

our imprint 2023



Marwell
Wildlife



2022



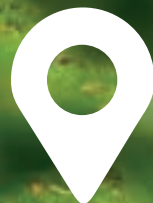
£74

Million
Gross value
added to the
economy



454

Thousand
guests
visited
Marwell Zoo



812

Local jobs
supported



173

Full-time
equivalent
employees



1.5

Thousand
local businesses
supported

Welcome

from our directors

We're thrilled to present our Impact Report for 2023. Despite financial and operational challenges, the amount and quality of work achieved against our charitable objectives is remarkable. It is testament to an incredible team; the vital efforts of those working in the zoo, including our dedicated volunteers, and our colleagues and partners around the world. We extend our deepest thanks to our funders and supporters, who make our work possible.

Receiving the Conservation Award from the World Association of Zoos and Aquaria was a notable highlight. It recognised years of Marwell Wildlife's work to restore the scimitar-horned oryx to the wild, having been previously driven to extinction. This underscores the need for long-term conservation support, the complexities of which demand vision and perseverance.

Through our established programmes, including supporting Grevy's zebra recovery in Kenya, we've cultivated trusted relationships and insights, paving the way for innovation. For example, our work using drones and artificial intelligence is leveraging emerging technologies

to provide new conservation solutions. Equally, our work in Bhutan shows how 'old intelligence' from cultural heritage can offer new ways to safeguard tigers and snow leopards.

As a zoo, we have initiated new funding opportunities, like our *Glow Marwell* event. We're also providing better ways to connect our guests to nature, offering knowledge, wisdom and hope in a complex world. For our animals, we are driving innovations in their care, including in welfare assessments and nutrition. All these strands come together in our Conservation Strategy, and our impact in 2023 sees us start delivering the ambitions we need to *Support Nature's Recovery*.



JO DELLER
People and
Services



WILL JUSTICE
Animal Care



SEAN MANNIE
Commercial



PHIL RIORDAN
Conservation

Supporting nature's recovery

Parallels are often drawn between conservation biology and other crisis disciplines, such as medicine. Just like doctors work to heal people, conservationists play a similar role taking care of nature, quite literally, supporting nature's recovery from human activities that cause harm.

To achieve this goal, we are adopting a new strategic approach called **Conservation Health**. This approach applies the principles of 'One Health' to conservation, providing a focus on the inter-dependencies between animals, people and ecosystems for our own activities. By using this approach and applying it in our context as a modern conservation zoo, we have identified three strategic themes that guide the activities we need to undertake to achieve our goal of supporting nature's recovery: health; connection; and knowledge exchange and innovation.



Read our 2023-2028 conservation strategy.

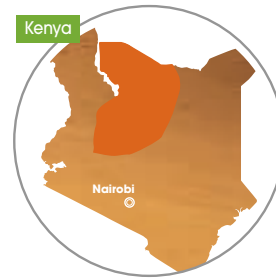
Where we work:



Semi-natural lowland ecosystems in the south of England.



Southern Tunisian arid steppe and the Grand Erg Oriental.



Semi-arid and arid rangelands of northern Kenya.



Tian Shan mountain ecosystem bordering China, Kazakhstan and Kyrgyzstan.



The Kingdom of Bhutan, located on the eastern ridges of the Himalayas.

HEALTH:

Provides a focus on the health and welfare of animals in our care and influenced by our work, the wellbeing of our guests and the communities with which we engage, and the health of the ecosystems and landscapes under our management.



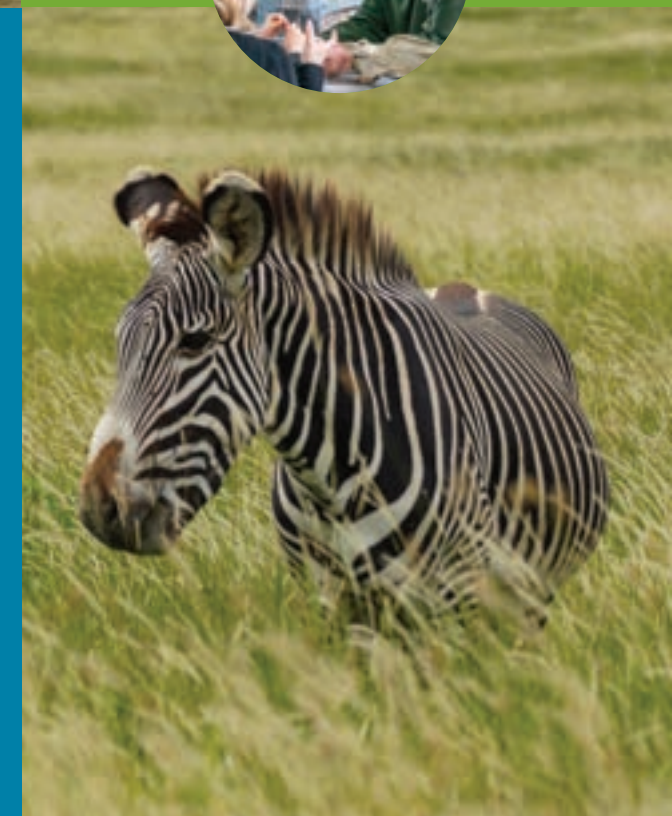
KNOWLEDGE EXCHANGE AND INNOVATION:

Recognises that to succeed we need knowledge to flow freely throughout our organisation and network of partnerships, providing opportunities to innovate solutions that will help us support nature's recovery.



CONNECTION:

Recognises the interdependency between people, animals and ecosystems in our conservation programmes, the importance of landscape connectivity and our dependence on our collaborative partners and other key stakeholders to achieve our conservation goals.



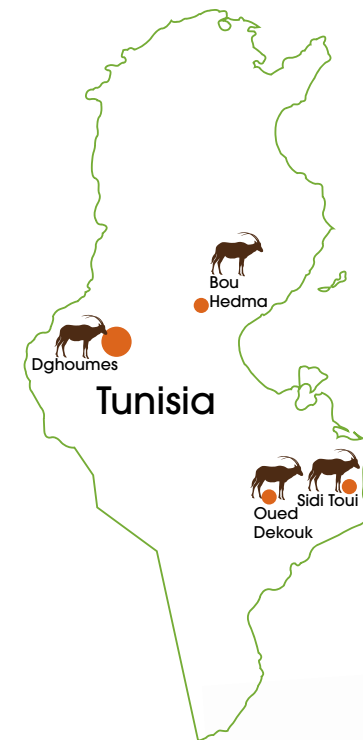


Award-winning conservation

Marwell was honoured to receive the WAZA Conservation Award for our efforts in reintroducing the formerly Extinct in the Wild scimitar-horned oryx *Oryx dammah* to Tunisia. This is WAZA's highest award for institutional commitment towards conservation, and it is granted to an organisation for an outstanding conservation programme that has clear objectives and excellent conservation outcomes. We are, quite naturally, delighted to have our long-standing work recognised, but acknowledge conservation is not a solo effort; it is collaborative action involving countless individuals, organisations, and communities coming together to protect our planet's biodiversity. Since our work began over 30 years ago, we have been supported by over 80 partners and donors, particularly the Tunisian Government who have driven this project to restore scimitar-horned oryx to protected areas 80 years after the species was lost in the wild in the country.

In December 2023, the IUCN Red List of Threatened Species' status of scimitar-horned oryx was formally changed from Extinct in the Wild to Endangered. This genuinely reflects successful conservation action in restoring the species to the wild and conserving its habitat. The award from WAZA is not just a recognition of our achievements in conservation and developing the next generation of conservationists in Tunisia, but a reminder of the responsibility that lies ahead.

As conservationists, our work is never truly finished. **It is a lifelong commitment to protecting our planet and its biodiversity.** However, with this project and many others, we are proving that positive change is possible.



SHO reintroduced
Protected areas





Saving the Grevy's zebra

The Grevy's zebra *Equus grevyi* is one of the world's most endangered mammals. Kenya is the last stronghold for this species, with less than 3,000 animals remaining.

Surviving the drought

Last year we reported on the relentless drought in northern Kenya. Starting in 2021, it finally ended in March 2023 when the rain returned to parched land. The extreme drought posed a risk to the survival of the entire core population of Grevy's zebra. Our scout teams, and partners from the Grevy's Zebra Trust (GZT), tirelessly provided hundreds of Grevy's zebra with daily supplementary hay. With training from GZT, we assessed the body condition of zebra and administered minerals and other nutrient supplements, needed due to the unprecedented length of this drought.

With human communities also suffering terribly, we provided hay to support pastoralists and their livestock. Generously, these communities shared the little water they had with the zebra, and called our field team for help whenever Grevy's were found weak or injured.

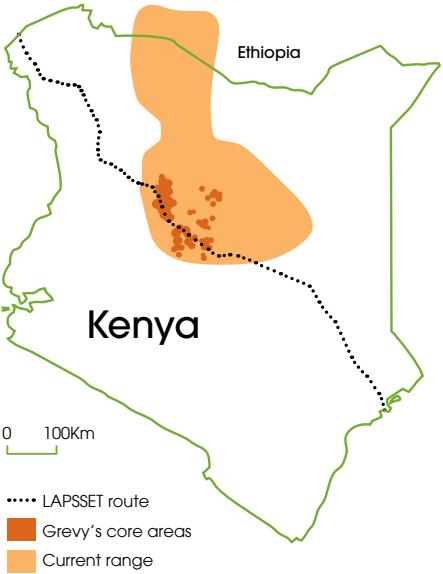
An increase in poaching presented an additional risk to the Grevy's during the drought. Our scouts worked closely with the Kenya Wildlife Service to provide veterinary care for

injured zebra and to find and prosecute poachers. This was further supported by the communities.

Overall, valuable lessons have been learned and will be applied during any future droughts. Meanwhile, results from the 2024 Great Grevy's Rally, a national survey implemented by the Grevy's Zebra Technical Committee, will shed a light on whether all the efforts to help the species through drought and poaching were successful.



20 
Radio collars
fitted to Grevy's
zebra to study
their movements



Collaring for connectivity

Once the rains arrived, the landscape recovered rapidly, and the wildlife followed suit. This allowed the Grevy's Zebra Technical Committee, of which Marwell is a founding member, to plan and carry out the collaring of 20 Grevy's zebra within the Samburu area.

Zebra here are threatened by a major Kenyan infrastructure development, the LAPSSET (Lamu Port-South Sudan-Ethiopia Transport) Corridor. Including a railway, oil pipeline and motorways, this corridor will cut through the centre of the Grevy's zebra's core habitat. Using satellite collars, we aim to identify which habitats are critical for Grevy's distribution, dispersal, and movement over the next year. We will use this

information to mitigate the threats to the species by working with developers to build overpasses and underpasses to retain connectivity of all wildlife sub-populations. Collaring data will also be used by University of Nairobi PhD student, Linus Kariuki Njeru, to explore changes in Grevy's home ranges within Samburu; a project co-supervised by Marwell's Director of Conservation.



Read more about how our
teams monitor wildlife in Kenya.



Warblers, Nightjars and Dragonflies at Eelmoor Marsh

Dartford warblers *Curruca undata*, nightjars *Caprimulgus europaeus* and sand lizards *Lacerta agilis* all thrived at Eelmoor Marsh in 2023, a heathland rewilding site managed by Marwell since 1995. This year we focused on creating aquatic habitat for dragonflies, scraping vegetation to encourage woodlark *Lullula arborea*, and boosting rare plant colonies.

Signs of species recovery:

15
Sand lizard
observations
including strong
evidence of
breeding

x4
Increase in
Dartford
warbler
breeding
territories
since 2018

4
Nightjar
breeding
territories in
2023 (highest
amount
recorded
on-site)

Habitat restoration:

26
Pools created
and restored
to increase open
water habitat for
dragonflies
and damselflies

7
Football
pitches
of vegetation
mown to
diversify
structure and
support rare
orchid
species

1.2 km
Ditches cleared
and strimmed to
enhance wetland habitat
and support rare butterwort
populations

Half
a football
pitch of turf
scraped to create
bare ground
and expose the
seed bank



Find out exactly how our teams have been restoring habitats at Eelmoor Marsh [here](#).



Safeguarding tigers in Bhutan

We launched a ground-breaking project to increase tiger *Panthera tigris tigris* numbers in Bhutan by lessening conflict with people. Funded through a legacy donation, we are working with the Druk Nyo Foundation in Bhutan to reconnect people with their cultural heritage, in which tigers play a major part as one of the sacred animals in Buddhist tradition.

In 2023, an expert panel of Buddhist leaders from monasteries and other institutions across Bhutan were brought together. This panel have started providing guidance to monks and scholars on undertaking extensive studies of written accounts. The team are also seeking to identify and document spoken and graphic depictions of tigers in numerous forms, including folk tales, Lozey ballads, *Tsangmo* poems, traditional beliefs and narratives. This project builds innovative collaborations between the scientific and cultural communities in Bhutan, combining efforts towards the protection of tigers and their habitats.





Award-winning animal care



In 2023, we made progress in enhancing the wellbeing of animals through further development of the Animal Welfare Assessment Grid (AWAG). This tool was adapted to assess the welfare of specific groups of invertebrates, focusing on the Madagascar hissing cockroach *Gromphadorhina portentosa*, resulting in a publication in the peer-reviewed journal *Animals*. We were also honoured to receive a BIAZA Gold Award in the Animal Behaviour and Welfare category, recognising our efforts in using the AWAG to improve the welfare of our animals. Our team's involvement in BIAZA's Animal Welfare, Nutrition and taxon-specific Working Groups extended our impact beyond our organisation, from assisting individual keepers at other collections, to designing welfare assessment templates, and developing policies.

Building on our success in 2022, we continued to enhance the habitats of our animals to further mimic the species' wild environments and promote natural behaviours to improve the animals' positive life experience. After creating a new environment for our clouded leopards *Neofelis nebulosa* and earning a Silver Award in the 2023 BIAZA Exhibits category, we worked on developing three new habitats: the mixed-species exhibit *Thriving Through Nature*, and individual environments for bush dogs *Speothos venaticus* and Southern caracara *Caracara plancus*.

We also made huge leaps in the provision of full spectrum lighting for non-primate mammals. We provided two new species, Brazilian caviés *Cavia aperea* and rock hyrax *Procavia capensis*, which are both native to regions with a high UV index, with suitable basking opportunities based upon data taken from their natural range. These species, and others including cusimanse *Crossarchus obscurus* and clouded leopards, are not typically provided with UV light in zoos but the response has been positive, with the animals regularly being seen basking in these areas.



Awards
won for
animal care

Leading the way in population management

Marwell has been leading a subgroup of the European Population Management Advisory Group (EPMAG) in 2023 to develop a mentoring system for population managers of EAZA *Ex Situ* Programmes (EEPs). EEPs aim to conserve healthy populations of animals within zoos, safeguarding species that are threatened with extinction in the wild.



Read the full article about our work supporting EEP coordinators [here](#).



In 2023, Marwell took over management of the red-handed tamarin *Saguinus midas* EEP.



Marwell has managed the EEP for Grevy's zebra *Equus grevyi* since 2000.



Conservation science



51

Partners

collaborated
to achieve our
conservation
science
output

2023 was a stellar year for the conservation science that underpins and guides our conservation work. We published 18 articles in internationally recognised peer-reviewed journals including in some of the world's most prestigious publications.

Conservation science is designed to evaluate ongoing conservation action and provide vital information to enable us to maximise our conservation impact. The world's biodiversity is rapidly declining and conservation science helps us to evaluate and find the most effective solutions to reverse this.

Much of our work focused on enhancing the *ex situ* management of species, but we also engaged in scientific studies in regions where we have ongoing commitments to biodiversity conservation particularly in China, Kenya, and Tunisia.



For our complete scientific
publications list see [here](#).

Conservation technology



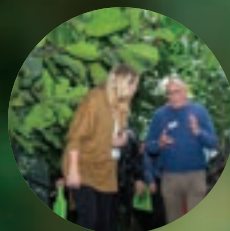
We are trialling the use of uncrewed aerial vehicles (UAVs or 'drones') as a new approach to assisting conservation efforts. In 2023, we were delighted to welcome Sarah Stevens as a joint PhD student with University of Southampton who will advance our ongoing collaboration with the National Oceanography Centre, SotonUAV and the School of Engineering. Sarah's work will identify applications of UAVs and artificial intelligence technologies to conservation, such as cost-effective wildlife monitoring in challenging areas and with elusive species, and systematic animal and ecosystem health assessments.

Building on previous proof-of-concept work within the zoo, we undertook further assessments of our antelope and zebras in 2023. The focus was on health monitoring and distinguishing individuals in mixed species groups. These trials provided valuable insights which we plan to apply in the field in 2024. Work is in development to deploy UAVs and train local teams in Kenya and Kazakhstan.

Our work was featured by ITV Meridian, with particular focus on the health assessments of scimitar-horned oryx, given our long-standing conservation action for the species.



We opened a new accessible play area for young children designed to encourage creative sensory play.



Events and commercial activities help us engage new and existing audiences with the importance of wildlife. The income also plays a significant role in enabling our conservation work. *Glow Marwell* returned, welcoming 40,149 guests across 29 nights in November and December.



Working with our local community, we are removing barriers to visiting the zoo, so more people can enjoy the benefits of nature. We launched our £15 tickets for seniors and students and our 5 tickets for £75 family offer in response to concerns about the cost of living.



We welcomed 1,372 Scouts, Cubs, Beavers, Squirrels, Guides, Rainbows and Brownies for our annual *Scouting the Zoo* weekend. Children enjoyed drop-in sessions with our education team, nature craft activities and an adventure trail.



Our new exhibit *Thriving Through Nature* is designed to engage all senses, connecting guests to the nature around them, with calming water sounds, scented plants, and textured surfaces.



We launched an array of exciting new animal experiences allowing people to get closer than ever before to our incredible animals at the zoo.



3.2

Thousand
media
articles
about our
work



155

Thousand
social
media
following

Connecting guests with **nature**

“The best zoological park in the country (*in our opinion!*). Well cared for animals and the conservation programme they do is amazing.”

We're proud our conservation zoo inspires thousands of people each year with the wonder of wildlife. We aim to connect our 454,342 annual guests and vast online communities with nature, empower people to take positive actions for wildlife in their own lives and inspire a future movement of conservationists.

“The highlight of the day was seeing the actual birth of a live addax calf - what a rare and unique privilege! The experience will stay with us forever. Many congratulations Marwell and thank you for the vital work you do.”



At our zoo, guests come face-to-face with incredible species and learn about our conservation work while creating lasting memories. Every penny spent with us helps raise the vital funds we need to support our animals and tackle some of the most pressing conservation challenges, here in the UK and overseas.

Engaging young people with nature

679

Home
educators
facilitated
learning
in our zoo for
1,603 young
people



32
Thousand
pupils
visited
with their
schools



Shaping the next generation

We are proud to be making significant impact with our Higher Education projects, placements and educational initiatives. Our collaborations with universities, the diverse range of projects and placements benefiting early career vets, teachers and conservationists, and the dedication and award-winning expertise of Marwell's Conservation team collectively contribute to shaping the next generation of game changers.



15
Thousand
pupils
attended
'thought
provoking'
'interactive'
curriculum-
linked
sessions

While new national education and wellbeing policies prescribe more engagement with nature, interest in Marwell's provision is increasing.

Special attention was paid this year to increasing inclusivity and removing the barriers to our provision. While we issued reduced-rate tickets to support a select number of schools, we improved support for groups with a high proportion of pupils with special educational needs and disabilities. Some groups were matched with suitable experiential learning in the form of landscaping tasks. We provided work placements to students studying Horticulture and Animal Management to enable an all-round understanding of the diversity of the industry.

12 Student
placements

Our veterinary team hosted 12 students for elective placements from the University of Surrey. Our Clinical EMS placements attracted students from various vet schools, with students gaining valuable experience.

10 Years of
MRes

In 2023, we celebrated a significant milestone as we welcomed 8 new students to our MRes Wildlife Conservation programme, marking a decade since our first cohort embarked on this transformative journey.

20 University
group visits

20 university groups, comprising 382 undergraduate students from Bournemouth University, University of Southampton, University of Winchester, University of Surrey, and University Centre Sparsholt, visited Marwell.

29 Early
career
scientists

We supported a diverse range of early career scientists in their development, fostering the growth of 14 undergraduate and 4 Masters students, as well as 11 PhD candidates. The projects not only contribute to our understanding of wildlife conservation but also provide students with a platform to actively engage in meaningful real-world research.

162 PGCE
students

162 PGCE students from Chichester College, University of Winchester, and Peter Symonds Adult and Higher Education participated in sessions with our Social Impact and Learning team. Through interactive sessions, they facilitated discussions, providing budding teachers with insights on learning at Marwell.

Improving wellbeing through **nature**

In 2023 we planned our most ambitious wellbeing project yet, trialling an NHS-funded green social prescribing programme called *Access Adventure*. Studies show that nature plays a critical role in our physical and mental wellbeing and green social prescribing is the practice of supporting people in engaging in nature-based activities to improve their mental health. Our programmes are evaluated through a holistic model for at-risk young people in collaboration with Winchester University.

“ It’s been great creating a bespoke package to support our students ... there is so much potential for the young people to create a space they feel is their own, build life skills, social interactions and nature connectedness. ”

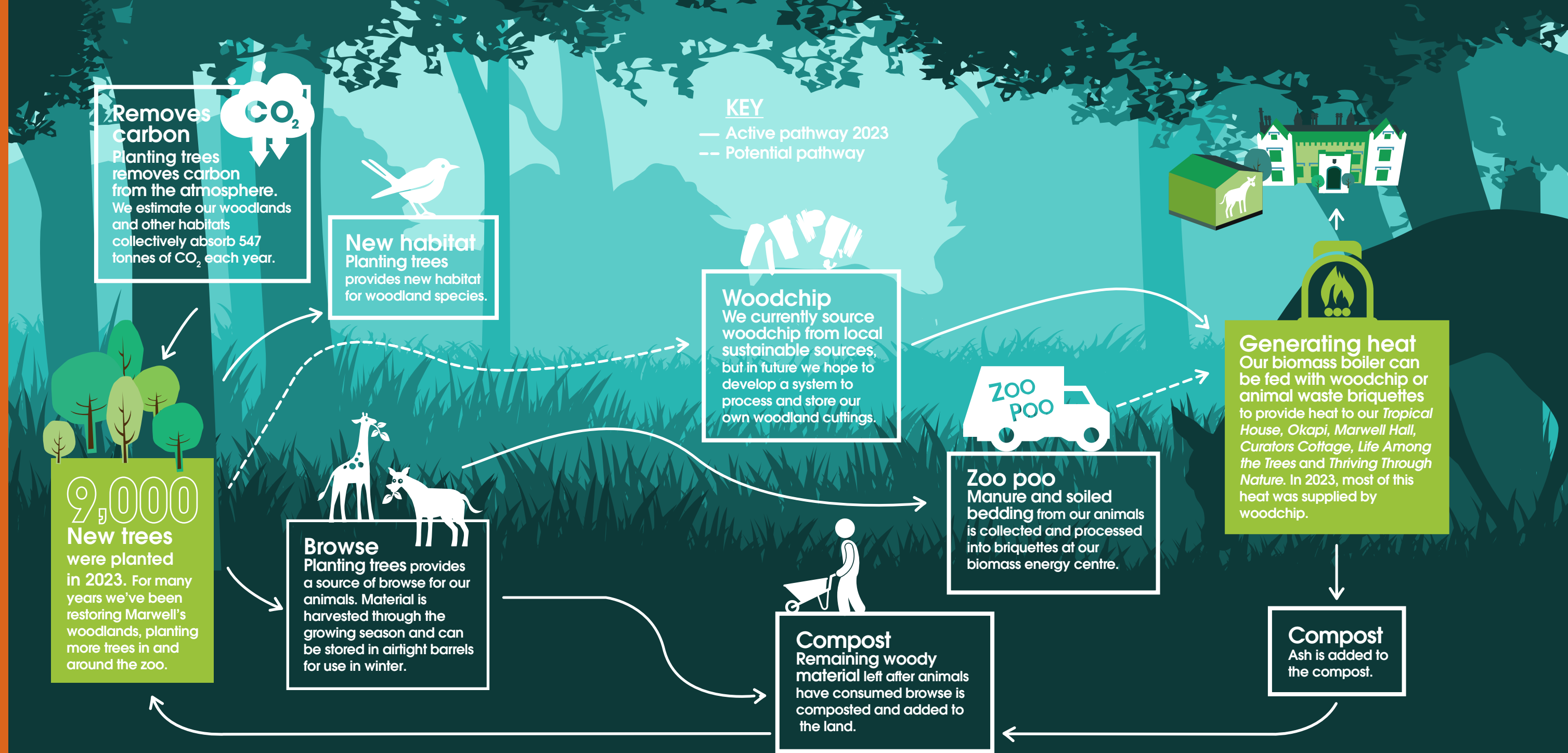
Sara Mela, Hampshire Outdoors Participation & Lifelong Learning, Children’s Services Directorate

Our experiencing nature philosophy further culminated in the opening of our *Thriving Through Nature* habitat at the zoo where our guests are encouraged to interact with and experience nature and reflect on the experience and impacts on wellbeing. Children can be seen traversing rocky outcrops while touching the waterfall, with rock hyraxes and agamas as spectators.

Meanwhile our collaboration with the on-site kindergarten Kids Love Nature moved from strength to strength. Our findings show the 2-5-year-olds, with time, become more comfortable in natural spaces as their associations with nature become increasingly positive. Encouraging signs for our outdoor learning methodology and 602 hours well-spent in our park and natural landscapes.



With carbon absorbed by our woodland, fields and paddocks estimated at 547 tonnes per year, we again absorbed more carbon from the atmosphere than we emitted from the zoo operations.





Making our work possible

Our people

Our success is underpinned by the dedication and passion of our people – from delighting our guests at the zoo to delivering our charitable work across the world as we strive to inspire care and understanding for the natural world. Behind every achievement in this report lies the day-to-day efforts of our teams and partners.

A fond farewell

Marwell's Chief Executive Dr James Cretney (*top left*) left the zoo in 2023 after a transformative 18 years at the helm. Dr Cretney was instrumental in achieving the vision of creating a dynamic, relevant and sustainable wildlife park focused on animal welfare, the environment and conservation.

We wish James every success in the future, as he passes the baton over to our new Chief Executive, Laura Read (*bottom left*). With 20 years of leadership expertise in various sectors, including destination management, retail, hospitality, and events, Laura brings a wealth of experience to the role.

Vital volunteers

Volunteers are vitally important to the Marwell family and are involved in almost all areas of the organisation - from weeding and leaf blowing, to meeting and greeting, running our tombola, all the way to admin and archiving.

In 2023 we introduced a number of new roles to support our teams

at the zoo and we recruited 35 new volunteers. These include guest engagement, hosting our animal experiences at the zoo, helping our Habitats team to maintain animal areas, supporting our Communications team with zoo photography and even gathering up browse to barrel it for our giraffe and other animals.

Thank you to our volunteers for giving us their valuable time. We couldn't achieve what we do without you!



In 2023, we were proud to work with over 100 delivery, technical, statutory, and funding partners – our deepest thanks to you all for your continued support!

Our partners

We are under no illusion that we can fulfil our goal of supporting nature's recovery alone. It requires a concerted, collaborative approach. With support from our funders and working hand-in-hand with our partners, both locally and globally, we can leverage our collective strengths to tackle complex conservation challenges, amplifying our impact and achieving meaningful results for the restoration and protection of biodiversity.



A list of our delivery, technical, statutory, and funding partners be found here.



Looking to the future



Our innovative Conservation Strategy will continue to guide our programmes to deliver further impact in the future. Our global team, and our world-class science, award-winning conservation impact, sustainability and education programmes remain central to building on the work we do and delivering positive change in the world.

Our world currently exists in challenging times and the efforts we make towards our charitable objectives are made even harder. Nevertheless, through our demonstrable long-term commitment to our teams and partners, we can work together to make impacts. This includes our work with teams in North Africa and in Kenya, where we have seen incredible results for scimitar-horned oryx and Grevy's zebra, respectively. Bringing the whole suite of skills and expertise from across Marwell Wildlife will enhance our efforts and provide valuable knowledge exchange opportunities to deliver even more benefits. For example, developing new understandings for wild animal welfare and health based on our experiences in the zoo and the field, to strengthen the actions for wildlife.

The resources we have across our zoo and surrounding landscapes offer opportunities to deliver accessible and impactful actions for nature. Aligning these to our education programmes, including outdoor learning and SEND (special educational needs and disabilities) and connecting our guests and volunteers more meaningfully to nature will provide benefits to people as well as providing hopeful messages and experiences that can be taken into their daily lives.



£540

Thousand
Gift Aid



116
Active
volunteers
by the end of 2023

How can you help?



£451

Thousand
legacy
income



23

Thousand
annual
members

Join us in protecting and restoring the natural world and saving wildlife from extinction. Support Marwell Wildlife today and become a champion for the wildlife and wild spaces we cherish.

Visit **Marwell Zoo** and connect with nature

Become an **Annual Member**

Donate to support the animals you love

Leave a lasting **Legacy** with a gift in your will

Volunteer to take action

Together, we can support nature's recovery and create a healthier world for both people and wildlife.



Learn more about the ways you can support our charity, or take action for nature here.





**Marwell
Wildlife**

For further information
**marwell.org.uk/
conservation**

To access our publications
**marwell.org.uk/
publications**

Registered charity
no. 275433

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Scimitar-horned oryx, Anan Kaewkhammul