

Written Evidence submitted by Chester Zoo for the Environment, Food and Rural Affairs (EFRA) Select Committee inquiry on species reintroduction

Introduction

1.1 Chester Zoo is a leading conservation and education charity, with a mission to prevent extinction both here in the UK and across the world. We work with 100 partners in more than 20 countries to recover threatened wildlife and restore their habitats, including at home in the UK where we have been involved in the recovery of a wide range of species over the last ten years including large heath butterfly, sand lizard, harvest mouse, pine marten, Llangollen whitebeam and great sundew.

1.2 Our ambitious Conservation Masterplan¹ is shaping our efforts between now and the Zoo's 100th birthday in 2031. This Masterplan aims to build on our successes and draws on our decades of experience working with wildlife, both at the zoo and with our field partners, and our expertise in science and conservation. Our Masterplan highlights a target to halt or reverse the decline of at least 200 highly threatened populations of plants and animals, as well as a target to improve a total of 250,000ha of landscape for wildlife in at least six locations around the world. This includes connecting wildlife landscapes and people in our region, with the Chester Zoo nature reserve and estate at its centre, and engagement with a wide range of local community partners in rewilding and creating habitats for wildlife.

1.3 Chester Zoo has an ambitious strategic development plan to support the Conservation Masterplan, utilising our own wider estate where possible to improve biodiversity. At completion, the Chester Zoo Nature Recovery Corridor² will cover a 10-mile stretch, connecting habitats reaching south of Chester through to Ellesmere Port in the North and turning the area into a thriving example of what British nature can be. This partnership project will restore a network of wildlife-rich habitat, connect people and wildlife, and create a community empowered with the passion, knowledge, and skills to make it an iconic corridor that flourishes long into the future.

1.4 In addition to our conservation breeding and recovery programmes, our work spans a diverse range of conservation challenges, such as palm oil production, human-wildlife conflict, the illegal wildlife trade, and protecting UK wildlife; and is guided by the evidence derived from our science programme and the expertise of our highly skilled and experienced staff.

1.5 The ability to achieve our mission is underpinned by Chester Zoo's status as a world-class visitor attraction. In 2021, and despite enduring an incredibly challenging and unique period amid the pandemic, we welcomed over 1.65 million visitors, and figures published by the Association of Leading Visitor Attractions (ALVA) found that Chester Zoo continues to be England's most popular paid-for visitor attraction outside of London³. We are pleased to be in a prime position to educate and empower each one of our visitors, alongside our 140,000 members and millions of social media followers, to live more sustainably and for the benefit of wildlife. This is a key part of the approach that is needed to tackle both the climate and biodiversity crises.

¹ Chester Zoo (2021). '[Conservation Masterplan](#).'

² Chester Zoo (2021). '[We're creating a 10-mile nature recovery corridor in Cheshire](#).'

³ ALVA (2022). '[Visits made in 2021 to visitor attractions in membership with ALVA](#).'

Executive Summary

Reintroductions will play a crucial role in achieving Government nature recovery targets

- **2.1** We are pleased that the UK Government is now formally signed up to meeting the target of effectively managing, governing, and delivering 30% of land and waters for nature by 2030. We are also encouraged by the Government's target of restoring over 500,000 hectares of wildlife-rich habitat outside protected areas by 2042, and, although we have concerns about their ambition, we are pleased that environmental targets have now been set under the Environment Act 2021.
- **2.2** Reintroductions will play a crucial role in achieving these targets, through restoring keystone species, increasing diversity and building the ecological complexity that will enable ecosystems to recover their function.
- **2.3** While we should consider the charismatic mammals and birds that capture the public's imagination for reintroduction, we must not forget the scores of plants and invertebrates that support ecosystems across the UK. Natural recolonisation is unlikely for many species.
- **2.4** We would like to see specific targets set for species reintroductions, and we encourage the Government to work with scientific experts from conservation zoos to develop these.

Zoos are conservation powerhouses and should play a key role in species reintroductions

- **2.5** Establishing and managing sustainable populations of species, when it is suitable to do so, is a core role of conservation powerhouses like Chester Zoo. Our conservation scientists at Chester Zoo have substantial specialised knowledge and considerable experience of working collaboratively with local and regional partners.
- **2.6** Over the last 20 years we have used the extensive expertise of our staff and our unique on-site facilities at the zoo to help return a wide variety of animals and plants to sites across the Northwest of England and North Wales. These include harvest mice, pine martens, sand lizards, large heath butterflies, scarce yellow sally stonefly, great sundew, black poplar, Great Orme Cotoneaster and Llangollen whitebeam, amongst others.
- **2.7** This highlights the considerable potential for zoological and botanical gardens to play a key role in species reintroductions across the UK.

We need to see a species reintroduction strategy

- **2.8** To maximise the potential benefits from species reintroductions, we believe that the Government must develop and implement a nation-wide species recovery and reintroduction strategy, based on sound science and an evidence-based approach, and in consultation with conservation experts, including those from zoos.

Reconsider the Retained EU Law (Revocation and Reform) Bill

- **2.9** We have concerns that the Retained EU Law Bill threatens legislation that currently helps prevent inappropriate reintroductions in the UK. Without amendment to other legislation, the protections provided by these UK statutory instruments will be lost.

What role should species reintroductions play in the delivery of the Government's biodiversity and nature recovery goals? Should specific objectives/targets be set for species reintroduction?

3.1 In the last 50 years, Britain has faced a catastrophic loss in its biodiversity. According to the WWF's Living Planet Index 2022, global wildlife populations of mammals, birds, amphibians, reptiles, and fish have seen a devastating 69% drop on average since 1970⁴. Closer to home, the UK is one of the most nature depleted countries in the world. According to the State of Nature (2019) report, 41% of species have declined in abundance in the UK in the past 40 years⁵ and of the G7 countries the UK has the lowest level of biodiversity remaining⁶. It is not only individual species that are threatened: the collapse in the abundance of nature also means many of our ecosystems are not functioning as they should.

3.2 We are pleased that the UK Government is now formally signed up to meeting the target of effectively managing, governing, and delivering 30% of land and waters for nature by 2030 (30 by 30) following the ratification of the Kunming-Montreal Global Biodiversity Framework at the UN Biodiversity Conference (COP 15). While this is a welcome step in the right direction, like other environmental NGOs, we are concerned by a report published in the autumn of 2022 by Wildlife & Countryside Link (of which we are a member) that estimated that just 3.22% of land and a maximum of 8% of our seas in England are well protected and managed enough to meet the criteria for the UK contribution to this global target⁷. We must see the Government carry out the work required in the next eight years to bridge the gap, and this will need to include a significant amount of habitat restoration and rewilding. Indeed, the Government's own stated target of restoring over 500,000 hectares of wildlife-rich habitat outside protected areas by 2042 will contribute to this.

3.3 Reintroductions will play a crucial role in achieving these targets, through restoring keystone species, increasing diversity and building the ecological complexity that will enable ecosystems to recover their function. These range from beavers and large herbivores that promote structural diversity to key plants such as sphagnum moss that retain moisture on restored peatlands. While we should consider the charismatic mammals and birds that capture the public's imagination, such as the beaver, we must not forget the scores of plants and invertebrates that support ecosystems across the UK. Natural recolonisation is unlikely for many species either because they are already extinct in the British Isles, or because local extinctions and fragmentation, coupled with low dispersal ability, hampers their ability to spread across the landscape to occupy new areas.

3.4 There is a recognition within the Defra '25 Year Environment Plan'⁸ that providing opportunities for the recovery and reintroduction of native species is critical, and reintroduction (and more generally translocation) is also recognised as a key recovery tool by the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES)⁹. Establishing and managing sustainable populations of species, when it is suitable to do so, is a core role of

⁴ WWF (2022). '[Living Planet Report](#).'

⁵ National Biodiversity Network (2019). '[State of Nature 2019](#).'

⁶ Environmental Audit Committee (2021). '[Biodiversity in the UK: bloom or bust?](#)'

⁷ Wildlife and Countryside Link (2022). '[2022 progress report on 30x30 in England](#).'

⁸ Defra (2018). '[A Green Future: Our 25 Year Plan to Improve the Environment](#).'

⁹ IPBES (2019). '[Summary for policymakers of the global assessment report on biodiversity and ecosystem services of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services](#).'

conservation powerhouses like Chester. The 2021 report '*In our Hands*'¹⁰ published by the British and Irish Association for Zoos and Aquariums (BIAZA) concluded that 76 native species are being restored by the work of zoos and aquariums including pine martens and Scottish wild cats. Of these 76, the report found that 20 native species would face decline or even extinction on a global, national, or local scale without the work of zoological organisations – including species such as the beaver and the white stork. Further, the 76 native species also include 28 native plant species which large charitable zoos and aquariums are assisting in the recovery of.

3.5 It is important, however, that species reintroductions only take place when all threats, direct and indirect, that might jeopardise attainment of the stated conservation benefit of the translocation have been identified. Further, measures must be specified by which these threats would be mitigated or minimised to a level that won't compromise these conservation translocations. While this may sound complex, our conservation scientists at Chester Zoo have substantial specialised knowledge and considerable experience of working collaboratively with local and regional partners and over the last 20 years we have used this expertise and our unique on-site facilities at the zoo to help return a wide variety of animals and plants to sites across the Northwest of England and North Wales. These include harvest mice, pine martens, sand lizards, large heath butterflies, scarce yellow sally stonefly, great sundew, black poplar, Great Orme Cotonaster and Llangollen whitebeam, amongst others. We believe that this highlights the considerable potential for zoological and botanical gardens to play a key role in species reintroductions across the UK, assisting in the restoration of the full species components of habitats.

3.6 Of course, natural recovery is ideal where habitat can be restored and/or created - and protected in line with the 30 by 30 target - however conservation, including translocations and reintroductions, will be required in localities where species have become locally extinct and natural recolonisation is unlikely, or to speed up the restoration of ecological intactness. Many of the UKs natural systems lack critical ecosystems components and are imbalanced, for example a lack of apex predators or habitat heterogeneity, and conservation translocation can play a key part in this restoration.

3.7 We are pleased that the Government has now set its own environmental targets following the passing of the Environment Act 2021¹¹. These targets include ensuring that species abundance in 2042 is greater than in 2022, and at least 10% greater than 2030, as well as improving the England-level Red List Index for species extinction risk by the same 2042 deadline. While the Statutory Instruments to set these targets have already been laid, we would strongly encourage the Government to reconsider their ambition. Like other environmental NGOs¹², we have concerns that if, as expected, wildlife continues to decline for the rest of the decade, it could mean that wildlife is only fractionally more abundant in 2042 than it is currently. Regardless of any boost in ambition, we believe that an increase in species abundance and diversity is unachievable without reintroductions and reinforcements, and they are, therefore, essential parts of the work required to achieve the Government's targets.

3.8 It is also important to recognise that efforts to restore populations of declining and uncommon species that have become locally extinct are just as important as bringing back species that have been extirpated from the country as a whole. In line with this, we would like to see specific targets

¹⁰ BIAZA (2021). '[In our Hands](#).'

¹¹ Defra (2022). '[Environmental targets consultation summary of responses and government response](#).'

¹² Wildlife Trusts (2022). '[Government's new Environment Act targets defy public opinion on polluted rivers and wildlife recovery](#).'

and objectives set for species reintroductions, and we would encourage the Government, Ministers, and non-governmental public bodies to work closely with scientific experts from conservation zoos and other environmental NGOs to develop and implement them. We believe that these targets should:

- drive coordinated activity
- prioritise key species
- help facilitate funding and support
- provide accountability and transparency

3.9 Further, these targets and objectives should be underpinned by monitoring and evaluation to inform adaptive management and development of best practice. This in turn must also be underpinned by clearly defined goals/objectives and appropriate indicators.

Case study: Large heath butterfly

3.10 In Lancashire, Manchester, and North Merseyside alone, 98% of our lowland raised peat bogs have been lost, creating a huge hole in our biodiversity.¹³ More widely, the Government estimates that only 13% of England's peatlands are in a natural state.¹⁴ To function as a healthy ecosystem, we must have a tapestry of different and connected habitats each supporting a variety of plants and animals.

3.11 Boggy, healthy peatlands provide vital wildlife habitats, however, a high proportion of those in the UK have been burnt, drained, extracted and damaged over decades of misuse. The incredible work of Greater Manchester Wetlands partners including Lancashire Wildlife Trust (LWT) to bring back the peat bogs of the Manchester Mosses areas is a strong example of how restored peatland can assist in nature recovery.

3.12 To help reinstate the ecosystem to its fully functioning state, Chester Zoo has provided long-running support through the breeding of the once locally extinct large heath butterfly. Butterflies, in general, have undergone a huge decline in the last 40 years in the UK, with more than 20% disappearing altogether as a result of habitat loss. The main threat to the large heath butterfly in the UK is the loss of the specialist habitat which the species relies on to thrive, particularly lowland peatland.¹⁵ The species connectivity to the remaining moss land sites is also under threat as they are sensitive to wildfires which are deliberately started, which fuels habitat loss further. Further, the butterflies rarely fly more than 650m from where they emerge so extra help is needed to help them to re-colonise their former range.

3.13 Following the successful reintroduction of large heath butterflies to Heysham Moss in Lancashire between 2014 and 2016, LWT carried out further restoration work of a 37-hectare area of lowland raised bog in Wigan. They undertook assessments to ensure the mossland habitat was suitable to support the reintroduction of the species.

3.14 Experts at Lancashire Wildlife Trust collected a small number of adult female butterflies, under licence from Natural England, from a surviving population and transported them to Chester Zoo where a team of four specialist invertebrate keepers spent a year caring for and breeding the

¹³ Lancashire, Manchester, and North Merseyside Wildlife Trust. *'Restoring our precious peatlands.'*

¹⁴ Defra (2021). *'England Peat Action Plan.'*

¹⁵ Chester Zoo. *'Beautiful butterflies return to Manchester peatlands for the first time in 150 years.'*

butterflies: creating bespoke enclosures for egg-laying, rearing the caterpillars, and overseeing the pupation stage, all in a special behind-the-scenes breeding facility.

3.15 Two key plant species are necessary for the butterfly's survival: Hare's tail cottongrass, *Eriophorum vaginatum*, food for the larval stage; and cross-leaved heath, *Erica tetralix*, an important nectar source for adults. To help both prosper, LWT carried out restoration management to ensure they were present in sufficient quantities at the planned reintroduction site. Both plants were also propagated by the Horticulture Team at Chester Zoo to provide a food source for the captive breeding phase of the project.

3.16 Large 'bog in a box' habitats were created for the breeding programme. Peat was brought to the Zoo from a site managed by LWT and put into a large container with propagated plants to provide a range of food and, crucially, dense more established plants to overwinter into.

3.17 Thanks to this work, the first release of large heath butterflies was carried out successfully in summer 2020 in the lowland peatlands of Greater Manchester and further releases are planned to boost the population. It is hoped that there will be a good colony at this location in the next 10 years and at further sites across the Great Manchester Wetlands.

How can the government maximise the potential benefits from species reintroduction, and ensure the correct species are reintroduced in the correct places?

4.1 To maximise the potential benefits from species reintroductions, we believe that the Government must develop and implement a nation-wide species recovery and reintroduction strategy, based on sound science and an evidence-based approach.

4.2 One of the key roles that zoos and aquariums perform is the *ex-situ* management of populations of threatened species, both flora and fauna, for their potential reintroduction. The process of returning species to the wild may seem straight forward but it is not. Without the long-term collaborative, multidisciplinary efforts involving specialised knowledge needed for reintroductions to succeed – including animal care, ecological monitoring, social science, genetics, veterinary risk assessment and population modelling – many fail. The zoo community have been instrumental in establishing this knowledgebase and in developing international standards. It is, therefore, important that any species recovery and reintroduction strategy is developed through consultation with conservation experts, including those from zoos and aquariums and the broader environmental sector, and implemented with their close collaboration.

4.3 It is vital, however, that the above is underpinned by the Government's full support. This includes, but is not limited to, supportive and effective legislation to facilitate translocation alongside guidance that aids the objectives of species recovery programmes, guidelines and support for stakeholder engagement and consultation, and financial support and other incentives for coordinated species mapping, monitoring, and modelling activities. We would also like to see a better integration of grassroots rewilding and conservation strategies with those of the Government, including non-governmental public bodies such as Natural England, to ensure an effective approach to nature recovery.

4.4 Further, it is important that any reintroductions follow the IUCN '*Guidelines to Reintroduction and Other Conservation Translocations*'¹⁶ which promote thorough assessment of feasibility and

¹⁶ IUCN (2013). '[IUCN Guidelines to Reintroduction and Other Conservation Translocations](#).'

careful planning. The Department for Environment, Food and Rural Affairs '*Reintroductions and other conservation translocations: code and guidance for England*',¹⁷ which draws on the IUCN guidelines, also provides a sound basis for designing reintroduction projects and strategies.

4.5 In order for these reintroduction projects and strategies to be successful, we believe that scientific approaches to understanding the complex natural history of Britain's flora and fauna, as well as exploring the likely impact of climate change on distribution patterns of species in the future, need to be stepped up and sufficiently resourced. This will ensure that reintroductions lead to sustainable outcomes.

4.6 Finally, reintroductions will provide a very tangible example of the wider work to recover nature and meet national and international targets, and public support for these can be gained through media campaigns driven by conservation groups like ourselves and supported by local authorities. Rewilding has the power to capture the public's imagination and evidence of this can be seen through the prolific reintroduction of the beaver to the UK.

What role should the Landscape Recovery and Local Nature Recovery Schemes, under ELMS, have in supporting species reintroduction?

5.1 We would suggest that criteria and applications for the Landscape Recovery and Local Nature Recovery Schemes could promote considerations around what species/assemblages are absent and activities which could restore these - either naturally or to potentially flag where reintroductions may be applicable to consider.

5.2 That said, in order for successful reintroductions to take place, landowners must have the support and cooperation of conservation agencies, local authorities, and other relevant bodies. The development of Local Nature Recovery Strategies, which will shortly be underway in all regions, provides an opportunity for a strategic and coordinated approach, particularly where reintroductions of locally declining and extinct species are planned as part of habitat recovery.

5.3 We would also like to see an increase in these schemes promoting connectivity within landscapes in order to encourage rewilding and create corridors for wildlife, which in turn will support the Government's Nature Recovery Network across the UK and help reach the 30 by 30 target.

How effective is current government policy and 2021 guidance in leading and managing species reintroductions? Should any changes be made to its policies and guidance?

6.1 We have concerns that the Retained EU Law (Revocation and Reform) Bill 2022 threatens some of the legislation that currently helps to control and prevent inappropriate reintroductions in the UK, most notably the Conservation of Habitats and Species Regulations 2017 and the Conservation of Offshore Marine Habitats and Species Regulations 2017 (Parts 4 and 5 of each of these relate to introduction of new species and the granting of licences for the introduction of new species). Without careful consideration and amendment to other legislation, the protections provided by these UK statutory instruments will be lost with potentially damaging consequences.

¹⁷ Defra (2021). '[Reintroductions and other conservation translocations: code and guidance for England](#).'

6.2 The Department for Environment, Food and Rural Affairs '*Reintroductions and other conservation translocations: code and guidance for England*'¹⁸, which draws on IUCN guidelines, provides an extensive set of guidelines for species reintroductions and is generally comprehensive. However, we would like to see these guidelines kept under review, in consultation with conservation scientists and other experts in the sector, to ensure they are effective and in line with the latest scientific evidence. We would also like the guidance to underpin a species recovery and reintroduction strategy, based on sound science and an evidence-based approach to maximise the potential of species reintroductions.

6.3 Finally, we are encouraged by the forthcoming Species Reintroduction Taskforce, which will be considering the reintroduction of a number of species in England. Due to the vast taxonomic experience and expertise of zoos and aquariums listed earlier in this evidence, we believe that it is vital that the Taskforce includes representation from the sector.

What improvements can be made in how local communities, landowners and other land users are engaged and consulted on reintroduction proposals? What practical steps can be taken to reduce conflict with these groups?

7.1 From our experience, we would suggest that trained facilitator processes, behaviour change campaigning, and public awareness marketing are all useful tools to engage and consult with local communities and landowners, as well as reduce conflict with these groups.

7.2 As evidenced in the below case study, community engagement throughout a translocation process is key. Further, it highlights how ensuring local communities feel involved in a reintroduction project is important in increasing support and engagement.

7.3 Engagement with local communities should not just take place before and during a project, but also continue after a reintroduction has taken place in order to improve and expand on the initial interest in the translocation. This continued support will increase the likeliness of the reintroduced species surviving and thriving into the future.

Case study: Chester Zoo and the Pine Marten Recovery Project

7.4 Chester Zoo was a major partner in the Pine Marten Recovery Project run by The Vincent Wildlife Trust (VWT).

7.5 Pine martens are thriving in Scotland, but in England and Wales the population is in danger of extinction. The overall aim of the project was to restore viable, self-sustaining populations of pine martens to Wales where habitat and other conditions are suitable. To help Wales' pine marten population recover, the project translocated over 50 pine martens to woodlands in mid-Wales over three years. A 'soft release' was undertaken to ensure that the pine martens were given as much of a chance as possible to adjust to their new surroundings. This means that the pine martens were held in release pens at their new locations, to begin with, where food, water and shelter was provided for them.

7.6 It was clear that an important measure of the future success of the Pine Marten Recovery Project relied heavily on the involvement of the local Welsh communities. Therefore, Chester Zoo,

¹⁸ Defra (2021). '[Reintroductions and other conservation translocations: code and guidance for England](#).'

with support from The Vincent Wildlife Trust, took steps to monitor local views on the project and increase engagement with local communities. It was important that the pine martens became part of the Welsh community and Chester Zoo wanted local people to be aware of them, help monitor them, and benefit from their existence.

7.7 As part of that, a Pine Marten Project Officer and specialist in Community Engagement trained volunteers, enabling local people to become Pine Marten Champions. Locals also took part in a camera trap loan scheme which proved very efficient in building the bridge between them and the pine martens. The scheme allowed locals to put a camera trap in their garden or field, and help the project keep up with the movements of the pine martens, whilst getting people curious about their new elusive neighbours. Some community groups become so involved in the project that they organised a 'name the pine marten' competition where a marten was regularly seen.

7.8 PhD researcher David Bavin examined the factors that affect the success of pine marten translocations with the University of Exeter. Social feasibility of translocations is often overlooked after biological and ecological feasibility have been established. David's research, therefore, included a study of the social implications of the efforts to recover the native carnivore in the UK. He investigated the perspectives of different stakeholders in Wales to gain an understanding of the support for and concerns around the translocation. By addressing the social and ecological factors that can impact their success, the results from David's work aimed to help inform future translocations in the UK.

How could the development of long-term management plans and regulatory regimes for reintroduced species control be improved?

8.1 We would like to see a multidisciplinary committee established, composed of various and differing taxonomic experts who can advise on the quality of reintroduction proposals and monitor the progress of projects. Based on the experience set out earlier in this evidence, we would suggest that this committee includes scientific experts from the zoo and aquarium sector.

8.2 We believe that Natural England's Species Reintroduction Taskforce could be in a prime position to consult on this proposal and establish such a committee.

What can the government do to help prevent unregulated species reintroductions?

9.1 Currently the Wildlife & Countryside Act (1981 and subsequent amendments) operates by exception with regard to reintroductions, listing species of animal and plant in Schedule 9 where introduction into the wild is prohibited (non-native species, species which pose a threat to native biodiversity, and habitats and species where it has been deemed that further release should be regulated).

9.2 Schedule 9 excludes a few species reared for game shooting, such as pheasant and red-legged partridge, large numbers of which are released unregulated into the British countryside every year. The ecological damage caused by these mass releases is still poorly understood due to lack of research, though evidence is emerging that suggests the damage to native fauna and flora can be considerable (for example, Sage et al. 2020)¹⁹.

¹⁹ Sage, Hoodless, Woodburn et al. (2020). '[Summary review and synthesis: effects on habitats and wildlife of the release and management of pheasants and red-legged partridges on UK lowland shoots.](#)'

9.3 We believe that better regulation of the game shooting industry is required to control this problem. Attention to this would also provide the opportunity to close other loopholes that could lead to inappropriate and unregulated reintroductions and ensure that such schemes follow recognised standards.

What lessons could the UK government and Natural England learn from reintroduction in other jurisdictions in UK and Europe?

10.1 We would like to see a bigger, better, more joined up approach with increased integration of grassroots rewilding and conservation strategies with those of the Government, including non-governmental public bodies such as Natural England. To ensure an effective approach to nature recovery in the UK, it is vital that we see such co-ordination, with central goals and targets to help coordinate activity. The below case study of our work in Bermuda highlights the success that can be achieved when species reintroduction programmes are supported by, and carried out alongside, government.

10.2 Further, in 2022, Rewilding Europe published the Wildlife Comeback Report²⁰, led by ZSL, Birdlife International and the European Bird Census Council, which examines the latest opportunities and challenges for species recovery at a European scale. The report detailed a wealth of information on reintroductions of 50 larger vertebrates across Europe and cited factors such as increased legal protection, creation of habitat corridors, recovery of prey species (for predator reintroductions) and gaining public support as contributing to the success of many of these recoveries.

Case study: Chester Zoo and the Bermuda snail

10.3 The UK Overseas Territories (UKOTs) and Crown Dependencies (CDs) comprise some of the world's most delicate and complex ecosystems and habitats. Collectively, they hold a large amount of biodiversity, supporting every one of Earth's major ecosystems, from rainforests to polar tundra, and are home to many unique species, including endemic species – those which cannot be found anywhere else.

10.4 To contextualise this, around 90 endemic species occur in mainland Britain, compared with 3300 known so far in the UKOTs²¹. Therefore, around 94% of known endemic species for which the UK is responsible under international conventions can be found in UKOTs. However, about 75% of those which have been formally reviewed are globally threatened, and most of those not yet reviewed are likely to be similarly threatened²².

10.5 The greater Bermuda land snail (*Poecilozonites bermudensis*) – which measure around 2cm and live only on the remote, oceanic islands of Bermuda – is one of Bermuda's oldest endemic animal inhabitants. It has survived radical changes to the landscape and ecology on the remote oceanic islands of Bermuda over a million years but, since the 1950s and 1960s, it has declined rapidly. Its demise is mainly due to changes to their habitat and the introduction of several predatory snails. Indeed, in the early 1990s, it was believed to be extinct until it was rediscovered in a service alley behind an ice cream store.

²⁰ Rewilding Europe (2022). '[Wildlife Comeback Report 2022](#).'

²¹ Overseas Territories Conservation. '[Unique biodiversity](#).'

²² Overseas Territories Conservation. '[Unique biodiversity](#).'

10.6 At the request of the Bermudan Government, a team of conservationists, scientists and invertebrate experts from Chester Zoo established a recovery plan to save the species and built up a population of the snails in a breeding programme at the zoo. This has led to the breeding of thousands of snails at Chester Zoo. Following extensive work to restore important habitat on many of Bermuda's offshore islands, over 110,000 of the Greater Bermuda land snails were returned for reintroduction at 20 isolated locations that are free from their main predators.

10.7 This project took 5 years between concept, the trial breeding programme, the reintroduction of the snails, and the monitoring of the 20 wild released populations. Chester Zoo is now working with a second species, the Lesser Bermuda snail (*Poecilozonites circumciformes*) and following the same model. This has also become a reference model for other land snail conservation programmes on the Desertas islands.

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