

QUARTERLY PUBLICATION OF THE EUROPEAN ASSOCIATION OF ZOOS AND AQUARIA

ZOOQUARIA

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ISSUE 115



KINGS OF THE JUNGLE

BEHIND THE SCENES AT AUCKLAND ZOO'S OUTSTANDING NEW EXHIBIT



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KEY: a quick guide to frequently used acronyms

- EEP:** EAZA Ex situ Programme
- LTMP:** Long-term Management Plan
- RCP:** Regional Collection Plan
- TAG:** Taxon Advisory Group
- ZIMS:** Zoological Information Management System

Zooquaria

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FROM THE DIRECTOR'S CHAIR

I have been thinking recently about resilience and unity, and how they are interconnected. Throughout the COVID-19 crisis there has been much discussion about what it means to be resilient and the importance of mental, emotional and behavioural flexibility to help us to adapt to such crises. As the war in Ukraine sadly continues, and we face the emerging energy crisis with its associated economic and political challenges, we need to be more resilient than ever. But what does resilience really look like? Are some people born with more resilience than others or do we each need to develop mental, emotional and behavioural flexibility? Does it change over time or in response to different types of crisis? For me personally it has a lot to do with experiences, those I have lived through myself and those that others have shared with me. There is strength in knowing that you have survived a crisis and can therefore do so again. Much can also be learned from the experiences, strategies and techniques that others share, and this brings me on to the link with unity.

In times of change and challenge it can be tempting to focus inwards on oneself or one's own organisation. When so much uncertainty is occurring, one way to manage is to concentrate on the things that you have most control over. Of course it is important to care for yourself and keep your organisation running; however, I feel this can be done by looking outwards as well as inwards. This mental flexibility is part of being resilient, and by reaching out and uniting with others, we can strengthen it. We saw this throughout the COVID-19 crisis when we all had to (repeatedly) change our behaviour in response to new working conditions, government restrictions and so on. By uniting as a community we were able to share our experiences, lean on each other and become more resilient together. The systems and skills developed during the past few years are undoubtedly going to help us as individuals and as a community as we face the current crises, and those yet to come.

Far from wanting to paint a picture of doom and gloom, I wanted to share my thoughts on resilience and unity as an expression of hope. We need only to look through the articles of this edition of *Zooquaria* to celebrate successes that have been brought about by working together in challenging times, whether this be sharing best practices at the many in-person conferences that have at last been able to go ahead, reaching collaborative agreement on Regional Collection Plans and Long-term Management Plans, or expanding lobbying capacity and the ability to shape policy as part of the EAZA21+ campaign. Success across all these areas has required resilience and unity.

We should also not forget this important combination during times of no crises. The flexibility gained from

increased resilience is also required from each Member of our diverse Association so that we can achieve our vision. If individuals revert to self-interest and gain, then we lose the important unity and community gain that connects and supports us all.

I look forward to seeing many of you during our Annual Conference and celebrating our resilient and united community.

Myfanwy Griffith
Executive Director, EAZA



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JOINT TAG CHAIRS MEETING

After being postponed due to the COVID-19 pandemic, the fourth Joint TAG Chairs meeting took place at the end of April 2022. The meeting was hosted by Aquarium of the Pacific in Long Beach, USA and was organised by the World Association of Zoos and Aquariums (WAZA) Committee for Population Management and by the Association of Zoos and Aquariums (AZA). Seventy colleagues joined from all over the globe and it was pleasing to see a good representation from European zoos. Up to 20 EAZA TAG Chairs and Vice Chairs were able to attend and contributed to a successful meeting.

In a follow-up of the last meeting, organised by EAZA and hosted by Budapest Zoo in 2018, the overall theme was 'How can we best use our global and regional frameworks to enhance population management and collection planning?' The different regions provided updates on the current state of affairs regarding their collection planning, which were followed by panel discussions and more in-depth conversations on some of the challenges regarding interregional cooperation, commitment of Member zoos and aquariums, and population management goals. As well as providing information about different approaches, the meeting produced several solutions to these challenges and opportunities for continued cooperation.

EAZA ANNUAL REPORTS 2021

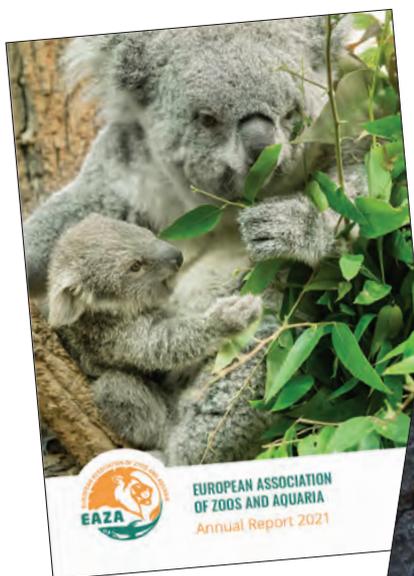
In July, the EAZA Annual Report and EAZA Taxon Advisory Group Reports for 2021 were published on our [website \(www.eaza.net/about-us/eazadocuments\)](http://www.eaza.net/about-us/eazadocuments). They summarise the excellent work carried out by Committees, Working Groups, TAGs, EEP Coordinators and individual Members over the last year and bear witness to the hard work and dedication of staff members from across our network. Despite the continued challenges associated with COVID-19, their commitment to EAZA helped to contribute

to the achievement of many actions in the first year of our new EAZA Strategy 2021–2025. We hope that you feel as proud as we do to be part of a progressive zoo and aquarium community working together to save species.

SAVE THE DATES

The **European Zoo Nutrition Conference** will take place on 19–22 January 2023 in Riga Zoo, Latvia. We invite everyone interested in comparative and zoo animal nutrition to register as soon as possible for the event, as the maximum capacity is 120 people. You can benefit from an early bird registration fee until 24 November. Visit our website for all relevant details.

The next **EAZA Education Conference** will be held on 13–17 March 2023 in Wrocław Zoo, Poland, starting with an EAZA Academy workshop on 13 March. The theme for the event will be *Conservation education of the future: from ideas to measurable outcomes*. One of the aims of the conference will be to develop a roadmap to guide the EAZA conservation education community on this journey over the coming years. More information about the programme and registration will be added to our website soon.



NEW ARRIVALS

FIRST AARDVARK BIRTH AT CHESTER ZOO

ON 4 JANUARY 2022, Chester Zoo welcomed its first aardvark (*Oryzomys rufescens*) calf, born to Oni (aged 8) and Koos (aged 6).

Chester Zoo has been home to aardvarks since 2011, but didn't hold a breeding pair until 2017, when Oni and Koos were first introduced.

No mating was observed between the pair, but an increase in Oni's weight to 48kg, her heaviest weight on record, did raise the team's suspicions that a calf could be on the way. A week later, Dobby was born – a very welcome addition to the family.

Weighing 1.1kg at birth, Dobby was on the light side for an aardvark calf. Oni showed little interest in her calf initially, so keepers gave Dobby extra support in these early stages of life. She was housed in an incubator and bottle-fed and quickly gained strength, allowing reintroduction back



to her mother. Bonding and suckling were established soon after and the keepers carefully weighed Dobby each morning and evening to track her weight increase. Even though Dobby was happily suckling from mum, weight gain was slower than expected, so the team continued with supplementary feeds for a few months until her weight had increased

significantly. At this point, the team slowly reduced the frequency of feeds and weaned her on to an adult diet. Dobby continues to develop well and at six months old weighs almost 17kg.

Chester Zoo would like to thank Jo Rowe at Colchester Zoo and Sarah Forsyth, whose help and advice were invaluable as the zoo cared for the first aardvark born in its 91-year history.

GREAT NEWS FOR THE MITCHELL'S LORIKEET



PAIGNTON ZOO (part of Wild Planet Trust) has welcomed the hatching and successful parent-rearing of a Critically Endangered Mitchell's lorikeet (*Trichoglossus forsteni mitchellii*). The new arrival was discovered by keepers in the bird department on 26 December 2021 and the team has been closely monitoring its progress ever since.

Although the species has bred before at Paignton Zoo (in 2020), the adults were previously housed in an off-show facility in the zoo's Avian Breeding Centre and were not visible to visitors. The breeding pair was moved to a large exhibit aviary in the summer of 2021, allowing visitors to

see (and hear) this endangered species for the first time.

Pete Smallbones, Curator of Birds at the zoo, explained: 'It's a fantastic result and the team are all really pleased with this success. This is a really important species and it's a good indication that the adult birds are settled and comfortable after their move to a larger aviary on public display.'

Sam Gray, Team Leader of Birds, added, 'A successful breeding is always something to celebrate, but we're particularly pleased with this one. The parents have been very attentive throughout, and although we have been keeping disturbances to a minimum, we have been making regular checks on weight and growth. Despite being a bit shy initially, the recently fledged youngster is growing in confidence and spending increasing amounts of time exploring the aviary and interacting with neighbouring birds.'

The bird team at Paignton Zoo looks after around 95 avian species and the Mitchell's lorikeet is one of the most endangered to call the Devon zoo home. Fewer than 50 wild birds are thought to survive on the Indonesian island of Lombok, with just under 150 birds in human care registered on ZIMS/Species360.

'This is another fantastic example of the great work that modern zoos are involved in,' said Steve Nash, Head of Campaigns and Programmes at Paignton, 'raising awareness of little-known species and contributing vital knowledge to our understanding of how they live, breed and behave. We'll be making sure our visitors know how important this individual, and indeed this species, is and will be looking forward to future successes in years to come.'

RARELY SEEN CASSOWARY HATCHING AT MULHOUSE ZOO

MULHOUSE ZOO HAS HELD cassowaries (*Casuarius casuarius*) since the early 1980s, but this is the first time a cassowary chick has successfully hatched at the zoo. This rarely seen birth is even more exceptional because the species is known to have a complex reproductive strategy in human care. Thanks to the collaboration between the EEP Coordinator and other French zoological institutions, the zoo has succeeded in raising its first chick.

Breeding this species is very challenging, not because of the husbandry conditions it requires, but in terms of good timing and keeper appreciation of animal behaviours. In the wild, the species is solitary; the female is particularly aggressive towards males, and they meet only during the breeding season. In human care, they are kept separately all year long and are introduced briefly to each other only during the female's oestrus period (i.e. from March to August). In 2021, Mulhouse Zoo's bird section and vet staff set up a new introduction protocol. Instead of letting the two animals have contact for only a few hours each day, they decided to try repeated introductions for increasing periods

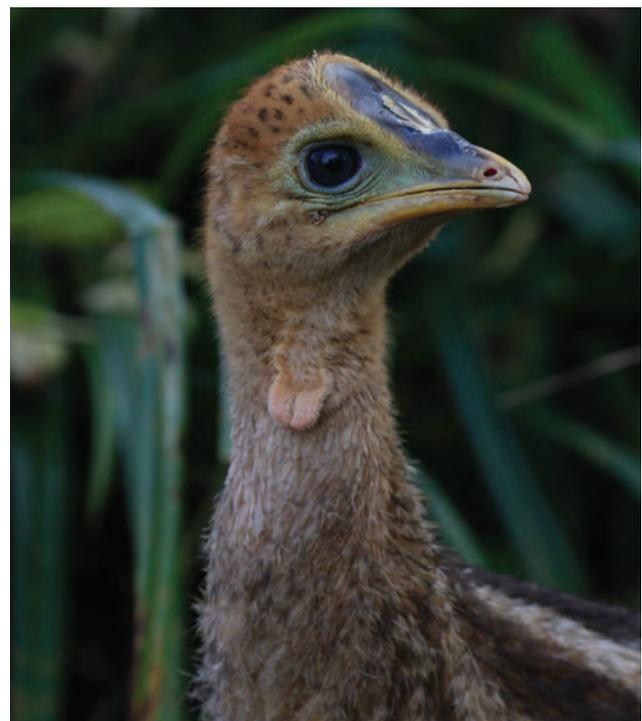
of time, including at night. At first the pair were reunited for only a couple of minutes at a time, then contact was gradually increased until the female was able to tolerate the male for a few days. These breeding introductions were interrupted with separation phases to create a need; the two birds were separated for several days in their respective enclosures before they were put together once more. Separation phases were implemented when the two birds were seen to occupy different exhibits for more than one hour. This new introduction protocol has led to several copulations, the first of which was observed on 9 March 2021. And it worked: a bright green egg was found in the enclosure on 26 June!

The female laid four eggs in total at different locations in the enclosure, of which only one was fertile. Each egg was collected and replaced with an artificial one (kindly offered by Montpellier Zoo). The team chose a location in the indoor enclosure that would provide a sheltered and warm nest. The aim was to stimulate paternal care behaviours. All of the eggs were put in diapause in the dark at a constant temperature. They were

then put back in the nest a week after the egg-laying ended; one artificial egg was kept in the nest to ensure that the male cassowary could recognise his own smell on the eggs. The male began brooding the eggs when the third egg was laid, leaving the nest only to feed and defecate. On 1 September, the team had the pleasure of meeting their first ever cassowary chick. It is a female and it is growing very well alongside its protective father.

During the first weeks, the keepers adapted the diet and offered the cassowaries a large variety of small fruits (grapes, apricots, blackberries, raspberries, currants and others) and insects. The male showed normal chick care behaviours; he presented the fruits with his bill in front of the chick's head. This behaviour has continued for several months. Well fed, the infant cassowary tended to have a large, bloated-looking belly and fed on the father's faeces which, although surprising, is normal behaviour!

At adulthood (around a year old) the young female cassowary will join another institution to be paired with a male there, and it is hoped that she will successfully breed again.





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French connections

AFTER A TWO-YEAR HIATUS, EAZA'S DIRECTORS SEIZED THE CHANCE TO MEET FACE-TO-FACE AT LAST, TO REFLECT ON EAZA'S PROGRESS AND TO DISCUSS THE CHALLENGES THAT STILL LIE AHEAD

David Williams-Mitchell, Strategic Communications Consultant, EAZA Executive Office

After two years of important but limited online versions, EAZA Directors' Days returned to an in-person format in April with two days of meetings hosted by Beauval Zoo in France. The conference came not a moment too soon; it was the end of the term of the EAZA Council, and we needed to elect a new Chair of the Association. In addition to discussing the new global biodiversity frameworks and the place of zoos and aquariums within them, the meeting presented an opportunity for Directors to catch up and re-establish connections.

STRENGTH IN NUMBERS

The EAZA community derives its strength from the knowledge that Members work together for a common purpose. On 6 April, the first session of the conference was a strong reminder of our origins, our work together and what it can achieve. Beauval Zoo's Director General, Rodolphe Delord, gave a warm welcome on behalf of the hosts, and paid tribute to his late mother, Françoise Delord, a giant of our community and the founder of the zoo. Thomas Kauffels, in his final conference as EAZA Chair, presented a summary of the work and development of the Association and its Members over the past six years – a huge body of work encompassing two EAZA Strategies as well as the complete transformation of the EAZA Executive Office and its capacity to support Members in the fulfilment of their ambitions. Lastly, David Williams-Mitchell provided a summary of the situation in Ukraine, including the extraordinary work carried out by Polish, Czech, Slovak and German Members in sending supplies to zoos in the country and the more than €1m raised by Members and other donors to cover the purchase of supplies.

The second session was one of two dedicated to the EAZA21+ campaign, designed to prepare EAZA Members to work effectively within the new



global biodiversity frameworks. Campaign Co-chair Eric Bairrão Ruivo reminded the Directors of the scope and purpose of the campaign, and EAZA EU Policy Manager Tomasz Rusek followed up by showing how the practice of zoos and aquariums links directly to the aims of the frameworks. Finally, Kirsten Pullen, Chief Science Officer at Wild Planet Trust, showed how working together to cement our place in the frameworks could create a closer community of zoos and aquariums with a common purpose across the different areas of conservation, public engagement and the eradication of illegal wildlife trade.

PRESSING ISSUES

In the afternoon, the EAZA21+ campaign Deeper Dive session looked closely at the wildlife trade issue, and the campaign's Co-chair Bengt Holst introduced Mathias Loertscher of the Convention on International Trade in Endangered Species (CITES) to talk about the role of zoos and aquariums in promoting ethical practices in the Convention framework. EAZA Deputy Executive Director Danny de Man then led a discussion about acquisition and disposition of animals and a common framework to allow Members to contribute effectively and uncontroversially to *ex situ* conservation.

The last session of the EAZA Council 2019–2022 finished the day with a number of decisions, as outlined in *Zooquaria* 114. Also in that issue was the list of the new Council members, who met for the first time on 7 April after confirmation of the new Chair and Executive Committee by the AGM, the decisions of which were also listed in the Noticeboard section of ZQ 114.

On the second day, Theo Pagel of Cologne Zoo talked about the World Association of Zoos and Aquariums (WAZA)/IUCN Species Survival Commission (SSC) Reverse the Red initiative, encouraging Members to get involved in this important collaboration. This was followed by a summary from Membership and Ethics Committee Chair Endre Papp of the most common issues arising from EAZA screenings, and a look at the integration of welfare assessment into the Accreditation Programme by EAZA Accreditation Manager April Adams, as well as a review by Brice Lefaux of how Mulhouse Zoo has built a welfare assessment programme.

The afternoon session looked at some of the most pressing issues our community faces: Clément Lanthier of Calgary Zoo looked at legislative challenges worldwide, and British and Irish Association of Zoos and Aquariums (BIAZA) Director, Jo Judge, examined the fallout of Brexit on animal transfers and how UK zoos are rising to the challenge. Arne Lawrenz, Chair of the Elephant TAG and CEO of Wuppertal Zoo, informed the attendees about the internal and external political challenges surrounding elephants. EAZA Executive Director Myfanwy Griffith then called for unity and solidarity between Members as we progress further into the strategic plan. Lastly, the outgoing Chair, Thomas Kauffels, thanked Members for their hard work and cooperation throughout his term of office and provided his best wishes for his successor, Endre Papp.

The conference ended with an excellent gala dinner in the tropical biodome of the zoo, which lasted, as expected after so long without seeing each other, into the small hours of the morning. EAZA extends its thanks to Beauval Zoo for its exceptional and flawless hosting, and looks forward to welcoming Directors to its next meeting, to be held at Bergen Aquarium in Norway next spring.



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Meet EAZA's new Chair

DAVID WILLIAMS-MITCHELL, EAZA'S STRATEGIC COMMUNICATIONS CONSULTANT, TALKS TO ENDRE PAPP, THE NEWLY ELECTED EAZA CHAIR, ABOUT THE FOCUS OF THE ASSOCIATION FOR THE NEXT THREE YEARS

DWM: Endre, tell us your history with zoos and EAZA.

EP: I started working at Sóstó Zoo about 15 years ago. I was the first full-time veterinarian in the zoo and helped to establish the department. After I had been in the job for two years, the Vice Director left and I took on that role, as well as the responsibility for the relationship with EAZA. I took over the EAZA Council seat for Hungary when Miklós Persányi stepped down, and when Thomas Kauffels was elected Chair, he asked me to be the Secretary of EAZA. I took on the position of Membership and Ethics Committee Chair during his second term, and when Mark Pilgrim

left Chester Zoo, I took over as Vice Chair of EAZA.

As a veterinarian, I worked hard to develop the care of animals at Sóstó; getting into management was not really on my agenda, but it happened organically. By working in the management of a zoo, I met lots of other colleagues from Hungarian zoo management, and it helped me to build a strong network and a clear idea of how we could achieve progress. It was obvious to me from the start that zoos and aquariums can do much more if they work together than if they try to go their own way.

It is obviously the same with EAZA, only on a much grander scale. It is quite daunting, but another great

challenge that has come about only because I started to work in the management of Sóstó.

DWM: What do you see as the focus of your Chairmanship of the Association?

EP: In Hungary, and throughout my involvement with EAZA, I have seen that there are still some questions about the benefits of being an EAZA Member. There are still Members who don't really understand that the Strategy we have and the actions it includes can help make an institution more successful, both in terms of perception and in terms of business. I would like all our Members to

understand that implementing strong actions on a range of strategic issues is a basis for success.

To explain, I would say that communicating in a zoo or aquarium is vital to its success, and this communication relies on good practice to be credible. An EAZA Member should understand that strong and involved population management, animal welfare, scientific excellence, public engagement and responsible acquisition and disposition of animals are all the prerequisites of good conservation; and getting to be really good at all of these things means that zoos and aquariums must commit some of their resources to driving these areas forward across the whole association.

DWM: You and I have spoken before about the role of zoos and aquariums as community assets. Can you elaborate for the readers how you see this role working?

EP: Well, every community has a post office, a bank, a church, a sports ground and so on. Each of those amenities has a clear function for the community, and I think the function of the zoo or aquarium in a community needs to be equally clear. When I started at Sóstó, I met a lot of kids going to the summer camp. Fifteen years later, some of those kids have grown up to be tutors at the same camps or have their own children attending the camps. It is clear that the original class found the camps inspiring, educational and fun, and they want to take advantage of the zoo's facilities to provide the same experience for the next generation. I would say that, over time, the zoo has been able to change the mindset of the community and make the local people much more open to a relationship with the natural world, whether through direct involvement with animals and ecosystems or just through an interest in hiking or photographing the countryside.

DWM: So that's the local angle. How does this all tie into EAZA and what we can achieve together?

EP: If zoos and aquariums have the support of their communities and a clear function, and if they can show

clearly that they contribute to saving species both in their institutions and outside, we can say that the local basis is established – it is in the act of joining up all of these locally excellent community centres that we can do great things. If we act locally and engage residents, and then multiply this across the whole network, we have the power and mandate to push governments at all levels to consider nature in their plans. In short, if you master what is close to you, you will be able to affect what is distant.

As the former Chair of the EAZA Membership and Ethics Committee, I can't stress enough the role of the Standards in all of this. If we all agree on what it means to be a good zoo, then we can all be sure of each other when we approach the national and international forums. I would say that this is another part of my focus as Chair – to let Members know that the small steps they need to take in order to fulfill the requirements of the Standards will have big consequences for the zoo and aquarium community and its role in the wider conservation world.

DWM: Are we too late to save the natural world as we know it?

EP: It's true that people working in conservation don't often have happy experiences to report, and there is a lot of doom and gloom about the prospects for many species. This is realistic, but at the same time, it's not the job of a zoo to push people into a depression. One of our roles is to provide the sense of optimism about nature that I think will be essential to maximising humanity's success in protecting it.

I think it is also up to us to keep pushing governments to do better. Nature and its conservation need to be supported by politicians on all sides, so we need to make sure that the messages we share with our visitors, with our communities and with our representatives can be supported by everyone, regardless of their politics. To do this, we need to be authentic about the state of the world but at the same time optimistic that we can still do something – apathy will not help anyone or anything at this stage, and I think even the most cynical politicians are now realising that they

will lose public support if they don't do something to help nature. We can facilitate this.

DWM: Tell me about your view of the EAZA vision and mission.

EP: It's interesting that the role of zoos and aquariums has changed so much, even over the last five to 10 years. I think the vision and mission that we have are valid for the modern EAZA membership, but we need to remember how fast everything has been changing and be prepared to adapt our thinking so that we remain ready for constant and accelerating development.

I'd like to see us continue to seek out partnerships with other organisations and people. I have been living in the US for the past few years, and it is interesting to see how philanthropy is a big factor there. I would like to see us able to raise funds from philanthropic organisations and individuals for the Executive Office, for the collaborative work we do, and for our Members themselves.

As for being the 'standard-setter' for zoos and aquariums, I think it is important to keep pushing Members to improve wherever they can. The burden of being Chair of EAZA is one of inclusivity – it seems impossible to balance the needs of small private zoos with huge municipal ones, for example. Just as we have realised that population management can't be achieved successfully with a one-size-fits-all approach, it may be that we need to look at scalable solutions that tailor EAZA membership requirements more closely to the capability of each institution. Here, I think, is where I can really help the Association – by being a bridge between the most active zoos who populate our committees and programmes, and the less active institutions that perhaps don't quite understand that their contribution can also be vital for our community. We need to encourage all Members to do their part for the EAZA Strategy, and make sure that we review our achievements at the end as objectively as possible – we need to learn how to do better in order to actually do better, and I think honest assessment of our work is a legacy I would be proud to leave behind from my term as Chair.

On the campaign trail

THE COORDINATORS OF EAZA21+ REPORT BACK ON SOME INSPIRING WAYS IN WHICH EAZA MEMBERS ARE TAKING THE CAMPAIGN MESSAGE OUT INTO THE WORLD

Alice Albertini and Tomasz Rusek, EAZA21+ Campaign Coordinators, EAZA Executive Office

The EAZA21+ campaign is focusing on three themes – education, wildlife trade, and the conservation of species and genetic diversity – and its aim is to help us all make an even greater impact in conservation. As an internal campaign, it is giving us the time and space to zoom out and define how the EAZA community wants to contribute to the upcoming post-2020 Global Biodiversity Framework (GBF) and its local elements: the EU Biodiversity Strategy for 2030 and national biodiversity strategies in each EAZA country.

The campaign team is delighted to have met so many of you through EAZA21+ activities. So far, we have held three webinars, in-person discussions at EAZA Directors' Days at Beauval Zoo (see page 9) and a workshop at the Conservation Forum in Zagreb, Croatia. We look forward to engaging with you at the Annual Conference on 27 Sept–1 Oct. If you haven't joined the nearly 400 colleagues in the EAZA21+ Facebook group yet, scan the QR code below!

One of the best ways of engaging with EAZA21+ is by acting locally, in 'reflection groups'. In this article, we will describe several such initiatives in the hope of inspiring you.

SWEDISH WORKSHOP IN FURUVIK

On 30 March, the Swedish Zoo Association (SDF/SAZA) hosted a national workshop for EAZA21+. The colleagues delved into the themes of the campaign to discuss:

- whether zoos should not only teach about biodiversity, but also empower people to act to save it. In other words: should we play an increasing role as organisers of pro-environmental activities?
- what responsibilities modern zoos and aquariums have for the conservation of native species from their own region; and
- how to maximise our role in ensuring that wildlife trade is only sustainable, legal and ethical.

In the words of SAZA Chair, Jens Larsson: 'The post-2020 GBF is important for each of us. We know that we must contribute, and we want to, but we don't really always know in which ways. So having this type of conversation within every national association and every country within the EAZA community is crucial!'

REACHING ACROSS BORDERS: GERMAN EDUCATORS MEET IN THE NETHERLANDS

On 18 June, the Royal Burgers' Zoo hosted a meeting of 18 zoo educators from 15 German-speaking zoos, including board members of the VZP (German-speaking Zoo Educators' Association).

'The afternoon was dedicated to EAZA21+', says Constanze Mager, Manager of Conservation, Research and Education, Royal Burgers' Zoo. 'The two A4 information sheets* on the campaign were a good starting-point for discussion and for brainstorming how every participant could contribute within their respective institution. The board members also sat together to talk about their role in EAZA21+. It was a very fruitful meeting!'

ENGAGING LOCAL COMMUNITIES IN PORTUGAL

EAZA21+ was conceived as an internal project in which colleagues work together, but some of you are already taking it one step further by reaching out to your communities. At Lourosa Bird Park near Porto, EAZA21+ inspired the creation of a small exhibition called *Abrigos da Vida Selvagem* (Wildlife

Shelters). Bird curator Andreia Pinto explains:

'Our intention with this exhibition is to raise awareness that ordinary citizens can preserve species next to their home or by acting more consciously in their everyday lives. We want our visitors and partners to feel that conservation work is also within their reach, and not something that is only done at institutional level and involving huge resources.'

In a true community spirit, the motto of the exhibition introduced EAZA's new vision statement to Portuguese audiences: *Queremos salvar espécies contigo!* (We want to save species with you!)

SEND US YOUR STORIES

We also know that many Members have started working on their own zoo conservation strategy, including planning (set the right conditions to start and define the impact you want to achieve), writing (prepare drafts and involve external partners) and implementing (put your priorities into practice while being flexible enough to address unexpected changes). We are always keen to hear more about how you are taking part in this campaign, so do please send your stories to us at eaza21plus@eaza.net.

* Find the guide on the EAZA website or our Facebook group.



PRACTICAL TIP

Your government and partners will be responsible for how your country contributes to GBF, its targets for 2030, and its ambition to restore harmony between humans and nature by 2050. The much-delayed GBF is now due to be adopted in December. You can work with your national zoo association to:

- contact your local contact point for the CBD (find them on www.cbd.int/countries),
- engage with national biodiversity platforms and networks, and
- participate in events where the GBF is discussed.



Zoo health in focus

THE LONG-AWAITED 2022 EUROPEAN ASSOCIATION OF ZOO AND WILDLIFE VETERINARIANS (EAZWV) ZOO AND WILDLIFE HEALTH CONFERENCE FINALLY TOOK PLACE IN MAY AT WILDLANDS EMMEN IN THE NETHERLANDS, BRINGING TOGETHER DELEGATES FROM ACROSS THE EAZA COMMUNITY

Allan Muir, EU Policy Coordinator, EAZA Executive Office

An important annual fixture in the calendars of zoo and wildlife veterinarians across Europe and beyond, this year's Zoo and Wildlife Health Conference was hosted by WILDLANDS Emmen in the Netherlands, the first face-to-face EAZWV meeting since the COVID-19 pandemic. Excitement was in the air as we all broke the ice in the vast 'Jungola' tropical house, where the sound of long overdue conversations combined with the deep rumblings of the nearby Asian elephants in the humid air.

The conference was formally opened the following day by EAZWV President Endre Sós of Budapest Zoo and our host Job Stumpel, veterinarian at WILDLANDS Emmen. Endre recapped on the activities of the association over the past 12 months, including work being undertaken on a number of topics by the large number of working groups, some of which are shared with EAZA. In his opening welcome, Job dedicated the conference in memoriam to his dear colleague and friend the late Willem-Jan Kitslaar, the veterinarian of Amersfoort Zoo and Apenheul, who sadly passed away in 2021.

FROM PENGUINS TO PRIMATES

The conference programme was split into sessions, each dealing with a specific taxa or clinical focus. The latest veterinary research and developments were presented in sessions covering

penguins, primates, elephants and aquatics. The conference was livestreamed online to delegates who couldn't attend in person, and online participants were able to ask questions about the presentations in real time. In addition to the lecture programme, practical workshops were held on day one and concerned topics such as nutrition, elephant foot care and disease surveillance planning, all of which proved to be extremely popular with delegates.

Panel discussions were also organised to discuss ongoing hot topics including highly pathogenic avian influenza (HPAI) zoo outbreaks and COVID-19 infection in zoo animals. Both of these discussions received excellent amounts of participation from the audience, as delegates from across Europe shared their longstanding HPAI experiences, and North American colleagues shared insights into the use of COVID-19 vaccination in big cats and great apes.

PASTA AND POSTERS

Following on from the learning opportunities was a well-developed evening social programme. The ever-popular and now firmly established Poster and Pasta evening was a firm favourite, where students and researchers were able to share their poster presentations with all the delegates over a bowl of pasta and a glass of wine. The evening was also a

great time to catch up with old friends and make new ones, before spilling out onto the dancefloor of a local nightclub for the student night out.

Before too long the conference was nearing its end. Incoming EAZWV President (and current Vice President), Pavel Kvapil (Head Veterinarian at Ljubljana Zoo, Slovenia) provided his closing remarks on the previous days, his upcoming presidency and his aims for the association. With the conference over, the zoo visit gave delegates the chance to see back-of-house areas at the WILDLANDS Emmen, with organised tours of the vet clinic, elephant house and lion holdings, before the final farewell barbecue was served in the ambient tropical house once again.

Next year the EAZWV conference will be hosted by the team at Bioparc Valencia, Spain on 7–10 June 2023. Similar to this year, there will be an online option for those who cannot make it to the conference in person.

I am sure I speak on behalf of all the delegates in thanking Emmen's Scientific Organising Committee and EAZWV staff for putting together such a comprehensive and interesting programme, and to Job, the Emmen team and the student helpers for being such good and welcoming hosts! I look forward to seeing many of you next year in Valencia... surely an opportunity for a Poster and Paella evening!



ABOVE LEFT: RED-RUFFED LEMUR (*VARECIA RUBRA*); ABOVE RIGHT: CROWNED LEMUR (*EULEMUR CORONATUS*) © F-G GRANDIN MNHN

Planning for prosimians

CREATING THE JOURNEY FROM REGIONAL COLLECTION PLAN ASSESSMENT TO A LONG-TERM MANAGEMENT PLAN

Marie Corlay, Assistant Population Biologist, EAZA Executive Office, and Charlotte Desbois, Population Biologist, EAZA Executive Office and Mulhouse Zoo

Ninety-five per cent of lemur species and four out of five Asian lorises are at risk of extinction. Madagascan lemurs are mainly threatened by habitat loss, and Southeast Asian lorises face the additional threat of the illegal pet trade. Four years ago, the EAZA Prosimian TAG RCP workshop participants looked at how EAZA zoos could contribute to the conservation of these primates through *ex situ* management within the framework of the One Plan Approach. Nineteen EEPs came out of the decision process (most of which already existed), with roles ranging from exhibit and fundraising to conservation education, research and insurance. When the approval process was complete, the next step was to create a strategic plan for these programmes, the so-called Long-term Management Plans (LTMPs), to help each EEP fulfil its roles and to give clear guidance to the EEP Coordinator and the EEP participants about the actions they must take to make this happen. Since the beginning of the process in 2019, 10 LTMPs have been developed covering 14 programmes, and three additional ones are being prepared. The discussions involved the respective EEP Coordinators, the Prosimian TAG Chairs, the Species Committee members and advisers and the EAZA Population Management Centre team as facilitators.

CHALLENGES AND OPPORTUNITIES

Like the EEPs, every LTMP is different. However, while the actions may differ, the plans share many similarities due to the fact that the programmes face similar challenges. The main role of the Prosimian programmes is 'insurance', meaning that populations must remain demographically and genetically healthy in the long term in case reintroductions are needed in the future.

Common challenges to address in order to fulfil this role are:

- **Space:** a population considered demographically stable should consist of at least 150 individuals. However, while some populations thrive in human care and even need selective breeding to avoid exceeding institutional space – for example, ring-tailed lemurs (*Lemur catta*), red-bellied lemur (*Eulemur rubriventer*) – some are too small, and EEP Coordinators struggle to find new institutions interested in holding the species. This is the case for Alaotran gentle lemurs (*Haplemur griseus alaotrensis*) and pygmy slow lorises (*Nycticebus pygmaeus*). As all these species are endangered, it is difficult to give priority to one rather than another. This challenge increases the need to get a clear overview of the space available for prosimians

in EAZA institutions and make sure that every population has enough space to grow and meet its goals. When the review of the RCP is due, the TAG must do a reality check by evaluating whether the goals are achieved or achievable. It is expected that, depending on capacity and based on the experience of the implementation of the LTMPs, the goals and directions of the EEPs will have to be adjusted.

- **Husbandry:** strong husbandry requirements make it even more complicated to find experienced holders. For instance, Alaotran gentle lemurs, because of their specific diet, are very sensitive and tend to develop kidney failure as well as dental and digestive pathologies. Aye-ayes (*Daubentonia madagascariensis*) also represent a unique lemur species; being nocturnal, destructive and with continuously growing teeth, they have specific enclosure needs. In both cases, research into husbandry as well as capacity building are essential to provide relevant expertise to current and potential new holders and ensure the animals' welfare. Best Practice Guidelines (BPG) represent an important tool with which to compile, develop and save husbandry expertise.



CROWNED SIFAKA (*PROFITHECUS CORONATUS*) AT LEMUR'S PARK
© D. ROULLET

- **Low breeding success:** another obstacle to population growth is the lack of breeding or high infant mortality. While these two major issues are common to several EEPs within the TAG, the causes remain unclear and solutions need to be found before the populations get too old and inevitably crash. In the case of the blue-eyed black lemur (*Eulemur flavifrons*), maximising breeding by changing pairs and gathering them in experienced institutions is one of the tactics in place to address the low breeding rate. However, increasing the birth rate alone is not enough if infant survival is not improved as well. For some species, closed monitoring protocols around parturition time, as well as hand-rearing and fostering when needed, are required to address this issue.
- **Genetics:** in theory, to remain genetically healthy in the long term, populations must at least maintain 90% of wild-population genetic diversity. This criterion is met by only a few species within the TAG. Indeed, for the greater bamboo lemur (*Prolemur simus*) as well as three other species, the EEP is the only managed *ex situ* population worldwide, and the difficulty of obtaining new genes from Madagascar by importing unrelated individuals poses an important challenge. To prevent the loss of genetic diversity, the main strategy is still to breed individuals according to their Mean Kinship, giving priority to those pairs whose genes are under-represented in the population. When feasible, the exchange of animals between

regions allows an increase in genetic diversity in the populations involved. Therefore, exchanges are sometimes done with institutions from the American Association of Zoos and Aquariums (AZA), e.g. for the Aye-aye, Mongoose lemur (*Eulemur mongoz*) and Blue-eyed black lemur EEPs. Such cooperations are steps towards 'informal global programmes'. Finally, although this option still needs further investigation, cryopreservation is another powerful tool that could be used to preserve important genetic variation.

PLANNING AND... ACTION!

To achieve the EEPs' goals and address the challenges mentioned above, a clear plan – enforced by the EEP Coordinator and participants – is needed. Among the LTMPs already published, several key actions have been identified both to improve the management of the species in human care and to help the conservation of the species in the wild:

- **Increase carrying capacity**
Increasing space capacity by holding the species in single-sex groups is a management strategy used in several EEPs. Prosimians can also be placed in mixed exhibits when recommended. Also, for some species, 'breeding hubs' on- and off-exhibit in more specialised and dedicated institutions might be established, following the examples of pygmy slow lorises and slender lorises (*Loris lydekkerianus*).
- **Conduct research on husbandry and develop BPG**
Research projects are diverse, from the understanding of the rhythm flexibility (e.g. red-bellied lemur) to the investigation of low breeding success and the development of hand-rearing protocols (e.g. blue-eyed black lemur). EAZA can also help field research by sharing knowledge with *in situ* partners and providing materials and relevant training to staff involved in these projects. In addition, the expertise built up in EAZA can also help partners in range to better manage the species in their countries.
- **Collaborate with other zoo associations**
As acquiring new genes from the

wild is very difficult, the exchange of individuals between regions is the best remaining option for slowing down the loss of genetic diversity, as it increases the gene flow between different populations. More generally, global cooperation is important to build up expertise and make sure that best practices and knowledge are shared among the larger community.

- **Fundraise** for specific projects led by colleagues or NGOs *in situ*. All holders are encouraged to raise funds for defined *in situ* conservation and research projects that are endorsed by the Prosimian TAG.
- **Carry out conservation education** for zoo visitors or in-range local communities to raise awareness about specific threats and explain how the modification of our behaviour can help to save species. The illegal pet trade represents an important threat for lorises in Southeast Asia, and there are videos circulating on the internet spreading the wrong messages about these primates. Education in zoos about photo-props can help to mitigate these threats.

SO – WHAT NEXT?

'Developing the LTMPs has been an all-positive experience,' says Achim Johann, Chair of the Prosimian TAG. 'The process makes us realise whether the roles and goals for the EEPs as defined in the RCP are achievable.

'The LTMPs and the RCP are in a dialogue; an LTMP is based on the respective RCP, but any revision of an RCP will consider and evaluate the previous LTMPs based on the achievements. As much as any finalised LTMP is appreciated by all parties involved as a worthwhile "roadmap", it is up to the implementation of the action list to bring the plan to life. The EEP Coordinator has a crucial role as "navigator" and all EEP participants can follow the path set out by the plan to reach the goals.

'LTMPs are therefore effective communication tools in a TAG but also within an EEP, as they align the common efforts to successfully run a programme in a professional and transparent way.'



THE GRANDIDIER'S VONTSIRA (*GALIDIA GRANDIDIERI*) AND OTHER MALAGASY SPECIES WILL BENEFIT FROM SPECIFIC ACTIONS © CHESTER ZOO

Small wonders

FORCED TO MOVE ITS REGIONAL COLLECTION PLANNING (RCP) WORKSHOP ONLINE IN 2021, THE EAZA SMALL CARNIVORE TAG HAS JUST PUBLISHED THE RESULTING RCP

Aude Haelewyn-Desmoulins, EAZA Small Carnivore TAG Chair, Reynou Zoo; Peggy Rüegg-van den Broek, EAZA Small Carnivore TAG Vice Chair, Papiliorama Foundation; Janno Weerman, EAZA Small Carnivore TAG Vice Chair, Rotterdam Zoo; Kelly Lavooij-van Leeuwen, Animal Programmes and Conservation Coordinator, EAZA Executive Office

The EAZA Small Carnivore (SC) TAG covers 167 small carnivore species from the families *Ailuridae*, *Eupleridae*, *Herpestidae*, *Lutridae*, *Mephitidae*, *Mustelidae*, *Procyonidae* and *Viverridae*. The TAG's mission is to develop an inclusive approach to the conservation of small carnivores, and it has set out various actions and objectives to fulfil this mission. With the RCP workshop and the newly published RCP document, the TAG aims to provide guidance and support to all current and potential small carnivore holders, as well as to convey priorities and conservation needs for particular small carnivore species.

Even though the SC TAG deems all small carnivore species important, certain species groups were prioritised for the RCP workshop, based on the TAG mission, discussions with the IUCN SSC Specialist Groups for Otters and Small Carnivores, and a recently published paper by Willcox et al. (2020). These groups comprise *Eupleridae*, *Lutridae*, threatened (Asian) small carnivore species, European small carnivore species and

Invasive Alien small carnivore Species. Within these species groups, the SC TAG highlighted a specific priority for threatened Asian small carnivore species, as well as for the Malagasy small carnivores.

As part of a European organisation, the TAG furthermore feels a responsibility to safeguard the survival of threatened European small carnivore species. This led to the conclusion that 53 small carnivore species falling under the remit of the TAG would need to be individually discussed during the RCP workshop.

Initially scheduled to take place face-to-face in November 2020, the SC TAG RCP workshop had to be postponed to January 2021 and switched to an online format due to the continuing COVID-19 pandemic. Nonetheless, the workshop was well attended and 30 participants joined over the course of three days. Various TAG members, programme coordinators, monitoring persons, TAG advisers, *in situ* experts, IUCN SSC Small Carnivore Specialist Group members and staff of the

EAZA Executive Office attended and contributed to the RCP results.

RCP RESULTS

During the RCP workshop, the TAG strongly encouraged holders to contribute to conservation, education, research and fundraising activities for the prioritised small carnivore species. A general, TAG-level role was set out for fundraising, where support for fundraising activities for the *in situ* projects endorsed by the TAG was recommended, with a specific focus on those carried out for small carnivores in Southeast Asia, Madagascar and Europe. For the Malagasy small carnivores in particular, the TAG recommended a general role for in-range and outside-range education and advocacy. With small distribution areas and limited protection in Madagascar, the TAG hopes that education, awareness and advocacy activities regarding Malagasy small carnivores will positively influence species conservation. However, a note was made that education and awareness activities

for all small carnivore species should be carefully considered, so as not to fuel the pet trade accidentally while promoting these species. The SC TAG generally encouraged biobanking, cryopreservation and collaboration with partners in range.

Species-specific discussions during the RCP workshop resulted in the proposal to establish 16 new style EEPs. Eight proposed new style EEPs stem from existing old style EEPs and ESBs:

- red panda (*Ailurus fulgens*)
- binturong (*Arctictis binturong*)
- European mink (*Mustela lutreola*)
- Owston's civet (*Chrotogale owstoni*)
- Eurasian otter (*Lutra lutra*)
- giant otter (*Pteronura brasiliensis*)
- fosa (*Cryptoprocta ferax*)
- wolverine (*Gulo gulo*)

Selected conservation roles for these programmes include population restoration, insurance, *in situ* and *ex situ* research, in-range and outside-range education, advocacy, fundraising, training and capacity building.

In addition, new programmes were suggested for the following species or groups of species:

- hairy-nosed otter (*Lutra sumatrana*)
- Asian small-clawed otter (*Aonyx cinereus*)
- smooth-coated otter (*Lutrogale perspicillata*)
- smaller Malagasy small carnivores
- Indonesian/ Malaysian small carnivores
- Invasive Alien small carnivore Species
- meerkat (*Suricata suricatta*)
- African mongoose

These include various programmes that cover multiple species. Selected conservation and non-conservation roles for these programmes include capacity building, insurance, in-range and outside-range education, awareness, research, fundraising, advocacy, model and exhibit.

FURTHER INSIGHTS FOR NEW PROGRAMMES

In addition to the programmes that already exist, the TAG considered it especially important to set up one overarching EEP for the smaller Malagasy small carnivores (i.e. all Malagasy small carnivore species apart from the fosa). All Malagasy

small carnivores can be considered threatened if one compares this with the status of small carnivores elsewhere. With small distribution areas and only limited protection in range, the situation for these species can change quickly. As there seems to be limited potential currently to set up *ex situ* populations in range, the SC TAG feels there is an important need and responsibility to act for these species. The Smaller Malagasy small carnivore EEP will include the bokiboky (*Mungotictis decemlineata*), ring-tailed vontsira (*Galidia elegans*), Grandidier's vontsira, broad-striped vontsira (*G. fasciata*), brown-tailed vontsira (*Salanoia concolor*), Western falanouc (*Eupleres major*), Eastern falanouc (*E. goudotii*) and spotted fanaloka (*Fossa fossana*). The TAG wishes to build on the current Malagasy small carnivore populations that we have in EAZA to assist the *in situ* work for all Malagasy small carnivores.

The EEP will have a strong focus on in-range species conservation, and will use the species in EAZA as ambassadors for their wild counterparts. The species currently kept will be used to fulfil in-range and outside-range educational, research, advocacy and fundraising roles to aid in the conservation of all Malagasy small carnivores. In order to make this EEP succeed and positively support Malagasy small carnivore conservation, strong connections and collaborations with Madagascar will need to be established.

In addition, the TAG felt a need and responsibility to manage the Invasive Alien Species (IAS) of small carnivores in EAZA as an EEP to deal actively with these species in Europe. This would include species such as the brown-nosed coati (*Nasua nasua*), northern racoon (*Procyon lotor*), and Javan/ small Indian mongoose (*Herpestes javanicus*). The IAS SC EEP will focus on responsibly (and gradually) phasing these species out (keeping their welfare, sociality and grouping patterns in mind and in line with the relevant legislation) and replacing them with other small carnivore species.

With EEPs for the hairy-nosed otter, Asian small-clawed otter and smooth-coated otter, the TAG aims to contribute actively to the

conservation of these threatened Asian otters, using conservation roles for capacity building, insurance, research, fundraising, education and awareness.

The Indonesian/Malaysian small carnivore EEP will include the Sulawesi civet (*Macrogalidia musschenbroekii*), otter civet (*Cynogale bennettii*), Hose's civet (*Diplogale hosei*) and Bornean ferret badger (*Melogale everetti*), which are not kept *ex situ*. However, with threat status uncertainties and very limited information available, the TAG would like to work on gaining insights, filling information gaps and monitoring what happens in range, so that it can make an evidence-based decision and take a reactive approach on the best way forward for these species in the future.

The proposed Meerkat and African mongoose EEPs will only have non-conservation roles for education and exhibit, as these species are not considered to be threatened. However, as popular species with many individuals being kept in EAZA, the TAG feels the need to actively manage the state and space for these and other small carnivore species.

WAYS FORWARD

The EAZA SC TAG is pleased to present the finalised RCP document for the small carnivore species to the EAZA Membership. It can be found on the Population Management page of the EAZA Member Area, and the TAG highly recommends that all current and potential future holders of small carnivores read it. Any questions can be directed to the TAG Chair Aude Haelewyn-Desmoulin (ahd@parczooreynou.com).

The Small Carnivore TAG would like to thank all RCP participants for sharing their valuable expertise and input. The finalisation of the RCP process for the small carnivores would not have been achieved without your tremendous support!

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How to manage a jaguar

ENCOURAGING BEST PRACTICE IN JAGUAR MANAGEMENT

Rebecca Biddle, Director of Conservation, Twycross Zoo

The jaguar (*Panthera onca*) is undoubtedly one of the most iconic species you are likely to encounter on a zoo visit. The IUCN classifies the species as Near Threatened with a population that is declining and severely fragmented. Our European zoo population thus offers a unique opportunity to engage, inspire and educate our visitors about jaguars and their wide-ranging ecosystems, as well as providing opportunities for focused conservation education and research activities.

As with all zoo populations, intensive management is essential to ensure that the Jaguar EEP achieves its goal, which is to maintain a healthy population to fulfil the need of zoos to hold jaguars for exhibition without taking resources from more threatened big cat species – a priority of the Felid TAG. To enable this, the jaguar has been managed since 2014 as an EEP (prior to this as a European Studbook) with a target stable population of 100 animals as part of the Felid TAG RCP. A long-time favourite in zoos, the first record of a jaguar in Europe was at London Zoo, in March 1900. Since then, records show that at least 1,335 have been kept and bred in EAZA zoos. The species is still extremely popular, with a continuing list of EAZA and non-EAZA zoos interested in developing facilities to house jaguars.

The new EAZA Best Practice Guidelines (BPG) for jaguars offer existing and new collections a detailed overview of many elements of *ex situ* management. The document

provides a substantial overview of what is necessary and thus what level of investment is needed, to ensure that jaguar management is of a high standard and that animal welfare is prioritised. The BPG were based initially on information from the Association of Zoos and Aquariums (AZA) Jaguar Care Manual, which was reviewed, edited and supplemented with case studies and working examples from European collections, including Chester Zoo and Paradise Wildlife Park. The document is packed full of ideas, references, photographs and personal experiences from zoo professionals with decades of experience working with big cats.

The document emphasises the need to ensure that jaguars in human care have opportunities to display their natural behaviours. They are excellent climbers and swimmers, and in the wild would patrol their home ranges and make use of vegetation for cover, so exhibits that are designed to showcase those behaviours provide built-in environmental enrichment. Enclosures need to include a water source for the animal to interact with and must ensure that space is available on multiple levels to provide opportunities for climbing and resting at different heights. It is also important when designing a new exhibit to consider flexibility in furnishings, allowing them to be altered or changed to increase the enclosure complexity and enrichment opportunities.

Jaguars are powerful predators with a strong bite and excellent jumping

and ambush capability. They must be considered as an institution's most dangerous animals when staff are devising and assessing safe working practices and emergency escape response policies. The BPG include an extensive chapter on safety and security, with information, advice and practical examples of how to work safely with big cats, including details of perimeter confinement requirements for fencing and glass, safety protocols including two-person checks, and the use of emergency flares and emergency horns.

Finally, the BPG include an extensive veterinary section, written by the Jaguar EEP Veterinary Adviser Melissa Nollet from Bellewaerde Zoo. This section reflects information gathered from more than 30 collections holding jaguars who responded to our veterinary survey. It is also guided by information from a review of jaguar post mortems from the last 20 years (Duque-Correa, 2022). Veterinary services are a vital component of excellent animal care practices, and the BPG strongly emphasise preventative health care, disease prevention and routine examination.

The production of these guidelines was a huge collaborative effort from many jaguar management experts – so thanks to all, and to the collections who participated in our surveys! With a current population of 97 jaguars across 43 EEP collections*, our desire is that these BPG will help to facilitate an overall improvement in the standard of existing and newly developed enclosures. You can find them on the EAZA website (www.eaza.net/conservation/programmes). Please contact rebecca.biddle@twycrosszoo.org or Jaguar EEP Coordinator Anne Rikke Winther Lassen (arw@regnskov.dk) if you would like to get involved in this EEP.

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* In 2022 (until August) there have been 3.1 jaguars born (2.0 in CRECY and 1.1 in RANDERS) and 1.4 deaths. The status is currently 45:52:0 (97) animals.



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A forum for the future

THE 2022 EAZA CONSERVATION FORUM COMBINED PRESENTATIONS AND WORKSHOPS TO SHARE KNOWLEDGE AND DEVELOP EFFECTIVE STRATEGIES FOR CONSERVATION CHALLENGES

Merel Zimmermann, Animal Programmes and Conservation Coordinator, EAZA Executive Office

After its cancellation in 2020, the EAZA Conservation Forum finally came to Zagreb Zoo in Croatia in 2022. The Forum was opened on 18 May by Damir Skok, Director of Zagreb Zoo, in the presence of Dejan Djaic from the City Council of Zagreb, who welcomed all the participants.

The programme was based on submitted abstracts and, in the spirit of the EAZA21+ campaign, offered an opportunity to highlight how EAZA Members and other stakeholders are acting for, evidencing and influencing species conservation. After an introduction by Myfanwy Griffith (EAZA Executive Director), Eric Bairrao Ruivo (EAZA Conservation Committee Chair) and Simon Bruslund (Conservation Committee member), a number of different presentations and workshops were held, covering approaches to combat

wildlife trade and focusing on newly developed initiatives and tools for applying Artificial Intelligence. New prioritisation methods for species conservation were also presented, as well as methods for measuring conservation impact and different field conservation efforts supported or led by EAZA Members in Europe, Asia and Africa.

As in previous years, there was a poster session as well as a Conservation Cinema session, which included material on local conservation efforts in Denmark, vulture conservation in Croatia and northern bald ibis (*Geronticus eremita*) conservation in Austria, as well as an introduction to the tools and training available through the IUCN Conservation Planning Specialist Group (CPSG). On the Friday morning, Carl Traeholt (Copenhagen Zoo)

organised a workshop on how to write an abstract to better represent our community on different platforms. Andrea Solić from Carnivora Magna (Croatia) organised a discussion session on the management of large carnivores in the Dinaric region. In addition, a workshop on developing institutional conservation strategies was organised by the EAZA Executive Office (see box, below right). The information boxes on these pages offer a few highlights of the various sessions and speakers.

Thank you to the wonderful team at Zagreb Zoo for their warm welcome and hosting of this special EAZA event! Recordings of a selection of sessions are available on the EAZA YouTube Channel (www.youtube.com/EAZAvideo) for those who were not able to join or watch while they were streaming on Facebook.



EAZA ACADEMY COURSE

The EAZA Academy organised 'An Introduction to Collaborative Conservation Planning' as a face-to-face course preceding the Conservation Forum. Jamie Copsey, Director of Training IUCN Species Survival Commission (SSC) Conservation Planning Specialist Group (CPSG), delivered the course, which aimed to provide a 'door opener' into collaborative conservation planning, with a focus on planning for threatened species. The course was designed around the IUCN SSC CPSG Principles and Steps and provided introductory skills linked to process design and facilitation. Participants explored and reviewed their own experiences of group decision-making and identified how to improve the process; they were also introduced to thinking tools that can help groups to make better decisions and solve problems. Following an introduction to particular interpersonal skills, there was an overview of the range of CPSG planning tools that can be used to inform conservation planning for collections through the One Plan Approach.

KEYNOTE SPEAKERS

Molly Grace, Co-chair of the IUCN Green Status of Species Working Group, presented the new IUCN Green Status of Species, which complements the Red List to provide a more comprehensive look at species conservation status, assessing how its status has changed over time and how it might change with conservation action in the future. The method developed can offer guidance in decision-making on where to focus your conservation efforts. Molly explained the essentials behind the Green List Status and gave examples of how it has been used to assess the first few species. The session ended with an open discussion with the audience on the potential this method can have for the zoo and aquarium community. The IUCN Green Status of Species Working Group is looking into adapting the method further to make implementation possible on different scales and in different situations, such as within an institution or project. Keep an eye out for the next issue of *Zooquaria*, in which a full article will be dedicated to the Green Status.

Dušan Jelić, President of the Croatian Institute for Biodiversity, was invited to present the opportunities and challenges for south-east European conservation. He worked in the conservation of endangered meadow vipers (*Vipera ursinii*), elusive cave salamanders (*Proteus anguinus*), scattered populations of rare European snake-eyed skinks (*Ablepharus* or *Cryptoblepharus*) and a whole set of endemic semi-cave fish species unique to Dinaric Karst. His work has taken him across projects in Croatia, Bosnia, Herzegovina, Serbia, Montenegro and Macedonia, with additional international focus on Armenia, Georgia and Nepal. Dušan provided fascinating stories of different Croatian endemic cave fish species and how they were discovered and threatened simultaneously by (invasive) fish species and human-induced landscape/watershed disturbances.



DEVELOPING A CONSERVATION STRATEGY

A conservation strategy for a zoo or aquarium should outline how the institution aims to create a positive impact on the conservation of biodiversity but can take many different shapes. When exploring our Members' needs for support, one of the main wishes has been to receive guidance in developing such a conservation strategy. As the EAZA membership and its partners form a network where knowledge and experiences can be shared, a workshop was organised to offer an opportunity to identify and discuss the main challenges encountered when developing a strategy and learn more about the solutions and approaches.

Zagreb Zoo, Nordens Ark and Marlow Birdpark kindly shared insights into how they developed their conservation strategy before we asked the workshop participants to identify their top three challenges in developing their own. We worked in groups tackling these three challenges, and we ended up with stimulating thoughts and suggestions and a better understanding of the mindset one can adopt for developing an efficient and realistic conservation strategy. Some of the outcomes were:

1. Do you lack resources (money, time, dedicated/trained staff, and so on)? Start with defining not only the

conservation mission of your zoo, but also the roles your staff will take to fulfil that mission. Keep in mind that a good plan will need time to implement but will help you with the fundraising and resourcing you need to realise your plan.

2. How do you set realistic targets? When defining who you are and what you want to achieve for species conservation, a SWOT analysis (i.e. strengths, weaknesses, opportunities and threats) can be a good place to start. The approach you take should provide room to react to unexpected changes and new circumstances.
3. How do you measure impact? Define what measuring impact means within your institution, as this will not be the same for everyone or every project. Aim to be transparent about what, why and how you are measuring, so you can improve!

For all challenges, it was clear that you should not expect to have to do this all by yourself; join forces and collaborate with EAZA Members, local communities, academics and external experts. The outcomes of this workshop will be included in the conservation strategy toolkit, which will provide guidance to EAZA Members as part of the EAZA21+ campaign.

Despite the extreme difficulties presented by COVID-19, in 2021 EAZA Members continued to contribute their time, expertise and funding to support conservation projects worldwide.



CONTRIBUTIONS TO CONSERVATION TOTAL SUPPORT 2021

i Based on information available in the EAZA Conservation Database on 7 June 2022



59,712 HRS
STAFF TIME



122
MEMBERS



>500
PARTNERS



>400
SPECIES

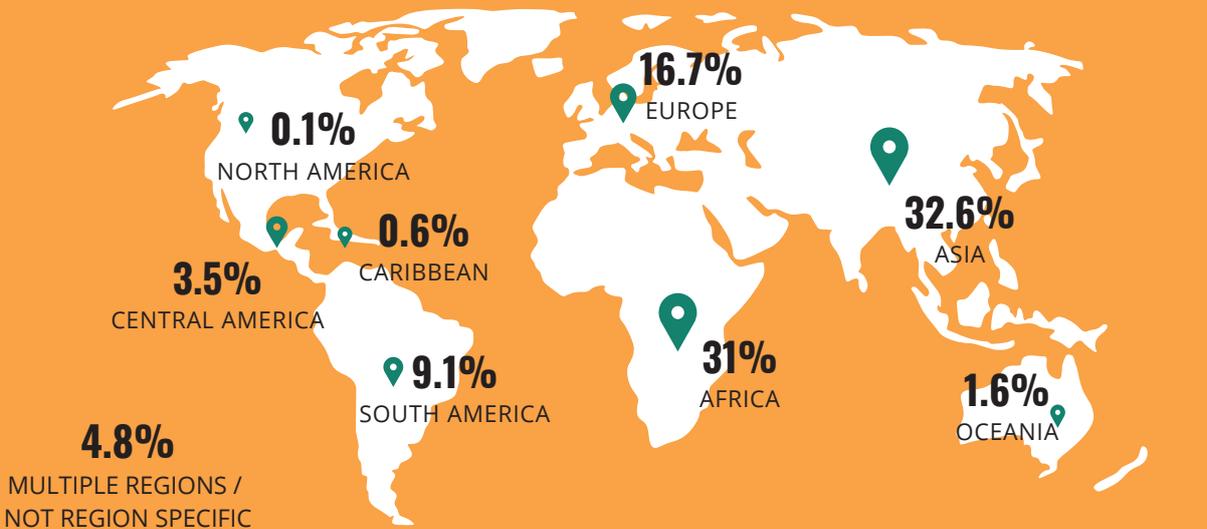


16.2 MILLION €

Conservation Safety Net:

Most EAZA Members were affected by the pandemic in 2020 and 2021 but even with reduced income, zoos and aquariums continued supporting conservation projects globally.

AREAS OF FINANCIAL SUPPORT



*include plant, habitat conservation, conservation tool development

Progressive Zoos and Aquariums Saving Species Together with You

Over the last five years, EAZA Members have provided vital support for conservation projects across the world, helping more than 900 threatened species.



CONTRIBUTIONS TO CONSERVATION

TOTAL SUPPORT 2017 - 2021

i Based on information available in the EAZA Conservation Database on 7 June 2022



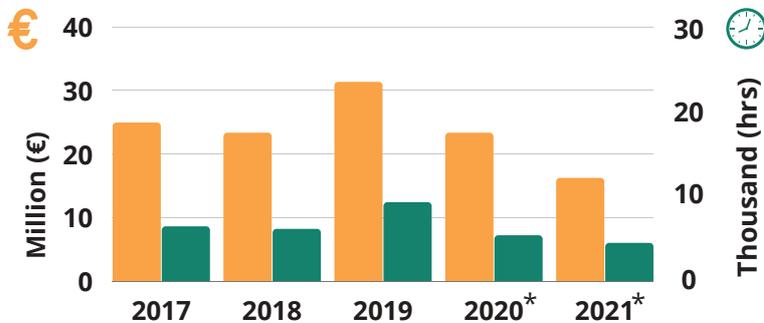
189
MEMBERS



> 750
PARTNERS



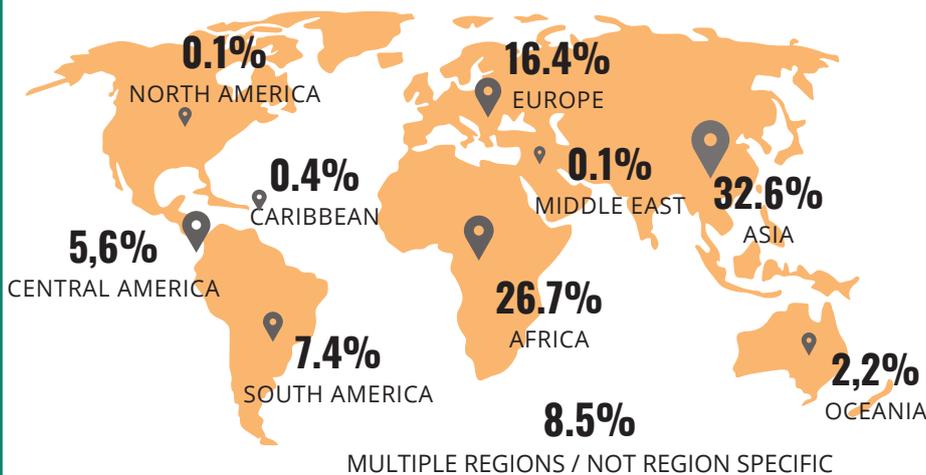
> 900
SPECIES



119 MILLION
FINANCIAL SUPPORT



424,312 HRS
STAFF TIME



*Conservation Safety Net: COVID-19 closed most of our Members for much of 2020 and parts of 2021 but even with reduced income, zoos and aquariums continued supporting conservation projects globally.

TOP 5 TAXA SPECIFIC SUPPORT

#1



#2



#3



#4



#5



Progressive Zoos and Aquariums Saving Species Together with You

Into the jungle

AUCKLAND ZOO INTRODUCES THE SOUTHEAST ASIA JUNGLE TRACK AND THE PROCESS AND CONCEPTS BEHIND THE DESIGN OF THIS HIGH CANOPY HABITAT

© AUCKLAND ZOO

Amy Robbins, Deputy Curator of Mammals, and Craig Gilchrist, Team Leader Primates, Auckland Zoo

Plans for the Southeast Asia Jungle Track (SEAJT) appeared on Auckland Zoo's masterplan in the early 1990s. The SEAJT is the most ambitious project in the zoo's 100-year history, spanning one-fifth of the entire site. Renewal is an important component of being a good, modern zoo; this project has been constructed in phases and includes the orangutan and siamang high canopy habitat, Sumatran tiger and Asian small-clawed otter lowlands, and a tropical swamp forest dome.

Auckland Zoo is home to many species that represent the biodiversity of Southeast Asia, which is close to New Zealand. Additionally, the Auckland Zoo Conservation Fund supports a wide portfolio of conservation programmes in Indonesia and, in particular, Sumatra.

In 2016, the primate and carnivore department team leaders undertook an extensive research mission, which closely examined exhibit design for species that would be represented within the new precinct, including orangutans. The team visited 11 zoos across Europe and Singapore to collect information that would later be used in the design concepts at Auckland Zoo, in combination with the lead designer's (Studio Hanson Roberts) extensive knowledge and experience of North American zoos with arboreal pathways. We assessed how other zoos built environments and solved design challenges while meeting the physiological and psychological challenges that nature provides wild animals, as we believe we have a duty of care to do the same.

The design team looked far and wide to understand what was considered to be the best in animal welfare, visitor engagement, innovation and sustainable design. Design expertise was combined with local project management

expertise and animal knowledge derived from nature, conservation projects *in situ*, other zoos and built environments.

DESIGN PRINCIPLES: CONCEPTS

The primary concept in the SEAJT is biomimicry – replicating nature. To create an exceptional habitat that replicates the high canopy of the rainforest, we had to determine which aspects of the natural environment would be incorporated into the design and what examples are used elsewhere to enable us to create both built and non-built elements.

In addition to animal welfare, landscape immersion was at the forefront of the design, including the use of borrowed landscapes and physical boundaries that are not immediately understood by the eye. SEAJT has an immersive aesthetic that brings people and animals together, giving visitors a deeper connection with nature. The design delivers immersive experiences that inspire a love and care for wildlife and wild places.

The resulting space is a completely three-dimensional environment, incorporating habitat that would otherwise not have been included within the animal spaces. Built elements within the habitats, planted with mature live trees, are less noticeable because of the use of natural colours and textures. 'Canopy-climbers' (artificial tree-like climbing structures) are painted with heat-reflective, textured paint, and the use of many vertical lines in the built structures reduces the visual impact. The perforated perimeter containment panels give a veil-like quality that allows light and air to circulate while providing a non-climbable wall. The absence of any straight lines in the



containment perimeter mimics shapes found in nature and helps to create an immersive feel.

DESIGN PRINCIPLES: ANIMAL WELFARE

Design is a crucial tool that can shape our animals' wellbeing, and which significantly impacts animal care and welfare (Gusset & Chin, 2016). All the places and spaces that we build reflect our animals' natural environment. The primary design principle was to create an entirely arboreal environment that caters to the natural behaviours and adaptations of both orangutan and siamang, promoting positive welfare across the five domains of animal welfare (the animal welfare framework adopted by WAZA*). A vital part of this project was enabling our animal care staff to be part of the team that designed and built this exhibit. Using the science of animal care as a basis for design, a thorough understanding of the animals' physiological and psychological needs and bringing together experts from New Zealand and around the world, we created a truly arboreal environment that engages our visitors in our conservation mission. SEAJT is a complex and enriching environment designed to reflect the different layers of the rainforest canopy that enables the orangutans and siamangs to behave and move as they would in the wild.

This pioneering facility comprises indoor care quarters, two outdoor landscaped habitats with mature live trees, canopy-climbers and a high canopy aerial pathway network. The design follows the guiding principles of arboreal complexity and flexibility of animal management as well as providing the animals with choice, a vital component of good ape welfare. No indoor areas are on display to visitors, but shared shelters with huge glass viewing windows and a glass roof provide shelter and warmth for the animals while bringing visitors

and animals together. Panels within the windows provide opportunities for keepers and animals to interact through operant conditioning or handfeeding in front of visitors.

An impressive example of innovation within the high canopy habitat is the eight-metre-high canopy-climbers that meet the animals' physical, behavioural and health needs. These tree-like elements complement the natural form of the live trees, meeting the needs of multi-age orangutans and siamangs. They are ergonomically designed to encourage locomotive behaviour and provide natural feeding opportunities through arboreal feeders. Canopy-climbers are not created solely for aesthetics, they are specifically detailed to respond to orangutan and siamang behaviour, allowing them to travel, rest and feed among the trees. All components are sensitive to the ways in which the animals use them, including the use of heat-reflective and textured paint and varying diameters for branches and ropes.

The aerial pathway network consists of more than 2km of three-tiered vine-like ropes that link to nine support structures measuring 20–25m in height and represents the emergent layer of the rainforest. It extends out of the two core habitats and over the zoo's lake and wetlands, passing over visitor areas several times, giving multiple opportunities for emotional connections to be made. The configuration of the ropes was carefully considered, as the choices made by a dominant animal rarely coincide with those of the subordinate. Several points of access to the aerial pathways and a triangular configuration allow animals to safely pass one another 25m above the ground. Two different rope diameters cater to different hand sizes (64mm and 48mm) and there are numerous feeding opportunities around the arboreal network. These aerial pathways give the animals many choices and enriching opportunities that enhance their physical health and wellbeing.

Interlinking raceways enable connections between both sides of the indoor care quarters and outdoor habitats, allowing flexibility of management and providing further opportunities for choice. Bio-floors help retain humidity and absorb noise as well as saving time for animal care staff. All animal transfers, raceways and drinkers are positioned to encourage arboreal habitation.

Unmanned Aerial Vehicle (UAV) technology is used to allow the safe and regular inspection of aerial pathway network components, and is also used to complement the provision of food. The food provisioning consists of using a UAV with a specially designed box, which can remotely drop edible food parcels at height. The UAV pilot flies the food payload up to a basket on top of the aerial pathway and drops it precisely on target.

In 2021, Auckland Zoo was awarded the Zoo and Aquarium Association large-scale new habitat award, recognising innovative habitat design that advances animal care and welfare, visitor experience, conservation, education, research and sustainability. This highly innovative environment is globally unique and represents our deep commitment to the animals' best care and to giving our visitors immersive and inspirational opportunities to connect with wildlife.

* Gusset, M. and Chin, S. (2016). *Future of Zoo and Aquarium Design*. World Association of Zoos and Aquariums (WAZA), 17, WAZA Executive Office

Message in a suitcase

THE ASSOCIATION OF GERMAN-SPEAKING ZOOLOGICAL GARDENS (VDZ) AND ARCHE WARDER ZOO HAVE DEVELOPED A MINISTRY-FUNDED PROJECT TO SHED MORE LIGHT ON THE CONSERVATION OF LIVESTOCK AND INCREASE THE IMPACT OF ZOOS ON ENDANGERED LIVESTOCK BREEDS

Julia Kögler, Deputy Executive Director, VdZ; Sinje Büttner, Project Coordinator, and Kai Dieter Frölich, Executive Director, Arche Warder Zoo

Besides wild animal species, most zoos also have livestock breeds in their collection to display agricultural animal genetic diversity, promote regional cultural and social heritage and educate their visitors. However, so far there have been few efforts to manage populations of endangered livestock breeds across institutions in the way we do for many wildlife species. Furthermore, education programmes about the diversity of livestock, their traditional purposes and the question of why so many breeds are nowadays endangered are not yet firmly embedded in the educative offers of all zoos. Therefore, the VdZ and Arche Warder Zoo developed and initiated a project to increase the overall contribution of zoos to the conservation of endangered livestock breeds. Methods to achieve this goal focus on (a) cross-institutional population management and scientifically based breeding recommendations as well as supporting official breeding associations, (b) the development of innovative and free educational materials, and (c) increasing networks as well as stimulating the internal and external communication about endangered livestock breeds and the role zoos may play to conserve these breeds for future generations. The project started in 2020, runs for three years and receives €235,000 in financing from the German Federal Ministry of Food and Agriculture.*

A CASE FOR CONSERVATION

As part of our aim to embed the topic of livestock in the educational programmes of zoos, the so-called 'VdZ livestock suitcase' was developed in cooperation with the Association of German-speaking Zoo Educators (VZP). The idea was to provide our members with a free-of-charge collection of innovative education materials to be used in the zoo school and in front of livestock enclosures. We chose a



CONTENTS OF THE VDZ LIVESTOCK SUITCASE © S. BÜTTNER, ARCHE WARDER

high-quality and easily transportable wooden suitcase as a base and filled it with an extensive collection of materials. The contents include realistic toy figures of livestock and of the wild animal species they derived from, specifically designed memory and quartet card games portraying different endangered breeds, posters displaying the remarkable diversity of livestock breeds, CO² footprints in different sizes for sustainability games and – most important – an extensive instruction booklet with background information on livestock issues and suggestions on how to use the collection of materials.

The content focuses on the process of domestication and the advantages and the diversity of livestock, including factors responsible for the ongoing loss or decline of many regional breeds. Thus, zoo educators can more easily teach the differences between wild animals, farm animals and pets, share urgently needed knowledge with our mainly urbanised societies on livestock and the numerous animal products we use, and promote a responsible and sustainable use of nature's resources. The main target group is schoolchildren between first and sixth grade, but the level of information and games can be simplified to suit the needs of kindergarten children, and can also

be scaled up to educate adult visitors. The costs for the development of the prototype reached €10,000 and each of the 50 suitcases cost €500.

POSITIVE FEEDBACK

After evaluating the prototype with the help of the education team of Nordhorn Zoo, and after a few consequent amendments, we were finally able to give the go-ahead for the production of the VdZ livestock suitcase in spring 2022, and 50 zoos in Germany, Austria and Switzerland received a suitcase each. So far, the feedback from the educators has been consistently positive and they are grateful for the valuable expansion of their material collection. We also coordinated a joint press release with all receivers of the suitcase and the story was extremely popular with the media. This allowed us to highlight once again the important role of zoos for public education and their impact on the conservation of biological diversity.

**The project is supported by funds from the Federal Ministry of Food and Agriculture (BMEL) based on a decision of the Parliament of the Federal Republic of Germany via the Federal Office for Agriculture and Food (BLE), grant number 2818BM030 and 2818BM031.*

Towards a climate-neutral zoo

THE DIRECTOR OF LANDAU ZOO ASSESSES THE ZOO'S AMBITIONS TO BECOME MORE SUSTAINABLE

Jens-Ove Heckel, Director, Landau Zoo

The ambitious project of making Landau Zoo climate-neutral and sustainable was begun in 2007 as part of the zoo's sustainability strategy. Since then, among many other actions, various measures have been implemented to increase the energy efficiency of different new and old buildings, including the stables. Three photovoltaic systems, with a current that has a potential total yield of about 65kW at its peak, and the connection of several buildings to a local district heating network, which is fed by woodchip-fired co-generation units, are already significantly helping to improve the climate balance of the zoo. Furthermore, the zoo is supplied with 100% green electricity.

We were also able to initiate a number of additional projects thanks to a subset of climate protection measures, which was co-funded by the German Federal Ministry for the Environment, Nature Conservation, Construction and Nuclear Safety, in coordination with the Project Management Jülich (PTJ) – Forschungszentrum Jülich GmbH (FZJ). The implementation of several recommended measures, including a rather expensive improvement of the zoo's main electrical wiring system, some heating units and lighting, are underway and will be supported by a recently planned investment package of around €1.4 million. This will also include the renovation of the roof of the monkey house to provide a suitable platform for the installation of a fourth photovoltaic system.

Information boards along the visitor route inform the zoo's visitors about various activities throughout our zoo and discuss the phenomenon of global warming and the expected or current effects that it has on habitats and wild animal species.

Although we don't yet have a complete environmental management system in place, climate protection, sustainability and species conservation play an important role in our day-to-day business.



INSTALLATION OF THE ZOO'S SECOND PHOTOVOLTAIC SYSTEM ON THE NEW ROOF OF THE HAY BARN © LANDAU ZOO

For example, some years ago the zoo started to feed MSC-certified feed fish to the South American fur seals (*Arctocephalus australis*), and this was continued with the seawater fish that were fed to the Humboldt penguins (*Spheniscus humboldti*) and in small quantities to small-clawed otters or other birds. Print materials such as brochures, leaflets or the zoo guidebook are, whenever possible, printed on recycled or FSC-certified paper and printed according to climate neutral standards. Detergents that are not special disinfectants and which are used in the animal care sector and in the feed kitchen have been switched to palm-oil-free cleaners. On a daily basis the zoo collects and processes suitable but discarded food items such as vegetable, fruit or bread from several local supermarkets to prevent them from being thrown away. Since 2010, the zoo has been collecting discarded mobile phones for professional recycling. The money collected from certified recycling companies benefits the several *in situ* conservation projects initiated or supported by Landau Zoo worldwide. Whenever possible, the zoo always prefers the use of regional and more sustainable building materials for its

constructions, such as local wood and natural stone from quarries in the region instead of artificial (cement) rock. Stables and other buildings are, if possible, wooden and very energy-efficient constructions.

In 2008, new possibilities for additional support of *in situ* species conservation were opened up by an idea developed by the zoo. The basis of the concept is that the limited financial resources for the compensation of carbon emissions should not be used simply to purchase climate certificates. Instead, in cooperation with Landau's public swimming-pool, La Ola, a reforestation and forest protection project in the Philippines is jointly supported.

In 2012, Landau Zoo was the first zoo in Germany to establish a so-called 'Conservation Euro', where a fixed portion of each admission fee paid by zoo visitors is earmarked for climate protection, sustainability measures, species conservation, animal welfare, research and environmental education.

These topics and actions are shared with the public via various informative panels for zoo visitors and emphasised in school education sessions at the zoo and in public guided tours.



BRIDGING THE GAP

© EAZA

IT PROVED TO BE THIRD TIME LUCKY AS THE EAZA ANIMAL WELFARE FORUM FINALLY TOOK PLACE IN THE NETHERLANDS AFTER REPEATED CANCELLATIONS

Sally Binding, Animal Welfare Coordinator, Onnika van Oosterbosch, Animal Welfare Volunteer, Mirko Marseille, Events and Member Services Coordinator, Laura Myers, Academy Manager, EAZA Executive Office; and Thomas Bionda, Zoological Manager, Apenheul

We did it! After two cancellations of EAZA Animal Welfare Forums (AWF) forced on us by COVID-19, we finally made it and it was well worth the wait. The joy of meeting in person was evident as 200 delegates from zoos, aquariums, universities and non-governmental organisations (NGOs), gathered from around the world to meet face-to-face to debate, discuss, listen, learn and immerse themselves in zoo animal welfare. Old friends reconnected and new ones were made. Hosted with expertise, elegance and enthusiasm by the Apenheul Primate Park Foundation in the Netherlands, EAZA's first AWF took place over four days from 30 May to 2 June, with the theme of 'Bridging the Gap - Bringing together animal welfare research and application, to improve evidence-based animal welfare best practice'. With rapid advances in animal welfare research and understanding, the forum promoted the increasing use of science in our animal welfare practices to promote positive animal welfare, and welcomed animal management professionals including zookeepers, veterinarian science specialists, educators and researchers from within and outside the zoo community.

Event hosts and EAZA Member Apenheul welcomed us into their world-class park and conference facilities, and showcased animal welfare in practice. The sustainably built conference centre – CO₂ neutral The St@art, with recycled jeans and car tyres underfoot – overlooks the beautiful Berg en Bos park and is within the grounds of Apenheul, where primates roam free above visitors' heads.

2022 EAZA ANIMAL WELFARE FORUM – IN NUMBERS

DELEGATES: 190 • SPEAKERS: 60
 PLENARIES: 10 • PRESENTATIONS: 35
 WORKSHOPS & DEMONSTRATIONS: 10
 POSTER PRESENTATIONS: 16
 EAZA MEMBER INSTITUTIONS REPRESENTED: 62
 EAZA/NON-EAZA INSTITUTIONS: 113/77
 COUNTRIES REPRESENTED: 31

Plenaries, workshops, presentations, posters and demonstrations were interlaced throughout the programme, many running simultaneously but repeated, offering delegates two opportunities to attend each session (see box, right, for a sample of what was on offer). Delegates selected their chosen sessions in advance and each was handed a tailor-made personalised programme on arrival. Topics were vast and varied and, in keeping with the theme of 'Bridging the Gap' and supporting EAZA's ongoing collaborations, included speakers from academia, zoos and aquariums (both EAZA Members and non-members), independent consultants, NGOs and more, thus bridging the gaps across a range of animal management-related fields, between research and application, between EAZA Members and non-members and between zoological associations. The EAZA Animal Welfare Working Group was instrumental in its contribution to the programme, delivering 20 plenaries, presentations and workshops across the three days; it will also be leading on a *Journal of Zoo and Aquarium Research* Proceedings Special Edition to be published in 2023.

The packed programme called for long days, but lengthy breaks – enhanced by a constant flow of fantastic food and drinks from the Apenheul catering team (including great coffee from Apenheul's own ecological coffee project in Peru) – meant that delegates had time to reconnect, recharge and explore their beautiful surroundings before the gong was sounded for the next session. The event sponsor, EAZA Corporate Member Kiezebrink – Focus on Food, was also on hand throughout with an interesting display of animal food samples and information.

FORUMS AND WORKSHOPS

Alongside Kiezebrink, the World Association of Zoo and Aquariums (WAZA) sponsored the forum by hosting the WAZA Session, which focused on welfare within human-animal interactions (HAIs). Introductory presentations led into a panel discussion, facilitated by Paula Cerdán Codina (WAZA), with panellists Willem Manansang (Taman Safari),

Samantha J. Chiew (University of Melbourne), Jason Watters (San Francisco Zoological Society), Nicola Craddock (Zoo and Aquarium Association Australasia), Caterina Spiezio (Parco Natura Viva) and Thomas Bionda (Apenheul), who discussed current research and directions in welfare and HAIs. The 'microphone cube' was thrown around the audience to sound out the delegates' perspectives, science and ideas for moving forward in HAIs in zoos and aquariums and to discuss how HAIs can benefit animal welfare alongside visitor experience.

Delegates also had an opportunity to attend an EAZA Academy one-day workshop before the forum. The workshop, 'Enriching Enrichment: Bridging the gap between occupational enrichment and species-specific ecology-based enrichment' – was designed and delivered by Lisette van den Berg and Thomas Bionda (both from Apenheul) and was attended by 28 people, who practised problem-solving processes for understanding animals' ecological needs and designing enrichment to provide opportunities for these behaviours to be expressed. Eighty-four per cent of workshop participants 'Agreed/Strongly Agreed' that their knowledge had increased, 89% 'Agreed/Strongly Agreed' that their confidence had increased, and 95% 'Agreed/Strongly Agreed' that they would recommend the workshop to others. As one workshop participant explained: 'I found the course to be well thought through and the topics were relevant. The talks were perfectly timed and I think it was very clever to include keepers as well. I enjoyed going out and assessing the enrichment need of a certain species and then figuring out an enrichment item for them.'

After the forum, 60 delegates boarded a coach, kindly provided by Apenheul, and were welcomed by Foundation AAP (Animal Advocacy and Protection in Almere), to learn more about their work and view their facilities, before bravely facing the airport chaos for an unpredictable journey home!

CONFERENCE FEEDBACK

Of delegates who completed the AWF22 Evaluation Survey, the percentage of people who responded 'Agreed/Strongly Agreed' to the following statements were:

- 99% - The forum was useful
- 98% - The plenaries were good quality
- 91% - The workshops and demonstrations were informative
- 97% - The posters were good quality
- 96% - The breakout sessions were informative

Typical feedback from delegates included comments such as: 'I enjoyed the mix between interactive workshops and presentations where you could just listen and ask questions. It kept the (long) days interesting. Very different from other conferences which I visited in the past.'

Constructive feedback and ideas for AWF24 were welcomed and delegates did not disappoint. Comments and suggestions included requests for more species-specific workshops, longer workshops so that participants could explore the topics more and allow for more practical and group work, small group activities and tea break discussion cards/activities around the tables to facilitate networking, optional specialist keeper talks during breaks within the host park, and social events in the evenings during the week, not just at the beginning and end.

EAZA, the EAZA Animal Welfare Working Group and the AWF22 Organising Team would like to extend a huge thank you to Apenheul Primate Park Foundation for their flawless hosting of the forum, the speakers and delegates for sharing their time and expertise with us, the sponsors Kiezebrink – Focus on Food and WAZA for making it possible, Foundation AAP for welcoming delegates to their centre, and Fidato for their seamless computer technology coordination.

Bring on EAZA Animal Welfare Forum 2024!



ACADEMY WORKSHOP

A PACKED PROGRAMME

Here is just a taste of the many sessions and activities on offer at the 2022 EAZA Animal Welfare Forum.

Plenary presentations included:

- *Shifting from reactive animal welfare to proactive animal welfare* (Claudia Tay, Singapore Zoo/Mandai Wildlife Group)
- *Bridging the gap* (Daniel Simmonds, Zoological Society of London)
- *Evidence-based animal welfare assessments: Putting science into practice* (Xavier Manteca Vilanova, Autonomous University of Barcelona)

Workshops and demonstrations included:

- *Thermal imaging* (Helena Telkänranta, Arador Innovations)
- *Pain – why does it matter and what can we do about it?* (Heather Bacon and Monica Bando, University of Central Lancashire Veterinary School)
- *Half full or half empty? Using cognitive bias as a welfare tool* (Marieke Cassia Gartner, Zoo Atlanta & Isabella Clegg, Animal Welfare Expertise)

Presentations included:

- *'It's not always who's who in the zoo!'- How keepers at Jerusalem Zoo have learned to utilise external connections in the non-animal community to increase animal welfare* (Elly Neumann and Benjamin Fainsod, Jerusalem Zoo)
- *Behavioural indicators of reptile welfare gleaned from studies of major life events* (Jennifer Hamilton, Detroit Zoological Society)
- *Animal welfare application developed by Sóstó Zoo* (Csaba Harsányi, Sóstó Zoo)

Poster presentations included:

- *Effects of environmental enrichment in captive Plains zebra (Equus quagga): Ethological and physiological parameters* (Andrea Zacchi, Giovanna Marliani, Pier Attilio Accorsi, Francesca Bandoli, University of Bologna, Valcorba Zoo)
- *Smothered by others: Assessments of biological hotspots and species excluded areas in mixed-species zoo enclosure, containing Indian rhinoceros, nilgai, Indian hog deer and Visayan warty pig* (Kimby Pullens, University of Basel)

Four tips on how to offer a better experience to your visitors with the right partner

Managing your pricing strategy and your ticketing solution and finding funds while educating your visitors and keeping track of what people say about you online... Sounds almost like mission impossible. Let's face it, managing an attraction from A to Z is not an easy task. What if we told you there is an easy way to handle all of these things (and more) from one single place?

Convios is an all-in-one attraction management platform designed specifically for leisure operators. From ticketing, crowd-control, mobile ordering and e-reputation management to donations and adoptions... The possibilities are huge!

You know it, your visitors LOVE the thrill of discoveries. But certainly not while they're buying their tickets online. This is where their journey begins. So you should make sure that their online experience is as good as the one in your zoo or aquarium.

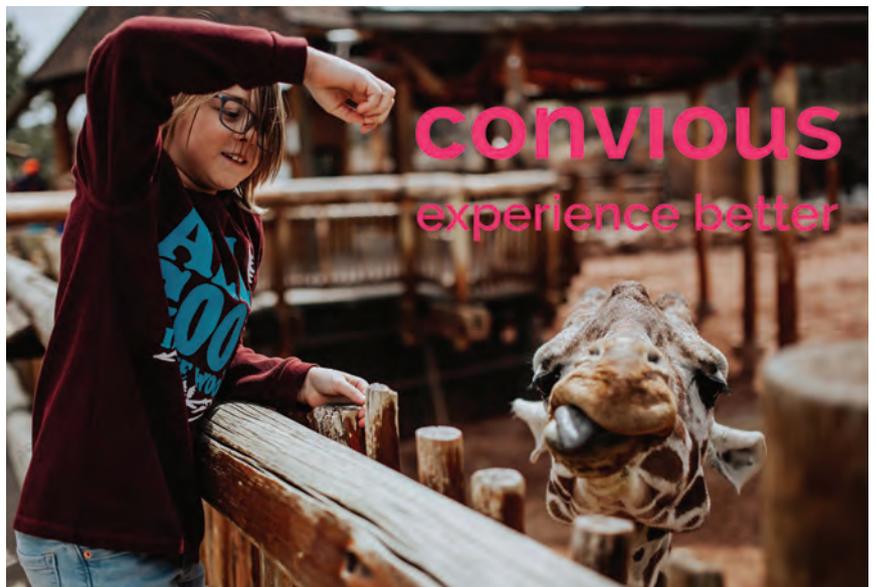
But how exactly? Good thing you asked!

1- REDUCING PAPER WASTE

Your mission as zoos and aquariums goes far beyond the exhibition of animals. You connect people to nature. You have an important role to play in protecting wildlife, which starts by educating and inspiring your visitors and leading by example. In that sense, reducing your waste level is crucial, for the planet and because it is important to your visitors. There are a few simple things you can already save on. By digitising your operations, you can save on printing tickets and season passes, maps and receipts. Everything can be processed through the Convios platform and the mobile application.

2 - REDUCING FOOD WASTE

Being environmentally friendly has become a must for any leisure operator. The rise in demand for sustainable goods and services has exponentially increased. It is one of the main things your visitors will notice when visiting your zoo or aquarium. Reducing paper waste is



a start, but you can go even further! By enabling Mobile Food Ordering in your attraction, you get a better overview of the quantity that will be needed for the day when placing your order. You also optimise your resources by planning and organising the staff's time and effort, all the while making sure you are producing what's needed and not too much.

3- BEING CLOSE TO YOUR VISITORS

One thing you probably already know is that staying in touch with your visitors is key to increasing loyalty and making sure they come back. You can do that by inspiring them and educating them onsite, but also before and after their visit. Through personalised marketing, for instance. Promoting your engagement for the environment? Check! Allowing them to read more about endangered species in just a click? Check! The Convios platform enables you to build fully personalised marketing campaigns through emails, ads, engagement tools and so much more. Convios accompanies you the whole way, from the concept through the execution of the campaign.

4- INCENTIVISING DONATIONS & ADOPTIONS

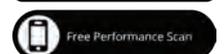
Donations are essential to make your zoo's or aquarium's efforts sustainable. They're also a good opportunity

to educate your visitors and allow them to take part in your actions. Yet it's not always easy to collect them, maybe because of the lack of visibility or transparency, or the difficulty of processing them. With Convios' conversion-driven solution, your visitors can donate easily in just a click during their checkout process. You can highlight donations and adoptions on your website and give them more information on your engagements. Zoos who have been partnering with Convios have already received more than €120,000 in donations in less than two years.

WANT TO KNOW HOW YOUR ZOO OR AQUARIUM'S ONLINE SYSTEM IS DOING?

If you would like to know more about what you can do to improve your day to day, or if you want to know how your zoo or aquarium is currently doing, you can contact Convios who will do a free performance scan of your online activities for you.

Want to know more about the free performance scans? Scan the QR Code!



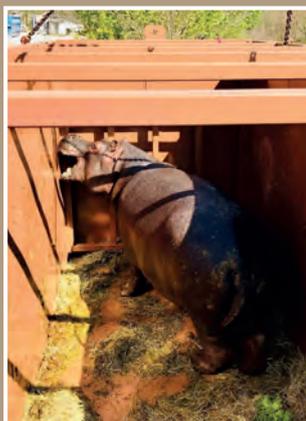
siane

INTERNATIONAL ANIMALS TRANSPORTS



SIANE is a French company specialized in the transportation of wild animal species including large herbivores like hippos, rhinos and elephants.

With over 10 years of experience, the company aims for the highest animal welfare during transports and complies to all required health and safety regulations in the different regions. Siane offers adapted transport solutions like crates, trucks and trailers, equipped with video surveillance and air-conditioning.



Elegant enclosures with Webnet

A natural home for animals. Made of weather-resistant stainless steel mesh that replaces traditional cages with transparency and creative design. The robust Webnet enables the realization of tailor-made solutions. Jakob Rope Systems supplies materials and know-how to realize functional and architecturally sophisticated animal enclosures.