016: £2.1m surplus) under Financial Reporting Standard 102. The surplus is not recognised in the financial statements as the Society cannot gain economic benefit from it.

By far the biggest element of expenditure relates to our employees and the cost has been impacted by both increases in the number of employees and the impact of the national living wage and auto-enrolment pension contributions. Our average Full Time Equivalent (FTE) headcount for 2017 rose to 555 from 545 in 2016. A third of these employees worked directly in support of the Society's charitable objectives, either with our animal & plant collection or in education, science and research. In addition we benefitted from the hard work of a team of over 200 passionate volunteers.

The chart below shows a breakdown of the Society's expenditure.



Capital expenditure

During 2017 we spent £9.6m on capital expenditure (2016: £5.3m). This expenditure included the purchase of Woodside Farm, a 108 acre farm to the north of the zoo estate which will be used to support future zoo operations. We completed development of a new habitat at Islands for our Malayan Tapirs and Sun Bears, made improvements to our visitor car parks, opened our new Madagascar Play! area and funded roadworks close to the entrance to the zoo. Ahead of the year end we commenced redevelopment of the Penguin Island habitat which opened in February 2018 and the second phase of redevelopment of Oakfield house which will re-open in summer 2018.

Cash generated from operations of £8.9m (2016: £11.3m), together with a small increase in borrowings, was used to fund these capital developments. At 31 December 2017 the Society had a net borrowing position of £4.1m (2016: £3.2m).

Full details of our financial performance can be found in the 2017 Trustee's Report and Financial Statements.

HIGHLIGHTS OF THE YEAR



January

New born Aayu joins Indali and the herd



February

Kirk's dik dik Thanos becomes internet sensation



March

Lowland streaked tenrecs join the collection



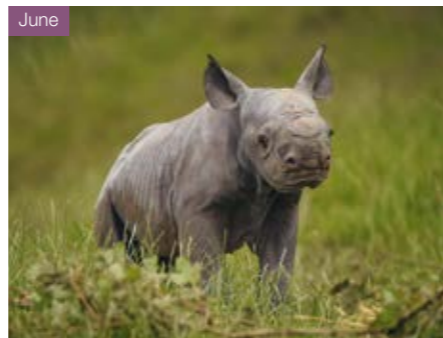
April

Rothschild's giraffe calf Narus is born



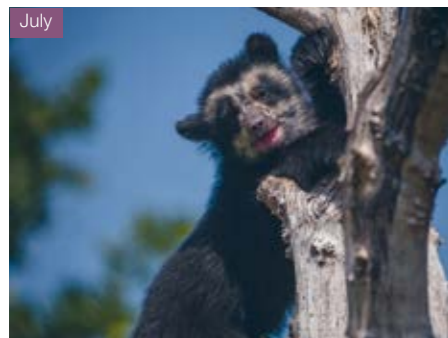
May

Conservation Fellow, Ximena Velez-Liendo receiving a Whitley Award



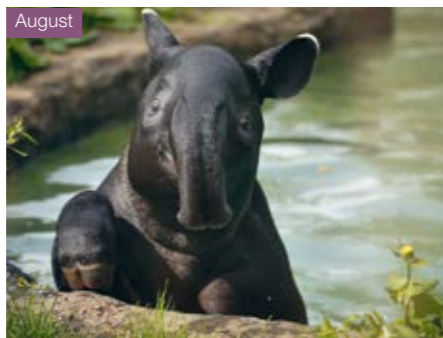
June

Two black rhino calves are born in a week



July

The zoo's first ever Andean bear cub



August

Stunning new Islands habitats open



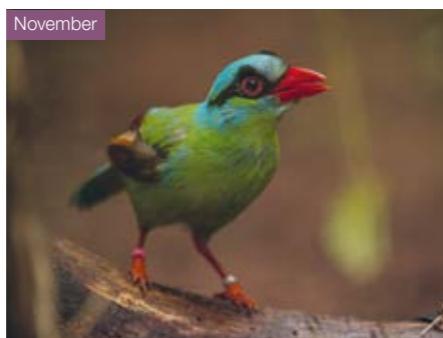
September

Sir David Attenborough filming Sunda gharials



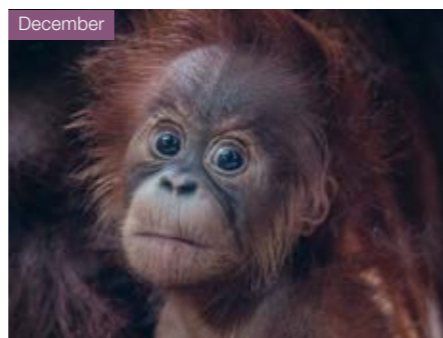
October

BBC journalist Victoria Gill with Curator of Birds Andrew Owen in Indonesia, on the songbird crisis



November

Critically endangered Javan green magpies fledge



December

Rare Sumatran orangutan is born

Front cover: Javan green magpie

www.chesterzoo.org

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