



WAZA

*World Association
of Zoos and Aquariums*

2022

02

NEWS

**Good News for
Saint Vincent
Parrots**

**ALPZA Launches
its Population
Management
Programme**

**A First of its Kind
Facility for Turtles**

**Wildlife Trafficking:
a Fight that
Traverses Borders**



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Imprint

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smithandbrown.eu

This edition of WAZA News is also
available at: www.waza.org

Printed on FSC-certified paper

Cover Photo: *Platysternon megacephalum*
© Jimmy Helgesson

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WAZA Membership

WAZA Members as of 23 June 2022

Affiliates	9
Associations	23
Corporates	23
Institutions	286
Life	96
Honorary	36

Future WAZA Conferences

2022: Loro Parque, Tenerife, Spain, 23-27 October waza2022.org

2023: San Diego Zoo Global, San Diego, United States, 8-12 October

Contents



08



10



15



17



23

President's Letter	4
CEO's Letter	5
Good News for Saint Vincent Parrots	6
Chimelong Group Safari Park: a Closer Look at a Key Institution for Conservation of Rare Species in China	7
Saving the European Bison An Upgrade in Visitor Experience	8
Architecture Makes a Difference at Zoos	10
A First of its Kind Facility for Turtles	13
An Upgrade in Visitor Experience	15
Technology to Fight Extinction	17
ALPZA's New Population Management Programme	19

Wildlife Trafficking: a Fight that Traverses Borders	21
Young Conservationists and Zoos: a Story of Collaboration	23
Reverse the Red - Get Involved	25
ISBs and GSMPs Update	27
Meeting in France as a First Step Towards WAZA's New Strategy	28
WAZA and IATA Strengthen Relationship	28
WAZA Welcomes New Members	29
WAZA at Members' Conferences	32
WAZA Executive Office Grows	34



President's Letter

Dear WAZA Members,

Welcome to the second edition of the WAZA News Magazine of 2022. I am excited by the wide array of contributions we have received from our members and invite you to please get in touch with the WAZA Executive Office to share your news and stories with us, so we can share them with our rich and diverse community.

As I write this letter, the Council is preparing to meet for its in person strategic planning session in Denver, Colorado in July. This will be followed by work to further develop the strategy which will involve contributions from the WAZA Executive Office. Inputs from you, our valued WAZA members, will be crucial to the entire process. We will also host several sessions and workshops at the upcoming 77th WAZA Annual Conference to allow members to provide their insights into the proposed strategy.

I recently had the pleasure of presenting at the EAZA Directors' days, where we heard from the Chair of the CITES Animals Committee, Mr Mathias Lörtscher. He shared the importance of wider participation in this global forum as we are outweighed by 1 to 10 by those who make it publicly known that they do not support the work of zoos and aquariums.

We need a larger presence from our community at key events that impact the work being done by zoos and aquariums. Thus, I urge you all to consider joining the CITES CoP19 in Panama City (14-25 November) and the CBD CoP15 in Montréal (5-17 December).

We encourage you to attend and to play an active role in influencing the discussions that impact zoos and aquariums and as a result biodiversity and conservation.

I am also very excited about WAZA's upcoming annual conference which will be held in Tenerife, Canary Islands from 23-27 October. After the past few challenging years, I look forward to meeting colleagues and friends in person once again.

Since the last issue we have welcomed new members to the WAZA family as well as having expanded the team in Barcelona. It gives me immense joy to see the community grow and include zoos and aquariums from all over the world.

I invite you all to draw inspiration from the meaningful and impactful work that our community does and collaborate to further our high standards of animal health, welfare and conservation.

Yours sincerely,



Dr Clément Lanthier
WAZA President

CEO's Letter

Martín Zordan

WAZA Chief Executive Officer

During my eight years working with zoo and aquarium associations, I have served five Presidents. Four men (a Brazilian, a Mexican, a German, and a Canadian), and one woman (a South African/Australian). Despite them coming from different parts of the world, having different formations, and career paths, they have all shared a common message with me, "the most valuable resource you will ever have, are good relationships".

At WAZA, we are creating new relationships and nurturing existing ones.

In the WAZA Executive Office, these new relationships are with two people who recently joined the office. From New Delhi, Tania Kahlon joined us as the WAZA Communications Coordinator. She brings a strong background in communications and sustainability. In addition, from County Wexford, Emma Burke has joined our office in the role of Administrative Assistant. In a few weeks, we increased from four staff members to six. Once again, the interactions we have as a team will define how successful we are in serving our council, our committees, and ultimately our members.

At a network level, we are exploring ways in which we can strengthen our relationship with our members. To do this we will hold a series of online focus groups to gain an in-depth understanding of their views about WAZA which will enable us to assess how we can improve our offering. This is part of a larger process that includes different types of members, partners and non-members. I am excited to know what the findings of this process will be. To analyse the results, the WAZA Council is holding a second WAZA Council strategic meeting in July kindly hosted by Denver Zoo. This process has expanded to the annual WAZA membership survey, where we asked all members for input and will conclude with a workshop during the 77th WAZA Conference in Loro Parque, Tenerife, Spain. Please consider joining our conference from 23-27 October 2022. More information is available at waza2022.org.

So, while we explore how to make our global association stronger and more dynamic, I invite you to answer some questions. If you did not manage to complete our survey, I encourage you to write to me (martin.zordan@waza.org). I have picked the three questions from the survey that I believe are the most meaningful for WAZA to understand how we can improve. Feel free to answer one or all of them. It will also be a great opportunity for me to connect with you.



Questions

What makes WAZA different from national or regional zoo and aquarium associations?

Having worked at a regional association myself, I am particularly curious to confirm or discard some of my predictions of your answers.

What current or emerging issues would you like to see WAZA address in the next five years that they may not be addressing now?

Such a vital question to give us direction.

In the next 10 years if WAZA succeeded beyond your wildest dreams, what do you envision as WAZA's contribution to the world? How would the world be different because of WAZA?

Our wishes to make a lasting impact.

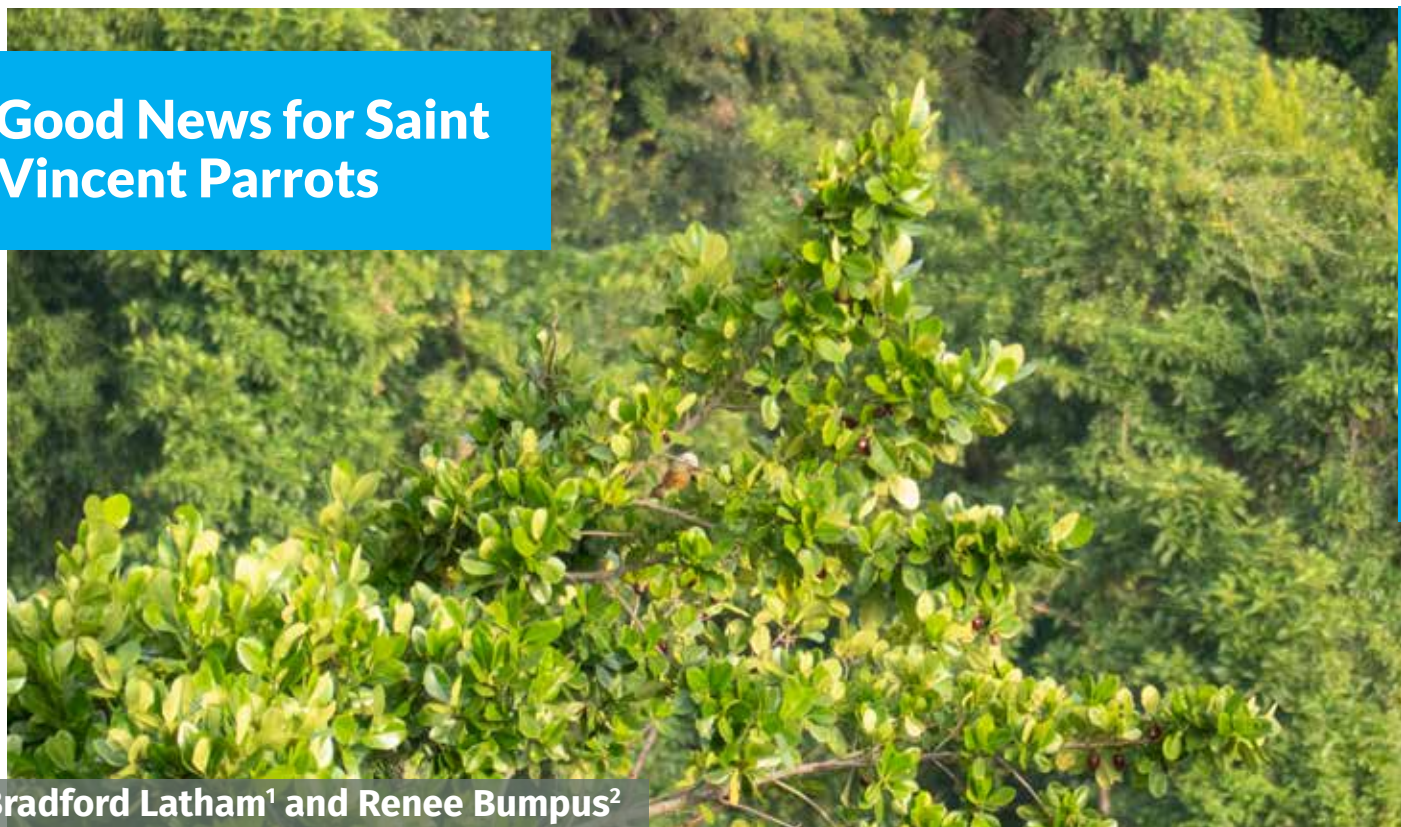
We welcome the opportunity to strengthen our collaboration and encourage you to contact us. We look forward to establishing and nurturing meaningful and productive working relationships.

Sincerely,

A handwritten signature in black ink, appearing to read 'M Zordan'.

Dr Martín Zordan
WAZA CEO

Good News for Saint Vincent Parrots



Bradford Latham¹ and Renee Bumpus²

¹Saint Vincent Forestry Unit Supervisor, ²Houston Zoo Sr. Director of Wildlife Conservation Programmes

After the April 2021 volcanic eruptions of La Soufrière volcano on the mainland of Saint Vincent, the country's forestry department began a rapid assessment of its national emblem, the Saint Vincent parrot (*Amazona guildingii*). The United Nations Environment Program (UNEP), Integrating Water, Land and Ecosystems Management in Caribbean Small Island Developing States (IWEco Project) of Saint Vincent and the Grenadines, Fauna and Flora International, Birds Caribbean, Houston Zoo, Saint Vincent and the Grenadines Environment Fund, and SCIENCE all came together to support the emergency census.

The goals of the 2021 Saint Vincent parrot census were to improve the management and monitoring of the wild parrot population to determine the current status of the species both in terms of population and distribution. The census evaluated the impact of the volcanic eruptions and assessed the long-term trends in the population dynamics of each sector for wild parrots and other species.

The results of the parrot census were extraordinary. The population of parrots appeared to be increasing in several areas. It was determined that some of the parrots impacted by the eruptions migrated away from the affected areas. In 2010 an estimated population of 850 parrots were recorded, and the 2021 parrot census resulted in an estimated population of 1,000 parrots, an increase of 150.

A follow-up census was completed this year by Forestry Department staff, with technical support from the Florida International University (FIU) to help strengthen the census methods. The use of sound detection equipment and artificial intelligence was implemented to recognise the vocalisations of individual parrots in order to develop a new more cost-effective method to estimate the parrot population.

The Saint Vincent Forestry Department also manages the Nicholas Wildlife Aviary Complex on the island. Saint Vincent parrots at the complex are injured or are birds recovered from the illegal pet trade. Immediately following the eruption, a Saint Vincent parrot chick hatched in the aviary. The chick was successfully parent-reared; however, the staff identified a need to improve the facilities for future successful reproduction of these rare parrots.

The Houston Zoo has worked to support the conservation efforts of the Saint Vincent Forestry Department, and are immensely grateful for their tireless efforts to protect this incredible species. The zoo has housed the Saint Vincent parrot for many years, and is the longest serving captive breeding facility. This year, Houston Zoo was able to provide funding for construction and renovations to the Nicholas Wildlife Aviary Complex. The Forestry Department staff worked quickly to refurbish the existing aviaries and build new facilities that will improve welfare conditions for the parrots, strengthening captive breeding and possible reintroduction efforts in the future.

**The results of the
parrot census in 2021
were extraordinary.**

**The population of parrots
appeared to be increasing
in several areas.**

Main photo: Saint Vincent parrots © Isabel Vique

Chimelong Group Safari Park

A Closer Look at a Key Institution for Conservation of Rare Species in China

A woman in a colorful floral shirt and a bright green skirt is interacting with a group of children. A large toucan bird is perched on her arm. The children are wearing matching green t-shirts with a panda logo. They are outdoors in a wooded area.

Vasantha Nugegoda

Director, Guangdong Chimelong Philanthropic Foundation

Chimelong Safari Park opened in 1997 in Panyu city, Guangzhou, Republic of China. Built on 134 hectares of landscaped grounds in an undulating area of forest and large lakes, the Park currently has a collection of 200 species of animals from 40 countries. The forested area is left undisturbed, and more forest fruit and flowering trees have been added to provide feeding, roosting sites, and a safe haven for local and migrating fauna. Thus, it acts as a green lung for the surrounding fast-developing city.

The Park, with its many highlights, is well known for its naturalistic animal habitats that are created as similar as possible to the needs of the individual species and natural herds of animals. The Park also hosts the biggest ecological Snake Park in this region and attracts four million visitors annually. It is divided into two facilities: Safari on Foot and Safari on Wheels.

In addition to focusing on conservation work, tourism, and education, one of the Park's key highlights is the Rare Animal Breeding Centre where the Chimelong Group has successfully bred more than 500 species of rare wildlife from more than 40 countries. This has been possible thanks to its world-class animal breeding and exhibition facilities. The Centre has conducted scientific research on many of these species, including behavioural studies, ecology, nutrition, breeding, disease prevention, and control. This research has enabled the successful breeding of giant panda triplets, koala twins and the first giant panda F2 generation born in South China, golden monkeys, proboscis monkey, crested ibis, dolphin manatee, penguins, and many others.

To manage these efforts, the Park has more than 500 staff that include animal keepers, management staff, and horticulturists who receive intensive training with international and local experts, who provide advice online and through in-person visits. The Park also houses a fully equipped animal hospital with 16 veterinarians, making it the largest and the most well-equipped zoo hospital in the region.

The Park is also dedicated to engaging with visitors. To this end, the park has developed an innovative, educational visitor programme hosting a variety of special events such as junior keeper talks

and night camps. They have also recently introduced an aerial experience where visitors can view the park from a cable car.

Successes at Rare Animal Breeding Centre

The Rare Animal Breeding Centre not only specialises in highly endangered Chinese species including the giant panda, the lesser panda, the Francois' langur, the snub-nosed monkey, the golden monkey, the douc langur, orangutans, the golden takin, the Borneo pygmy elephant, and black rhinoceros. The Centre participates in the EAZA *Ex situ* Programmes (EEP) for the one horned rhino and rare bird species like the oriental crested ibis.

Chimelong has a conservation centre which was approved by the State Forestry Administration of China in 2015 with a mission to introduce breeding and re-introduction of the South China tigers. It is the main project of Mr Zu, the owner of the park. Built in 2016, the Centre covers an area of 6000 hectares with a total investment of more than 200 million yuan, which is China's first large scale, public welfare project for wildlife conservation solely funded by private investors.

Together with the breeding efforts, since its creation in 2013, the Chimelong Philanthropic Foundation is dedicated to the conservation of flora and fauna. Renamed as the Chimelong Flora and Fauna Conservation Foundation in 2017, the Foundation has funded research institutes, wildlife sanctuaries, and academic groups in China and all over the world. All the theme parks of the Chimelong Group donate 1 yuan to the Foundation from each ticket sold. Chimelong has also hosted national and international conferences.

Chimelong Safari Park has been a success story since its inception. This success can be attributed to its visionary founder and owner Mr Zu, who along with the dedicated staff, have made the Park a pioneer in conservation.

From Berlin to Azerbaijan: the Journey to Save the European Bison



Katharina Sperling

Reintroduction of a European Bison in Romania in
2019 © Tierpark Berlin-Bogdan Comanescu

Press Relations Officer & Wildlife Conservation Coordinator, Zoo Berlin and Tierpark Berlin

Earth is home to millions of animal and plant species, but this diversity is under threat. Humans are currently causing the greatest extinction of species since the end of dinosaurs. For many species, including the Steller's sea cow, the Tasmanian tiger and the quagga, help came too late. The European bison was also on the brink of extinction but through a well-coordinated approach different institutions joined forces and managed to save the rare wild cattle. In order to secure the future of the European bison in the Greater Caucasus, which was once completely extinct in its natural habitat, Zoo and Tierpark Berlin have committed to a detailed rescue plan. The goal is to secure the future of the European bison in Shahdag National Park in Azerbaijan.

Despite its impressive appearance; a massive skull, a powerful chest and a weight of up to one ton, almost 100 years ago, the shaggy wild cattle were wiped out in their natural habitat by humans and thus almost completely disappeared from the earth. However, a few European bison survived in zoological institutions and animal parks. Since 1951, zoos have been reintroducing European bison into parts of their original range at considerable expense. Thanks to international breeding, various reintroduction efforts and the strict protection status, there are now more than 7,000 free-ranging animals in Europe again.

Since 2019, Zoo Berlin, Tierpark Berlin, and WWF Germany have been working together to return the bison to its natural habitat in the Caucasus. As part of the reintroduction project in Azerbaijan, 20 bison have so far been reintroduced into the core zone of the Shahdag National Park, which covers an area of around 1,300 km², and nine more animals are currently located in the reintroduction enclosure to be released at a later stage. The EAZA *Ex situ* programmes has carefully selected the individuals to ensure among other things that all released candidates are behaviorally competent and in good health.

In order to secure the long-term future of the European bison in the Greater Caucasus, Zoo Berlin, Tierpark Berlin, and WWF Germany have now renewed their Memorandum of Understanding (MoU). They have defined concrete actions for the next seven years, such as the organisation and financing of the transport of further European bison from Berlin to Azerbaijan, the exchange of experience between staff from the two Berlin zoos, WWF and Azerbaijan, and the optimisation of conditions in Tierpark Berlin to allow for smoother management when forming herds with individuals from different institutions.

“As a zoological institution, we are an essential part of the worldwide species conservation network and see it as our duty to make an effective contribution to environmental protection,”

Zoo and Tierpark Berlin Director, Dr Andreas Knieriem.

“The reintroduction of animals that have become extinct in the wild is an enormous feat. Not one country, zoo or environmental organisation can take on a task of this magnitude alone, especially when the animal concerned is so large. Projects like the return of the bison make it clear that species conservation requires teamwork,” Dr Knieriem said.

A successful outcome can only be achieved by building long-term relationships of mutual trust between international, national, and local partners.

The extended MoU envisages the introduction of 70 bison to Shahdag National Park in Azerbaijan by 2028. The conservation partners also plan to continue to exchange knowledge about veterinary care and husbandry more intensively with colleagues from the national park. Zoo Berlin and Tierpark Berlin have decades of practical experience in keeping, managing and transporting herds of European bison. Zoo Berlin staff are keen to share their experience with colleagues from the national park as well as learning more about the animals after their reintroduction into the national park. Staff from Shahdag National Park will travel to Berlin during the summer of 2022, all with the common goal of seeing the species thriving in the future.

As in the past, individuals from zoological institutions all over Europe will be brought by recommendation of the EEP to form a herd at Tierpark Berlin. After a period of acclimatisation, the animals will begin their journey to Azerbaijan. The transport will take place once a year, in the autumn. In order to be able to keep up to 10 additional European bison in Tierpark Berlin each year, the facilities on site will be expanded accordingly. The partnership between Zoo Berlin, Tierpark Berlin, and WWF is a ray of hope for the European bison in the Greater Caucasus.

Zoo Berlin and Tierpark Berlin recently launched a new species conservation programme called “Berlin World Wild”, in which they collaborate with conservation partners in more than 35 projects worldwide. The programme allows guests to make a direct contribution with their ticket, where 100% of the revenue is donated to the species conservation programme.

<https://www.berlinworldwild.de>

A promising opportunity for species conservation: more than 5 million guests visit Zoo Berlin and Tierpark Berlin every year, enabling engagement in research, education and conservation projects around the world.



WWF, Zoo Berlin, and Tierpark Berlin joined forces
© Tierpark Berlin

How Architecture Can Make a Difference at Zoos



Kieran Stanley

CEO and Creative Director, Dan Pearlman Experience Architecture

We live on a fantastic planet, with a rich natural environment that makes life possible as we humans know and love it. However, this environment is acutely threatened, as the continuing destruction of untouched wilderness places increasing strain on natural habitats, their biodiversity and the climate.

Zoos play a crucial role in protecting biodiversity. Using both the activities that take place within their boundaries and their projects around the globe, they actively promote and raise awareness of the importance of preserving wildlife.

As zoo architects, our task is to support them in this critical endeavour in the best way we can by building zoo facilities focused on animal welfare, while at the same time motivating visitors to make their own commitment to biodiversity and nature conservation by creating spaces where they can be inspired. The handcraft of Architecture in combination with the landscaped environment and interpretive elements are the tools of engagement.

The work we do for zoos creates lighthouses for wildlife conservation that carry this important issue right into the midst of society for all to see. Architectural super signs can often have a broadcasting effect that extends far beyond the boundaries of a zoo itself, transmitting a lasting message to the world at large.

Architecture is not the primary purpose of our projects. Rather, it is a means to an end, a call to action, and an invitation to participate.

Our creations immerse visitors in the environments of fascinating and often endangered animal species, allowing them to experience these wonderful creatures up-close and in an intensely personal way.

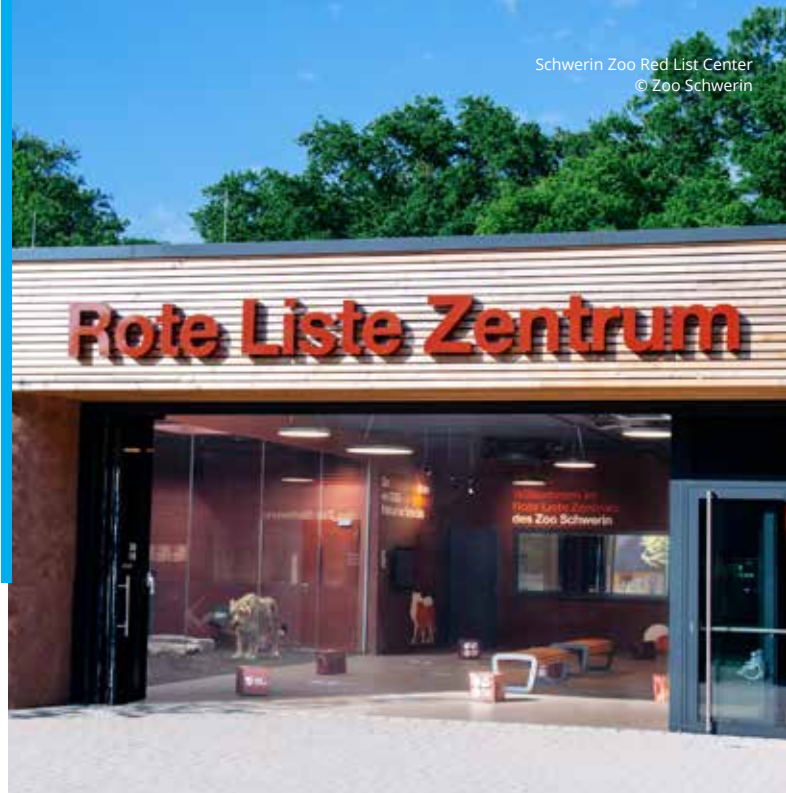
Such emotional experiences, when associated with well-communicated educational content about species conservation, leave lasting impressions in the hearts and minds of the visitors. This can result in each of them feeling that they too can contribute, whether by tossing a coin into a wishing well or in the longer term, by adopting a more sustainable lifestyle.

Chester Zoo, Islands

Completed in 2015, the Islands at Chester Zoo, United Kingdom, reflect the zoo's commitment to nature and species protection programmes worldwide, and ensure that visitors will establish a connection to endangered animals and their habitats. The six islands have been developed to show authentic Indo-Pacific settings using true-to-life arrangements, incorporating cultural elements, and structures. It is possible to view the animals from impressive, unusual perspectives, such as an underwater view of the tiger and crocodile tank and a tour by boat through the spacious monsoon forest. These unique experiences make a visit to the Islands unforgettable. Visitors are given a sustainable glimpse of the work conducted at the zoo, which focuses on conservation and information, before being invited to get involved themselves, wishing well.

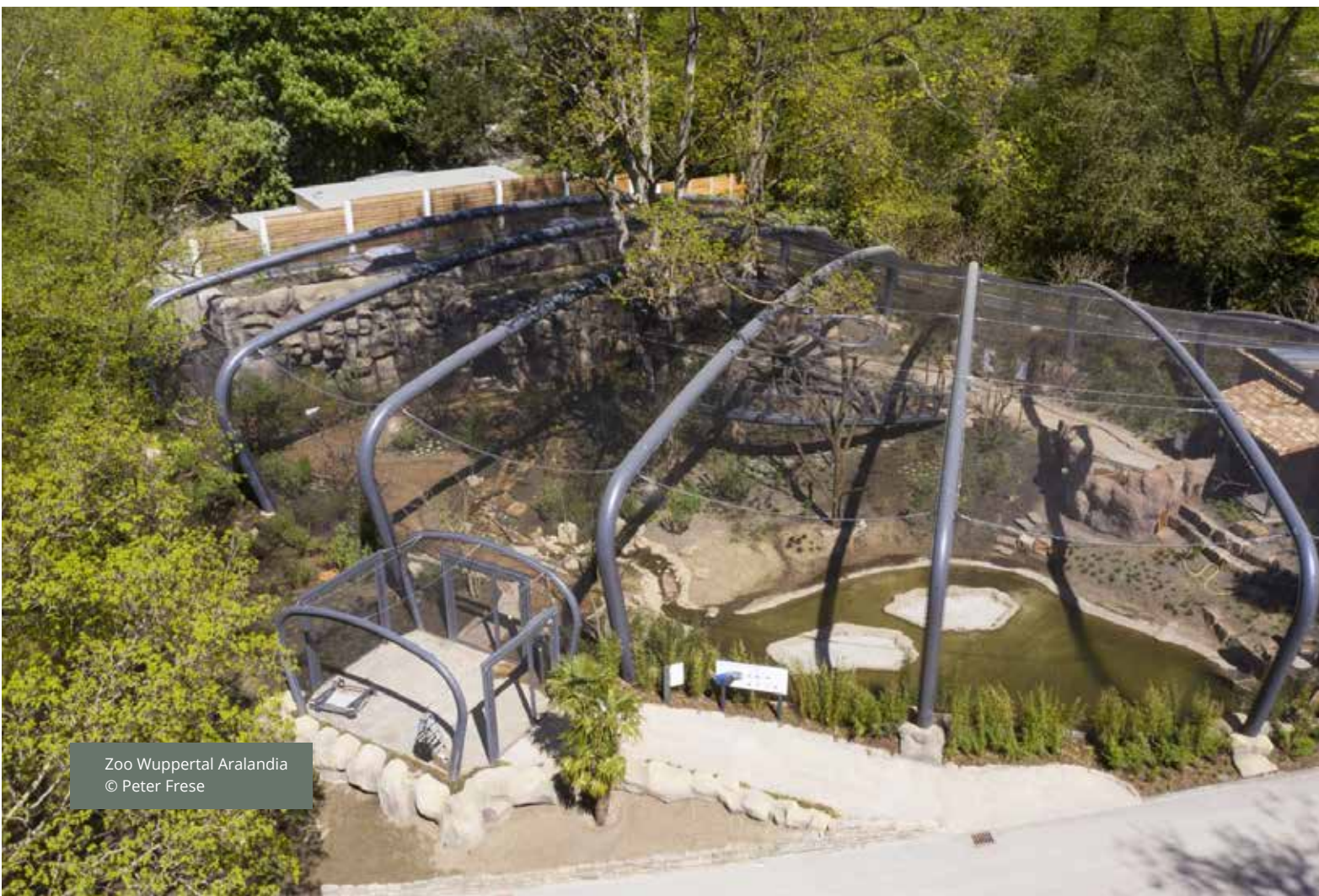
Schwerin Zoo, Red List Centre

The Red List Centre at the Schwerin Zoo, Germany, is a beacon of species conservation thanks to a fruitful cooperation between the zoo and the International Union for Conservation of Nature (IUCN), which publishes the Red List of Threatened Species, detailing the conservation status of individual plant and animal species around the world. The facility houses lions and other threatened or endangered species, one to represent each category on the Red List. With the opening of the Red List Centre in 2021, the Schwerin Zoo now fulfils its mission as an educational institution admirably. Display boards and interactive screens provide a wealth of information on the degree to which wild species are threatened, how destruction of natural habitats, climate change, and outright hunting contribute to the threat, and what our society can do to stop it.



Wuppertal Zoo, Aralandia

The Grüne Zoo in Wuppertal, Germany, is setting new standards in the keeping and breeding of endangered macaws with a new facility called Aralandia. This is a large aviary, accessible to visitors, that accommodates up to 40 macaws. Aralandia is focused on teaching visitors about the zoo's commitment to preserving the hyacinth and Lear's macaws as well as promoting its conservation project in the birds' natural habitat of Brazil. Once a couple of macaws have taken a liking to one another, they disappear behind the scenes in special breeding aviaries of the zoo's Macaw Breeding Centre to hatch and raise their young. Following this, the macaws are returned to their home zoo. The preservation programme counts numerous European zoos amongst its participants. Completed in 2020, Aralandia's approach is considered to be ground-breaking.



Zoo Wuppertal Aralandia
© Peter Frese



Hellabrunn Zoo, Mühlendorf

Domestic biodiversity and experiencing nature hands-on are the focus of the Mühlendorf at the Tierpark in Hellabrunn, a district of Munich, Germany. This collection of buildings styled on an Alpine farming village playfully invites visitors to discover biodiversity, illustrating what it is and how it can be preserved. Through a variety of games and learning stations, visitors can follow the process by which wild animal species became domesticated and see endangered species up-close. There are a variety of exhibits, for example one which demonstrates how our food is produced. The Mühlendorf's emphasis on the importance of nature and species conservation in the zoo's work serves as a beacon for inspiration and education, and is an experience the whole family will enjoy.

Berlin Zoo, Rhino Pagoda

A lighthouse for conservation will be completed by Spring, 2023, at the Berlin Zoo, Germany: the Rhino Pagoda. With a central tower 25 metres high, this facility is dedicated to the endangered Indian rhinoceros and will substantially boost the profile of the zoo's wildlife conservation efforts, even far beyond its boundaries. Visitors will be taken on a journey to the rhinos' home in the Northeast of India, where they will find out about their natural habitat, and be able to contribute directly to the zoo's project in the Assam region in protection of the Indian rhinos by donating at a wishing well.



Zoo Berlin Nashorn Pagoda Tower
© Zoo Berlin

So whether it is a beacon for a cause, an interpretive exhibition or an immersive landscape experience, the aim of our work is, besides functional efficiency, to allow the visitors to get physically and emotionally closer to animals and help them fall a little bit in love with nature and its wildlife.

© All projects by Dan Pearlman Experience Architecture
Berlin, Germany



Nordens Ark Starts Building a First of its Kind Turtle Facility in Northern Europe

Emma Nygren

Conservation biologist and the Head of Conservation programmes at Nordens Ark, Sweden

Batagur affinis
© Chister Larsson

Biodiversity is being lost at an alarming rate. According to a report by the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) around one million animal and plant species are now threatened with extinction¹. Among all major vertebrate groups, turtles are one of the most threatened². A recent review published by a group of 51 global turtle and tortoise experts stated that more than half of the world's turtle and tortoise species are now threatened with extinction². Of the 360 currently recognised species, more than half are considered threatened by the IUCN Red List³.

The reason why tortoise and freshwater turtle populations are declining rapidly is due to an increase in human pressure. Habitat loss for agriculture and the loss and degradation of water systems are some of the main threats. Turtles are also being consumed as a delicacy, used in traditional medicines, and collected for the international pet trade, both legal and illegal, which severely threatens many species⁴. The situation is most critical for the species in Asia where every tortoise and turtle species are impacted in some manner by habitat loss, overexploitation for food, or the international wildlife trade⁴.

In 2019 the European Association of Zoos and Aquaria (EAZA) reptile Taxon Advisory Group (TAG) held a Regional Collection Planning (RCP) workshop for chelonians. During the RCP the TAG decides which species are recommended to be managed under an EAZA *Ex situ* Programme (EEP) and what the precise direct, and/or indirect, and/or non-conservation roles of each EEP will be. The process is in line with the One Plan Approach and through the application of the five-step decision-making process in the IUCN guidelines on the use of *ex situ* management for species conservation.

The EAZA chelonian RCP workshop took place on 20-21 May 2019, at Nordens Ark in Sweden, and was organised by the EAZA reptile TAG and the EAZA Executive Office. The workshop was the first of two since the number of species that the chelonian sub-group oversees is too large to be assessed in one single RCP workshop. The initial workshop covered 51 species containing chelidae, geoemydidae, platysternidae, testudinidae, and emydidae⁵.

During the meeting it became evident that *ex situ* management has an important role to play for the conservation of many species due to the critical situation in the wild. It also became clear that there is a need for facilities that can house larger freshwater turtle species. Based on the result from the RCP workshop, Nordens Ark applied and was awarded funding from the Swedish Postcode Lottery to build a facility dedicated to threatened chelonians with a specific focus on large freshwater species from Asia.

Nordens Ark is a non-profit foundation dedicated to the conservation of endangered species. Their vision is a world with viable populations of animals and plants in functioning ecosystems. Nordens Ark Foundation owns and is located on the grounds of Åby Manor in Bohuslän, Sweden. With its impressive nature and cultural heritage, Åby Manor comprises a total of 383 hectares, including pastureland, forest, and animal facilities. There is an animal park open for visitors and an off-exhibit conservation breeding centre. The foundation is involved in numerous reintroduction and field projects in Sweden and around the world.



Batagur affinis © Chister Larsson

The new turtle facility, called the Turtle Ark, will be unique and the first of its kind in Northern Europe. Construction of the Turtle Ark began in February 2022. The facility is being built in the middle of the animal park and will consist of both an area open to the public and a closed breeding facility. The public area will have a number of big, naturalistic enclosures, and education signage to increase the visitor's knowledge and awareness about turtles, the threat they are facing, and what we in the conservation community are doing to preserve them. In the breeding facility, it will be possible to breed and rear chelonians on a larger scale in order to assist conservation projects with animals for release when possible.

To begin with, the Turtle Ark will function as a haven for about 15 species, all of which are close to extinction in the wild. When fully operational it will be able to house approximately 200 individuals. In addition to supporting *ex situ* efforts, Turtle Ark also intends to support *in situ* conservation projects for the species that are kept in the new facility. The Turtle Ark will open in early summer 2023, with the aim of helping to ensure the survival of several turtle species until the situation in the wild improves.



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An Upgrade in Visitor Experience



A facility in Wuppertal Zoo created by Carl Stahl
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Carl Stahl ARC GmbH

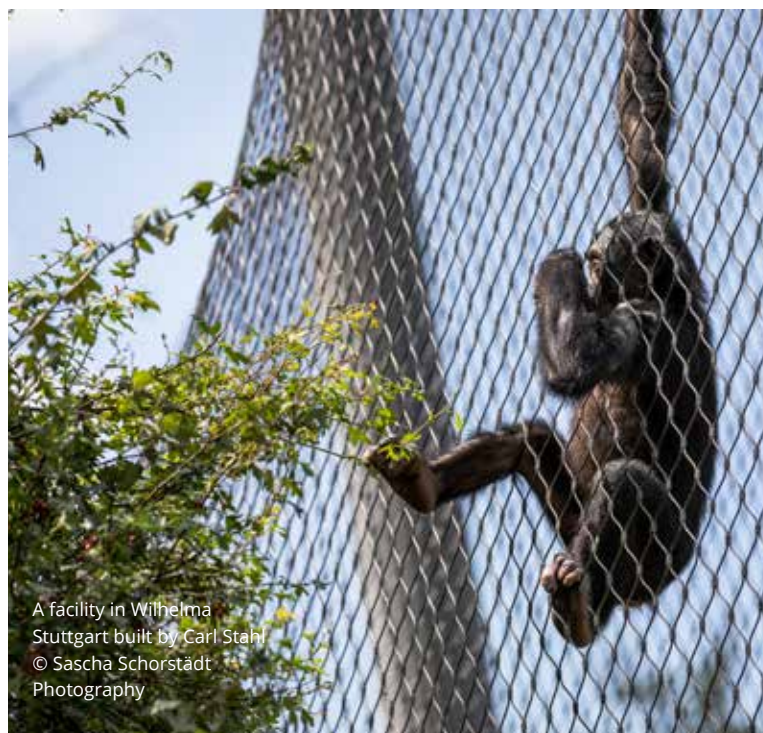
One of the challenges of species conservation is the accommodation of animals in zoo enclosures that adhere as closely as possible to a species-appropriate design, while at the same time prioritising safety. Enclosures should be spacious, taking into account varied animal behaviours and providing plenty of possibilities for the animals to retreat from curious visitors.

Cable mesh enclosures are effective in addressing considerations of safety while also improving the visitor experience. Crucially for zoo architecture, these meshes combine key aspects of safety and design, while also being hard-wearing and durable. In addition to this, thanks to their transparent structure, they offer virtually barrier-free insights and views. Advances in the material being used for the construction of these cable meshes ensures that the relevant structural dimension can be selected in line with the size and weight of the animals, as well as in accordance with the load cases which have to be considered to provide the necessary security.

One of the key construction elements in zoo architecture is the X-TEND cable mesh which allows for considerable creative freedom when it comes to animal facilities of all kinds, as well as being applicable for other applications in zoos like balustrade in-fills, fall protections, separations, greenery systems and tunnel mesh. X-TEND cable mesh is lightweight and its structures offer safe solutions for housing almost any species, accommodating their needs according to the spaciousness of the exhibit.

The uniqueness of X-TEND lies in its high-grade stainless-steel cables and material-optimised ferrules that make a resilient metal fabric with a rhombic diamond pattern. This pattern and its structural stability can be used for constructing very wide spans without the need of being supported by a grid of tension cables. The resulting mesh is extremely strong yet flexible. Additionally, its corrosion resistance and longevity make it especially well-suited for even the harshest climates.

Another innovation that is paving the way for enhanced visitor experiences is the walk-in free-flight aviaries which create near-natural, bird-friendly animal habitats which help zoos provide visitors with authentic insights into specific habitats.



A facility in Wilhelma
Stuttgart built by Carl Stahl
© Sascha Schorstadt
Photography



Landscape Immersion – Near-Natural Habitat for Birds

Another innovation that is paving the way for enhanced visitor experiences is the walk-in free-flight aviaries which create near-natural, bird-friendly animal habitats which help zoos provide visitors with authentic insights into specific habitats.

Enclosed with X-TEND stainless steel mesh, the aviaries allow birds to retain their species-typical flight behaviour. The airy animal habitats can be adapted to the landscape conditions of the particular topography in almost any conceivable shape and offer visitors an extraordinary barrier-free experience as they can enjoy strolling along the walkways, internally and externally.

Generous Movement Spaces for Monkeys and Lemurs
Due to the X-TEND stainless steel mesh permitting large spanning widths and thus enabling the creation of spacious areas, all kinds of monkeys and lemurs can move freely. The cable mesh serves as a climbing frame for the animals, allowing them to access the mesh roof. The extended activity scope to heights of over 15 metres promotes their natural species-typical behaviour where they can jump and swing in all directions. In order to satisfy their needs, the animal habitat can include, among others, a diverse range of ropes, swings, hammocks, walking beams, objects and stimulating materials to play around with. These can be connected to the outer surface as well as to an intermediate separating mesh or to supporting structures.

The X-TEND technology, with its 3-D structural ability, has shown itself to be one of the most reliable, secure and dynamic construction elements within a zoo exhibit project. It reduces the need for more obtrusive and in many cases sturdy building

materials, while the mesh permits for high load capacity and large surfaces. The result is a light, transparent, low-mass structure with reduced material consumption, and low maintenance costs.

Carl Stahl Architecture has been a WAZA member for many years and thus in fruitful interaction with zoos and zoo design experts worldwide, and aims to create individual animal habitats for each specific husbandry demand in order to contribute to the wellbeing of the protected species.

Besides a mere animal habitat for animals of different kinds and requirements, the X-TEND cable mesh structures represent aesthetic pieces of lightweight architecture within zoos, and can also be used to partially green their surfaces for a visually appealing lush green look.

X-TEND mesh zoo products can be found at:
www.carlstahl-architecture.com

Carl Stahl Architecture specialises in stainless steel cable and mesh systems for architecture and design with almost 30 years of experience. Our specialised services include consulting and design, planning, tensile engineering, statics and 3-D modelling as well as on-site installation, training and maintenance support - worldwide.

Sustainability governs our policies and actions. We ensure the value chain with our own production facilities in Europe as a German family company that has been active since 1880, where X-TEND cable mesh was invented in the Nineties. Our US subsidiary in Chicago, IL manufactures X-TEND mesh conform to "Made in USA" requirements.

Technology to Fight Extinction

How Drones, Helicopters and Cameras Can Help Wildlife in Need



Marissa Parrott¹, Sakib Kazi¹, Yohanna Aurisch² and Kim Miller³

¹Wildlife Conservation and Science, Zoos Victoria, ²Mt Beauty, North East District Office, Parks Victoria, ³Life Science, Healesville Sanctuary, Zoos Victoria

In the face of a changing climate and increasing disasters such as bushfires, zoos need to be ready to respond to the challenges faced by our endangered species and other wildlife. Technology is helping us prepare for the future.

Advances in technology affect all areas of our lives. In a social sense, technology entertains us and keeps us connected, which was especially important during the Covid pandemic¹. Technological advancement also plays a vital role in the continuous improvement of our medical care, and recently technology has been adopted by zoos to help fight the extinction of some of our most endangered species².

At Zoos Victoria, Australia, infrared remote cameras are being used to monitor Eastern barred bandicoots released into the wild³, tiny radio-tracking harnesses help to track critically endangered Baw Baw frogs⁴, and the Moth Tracker citizen science website⁵ is helping to track the migration of the bogong moth in real time which in turn helps the critically endangered Mountain pygmy-possums that feast on them⁶.

Following the Australian Black Summer bushfires of 2019 - 2020⁷, technology helped rediscover populations of Kangaroo Island dunnart⁸, monitored veterinary-treated koalas after release⁹ and helped evacuate and then return Eastern bristlebirds home once they were safe¹⁰.

In 2019, the Mountain Pygmy-possum Recovery Team developed a contingency plan for mountain pygmy-possums following the collapse of their main food source, the (now endangered) Bogong moth¹¹. As part of the plan, Zoos Victoria started an ambitious program to help possums in times of food shortage. In collaboration with experts in veterinary nutrition¹², and using

food safety analysis laboratories, they developed and trialled a nutritionally suitable new food for the Mountain pygmy-possum¹³ named bogong bikkies¹⁴. This forethought in Victoria meant the bikkies could be deployed in feeders by New South Wales Department of Planning and Environment (DPE) Saving our Species team¹⁵ to help feed and save possums in the Northern Kosciuszko National Park¹⁶ following the Black Summer fires.

However, the deployment of food to wildlife, like bikkies in feeders, can be time-consuming and labour intensive, and may not be possible in certain areas. The next step was to determine how to deliver food to wildlife that may be located in areas that are remote, dangerous to reach (especially after an emergency like a bushfire), very large, or have delicate habitat.

To prepare for future emergencies, Zoos Victoria trialled technology to determine how to safely and efficiently deliver food to animals in need, such as mountain pygmy-possums in their remote alpine boulder field homes. In partnership with Parks Victoria¹⁷, scientific trials of four techniques were conducted: walking and dropping the bogong bikkies, a handheld, battery operated scatter-machine, and aerial food deliveries via a helicopter and a scatter-machine carrying drone.

Researchers analysed how the bikkies dropped and whether they fell between the boulders to safe areas with good cover from predators. Remote infrared cameras were used to look at what species were attracted to the food, and ensure it was not attracting introduced predators, like cats and foxes, to the area. Many species, including mountain pygmy-possums, native bush rats, tiny antechinus (carnivorous marsupials) and even local lizards, all ate the food. There was no increase in predators across the area, and no damage to the delicate alpine habitat.

The walk-and-drop technique was effective and allowed for targeted delivery of food, but was time-consuming and potentially dangerous over unstable terrain. It could be useful in the future under certain circumstances. The machine-held scatter was a comedy of errors. The machine and bikkies were heavy, the personal protective gear required to conduct the operation safely was restrictive, and the lurching motion of the machine made walking on unstable boulders dangerous. While there were no injuries, and plenty of laughter, this is not a technique to be repeated with the equipment at hand!

The aerial deliveries were the most successful. The helicopter and team from Paton Air¹⁸ were able to quickly and efficiently deliver the bikkies to targeted areas from above, with a special chute in the bottom of the helicopter providing good visibility to guide the direction of the drop. This is a good technique for remote areas, as was also found for some species after the bush fires¹⁹.

The drone and team from XM2 Earth²⁰ were highly effective. The deployment of bikkies was quick and efficient, a high-resolution camera under the drone made it possible to target small areas for the bikkie delivery and the slight downdraft from the drone was used to sweep bikkies between the boulders in safe locations. Importantly, very few bikkies remained at the top of the boulder field, with the majority bouncing down to lower levels. The use of drones to safely feed wildlife is an exciting prospect in future emergencies. Having both aerial techniques ready to deploy in differing areas, conditions and weather patterns provides confidence that we can help wildlife under often rapidly changing emergency developments.

One issue encountered was with the off-the-shelf machine-scatterer, which was trialled by hand and attached to the drone. The irregular shape of the bikkies meant they became stuck, making food deliveries slower. To prepare for future emergencies, XM2 Earth is now developing new large and small 3D-printed, efficient, and hygienic food scatterers with Zoos Victoria that can deliver different sized foods, such as seed for birds, pellets for wallabies, and bikkies for possums. The new equipment named ZENA (Zoo Emergency Nutrition by Air) has been successfully trialled with multiple food types to help multiple species.

Globally, zoos are increasingly being called upon to help animals after a variety of emergencies²¹ including fires, floods, oil spills, armed conflict, and more. Zoos have extensive knowledge on the management, behaviour, diets and nutritional requirements of many species, making them ideal institutions to deliver food safely. We hope that this technology will assist zoos and wildlife professionals around the world to further help wildlife in times of crisis.

Finally, it is important to note that the feeding of wildlife must only be done under governmental or similar authorisation in a controlled approach, with appropriate food, and in a manner that will not harm the wildlife or habitat²².

Scientific trials for the use of technology in animal food delivery are vitally important in improving responses to emergency situations. The trialled techniques and technologies outlined above are now available for use in future emergency responses.



Photo: Bogong bikkie deployment via drone with XM2 Earth © Zoos Victoria

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ALPZA Launches its Population Management Programme

Christian Olacireguí and Adrián Sestelo

Latin American Association of Zoos and Aquariums (ALPZA)

The Latin American Association of Zoos and Aquariums (ALPZA) currently includes 47 zoos and aquariums in 14 Latin American countries. ALPZA is aware of the importance of guaranteeing the viability of the populations of zoos and aquariums in this region and has prioritised this action as one of its strategic objectives. In March 2022, the Association's Conservation Committee established a Population Management Programme (PMPA) focused on threatened species.

Considering the extraordinary biodiversity that exists in the Neotropical region and the large number of species in the zoos and aquariums that are members of ALPZA in Latin America and the Caribbean, a rigorous evaluation and selection process of species was required.

This process included the determination of eight criteria:

- 1 IUCN has identified *ex situ* management as an important action (occurring or necessary) for its conservation.
- 2 IUCN Redlist Category (threatened and near-threatened species)
- 3 Presence in Zoos and Aquariums members of ALPZA
- 4 There are international population management programmes for the species
- 5 Sanitary restrictions for the transfer of individuals between countries
- 6 Distribution in the Latin American region
- 7 The species has subspecies
- 8 Length of the average intergenerational period

Questionnaires were developed to send to ALPZA members to gain an understanding of their needs and expectations and a review of the adjustments of each species to the proposed criteria, carried out by the professionals of the ALPZA conservation committee as well as a final validation with the Board of Directors.

Parallel to this process, the consolidation and structuring of the Programme began, using WAZA's guidelines for International Studbooks as a reference point, which resulted in the preparation of a manual for the process. In addition, the Population Management Subcommittee was created.

ALPZA's Population Management Programme will be supervised by a group that will include the Executive Director of ALPZA, the Chair of ALPZA's Conservation Committee and the Chair of the Population Management Subcommittee with external advisors and Taxon Management Groups (GMTA), like Taxon Advisory Group's (TAGs).

ALPZA's Taxon Management Groups will be responsible for planning the management of the selected species and promoting and maintaining viable populations throughout the region. Each group will be made up of a Coordinator and several members, including the coordinators of the studbooks.

As a result of the evaluation process, 11 species were selected for management, all native to the Latin American region: Andean condor (*Vultur gryphus*), Humboldt's penguin (*Spheniscus humboldti*), blue-billed curassow (*Crax alberti*), giant anteater (*Myrmecophaga tridactyla*), spectacled bear (*Tremarctos ornatus*), southern pudu (*Pudu pudu*), white-footed tamarin (*Saguinus leucopus*), cotton-top tamarin (*Saguinus oedipus*), maned wolf (*Chrysocyon brachyurus*), giant otter (*Pteronura brasiliensis*) and jaguar (*Panthera onca*). With this set of species, five Taxon Management Groups were created: Birds, Primates, Carnivores, Cervids and Xenarthra.

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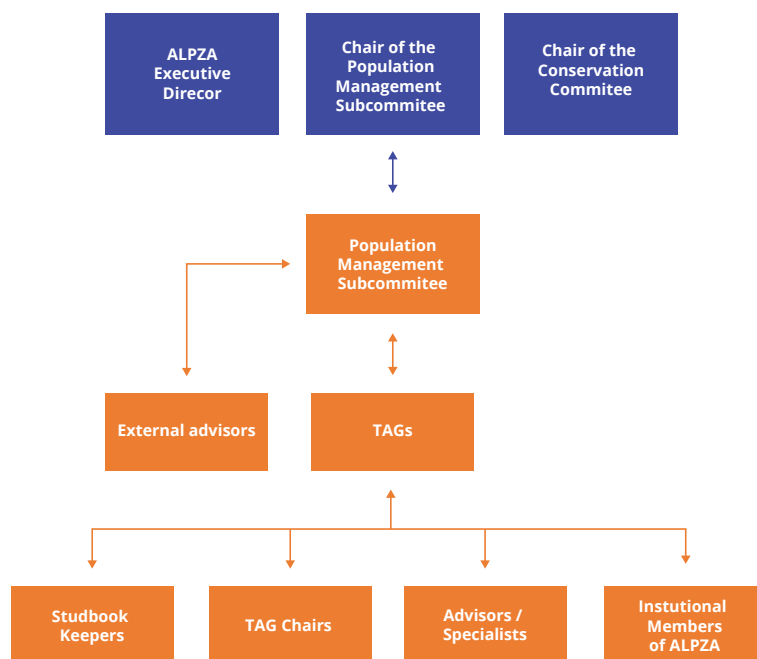
Two of these species, the white-footed tamarin, and the giant otter, were selected as priorities to initiate the implementation of the Programme's activities because they have made advances in population management plans in the region. Therefore, they allow for heightened visibility of actions and clear ways to progress within the community of zoos and aquariums in Latin America.

In the case of the white-footed tamarin, since 2009 the International Programme for Conservation of *Saguinus leucopus*, a project certified by ALPZA and managed within the framework of a cooperation between the Colombian Association of Zoos and Aquariums (ACOPAZOA) and the European Association of Zoos and Aquaria (EAZA), manages a studbook for the species, which has been published in four editions and is currently managed in the Zoological Information Management System (ZIMS). This has made it possible to monitor and plan the *ex situ* population over time. Similarly, a studbook for the giant otter has been maintained in the region since 2010, also migrated to ZIMS.

The consolidation of this Programme has been possible thanks to the involvement of the Board of Directors and the Executive Office of ALPZA, the former and current members of the Conservation Committee and the participation of the Association in interregional collaboration meetings, such as the Joint TAG Chairs Meetings, with the support of WAZA.

ALPZA's plans for the future include the establishment of a Programme that can communicate with all regions, to consolidate and strengthen the *ex situ* populations of key species at a global level.

Coordinating Group



Structure of ALPZA's Population Management Programme



Wildlife Trafficking

A fight that traverses borders

Adrián Lizanda, JAZA and UWEC

The fight against wildlife trafficking traverses borders. It involves several actors at all levels, ranging from local organisations to international conventions. Zoos and aquariums play a key role towards ending illegal trade of animals, which has an estimated value of between US \$7-23 billion every year, according to a report published by the United Nations Environment Programme and the International Criminal Police Organisation (Interpol).

The World Association of Zoos and Aquarium (WAZA) brings together members of the zoo and aquarium community globally and is one of the key actors working to end wildlife trafficking. To this effect, WAZA signed a Memorandum of Understanding (MoU) with the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) in 2011. CITES is a multinational treaty which aims to establish regulations for importing and exporting endangered wildlife through international cooperation. The members provide critical expertise on captive wildlife management, conservation education, occasionally caring for confiscated animals and awareness among the local communities, and hence supporting the implementation of CITES.

The Japanese Association of Zoos and Aquariums (JAZA) and the Uganda Wildlife Conservation Education Centre (UWEC) are two examples of WAZA members who are actively involved in curbing wildlife illegal trade.

The effects of COVID-19 on wildlife trafficking

Since 1981, JAZA has played an integral role in the joint fight against wildlife trafficking. Efforts made by JAZA were combined with those of CITES on 27 February, 1981 when the two partners joined forces to curb the vice. "A system is in place in the event that there is any rescue. The Japanese Ministry of Economy, Trade, and Industry (METI) requests JAZA members to cooperate in sheltering rescued animals," said recently by Dr Etsuo Narushima, retired JAZA Executive Director.

The METI is crucial to the role of JAZA in the rescue of animals from trafficking. It is METI that contacts the Japanese association to request that a rescued animal be placed in a member facility. After the JAZA Secretariat is contacted by the METI, it calls out to members to assess whether any of them can take care of the animals. In the meantime, they remain safely kept at JAZA members facilities or at the customs.

The last time JAZA was contacted to take care of seized animals was in December 2020, when 30 tarantulas that had been saved were taken in by a JAZA member.

Dr Narushima said "wildlife trafficking has greatly decreased over the past years" (in Japan) and one of the main reasons for this has been the coronavirus disaster. He added that travel to and from other countries has been restricted for the past three years, so traffickers are bringing far fewer animals to Japan than before.

Ever since JAZA established cooperation with CITES, it has seen the total arrival of 750 animals that had been rescued from traffickers. The individuals are currently distributed across 83 JAZA members. The most common species that are taken to JAZA for shelter are reptiles, especially lizards and turtles, and small species of primates, most frequently marmosets and lorises. "This is due to the fact that many citizens are interested in keeping lizards and turtles as pets," said Dr Narushima.

It is for this reason that there have been campaigns to raise awareness against buying these species as pets as it can worsen trafficking. In fact, JAZA will take part in a campaign together with World Wildlife Fund (WWF) Japan that will be launched this year 2022 to prevent keeping wild animals as pets.

Main photo: A few of the parrots rescued from illegal trafficking
© Uganda Wildlife Conservation Education Centre (UWEC)

Call for help from the UWEC

On 15 April 2022 UWEC received a big consignment of African grey parrots that were rescued from traffickers in a joint operation between West African Frontier Force (WAFF), Uganda Wildlife Authority (UWA), Uganda People's Defence Forces (UPDF), and Uganda Police. A foreign national was arrested while travelling with two cages containing 119 live and three dead parrots at Bunagana border between Uganda and the Democratic Republic of Congo. Among the live parrots, two were seriously injured and died later, leaving 117 parrots sheltered and in the custody of UWEC. The African grey parrot is an endangered species according to the International Union for Conservation of Nature (IUCN)'s Red List.

The UWEC is housing the parrots in two enclosures at their facilities in Entebbe, Uganda, but now need a bigger space for these parrots before they are released. The Centre is making appeals and requests for support to raise funds for this cause. The new parrot aviary will have an approximate cost of USD 40,000. The Centre already held 20 rescued parrots before the arrival of the new African grey Parrots.

In addition to a new aviary, UWEC also requires approximately USD 28,000 towards procurement of GPS and its accessories for tracking and monitoring of parrots after release back into the wild. Before the centre releases the parrots, the Centre needs to raise money for transporting the birds, training of staff, conducting DNA analysis, and microchipping.

Over decades, UWEC with the support from partners, has demonstrated the ability to rescue animals in distress, rehabilitate and release them back into their natural habitat. In 2011, UWEC received over 200 African grey parrots rescued at the border between Uganda and the Democratic Republic of Congo seized from an illegal trader. UWEC was able to successfully rehabilitate the rescued parrots and eventually reintroduce them on Ngamba Island in Lake Victoria and Kibale National Park. These sites are expanses of natural forests and the species' natural range.

Originally known as Entebbe Zoo, UWEC was founded in 1952 as a reception centre for wild animals that were orphaned, injured, sick, or confiscated from illegal trade. In 1994, the zoo was transformed into UWEC as a trust with the main goal of promoting conservation education. The Centre became a WAZA Institution Member in 2005 and has worked hard to become the best zoo in East, Central and West Africa as ranked by Pan African Association of Zoos and Aquarium (PAAZA).

UWEC requests for international support to help the rescued parrots. For more information on how to help, please contact info@uwec.ug or info@uwec.go.ug

Representatives of the Japan International
Cooperation Agency at the UWEC facilities
© Uganda Wildlife Conservation Education Centre



A Rewarding Collaboration between Young Conservationists and Zoos



Adrián Lizanda

Gabriel Massocato © Future for Nature

Q & A with Gabriel Massocato

Born in Ribeirão Preto, São Paulo, Brazil, Gabriel Massocato, 34, has always been passionate about nature. Little did he know that he would eventually dedicate his life to an animal, the giant armadillo, and to its conservation, and that he would even receive an international award for it.

Gabriel Massocato has been awarded in May 2022 the Future for Nature Award, a prestigious international award that selects three young talented nature conservationists each year. Massocato was selected out of 267 applicants.

The award comes after more than 10 years of dedicated work to save the giant armadillo. Massocato's international recognition would have been impossible without the long term support of the Houston Zoo. The zoo has sponsored his salary for almost a decade. This is a story of a successful collaboration between zoos and young conservationists.

- How has the Giant Armadillo Conservation Program helped the species so far?

For me, it all started one night in December 2012. That was when I saw a baby giant armadillo coming out of the burrow. It was my first year on the project and it was one of our biggest discoveries!

Over the last 12 years of research in the Pantanal we have monitored more than 36 giant armadillos. We have collected new data on the species and published more than 20 articles on the giant armadillo and discovered its crucial role as an ecological engineer, as the giant armadillo offers its burrows to more than 70 animals in the Pantanal. Most importantly, we have demonstrated that it takes at least seven years for the giant armadillo to reach sexual maturity, not six months as previously believed.

Only one pup is born every three years, therefore the species has a very low population growth rate and can easily go locally extinct. We also collaborate with over 200 schools in Mato Grosso do Sul and

have offered education and training to more than 80 professionals over the last years. The project has now expanded to the Cerrado, Atlantic forest, and Chaco biomes.

We have also contributed to the creation of the National Action Plan for the conservation of the giant armadillo and have established partnerships with more than 10 ranches in the Nhecolândia region in the Pantanal, where we created a community fire brigade.

The project won the Whitley Award in 2015 and we had a documentary about the Giant Armadillo on BBC and PBS.

- Which are the major threats that giant armadillos face today?

Giant armadillos face many threats and dangers, such as roadkill, wildfire, habitat-loss, and human-wildlife conflict. The IUCN-Redlist has currently categorized the giant armadillo as vulnerable and estimate a decrease of 30% in population in the last 30 years.

- How did your relationship with Houston Zoo start?

I started out as volunteer helping Danilo Kluyber and Arnaud Desbiez in the Pantanal when the project first started. Thanks to the sponsorship of my salary by the Houston Zoo I became a full-time member of the project in 2013. The Houston Zoo continues supporting my position in the project to this very day.

- How important has the Houston Zoo been for your career?

Houston Zoo has been crucial in my professional career. In 2016 I won the Wildlife Warrior Award [a programme designed to enhance outstanding staff employed by Houston Zoo's partners] and I spent a month in Houston taking English classes in the morning and spending the afternoons learning in the zoo's departments. I also had a great experience teaching at the Houston Zoo in the college conservation leadership programme in 2018 and 2019.

Thanks to the Houston Zoo I participated in the Emerging Wildlife Conservation Leaders (EWCL) programme, which is an American training programme that helps jump-start early career conservation professionals through a combination of skills training, networking opportunities with peers and established practitioners, and the completion of a global wildlife conservation initiative.

- Do you think zoos play an important role in conservation?

Yes. They do so by supporting conservation projects and people around the world, with environmental education programmes for the guests, and through conservation programmes inside the zoo especially with unknown, rare, vulnerable, and endangered species. Zoos help us to talk about our biodiversity and increase the awareness about the giant armadillo.

- How can zoos or aquariums help young conservationists?

I do not know if we would have accomplished many positive changes for the giant armadillo over the years without the support of zoos and aquariums. In my case, the Houston Zoo was life-changing and I think my story can inspire others to collaborate with zoos to continue our fight for biodiversity.

I am so proud of the NGO and the team that I helped to establish and my great desire for the next 10 years is to continue working at the Wild Animal Conservation Institute. The species that I chose to dedicate my life to is the giant armadillo! The giant armadillo is the largest in the world, reaching 150 cm from the tip of the nose to the tip of the tail. They can weigh 50 kg and few people are aware of its importance. Where do juveniles go when they leave their mothers' territory? What are the challenges they face until they find their territories and have their young?

Thanks to the funding of the Future For Nature award we will expand our efforts to protect and preserve the giant armadillo in the Cerrado.

- What are some of the projects you will be working on going forward?

Some of my future projects include expanding our efforts to protect and preserve the giant armadillo in the Cerrado. The Cerrado is one of the Brazilian biomes that suffers the most from deforestation. In recent years we have had a reduction of more than 50% of its area. It has a lot of endemic plants and animals that rapidly alter to cash crops, sugar cane, eucalyptus trees, and soy. We will work with researchers, farmers, businesses, communities, and governments to protect the giant armadillo's habitat. We are going to hire a biologist to help expand this project. In the Pantanal our long term research will continue, to help us answer questions about their reproduction, juvenile dispersal and long term monitoring.

Finally, I want to continue to train the next generation of conservationists.



Gabriel Massocato measuring a giant armadillo
© Giant Armadillo Conservation Project

Houston Zoo: "It is critical to support the next generation of conservation leaders"

Gabriel Massocato admits that, without the support of the Houston Zoo, his work would not have been as significant and successful. "It is critical to support and empower the next generation of conservation leaders, Gabriel has come to the Zoo on three occasions to receive training, help with exhibit planning and contribute to the Zoo's programming. The Zoo visits were mutually beneficial, Gabriel loved feeling connected to a bigger conservation team and movement and the Zoo staff loved working closely with him to understand more about conservation in Brazil," said Renee Bumpus, Senior Director of Wildlife Conservation Programmes at the Houston Zoo. Supporting the Giant Armadillo Project is only a part of the Zoo's efforts to contribute to conservation leaders locally and internationally.

In fact, the Houston Zoo provides support for programming for a teen conservation leadership program in Galapagos as well as supporting global conservation leadership growth with the Emerging Wildlife Conservation (EWCL) programme. "We are committed to developing effective conservation leaders to strengthen the global movement to save wildlife," said Bumpus.

Besides Gabriel Massocato, the Zoo will support the professional growth of Dr. Débora Yogui with the Giant Anteater and Highways Project in Brazil by flying her to the Houston Zoo in July to train with veterinarians and staff. The Zoo also supports the salaries and professional development of other in-country conservation leaders such as Dr. Jonah Ratsimbazafy leading a Malagasy conservation project called GERP in Madagascar, and staff and programming for the Rwanda Wildlife Conservation Association in Rwanda, among others. "The Houston Zoo is committed to supporting many in-country conservation leaders around the world by providing salaries, mentorship, professional training, and technical and financial support," said the Houston Zoo.

Future For Nature Award

The prestigious Future For Nature Award is an international award that recognizes achievements in protecting wild animal and plant species. The award provides international recognition for valuable contributions in conservation and offers winners the platform to share their work with a wide audience.

The Future For Nature Award is supported by Royal Burgers' Zoo, Netherlands, a WAZA Institution Member.

Reverse the Red – Get Involved

Theo B. Pagel¹, Jared Lipworth², Jenny Gray³, Judy Mann⁴, and Kira Mileham⁵

© Alex Mas

¹Cologne Zoo, ²Tangled Bank Studios, ³Zoos Victoria, ⁴Two Oceans Aquarium Education Foundation, ⁵IUCN, Species Survival Commission

Introduction

I'm sure you already know that Reverse the Red (RtR) is a global initiative that ignites strategic cooperation and action to ensure the survival of wild species and ecosystems.

WAZA has established its own RtR committee. The members are: Svetlana Akulova, Russia; Jenny Gray, Australia; Judy Mann, South Africa; Kira Mileham, IUCN SSC; Eric Tsao, Taiwan; Dario Lareu, Argentina; Bert Vescolani, USA; David Field, Great Britain; and as chair Theo B. Pagel, Germany. With these colleagues from all around the globe, we assure a proper representation of WAZA within the RtR working groups. Our aim is to promote RtR among WAZA members and guide you on how you can engage with the movement to strengthen, advance, amplify and further coordinate your conservation work.

WAZA works in cooperation with IUCN SSC in order to secure inter-regional communication and cooperation for the conservation of wildlife. The IUCN SSC and WAZA are founding members of RtR. We have meanwhile signed a MoU and are co-chairing alternately. The SSC and WAZA are also joined by partner organisations: HHMI Tangled Bank Studios, On the Edge Conservation, Re:Wild, San Diego Zoo Global, Zoos Victoria and the Two Oceans Aquarium Education Foundation.

With this short article, containing reports from the four working groups, our intention is to keep you, our WAZA members, updated on the RtR movement.

Amplifying Success – What have we achieved so far?

One of the most important elements of RtR is the positive, collaborative approach to both conservation and dissemination. We are building this movement to activate and inspire, so a crucial element is the sharing of our conservation success stories, which allow us to provide tangible examples for others to emulate. To that end, the Amplifying Success working group has created a workflow for requesting, evaluating, and posting stories that exemplify the Assess, Plan, Act approach to conservation that we champion, and the group is working to make these case studies as widely available as possible. We are creating eye catching one-page editorials with simplified graphics to appeal to a general audience, as well as more in-depth articles that will provide details and road maps for other conservationists. We have a goal to showcase at least one species conservation success story from every country and every ocean around the world.

Additionally, we are building up a knowledge base on topics that are critical to the RtR community. We have designed a series of global webinars to help our growing audience understand the breadth and depth of the RtR collaboration, providing background information on what RtR is, highlighting case studies, topics and people of importance to our movement to keep people abreast of our plans. The current suite of webinars includes topics ranging from the ways in which women in conservation can help to reverse the red, how the IUCN Red List can be used to help reach biodiversity targets, and how conservation organisations can effectively work towards achieving the targets set at COP 15.

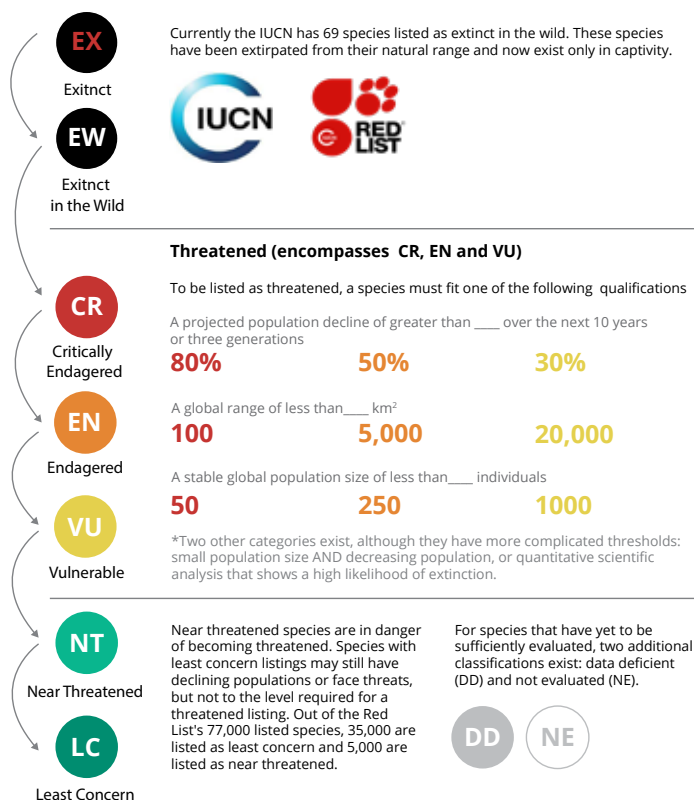
Finally, the Amplifying Success working group is also formulating a strategic plan to create a presence for RtR at conservation and storytelling conferences and events, all leading up to a RtR global summit that we anticipate will take place in 2024.

Measuring Impact and Plus One

We are all clear on the importance of the challenge and the extent of the problem, with over 40,000 species assessed as being Threatened on the IUCN Red List. However, it is when action is taken that an impact is made, and this is where we must focus our efforts. RtR is challenging partners, zoos, and aquariums to plan for the actions that will help to reduce the risk of extinction and will aid governments and jurisdictions in meeting their biodiversity goals under the Post 2020 Global Biodiversity Framework.

Put simply, we are asking how we can change the risk category for each and every threatened species. By moving just one category we can help shift species away from extinction. Increasingly you will hear us talk about Plus One plans, the plan that is needed to move species towards an improved IUCN Red List category. The plan development should be collaborative and based on good science, following the Assess-Plan-Act methodology. If you need help, please access the Conservation Planning Specialist Group training and resources.

Every Plus One plan will be different and every implementation unique. But the potential is inspiring. Think about your conservation support, are your partners focused on shifting the Red List category or can you help them to think differently and focus on the goal of Reversing the Red? Please share your thoughts and results with us.



Reverse the Red National Networks

The central mission of the Reverse the Red Movement is to unite the partnerships and tools required to better support countries in the protection of biodiversity and the reversal of species losses. To do this, Reverse the Red teams are connecting conservation partners in pilot countries to explore how we can more effectively collaborate to assess the extinction threat and recovery of species, develop comprehensive recovery plans and mobilise more coordinated action.

This element of Reverse the Red is currently focused on supporting the creation of volunteer species expert networks at the country level through the establishment of IUCN SSC National Species Specialist Groups. It also aims to work with leading conservation organisations and SSC Specialist Groups to understand the current stakeholders, processes and gaps in Assessment, Planning and Action for species in the country, especially in relation to the Government's National Biodiversity Strategy and Action Plan (NBSAP) as submitted to the United Nations Convention on Biological Diversity. Lastly, we plan to partner with leading conservation organisations in the country to create staff teams to work as catalysts in support of the government agencies, SSC Groups and other key stakeholders to address gaps in Assessment, Planning and Action for native species and support the implementation of an effective NBSAP.

The National Network Working Group is in the process of identifying pilot countries to focus these efforts over the coming 12 months to concentrate on consolidating the model and demonstrating impact. We welcome others to join the discussion and consider what a Reverse the Red species conservation network might look like in your country.

Social Movement – People acting for biodiversity

People are at the heart of most biodiversity challenges, either as the cause or as the solution. The goal of the RtR Social Movement is to inspire millions of people to act for biodiversity through community action and changes in individual behaviour.

To achieve this goal, we hope to harness the incredible reach and experience of the world's zoos and aquariums. The facilities that so ably inspire people to care for nature are also best placed to share messages of hope and action about saving biodiversity.

Using multiple channels of communication to inspire the Generation Reverse the Red we will build a social movement. With the support of WAZA members we can engage millions of people with actions that help both plants and animals.

To support these actions, we need to empower personal changes in behaviour. Each of us can make changes in our daily lives to help biodiversity. The vast experience of the WAZA community in conservation communication can be harnessed to identify behaviours and implement effective behavioural interventions that can be measured and amplified.

The Disney Nature Connect Grants showed the power of mobilising community action for biodiversity. Together we will identify, support and expand effective community action projects.

We welcome the suggestions and participation of our community. Together we can be the generation that will Reverse the Red.



Look into the future

The four working groups comprise of experts and colleagues from all parts of the world, with the aim of encouraging active participation from all of you. Our intention is to identify specific actions we can take and keep you informed about this process. To increase our effectiveness, Reverse the Red has hired two people for two years on a full-time consultancy contract. One will be a Communications Officer, the other one a Conservation Officer.

The first will support the working groups Empowering Communities and Amplifying Success. The second will support Mobilising National Networks and Measuring Conservation Impact.

It is our great hope that we, the aquariums and zoos of the world, will play an important role in Reversing the Red. Visit our homepage (www.reversethered.org) and please participate in our regularly offered Reverse the Red webinars covering different topics. They are both highly informative and inspiring. More detailed offers on how to get active will follow.

Update on International Studbooks (ISBs) and Global Species Management plans (GSMPs)

Changes between 23 February 2022 and 10 June 2022.

ISBs published

- **Pygmy Hippo** (*Choeropsis liberiensis*), 2021 ed.
– Beatrice Steck (Zoo Basel, Switzerland)
- **Matschie's Tree Kangaroo** (*Dendrolagus matschiei*), 2021 ed.
– Davi Ann Norsworthy (Lincoln Children's Zoo, US)
- **Somali Wild Ass** (*Equus africanus somaliensis*), 2021 ed.
– Beatrice Steck (Zoo Basel, Switzerland)
- **Greater One-horned Rhinoceros** (*Rhinoceros unicornis*), 2021 ed.
– Beatrice Steck (Zoo Basel, Switzerland)
- **Blue-eyed Black Lemur** (*Eulemur flavifrons*), 2021 ed. –
Peggy Hoppe – (Loveland Living Planet Aquarium, US)
- **Visayan Spotted Deer** (*Rusa alfredi*), 2021 ed. –
Christina Schubert (Zoo Landau, Germany)
- **Western Lowland Gorilla** (*Gorilla gorilla gorilla*), 2021 ed.
– Sabrina Linn (Zoo Frankfurt, Germany)
- **Scimitar-horned oryx** (*Oryx dammah*), 2021 ed.
– Tania Gilbert (Marwell Wildlife, UK)

ISB Transfers

- **Blue-billed Curassow** (*Crax alberti*) – Inter-institutional transfer from Houston Zoo, US, to San Diego Zoo Wildlife Alliance, US. Christopher Holmes remains as the International Studbook Keeper.
- **Lesser Bird-of-paradise** (*Paradisaea minor*) – Inter-institutional transfer from Patricia Cooper (WCS Bronx Zoo, US) to Mari Iorizzo (WCS Central Park Zoo, US).
- **Anoa** (*Bubalus sp.*) – Inter-institutional transfer from Gerd Nötzold (Zoo Leipzig, Germany) to Marcel Alaze (Allwetterzoo Münster, Germany)

New ISBs

- On 8 of June 2022, the WAZA Committee for Population Management (CPM) approved the establishment of the **Margay** (*Leopardus wiedii*) International Studbook. Sam Harley, from Chester Zoo, was approved as its International Studbook Keeper.

Vacant studbooks

- **Buff-crested Bustard** (*Lophotis gindiana*)

Photo: Margay
© Alex Sliwa

Would you or someone in your team like to become an International Studbook Keeper? Are you interested in any of these vacancies? Would you like to know more about Global Species Management Plans?

Get in touch with the WAZA Executive Office at conservation@waza.org or visit www.waza.org to learn more about these programmes and how to get involved.



WAZA Strategic Session

Meeting in France as a First Step Towards WAZA's New Strategy



WAZA Staff

World Association of Zoos and Aquariums (WAZA)

Four years after the last strategic planning session, the WAZA Council gathered to set in motion the development of a new strategy for the years to come. The last Strategic Session took place in 2018, following which there have been a lot of changes. The Covid-19 pandemic, changes in legislation and the war in Ukraine are redefining the global context and, therefore, future actions and goals must be adapted.

The Council met for two days, on 3-4 of April, at WAZA member institution ZooParc de Beauval, in France. The meeting gave the Council the opportunity to identify WAZA's stakeholders and to highlight the ultimate aim of the association: biodiversity

conservation and saving species. As representative of the world's progressive zoos and aquariums, the association intends to reinforce its key values during the upcoming months.

The Strategic Session also allowed the Council to evaluate the 87 year-history of WAZA. Past, present and future challenges were brought to the fore and discussed by the participants. The next steps of the strategic planning process will involve members and additional stakeholders. Focus groups are currently underway to incorporate feedback from present and former members and institutions involved in the strategic plan. The 77th WAZA Annual Conference will also focus on further developing this plan.



IATA and WAZA Strengthen Relationship

WAZA announced that it has signed a Memorandum of Understanding (MoU) with the International Air Transport Association (IATA) in June, 2022. The two organisations will jointly strengthen their collaboration to continue to enhance the high standards of transportation for live animals.

WAZA is pleased to take this step forward with IATA to work together to promote the implementation of IATA's standards and strengthen the implementation of its Live Animal Regulations (LAR).

With a focus on animal health and welfare, this cooperation will identify ways to collaborate effectively to improve the conditions for legal and safe transportation of live animals.

WAZA and IATA look forward to collaborating to utilise the expertise within WAZA's network to benefit the conservation and sustainable management of species of wild fauna and flora, while also recommending mutually relevant standards, guidelines and recommendations.

“With animal welfare at the heart of WAZA, we are confident that through this partnership, we will be able to facilitate change and improve the current practices of animal transportation.”

WAZA CEO Dr Martín Zordan



WAZA Welcomes New Members



WAZA is thrilled to welcome seven new members to the global zoo and aquarium community. Ripley's Aquarium of the Smokies, Ripley's Aquarium of Myrtle Beach, Ripley's Aquarium of Canada, Guadeloupe Zoo, and Hamilton Zoo recently joined as Institution Members. Fondation Junclair recently joined as an Affiliate Member and GLMV Zoos joined as a Corporate Member.

Ripley's Aquarium of the Smokies

Located in Gatlinburg, United States, Ripley's Aquarium of the Smokies was founded in 2000 and is a part of Ripley Entertainment Inc. Its facilities are located across an area of 98,000sq ft. Ripley's Aquarium of the Smokies takes care of almost over 11,190 fishes across 321 species and 810 invertebrates from 51 species. It has been accredited by and is a member of the Association of Zoos and Aquariums (AZA), and was voted America's best aquarium by TripAdvisor.

The institution pursues an educational approach with public and private classroom programmes, camps, and virtual classes to educate visitors. Also, Ripley's Aquarium of the Smokies prioritises relevant research regarding conservation and collaborates among other institutions to contribute to conservation.

Ripley's Aquarium of Myrtle Beach

Located in Myrtle Beach, United States, it was established in 1997 and is a part of Ripley Entertainment Inc. Ripley's Aquarium of Myrtle Beach is home to 14,895 fishes across 229 species and 1,784 invertebrates ranging 70 species.

Ripley's Aquarium of Myrtle Beach has been accredited by and is a member of the Association of Zoos and Aquariums (AZA). It has also been recognised with the South Carolina Governor's Cup award as the top visited attraction in the state of South Carolina.

One of the fan favourite facilities at the Ripley's Aquarium of Myrtle Beach has been the stingray exhibit. The Dangerous Reef is another key attraction, where visitors can discover several species of sharks, sawfish, and stingrays, in one of the longest underwater tunnels in the world.





Ripley's Aquarium of Canada

Located in Toronto, Canada, the aquarium consists of 13,000 sqm. Opened in 2013, it is a part of Ripley Entertainment Inc. The institution is home to more than 18,566 fishes ranging 291 species as well as 2,378 invertebrates across 97 species.

The mission of Ripley's Aquarium of Canada is to provide a world-class marine life facility focused on education, conservation, and research. The institution also aims to provide a fun, interactive, and educational experience for visitors of all ages while also trying to build an understanding of the aquatic world.

Ripley's Aquarium of Canada is a member of the Association of Zoos and Aquariums (AZA) and Canada's Accredited Zoos and Aquariums (CAZA) association.

Fondation Junclair

Located in Luxembourg, Fondation Junclair was founded in 2007 and is a part of Batipart. Fondation Junclair was also recognised as a public utility by Grand Ducal decree in 2013.

Fondation Junclair works towards the protection of the environment, access to education and training, allowing social reintegration, and the fight against any kind of discrimination. Its main goal is to be a part of *in situ* animal conservation projects, in particular in three areas: South Africa, Madagascar, and Nepal.

Fondation Junclair hopes to help preserve resources, promote sustainability, and save endangered animal species.

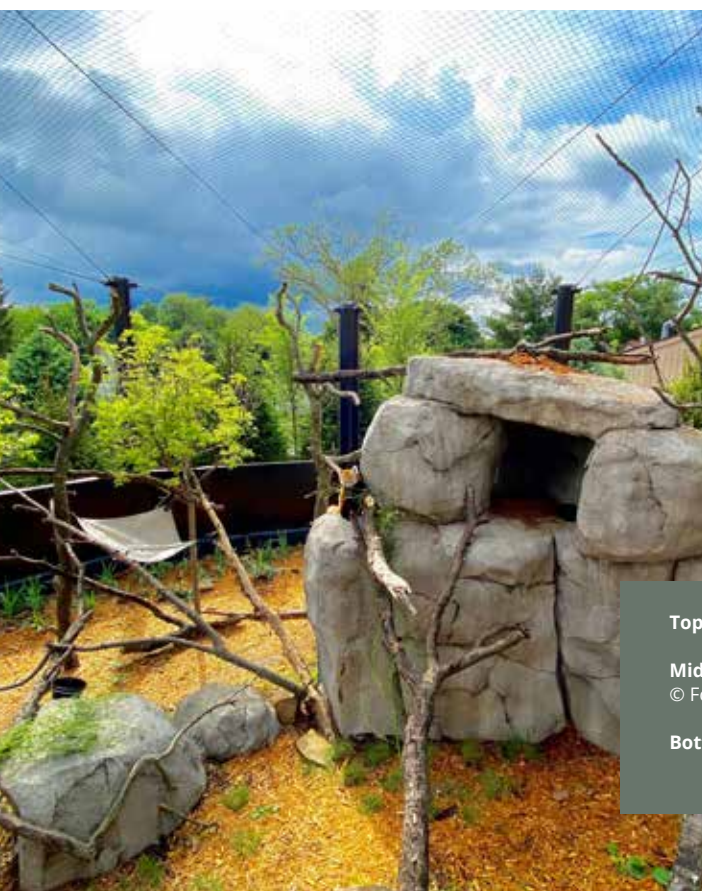


GLMV Zoos

Located in Wichita, United States, GLMV Zoos has worked on more than 120 projects, 70 of which have involved zoos and aquariums. GLMV Zoos is a member of the Association of Zoos and Aquariums (AZA), which is a WAZA Association Member.

Their services include architectural design of animal habitats, exhibits, education centres, and administration buildings, among many others. GLMV Zoos has a team that includes visionary designers, innovative thinkers, skilled illustrators, and drone pilots.

Some of the works that GLMV Zoos have developed over the years involve WAZA Institution Members. This includes GLMV Zoos design of the first mixed species black rhino habitat at the Living Desert Zoo and Gardens, United States. WAZA's new member also developed a carcass feeding pole and a training wall for the lion habitat at the Topeka Zoo and Conservation Centre, United States.



Top photo: Coral Wall. © Ripley's Aquarium of the Smokies

Middle photo: One of the projects from the Fondation
© Fondation Junclair

Bottom photo: Wild Asia Akron Zoo. © GLMV Zoos



Guadeloupe Zoo

Located in the island of Guadeloupe, the Zoo is in the heart of a tropical rainforest in the middle of the Mamelles, the twin mountains of the island. Established in 1998, the institution is home to around 70 species that live in the middle of exuberant nature. They take care of mammals, birds, reptiles and arthropods from the Antilles and the Americas and their facilities are in an area of 3,5 hectares.

The Guadeloupe Zoo is a member of the European Association of Zoos and Aquaria (EAZA), the Latin American Association of Zoos and Aquariums (ALPZA) and the French Association of Zoos and Aquariums (AFdPZ), all three of them WAZA Association Members.

Guadeloupe Zoo created a conservation association called SOS FauneSauvage, which has since its creation helped save endemic species. The association financially supports conservation programmes and manages three rescue centers in Guadeloupe, Martinique, and French Guiana.

Main photo: A red panda living at the institution
© Guadeloupe Zoo

Inset photo: Kids during giraffe-feeding experience.
© Hamilton Zoo



Hamilton Zoo

Located in the city of Hamilton, New Zealand, its facilities are found in an area of 86 hectares of landscaped grounds. Established in 1969, it is a member of the Zoo and Aquarium Association Australasia (ZAA), a WAZA Association Member. Hamilton Zoo is home to over 600 native and exotic animals from all over the world. Their work at the facilities is linked to kaitiaki, a term used in New Zealand that is connected to the Māori concept of guardianship, for the sky, the sea and the land.

Hamilton Zoo takes into consideration the five welfare domains on their day-to-day operations in order to ensure that the animal collection is professionally managed to maximise animal welfare and effectively meet statutory and professional obligations. Moreover, the zoo has committees that keep track and design the zoo's roadmap: Animal Welfare, Health and Safety, Conservation and Research.

Ultimately, Hamilton Zoo aims to contribute to the New Zealand native species breeding recovery programme and to the protection of the environment through pest and predator control.

WAZA at Member Conferences



Paula Cerdán and Tania Kahlon

Attendees at the 4th Joint TAG Chair meeting © AZA

WAZA

After two years of attending virtual conferences and meetings, the WAZA Executive Office has been able to participate in several members' conferences to gather insights and support the work of members.

AIZA

The WAZA Executive Office attended the Iberian Association of Zoos and Aquariums (AIZA) conference at Barcelona Zoo from 1-3 June 2022. WAZA was invited by AIZA to attend the three-day event, which included panels on challenges that the Iberian zoo and aquarium community currently face.

The conference saw nearly 70 speakers with a total of 160 experts gathered in Barcelona to meet in person again after two years of virtual meetings.

EAZA

The first European Association of Zoos and Aquaria (EAZA) Animal Welfare Forum (AWF) was held from 30 May-2 June 2022 in Apennine Primate Park, Netherlands. The Forum was attended by just under 200 participants coming from different backgrounds, including students, researchers, and non-EAZA member institutions. The programme contained 16 plenary sessions as well as 40 shorter sessions that looked at bridging the gap between animal welfare science and application.

WAZA sponsored the second morning of the Forum, which saw plenary sessions on WAZA's 2023 Animal Welfare Goal and a series of presentations followed by a panel on Animal-Visitor Interactions. Paula Cerdán, WAZA Animal Welfare and Conservation Coordinator, participated as a speaker and moderator for the panel.

ALPZA

Martín Zordan, WAZA CEO, and Paula Cerdán, WAZA Animal Welfare and Conservation Coordinator, participated in the Latin American Association of Zoos and Aquariums (ALPZA)'s Annual Congress. Their presentation *Catalysing a Global Change*, was given 15 June 2022 and touched upon some of WAZA's key initiatives: the WAZA 2023 Animal Welfare Goal and WAZA and IUCN SSC's Joint Initiative, Reverse the Red.





4th Joint TAG Chair Meeting

Paula Cerdán, WAZA Animal Welfare and Conservation Coordinator, attended the 4th Joint Taxon Advisory Group (TAG) Chairs Meeting, which took place in Long Beach, California, United States.

More than 20 representatives from several WAZA regional and national Association Members benefited from the travel grants awarded by WAZA, the Association of Zoos and Aquariums (AZA), and the European Association of Zoos and Aquaria (EAZA) to attend the meeting.

The meeting gathered under 80 delegates to discuss the current scene of population management, looking at challenges, successes, and new conservation initiatives.

AZA's Mid-year Meeting

A representative of the WAZA Executive Office attended the Association of Zoos and Aquariums (AZA)'s Mid-Year meeting, which was held just before the 4th Joint TAG Chairs Meeting. Paula Cerdán, WAZA Animal Welfare and Conservation Coordinator, participated in the meeting. The event was hosted by the Aquarium of the Pacific, at Long Beach, California, United States.



WAZA Executive Office Grows

The WAZA Executive Office has grown in staff during the first half of 2022. Tania Kahlon has been appointed as the new Communications Coordinator and Emma Burke joined the team as the new Administrative Assistant.

Tania Kahlon

Ms Tania Kahlon joined as the Communications Coordinator in May 2022. Ms Kahlon brings with her a strong background in communications, policy research and sustainability following her Masters in Political Science and in Food Security and Development.

Ms Kahlon has worked with a host of stakeholders including civil society organisations, policy makers, and think tanks to evaluate and communicate policy decisions. She is keen to use her skills and experience to make a difference in sustainability and conservation.



Emma Burke

Ms Emma Burke joined WAZA as the Administrative Assistant in June 2022 after recently moving to Barcelona from Ireland. Ms Burke enjoys travelling and has been fortunate to visit many European cities and lived in Canada for two years. Ms Burke has a strong background in hospitality where she has worked many roles from waitress, receptionist, HR administration, to Corporate Coordinator. Ms Burke is looking forward to working with WAZA and developing new skills and meeting new people (and animals).





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