



SAVING SPECIES  
TOGETHER WITH YOU



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WHAT IS FAZA?



**Grant's zebra**  
*Equus quagga boehmi*

 © Opel-Zoo

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# 1

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## WHAT IS EAZA?

In the last decades, and more gradually over the centuries before, humankind has been developing its technologies and societies to dominate the planet and improve our lives. This development has made life significantly easier and more rewarding for many of us, but it has come at a devastating cost to the other species with whom we share the space.

The latest estimate of this cost is that animal species are going extinct a thousand times quicker than would be the case if humans were not so successful at shaping their environment – a success that if it continues will surely end the existence of not only many of our most iconic and beloved species, but also the lesser known species that shape their ecosystems and allow human life to continue. With the many pressures that the world's authorities face to continue to improve the lives of their citizens, the long view that will help us reverse the tide of destruction is not always present in government or among the people that it represents. Plainly, we need to increase people's understanding of the relationship between our ways of living and their effects on the long-term future of the planet; but it's also evident that we need to protect animal and plant species until we come to our collective senses and learn to live more sustainably. We also need to know more about how to do better in education and conservation through scientific research, and we need to manage insurance populations of animals so that whatever the short-term pressures, the possibility remains to save their species and rebuild their wild populations.

There is therefore an urgent need for education about nature and sustainability, intervention in policymaking to ensure that nature is part of the political conversation, conservation both in the field and remote from it, and scientific inquiry to make our efforts count more. All of these functions are, uniquely, to be found in specialist institutions across Europe, Western Asia and beyond. These institutions are accredited zoos and aquariums, and in our region, they are represented and coordinated by the European Association of Zoos and Aquaria (EAZA).

EAZA's activities pool the resources of over 400 Members to make zoos and aquariums active and effective centres of excellence. Our Members work together as the only dedicated network of such institutions in the region, and since our foundation in 1992 we have developed a suite of scientifically based methods that allow zoos and aquariums to play a central role in the conservation of species, while also increasing public understanding of the webs of life and the role we all need to play in protecting our living planet.

Run from an Executive Office in Amsterdam and with experts working at all of the zoos and aquariums in our network, EAZA designed and administers a state of the art system of species-specific *ex situ* conservation programmes; monitors and works to improve the care and welfare of animals in our institutions; collaborates on educational resources and approaches to increase the effective spread of biodiversity and sustainability knowledge; engages with governments and other partners at all levels to ensure that the voice of nature is heard, recognized and cherished; helps non-Member zoos and aquariums to find their own place and increase their effectiveness as conservationists and educators; encourage and guide scientific research across and between disciplines; and ensures that every Member is working at the same high level through a suite of guiding documents backed by a robust peer review system.

In short, EAZA Members have created a vibrant community of zoos and aquariums that are recognized by partners as diverse as the United Nations Convention on Biological Diversity, the Pontifical Academy of Sciences, the European Commission, the Species Survival Commission of the International Union for the Conservation of Nature and many others as specialists in species conservation and public engagement.

EAZA Members act as the interface between communities across Europe and Western Asia and the natural world both locally and on the other side of the world. We make it possible for people to experience the thrill of seeing wild animals and then act to protect them. Our Members and accredited zoos and aquariums across the world have saved numerous species that would otherwise have gone extinct and are working to protect many others, either directly through *ex situ* conservation and support for *in situ* conservation, or indirectly through education, research or representation. We care for animal species both familiar and obscure, large and small, terrestrial, airborne or aquatic through Best Practice Guidelines informed by animal welfare science, and share our passion for all of them as widely as we can, both in person and via the latest communications technologies. We reintroduce animals back into habitats that we know can support them, and many of our Members work to restore habitats that currently cannot. We employ thousands of highly qualified professionals working across an extraordinary range of disciplines and areas of expertise, and we bring significant economic advantages to our communities along the way.

The commitment of the founders of EAZA in 1992 was to work together to ensure that zoos and aquariums make a truly valuable contribution to nature and their communities. This is a mission that evolves with the state of our knowledge, and we are committed to a process of continual development across every area of zoo and aquarium operations. Our communities and our planet need the skills and passion that we gather in our institutions and across our network. We are EAZA, and this book is aimed at introducing the main aspects of our work so that you the reader can also be involved in our mission. Welcome to the largest regional zoo and aquarium association in the world: welcome to an established network of progressive zoos and aquariums saving species together with you.



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POPULATION MANAGEMENT



**Bornean orangutan**  
*Pongo pygmaeus*

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# 2

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## POPULATION MANAGEMENT

At the centre of the mission of progressive zoos and aquariums is the ability to maintain healthy populations of healthy animals over the long term and provide conditions for good welfare. Effective population management requires a holistic approach combining a wide range of professional and scientific disciplines with the aim of maximizing our ability to contribute to the long-term survival of species.

These disciplines cover ground including everything from the molecular level to the analysis of herd behaviours, and involve zookeepers, curators, population biologists, veterinarians, and many others. Since EAZA established the European system for population management in 1985, zoos and aquariums have also learned how to do it better, and how to let it shape other parts of the mission such as conservation, education and research. We set the pace for European population management, and any zoo or aquarium that aims to contribute fully to species conservation needs to be involved in our programmes – there is no other system that comes close to the effectiveness of our methods.

The core “unit” of population management at its most developed in Europe is the EEP or EAZA Ex Situ Programme. By the end of 2030, EAZA will have an EEP programme in place for over 400 species of animal; each of these programmes will have roles to play in helping meet the needs of the species as identified by experts from across the conservation community. EAZA may set up an EEP if wild populations are in serious decline, but it may equally set up an EEP to show the public that animals may be far more interesting and ecologically useful than their portrayal in our various cultures – and therefore worthy of mankind’s protection. The key aspect is that thoughtful consideration is given to which species should be included and why, so that EAZA Members can use their collective expertise in concert and increase the chances of a positive outcome for the animal and its ecosystem.

EEPs are run by EEP Coordinators with the support of Species Committees; groups of people with particular expertise and interest in the species. There will usually be a veterinarian in the group, often an educational advisor, and sometimes advisors for transport of animals or liaison with conservation groups in range states. They are responsible for knowledge of the EAZA population of

the species, at both a macro and micro level – meaning that they understand the role of each animal and how it is best able to contribute to the population and the goals of the programme. With this knowledge, they make recommendations about housing and care, pairing of breeding animals, movement of animals to meet population needs, and where appropriate, for the selection of animals for reintroduction or translocation. These recommendations are made to ensure that the population remains as diverse a collection of individuals as possible, especially from a genetic point of view. EEP Coordinators use specialist software to measure the average degree of relatedness of all the animals in a population (the Mean Kinship or MK) and use it to decide how to maintain the widest possible range of genetic diversity over the long term. Depending on the starting composition of an EEP, this should mean that the population in human care is sustainable indefinitely and should not require the introduction of new animals from outside, especially from wild habitats.

Within the context of the roles of EEPs, the goals of the programmes are as diverse as the species themselves. They may show a need for an increase, a decrease or no change in the numbers of animals in EAZA zoos and aquariums. They may also show a need for the breeding of animals that can contribute genetic diversity to a wild population that no longer has it. They will reflect breeding cycles and gestation periods that can vary from a few days to well over a year, and they need to have a clear view of the long-term future of the species in our zoos and aquariums and in the wider world. These roles and goals are set through a system administered by the Taxon Advisory Groups (TAG), committees with particular expertise in groups of species such as cats (the Felid TAG), or songbirds (Passeriformes TAG).

## PRESERVING THE SAOLA

One such programme is currently being established for the saola, a species of small wild cattle found only in the Annamite mountains of Vietnam and Laos. Discovered in 1992, and observed just a handful of times since then, the species is Red Listed as Critically Endangered, with no clear picture of how many animals remain. Hunted and trapped until recently, the species is also separated into small pockets of population with each becoming progressively smaller and less genetically diverse over time. The EAZA Cattle and Camelid TAG included saola in their RCP (for more on RCPs see page 11) as they felt that zoo population management skills may be the key to saving the species. Working with the IUCN Species Survival Commission's Asian Wild Cattle Specialist Group, the TAG aims to restore a population of saola through the application of population management at a breeding facility constructed by the Vietnamese government in the Annamites. It's a species that is unlikely ever to be seen in a zoo – but our skills could be key to ensuring a future for this “Asian unicorn”.



Saola

## THE STORY OF THE STRIPED HYENA: HOW EDUCATION CAN SUPPORT CONSERVATION



Far away from the Annamites in a huge range from India to Africa, the striped hyena is faced with a far less immediate threat of extinction than the saola. It does however have a terrible reputation with people both within its range and in Europe – a reputation that is ill-founded and often based on negative portrayals in popular films and traditional folklore. With such a reputation and with habitats everywhere in its range being degraded, the future for the species does not look good. The RCP for the Canid and Hyaenid TAG identified a clear role for zoos in turning this perception around: zoos are some of the most effective providers of education about animals and their habits, and education is the key to persuading people of the ecological value of striped hyena. Over the next few years, the EEP for the species will work to demonstrate the highly developed social lives of hyena, their role in clearing disease-bearing carrion from the landscape, and the balancing role they play in their habitat (for example, hyena packs can drive predators away from killed prey and force them to hunt again, ensuring that prey species are kept at levels appropriate to the habitat).

**Striped hyena**  
*Hyaena hyaena*

© Alam Shamshad

The goals of each programme are set out in a document called the Long-Term Management Plan (LTMP). The LTMP looks at what needs to happen for the EEP to fulfill its role over the next five to ten years and sets specific targets to ensure that it does. It includes thorough analysis of the population as it stands, assessment of the species as a whole as it appears in the IUCN Red List, populations in North America and other regions and so on, to help work out the best and most relevant goals for the programme. The LTMP follows on from a more general look at all the species within the TAG's competence, a document called the Regional Collection Plan (RCP).

The RCP sets out how zoos and aquariums can help a species that is in our care, or even, exceptionally, species that are not in our institutions. The RCP is produced following meetings which include conservationists from outside the zoo community, biologists with species expertise, EEP managers and other stakeholders. Working from a base of transparency and honesty, these scientists, conservationists and other professionals will look at which species are currently in zoos, and whether their populations are currently sustainable; they will look at the current situation of wild populations and forecast how it will change over the coming years; and they will look at whether the work of zoos can make a difference to that species.

If the group identifies that an EAZA population is in decline and that there is no real conservation or other benefit to the species from being kept in our institutions, the recommendation of the RCP may well be to phase that species out and concentrate on others where the zoo contribution is clearer. On the other hand, where there is a clear role for population management and *ex situ* conservation, a new EEP may be established. Key to this decision-making process is scientific input and the thorough understanding by everyone present of the potential of population management, not just in breeding new generations of animals, but also as a basis for educating the public at home and abroad, researching the species to help conservation efforts in range states, and so on.

From RCP to LTMP to EEP, the process of ensuring a sustainable future for all kind of species ensures that EAZA Members are making the most of their facilities and helping integrated conservation efforts in diverse ways. Population management will continue to evolve and provide valuable and unique contributions to the survival of species both in zoos and aquariums and in the wider world – and eventually to their recovery.



In 2019, three EAZA zoos reintroduced five black rhino (*Diceros bicornis*) to the Akagera National Park in Rwanda

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# 3

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## CONSERVATION

EAZA Members and accredited zoos and aquariums more widely form an important part of the international conservation community. There are many global conservation problems such as the climate emergency, habitat loss, and the unsustainable use of the planet's resources. Accredited zoos and aquariums use their expertise to work towards the protection and recovery of some of the species affected by these issues.

The diversity of life on earth (biodiversity) is one of the most important factors in maintaining a healthy world, with each native species of animal or plant playing a role in shaping and protecting the environment; and because each species is important, it is vital that we protect and conserve as many as we can. EAZA zoos and aquariums work to protect and conserve animal species both in the places where they evolved, and in zoos and aquariums.

From predators to pollinators, many animal species are at an increasing risk of extinction due to the activities of human societies. Some may be hunted for their meat or skin, some may have value in the live animal trade, and some may just be in the way of agricultural, urban, or infrastructure development. Species conservation aims to turn around the fortunes of these species through targeted interventions that address the cause of the threat as well as the symptoms.

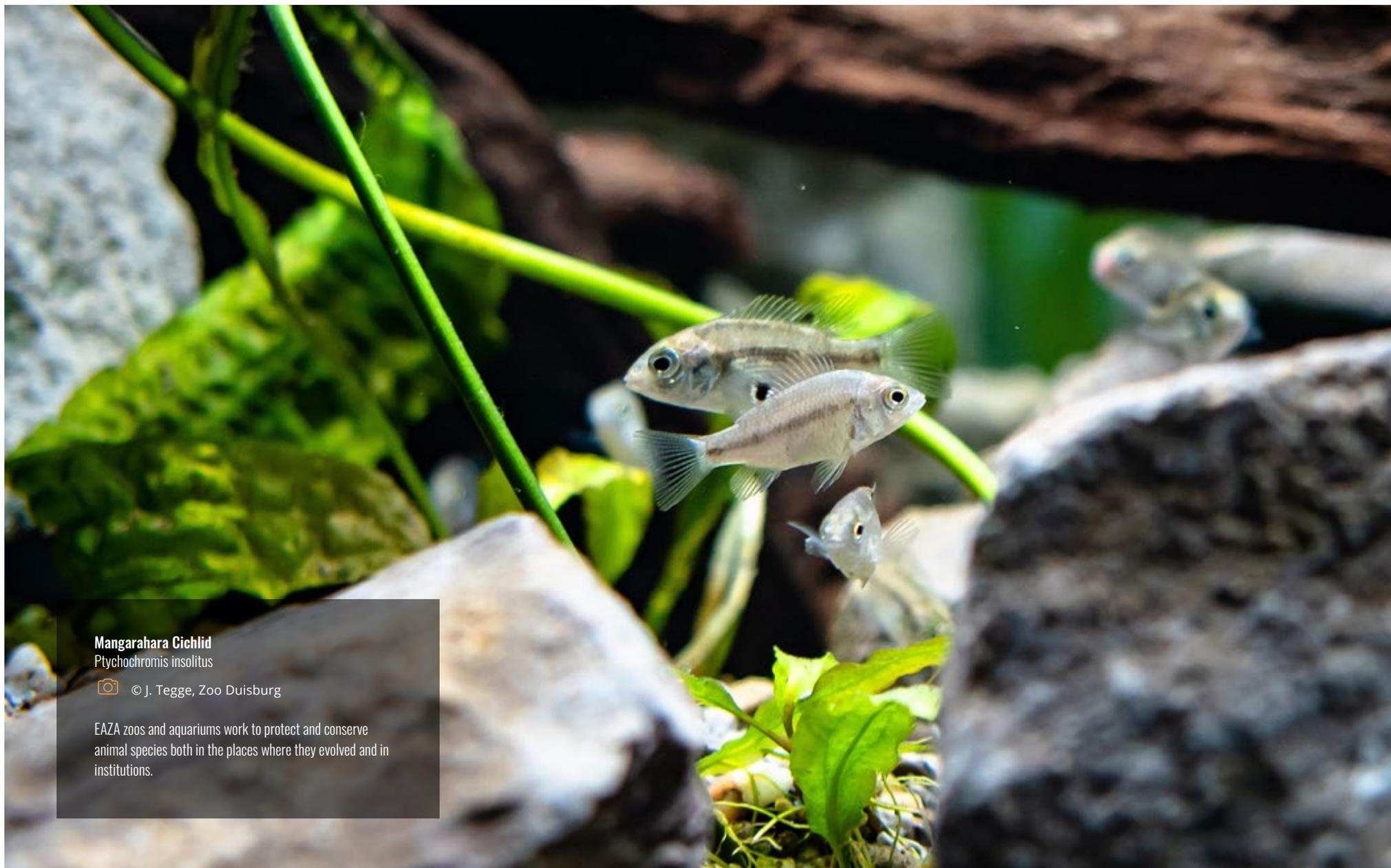
People are usually not trying to eradicate a species on purpose. In many cases, a combination of measures carried out *in situ* (i.e. in the original habitat) can help slow or stop the decline in numbers of an animal species. Conservationists will work with local communities to find ways for them to live with animals sustainably and without confrontation, while removing threats such as traps and wrongly introduced alien invasive species. This work needs money and knowledgeable people to do it, and zoos and aquariums can help with both.

EAZA zoos and aquariums can raise money for *in situ* conservation through the sales of tickets and through donations from citizens and other benefactors. The worldwide zoo community is usually understood to be the third largest contributor to conservation, and funds provided by EAZA Members alone reach tens of millions

of Euros every year. While these funds are not enough on their own to fund every worthy project, good strategic planning and campaigning can help make a difference to some of the most threatened species and have an effect on other species living within the same environment. A professional, high-performing zoo or aquarium is the basis for effective fundraising for conservation, making the links between the animals we see and the animals they represent.

The expertise of zoo and aquarium staff is also very valuable to *in situ* conservation projects. They can help manage small wild populations of animals, carry out scientifically endorsed reintroduction projects, help educate communities about the species and train local people in conservation, and provide a whole range of other services that can make a huge difference to the survival of a species. EAZA Members provide tens of thousands of hours of staff time every year to allow their experts to work on the ground in range states and provide support wherever it is needed, either close to home or on the other side of the world.

Conservation in the original habitat of animals is only part of the story, however. For some species, more protection and intervention is needed, and in many cases this is provided through *ex situ* conservation carried out away from their original habitat and often in zoos and aquariums. There are four main areas where *ex situ* conservation can make a material difference to the survival of a species.



**Mangarahara Cichlid**  
*Ptychochromis insolitus*

© J. Tegge, Zoo Duisburg

EAZA zoos and aquariums work to protect and conserve animal species both in the places where they evolved and in institutions.

Firstly, *ex situ* conservation can help address the primary cause of a threat such as disease by providing a safe haven where the species can be studied, and designing measures for its protection. For example, the global collapse in amphibian species due to the spread of the Chytrid fungus in recent years has led zoos to build biosecure facilities for the breeding of endangered frogs and to research the characteristics that allow some animals to survive infection.

Secondly, *ex situ* conservation can help offset the effects of some threats by, for example, intentionally breeding animals to promote genetic traits that may be being lost in the small and isolated wild populations *in situ*. For example, zoo populations of Mauritian pink pigeon have been able to restore genes to a wild population that had become dangerously isolated and lacking in diversity.



The small size of a wild population may also cause other problems that need to be overcome: the same population of pink pigeons was increased through removing eggs for fostering by other species, which allowed the pigeons to breed again earlier than would otherwise be possible.

Thirdly, for some species, the situation in their usual habitat is so terrible that there is little hope over the short term of their survival. *Ex situ* conservation by zoos and aquariums can help buy time for the species and allow the processes that will allow them to survive in the wild (such as habitat restoration) to take place. Tens of species listed as Extinct in the Wild such as European bison, Arabian oryx, Partula snails and Mauritian pink pigeon would not exist today without scientifically driven *ex situ* conservation by accredited zoos and aquariums working together.

Lastly, *ex situ* conservation can help provide animals for the restoration of wild populations. If the conditions for the survival of the species in the wild exist, and if there is a need to add animals to a wild population or completely restart a wild population, zoos and aquariums might be able to provide healthy and well-prepared animals. Reintroduction of animals is a complex and difficult task, often taking decades, and the long-term involvement of zoos and aquariums can be essential for its success. Key to that role is the long-term professional management of populations of animals for genetic and demographic diversity, a central task of the modern progressive zoo or aquarium.

**Baer's pochard**  
*Aythya baeri*

© Phoebe Vaughn

In summary then, wherever an animal species can be helped through the use of expert scientific knowledge and solid practical experience, EAZA Members are active in providing the resources it needs to survive over the short, medium and long terms. EAZA and its colleague organisations for accredited zoo and aquariums across the world together form a network that is unique in its abilities to carry out species conservation both at home and abroad and to enlist the help of the citizens in doing so. Our Members and programmes also work closely with conservation organisations all over the world to ensure that our efforts are coordinated, and that *ex situ* and *in situ* populations work together to save their species.



*Partula affinis* are one of the species of critically endangered snails EAZA Members are reintroducing to Polynesia.

© Paul Pearce Kelly

## CASE STUDY

## SILENT FOREST CONSERVATION

An incredible example of EAZA's capacity for international partnerships working toward conservation is the EAZA Silent Forest Campaign. Every two years EAZA creates a community-wide conservation campaign centered around a conservation issue to raise awareness, funds, partnerships, and frameworks for future action.

In 2015, members of the EAZA Songbird Taxon Advisory Group helped to organize the first Songbird Crisis Summit held in Singapore. This meeting of bird-focused zoo professionals, conservationists and researchers pushed the working group to approach the EAZA Conservation Committee with an innovative conservation campaign idea around the Asian songbird crisis. The Silent Forest Campaign would bring EAZA together with important conservation partners like TRAFFIC, BirdLife International and the recently formed IUCN Asian Songbird Trade Specialist Group to raise awareness and funds for conservation organizations fighting the illegal and unsustainable trade of songbirds.

The campaign launched at the EAZA Annual Conference in 2017, with the aim of improving the situation of Asian songbirds in their natural habitat; it also aimed to increase knowledge and understanding of threats and how zoos can contribute to saving the species. EAZA bird specialists worked with experienced zoo educators to set ambitious goals around outreach and engagement that would encourage visitors. Ambitious targets for participation and fundraising were set and conservation programmes preselected.

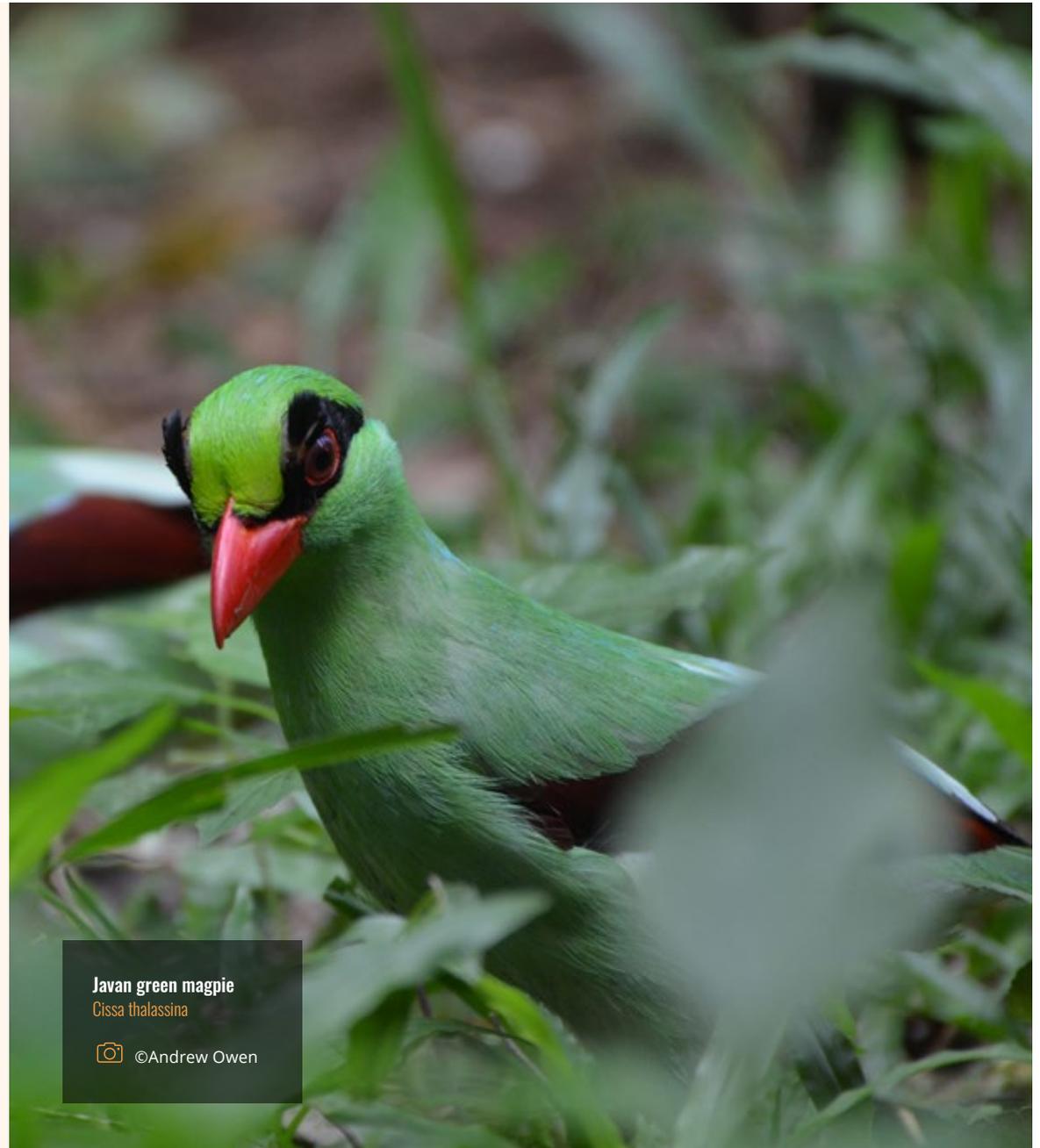
Zoos and aquariums began creating incredibly creative exhibits to inform their public about the songbird crisis, and how they as European visitors could help songbird populations both in Asia and in their own backyards. These exhibits were intended to be temporary, but their success has led to many of them remaining as permanent educational displays. Themed songbird days, special fundraising activities like fun runs and even special Silent Forest Campaign branded merchandise sold in zoo shops all over Europe continue to raise funds for specially selected conservation programmes. The funding target was exceeded by a large margin and will continue to provide direct conservation funding for years to come.

One of the key points of the campaign was to not only raise awareness around the songbird trade in Asia but also in Europe's role in perpetuating this destructive trade. In conjunction with the Campaign partners, EAZA produced the EAZA Position Statement on Songbird Trade. Created on behalf of EAZA Members, it encourages greater enforcement of existing bans on songbird imports in the EU and offers EAZA specialists to assist national authorities to improve their knowledge to better implement these bans.

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In addition, EAZA supported the further closing of loopholes around zoos to import animals, requiring clear conservation benefit to be required for such imports.

The wide scope of the campaign was made possible by the strength and diversity of the EAZA community and its drive for action to save animals in crisis. The partnerships established during the campaign continue to bear fruit with closer international working relationships, greater stakeholder and public awareness, and a stronger focus on the songbird crisis at EU level. The Silent Forest Campaign shows the level of commitment our members have to conservation, and their dedication to working as a community to solve the extinction crisis.



**Javan green magpie**  
*Cissa thalassina*

©Andrew Owen

4

ANIMAL HEALTH  
AND WELFARE



Examining the dental health of a **river hippopotamus** (*Hippopotamus amphibius*) at Copenhagen zoo

© Copenhagen Zoo

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# 4

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## ANIMAL HEALTH AND WELFARE

One of the greatest responsibilities for EAZA zoos and aquariums is the health and wellbeing of the animals in their care. Our mission, to support conservation of species, both in the field and in our institutions, to educate the public about biodiversity, and to conduct scientific research to allow us to understand more about species and conservation, would be greatly compromised without healthy animals living in conditions that meet their needs to the best of our ability. Keeping animals in the best of health and in the best conditions requires input from many people and disciplines.

The daily care of the animals is provided primarily by qualified zookeepers or aquarium care staff. If an animal is unwell, often it is the keeping staff who will be the first to notice and take appropriate action and inform veterinarians and other relevant people within the institution. Keepers are usually responsible for particular species groups at the zoo or aquarium, and so combine expertise in the husbandry of those animals with experience of observing them over the long term. They will be able to report on how animals react to new foods, new animals, changes to their enclosures and so on, and give a full picture to the curator, the veterinarian and other managers at the zoo or aquarium. Keepers may also be involved in operant conditioning for husbandry behaviours: this is exceptionally important when veterinarians need to take blood samples or treat an illness. Training also allows an animal to develop positive relationships with keepers through building trust via positive reinforcement for daily activities such as shifting, feeding, participating in educational talks and mental stimulation. Keepers maintain the animals' environment, ensuring that the enclosures are hygienic, constructed and furnished to encourage a broad range of natural behaviours, and free from other elements that could pose a risk to the health or wellbeing of the animals. In short, keepers are indispensable to the health and wellbeing of the animals in our community.

EAZA Members also employ and consult with veterinarians to provide preventative health care, health screening and treatment for illnesses among the animals held by the institution. Vets consult with keepers on their rounds, and design and carry out a schedule of vaccination and examinations to ensure animals stay healthy. Where illness or injury does occur, zoo and wildlife veterinarians have the experience, knowledge and equipment to make the best possible intervention for the welfare and long-term care of the animal. EAZA maintains a Veterinary Committee to help with the exchange of knowledge and

works closely with the European Association of Zoo and Wildlife Veterinarians (EAZWV). Together EAZA and EAZWV produce a number of guiding documents. These include the EAZA funded Journal of Zoo and Wildlife Medicine where evidence based medical research and guidance is published for the benefit of the community. The Associations also work to ensure that best practice is followed across the membership in the treatment of animals. Monitoring of the trends in animal health also falls under the mandate of the Veterinary Committee. EAZA veterinarians also contribute to the field of conservation medicine as their work in zoos and aquariums helps to inform an understanding of health in populations living in nature.

Animal health and welfare is not solely restricted to the physical domain; the mental or psychological wellbeing of an animal is also extremely important and can influence physical health too. Indeed, zoo animal welfare science aims to help people caring for animals to meet their mental needs through the fulfilment of physical or functional needs such as behaviour, environment, and nutrition. EAZA's Animal Welfare Working Group is responsible for the promotion of best practice in animal welfare science at our Member institutions, and holds an Animal Welfare Forum every two years, with the aim of bringing scientists and animal care professionals together to discuss ways of meeting the needs of our animals and keeping them healthy and fulfilled. Much of the knowledge about a species and its care in zoos or aquariums is set out in the Best Practice Guidelines produced by the Taxon Advisory Groups, which act as a comprehensive guide for everyone involved in animal care, from keepers to directors, and which can even help inform the planning of EEP population management programmes to meet their roles and goals.

At an EAZA zoo or aquarium therefore, the visitor should expect to see animals in suitable enclosures, as described by the EAZA Standards for the Accommodation and

Care of Animals in Zoos and Aquaria. Animals should have the opportunity to behave as closely as possible to their wild counterparts – foraging for food, climbing, exploring, establishing their place in the social group, mating, nurturing young, and so on. They should be fed appropriately, with some carnivores going for longer periods without food to replicate their wild feeding behaviours, and may have to jump, chase or otherwise make the effort to ‘hunt’ rather than just being given the meat they need. For foraging species, hiding food can make feeding unpredictable and help recreate the experience that their wild cousins will have. The aim is not to provide an animal with everything it needs at every moment, which would not reflect life’s ebb and flow with times of challenge or times of ease or moments of excitement followed by moments of quiet. Welfare as practiced at EAZA zoos and aquariums aims to make the overall balance positive by including experiences of all kinds where animals have appropriate choice, control, challenge and opportunity (while of course ensuring that the animal is free from pain and suffering either physically or psychologically). It’s a practice that needs everyone at the zoo or aquarium to do their part and to be trained fully and imaginatively in all the disciplines that together make up the positive welfare of animals across our network.

In addition to the Animal Welfare Working Group, EAZA also consults more widely with stakeholders as diverse as travel conglomerates and national governments to ensure an evidence-based approach to the health and wellbeing of animals in human care. This includes work on the humane management of Invasive Alien Species in European Union Member States, accommodation and husbandry aspects of zoo licensing and so on. On top of this, welfare science researchers study zoo and aquarium animals and push the discipline forward in ways that also benefit animals far from the institutions, meaning that our Members contribute materially to the advancement of human care of animals more widely too.



At every level of zoo and aquarium management, animal health, care and welfare remains a core focus of our institutions and their teams. By excelling in this field, EAZA Members ensure better conservation outcomes and a level of public confidence that is essential for the long-term future of *ex situ* conservation, education and research facilities. Knowing that the highest level of professionalism backs the passion of zoo and aquarium staff means that the public and other stakeholders are also far more receptive to messaging about sustainable living and nature protection. In short, positive animal welfare and good animal care are the preconditions of every aspect of our work.

**Fire salamander**  
*Salamandra salamandra*

© Aquazoo Düsseldorf

## CASE STUDY

## EAZA ACADEMY'S ANIMAL WELFARE COURSES

As part of EAZA's commitment to developing zoos and raising the level of animal welfare knowledge across the EAZA region, EAZA has created a suite of Animal Welfare Courses ranging from Introduction to Animal Welfare workshops, through to advanced animal welfare seminars. Since its launch in 2013, the EAZA Academy has delivered 28 animal welfare-based courses, with 707 participants, across 32 countries and 146 different institutions.

One of the hosts of the Introduction to Animal Welfare workshops was EAZA Candidate for Membership, Košice Zoo, Slovakia. The four-day workshop introduced participants to both the theory and application of animal welfare best practice, culminating in a full day practical where participants redesigned animal enclosures to promote positive welfare: macaques received a deep woodchip floor to allow them to forage; a small pool for play and bathing; additional platforms, branching and ropes for resting, security and exercise; visual barriers to give them places where they can take a break from public view, browse hangers for feeding to challenge their balance and coordination, and puzzle feeders to promote problem solving and dexterity. Diets were also reviewed resulting in removal of sugary fruits and replacing with nutritionally balanced browse and high fibre vegetables. The team practiced forming a positive rapport with the macaques and recalling them into different areas to allow the team safe access to the enclosure.

Whilst some animals can be hesitant of the changes made, the team did not have to wait long for the macaques to fully embrace the new, enriching environment! The macaques were engaged, exploring, playing, foraging,

climbing and embracing the opportunity to behave as macaques are supposed to behave! This practical application during the workshop helped to reinforce the immediate improvement of animal welfare by simple application of species-appropriate behavioural opportunities and training.

Košice Zoo continued to make huge strides in improving the welfare of the animals in their care, applying the lessons learnt at the workshop across the zoo. In 2019, these changes contributed to Košice Zoo successfully meeting EAZA's Accreditation Standards and therefore becoming an EAZA Full Member.



Animal welfare course held by the EAZA Academy

© Barcelona Zoo



5

SCIENTIFIC RESEARCH



Skin bacterial communities are collected by swabbing midwife toad

© Kieran Bates ZSL

# 5

## SCIENTIFIC RESEARCH

A key element of conservation is zoological knowledge about the species under protection; conservationists need to know how animals live, their physiological responses to certain conditions, their repertoire of natural behaviours and so on. On top of that, research into the genes of animals and populations can also have a huge impact on the survival chances of their species. With many wild animals, from the smallest invertebrates to the largest mammals, zoos and aquariums are ideally placed to conduct research that has real-world consequences for nature and ecosystems.

EAZA has a dedicated Research Committee that sets out the Standards for research in our institutions and elsewhere, with the aim of producing work that not only pushes forward our knowledge of animals and how to care for them, but also methods to make our institutions more effective in all areas of their operations.

Visitor studies, often conducted with education staff, help us to understand how people behave at the zoo or aquarium, allowing the institution to better communicate its messages of sustainability and conservation engagement when visitors are at their most receptive. They can also help us to improve flows of people in our facilities so that we can reach more people with these

messages. Educational research aims to help us to deliver those messages more effectively as well, and to apply the knowledge we gain to other educational opportunities, such as in the countries where threatened species need direct protection and the support of local communities.

Zoological research covers disciplines such as animal nutrition, welfare, ethology, genetics, veterinary medicine, population management and reproduction, and may be for direct application in the zoo or in the field, or to advance our knowledge of species and ecosystems. Zoos and aquariums are leaders in research into the management of small populations of animals and have developed tools and structures which allow for this work to have a solid scientific basis. This is supported by a dedicated Population Management Centre which puts many of these tools into practice to advise programme Coordinators and TAGs. Researchers working in zoos and aquariums are also working on longer term projects, such as how to effectively manage the demography and genetic variation of animals that live exclusively in groups.

Much zoological research in these areas would not be possible in the original habitats of animals, as it would either be intrusive and disruptive to the local ecosystem, or too difficult to establish the conditions in which findings can be replicated and confirmed. This means that zoos and aquariums are valuable resources for researchers working in these fields. In order to take advantage of the research opportunities inherent in a well-run zoo or aquarium providing positive welfare conditions, EAZA Members either employ research staff or build relationships with partners from academia or conservation. While it might seem that larger zoos and aquariums are more likely to have dedicated staff or strong partnerships, all of our Members are involved with scientific research at an appropriate scale, and can also take advantage of the EAZA network to become involved with larger, multi-site projects.



EAZA's Biobank holds biological samples at four hub facilities, including Planckendaal in Belgium

EAZA believes that zoos and aquariums are considerably more effective at conservation and education if their activities are scientifically based and backed by evidence. Encouraging the research that drives this work is an important factor in determining the ambition and scope of the science undertaken in our institutions, and to do this, EAZA collects and publishes some of the best zoo and aquarium based research in our proprietary peer-reviewed journal. The Journal of Zoo and Aquarium Research (JZAR) is published quarterly with each issue containing a good cross-section of subjects and papers. As a public access journal, JZAR is a strong tool for sharing knowledge across disciplines and acts as a signpost to the latest developments in our community and in the field.

To further the state of our collective scientific knowledge, EAZA also organises a number of scientific events and maintains several permanent structures. The Biobank Working Group is responsible for the collection and storage of biological samples from EAZA Member institutions and is designed to meet the needs of researchers working across a number of disciplines. The Reproductive Management Group monitors the use of contraceptives and other methods of population control over the long term, allowing a long view of effectiveness and consequence for wild animals and the populations to which they belong. The Nutrition Working Group pools knowledge about animal nutrition and its relationship to other parts of the *ex situ* conservation and animal welfare missions, and disseminates that knowledge through a biennial conference. We also organise biennial conferences on animal welfare, and, co-organised with the Leibniz Institute for Zoo and Wildlife Research (IZW), a dedicated conference for zoological research. Open meetings at the EAZA Annual Conference allow for the further spread of scientific advance among our community.

This level of transparency helps show stakeholders including national or regional authorities the depth and breadth of the work being carried out at our institutions, with a view to helping them to make policy that protects the natural environment at home and abroad. With the effects of biodiversity loss now graphically illustrated by the IPBES report into species loss, such policies are more important than ever, and scientists working at or with zoos and aquariums have the knowledge and experience to be able to provide guidance on our relationship with nature and steps to protect it.

In an age where the value of objective science is often called into question on unregulated social media, in a devalued press and in the more populist corridors of power, we believe that science and the presentation of its findings to the public via educational and other zoo-based activities are more important than ever. This is why all our educational programmes are expected to be based on reputable science that presents an accurate picture of the state of nature and species.

There is still much to learn about our planet and our place among the species that inhabit it; EAZA and its Members maintain a constant commitment to work to encourage the advancement of scientific knowledge and its active application to the protection of nature – a struggle that needs, and receives, the attention of some of the best minds in the biological and social sciences as they work with animals and people at our zoos and aquariums to research the best ways to run and develop them in the service of nature.

## UNITED FOR SAVING THE BAHIAN LION TAMARINS IN BRAZIL

### CASE STUDY

Project BioBrasil was launched in 2001 by the Royal Zoological Society of Antwerp with the aim of using scientific research to contribute to the long-term survival of golden-headed lion tamarins (*Leontopithecus chrysomelas*) in the Atlantic forest of South Bahia, Brazil. The project's main objective is to use scientific research to contribute to the development and implementation of a science-based conservation action plan for the species in collaboration with all key stakeholders. The main threat to the species' long-term survival is ongoing habitat loss and fragmentation, reducing connectivity between forest fragments. Deforestation and degradation of the remaining forest habitat is associated with selective logging, hunting of seed dispersers, sand and gravel mining, urban expansion, slow implementation of conservation units, and the alteration of natural vegetation on rural properties. Potential threats also include vector-borne diseases such as yellow fever, the transmission of other zoonoses, and predation by dogs.

The BioBrasil research programme was initiated to address specific knowledge gaps identified during the *Leontopithecus* Population & Habitat Viability Analysis workshops in 1997 and 2005. The Antwerp Zoo team set out to fill those gaps by starting a research programme in close cooperation with local Brazilian universities, conservationists and other stakeholders. The main goal of the programme was to gain a greater understanding of the factors impacting the survival and breeding of golden-

headed lion tamarins in fragmented forests, cocoa plantations, and agricultural areas. By closely following and observing a number of family groups year after year, the research team was able to collect critical ecological and behavioural information such as which trees and plants the species need to survive; the size and composition of family groups, how they behave in degraded forests, and whether the co-existence in agricultural areas causes problems, either for golden-headed lion tamarins or for humans.

In addition to studying the ecology and behaviour of golden-headed lion tamarins, the team more recently focused on using climate data to simulate various climate change scenarios for Brazil and to study the consequences of climate change on the future survival chances of the species. An increase in temperature or a decrease in rainfall can have significant consequences on which tree and plant species will grow in the coastal forests of Bahia in the future, which will partly determine whether golden-headed lion tamarins have a future in these forests. Such knowledge will not only enable predictions on how the forest will change, but can also be used to develop specific conservation actions that mitigate the impact of those changes on the survival of the species.

In addition, BioBrasil initiated an environmental education programme with local villagers, to encourage their participation and empower them to become key actors in the elaboration and

implementation of future conservation activities. The project team works with private landowners and local communities to improve awareness on environmental issues and facilitate the development of efficient land management plans that reconcile the survival of golden-headed lion tamarins with the economic interests of local stakeholders. Linked to this, current research activities focus on reconciling local economic demands with biodiversity conservation, by assessing the ecological value of cabruca ecosystems: the traditional shade-cocoa production forest of southern Bahia, in which cocoa (*Theobroma cacao*) is cultivated under a diverse and dense canopy of predominantly native trees species. Cabrucas enable a significant proportion of native fauna and flora to persist in this fragmented landscape and play a key role in the conservation planning for golden-headed lion tamarins because they provide important secondary habitat and ensure connectivity between the remaining forest fragments. This new research project aims to better understand the implications of increased intensification, particularly reduction of shade tree cover on cocoa production, and the relation between the conservation value of cocoa agroforestry and their economic profitability for smallholders in southern Bahia. In an interdisciplinary approach that combines ecological data from field surveys and farm-household surveys from agroforestry farms, the study aims to analyse environmental and economic trade-offs and synergies between biodiversity conservation and cocoa productivity.

In addition, it will look at the persistence of golden-headed lion tamarins and the larger mammal community, as well as the economic profitability for smallholders in cocoa agroforests with different shade-tree management. The ultimate goal is to deliver recommendations for improving the sustainable management of agroforestry systems in cocoa-producing landscapes to promote biodiversity conservation while ensuring cocoa farmers' profits. Recently, the Royal Zoological Society of Antwerp and the Brazilian NGO Bicho do Mato Instituto de Pesquisa, organised a Strategic Conservation Planning Workshop in Ilhéus, Bahia, to advance golden-headed lion tamarin conservation through science-based planning and conservation action. This was the first time key stakeholders (scientists, landowners, local producers, protected area managers, municipal environment officials, educators, and the international zoo community) met face-to-face. Through participatory planning, participants representing 23 key local, national and international institutions developed a ten-year-science-based strategic plan for the conservation of golden-headed lion tamarins.

The workshop was also the official launch of the Bahian Lion Tamarin Conservation Initiative (BaLTCI or ICMLB in Portuguese) which aims to implement the strategic plan, and unites researchers, practitioners and local representatives. Apart from key strategies to safeguard the remaining habitat and cabruca agroforest, the plan also includes a Theory of Change on how to secure financial and political resources to support the conservation action plan for golden-headed lion tamarins.



**Golden lion tamarin**

*Leontopithecus rosalia*

Reserva Biológica Poço das Antas,  
Rio de Janeiro, Brazil

© Bart van Dorp



African savannah elephants  
*Loxodonta africana*

© Bioparc Valencia

# 6

## STANDARDS AND ACCREDITATION

EAZA zoos and aquariums are recognized as the best in Europe and Western Asia, across every aspect of their operation from animal care and conservation to the state of visitor facilities and safety. This high level of achievement is made possible through our use of a set of common Standards developed by our Committees and maintained by regular peer reviews, a system that drives continual improvement at our Member institutions and inspires them to be progressive as well as highly professional.

EAZA recognizes that zoos and aquariums come in all shapes and sizes, however, it is not these elements that define a good zoo or aquarium. Good institutions share the passion to work in the service of nature both at home and in the field and are committed to the conservation of species from small invertebrates to massive mammals. They care for species that need their help, and for which they have demonstrated expertise and appropriate enclosures. They share their passion with the world and act as their community's connection to nature – both locally and in the most remote parts of the planet. They make every effort to bring visitors and animals together while respecting the privacy and safety of both, and they maintain good relations with their local and national governments in order to help ensure that the voice of nature is included in discussions about the future. This image of a good zoo or aquarium is set out in a set of Standards documents that cover requirements for EAZA Members in the areas of the accommodation and care of animals, conservation, conservation education, and scientific research.

The Standards for the Accommodation and Care of Animals in Zoos and Aquaria sets out, as the name suggests, the way that individual animals and groups must be housed and maintained. The Standards look not only at the way animals live in their enclosures, but also what those enclosures must provide to make these lives as fulfilling as possible. They set out the procedures that need to be followed to ensure the health and safety of animals, their carers and the people visiting them. And finally, they introduce the framework for population management, one of the key elements in the *ex situ* conservation mission of all EAZA zoos and aquariums.

Several hundred of the species kept in EAZA institutions are part of an EEP – an EAZA Ex Situ Programme for population management. Each EEP sets out the role its species plays within the EAZA network and the wider context of species conservation, public education and scientific research. Transfers of animals between zoos and aquariums allow the population to be managed dynamically so that it can fulfill the role assigned to it over the long term. Decisions need to be taken to assure this outcome, and so every Member taking part in an EEP agrees to abide by rules and leadership structures that may not always favour their institution, but which should always strengthen the population. This is all contained in the Population Management Manual – another key element in the Standards structure.

Other Standards include those for conservation, research and conservation education, ensuring that the level of operations in these areas at any of our Members is always high and always improving. The Conservation Standards ensure that Members play an active role in the conservation of species, using their skills and funds to the most effect, and working closely with the wider conservation community to carry out conservation that meets a high scientific bar. Research Standards ensure that scientific work carried out at our Member institutions is ethically correct and serves the cause of nature protection either directly or indirectly. And the Conservation Education Standards make sure that citizens receive accurate and informative experiences that help them to engage with conservation and the natural world. EAZA's Standards are in short, the result of decades of concerted fine tuning of the basic principles of modern zoo and aquarium work across all areas.

EAZA publishes all its Standards on its website, in the interests of transparency and to inspire non-Members to examine and emulate our requirements in all these areas. Guidelines and position statements also reinforce our philosophy and working practices, and help shape the working practices of Members and non-Members across a wide variety of zoological and other issues.

But how do we know that all of our Members live up to this set of requirements, and how do we keep up the momentum of development at every zoo and aquarium? The EAZA Accreditation Programme (EAP) is a regular cycle of peer review that every Member must go through. An EAP screening is carried out by a small team of inspectors, two official screeners who are senior employees of other Full Member institutions, and one rapporteur assigned from the staff of the EAZA Executive Office. Of the two official screeners, one is almost always from a Member institution in the same country as that being screened, providing a national perspective and local knowledge of the laws and regulations binding zoos and aquariums in that country. The second screener comes from an institution in another country, with both screeners usually being Directors or Senior Curators.

The mission usually lasts for two days of intensive scrutiny of every aspect of the institution's operations, from its animal welfare policies through to the regular servicing of fire extinguishers. The screening not only checks compliance with the EAZA Standards, but also provides solid professional advice to the zoo from experienced individuals who may have seen similar situations elsewhere.



Screening missions inspect the zoo or aquarium experience of both visitors and animals

Screeners also benefit from the experience, seeing it as an opportunity to ensure that EAZA Members remain at the top of the field, to share their own experiences, and usually to take away ideas for their own institutions. In the rare cases where screeners identify a significant number of major concerns that the zoo or aquarium will need time to fix, but which should be addressed urgently, screeners may recommend in their confidential report (which is seen by the screened institution and the Membership and Ethics Committee only) that the membership status of the institution be changed to Temporary Membership until the issues are fixed. On the whole, however, where a zoo or aquarium has one or two concerns from the screeners, but the team feels that these can be fixed in short order, the institution will be recommended to retain Full Membership on condition that it provides proof that it has addressed the issues satisfactorily within a six-month period. Most screened zoos or aquariums will receive recommendations from the screeners, and so the mission is a useful learning experience that can help the institution to make changes before an issue becomes a problem.

Screenings also take place when a new Member joins EAZA and are conducted on the same terms as for existing EAZA Members - the most demanding inspections most zoos or aquariums undertake in the course of their operations. It is because of our expertise in this area that EAZA is consulted regularly by authorities from the European Union to local municipal governments to provide guidance on how best to inspect and measure a zoo's performance. A framework such as the EAZA Standards can be applied across zoos and aquariums of all sizes, and compliance is measurable on an objective basis. As a result of this, while EAZA Standards go above what the law requires in most cases, EAZA screenings are fast becoming the benchmark for licencing inspections across the European Union Member States and beyond.

## CASE STUDY

## STANDARDS AND ACCREDITATION

After the implementation of the EAZA Accreditation Programme, it became clear that additional guidance was needed for screening teams on the subject of animal demonstrations. Across the breadth of cultures that make up the EAZA Membership, there was also a spectrum of opinions and mores about what was appropriate messaging and behaviours exhibited by wild animals in displays and demonstrations.

The EAZA Membership and Ethics Committee began a long process of seeking guidance from experts in the community, surveying Members on their own demonstrations, learning about national and EU legislation on the matter, and horizon scanning on what visitors expect from demonstrations at an EAZA zoo or aquarium.

Evidence on demonstrations indicates that visitors have stronger take home messages from demonstrations than from static display viewing. Demonstrations range from simple animal feeds, keeper talks, ambassador animal interactions, husbandry training sessions and full classical shows such as dolphin and sea lion shows, falconry exhibitions and parrot shows. Across all types of demonstrations, the animal's welfare must be of the highest priority, and any demonstration animal management must meet all EAZA Standards. This includes on and off display housing, social groups, training techniques, and food management,

This led to the Committee and the EAZA Executive Office creating a robust framework for demonstrations based on welfare concerns primarily, but also with a focus on

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appropriate messaging. This was then approved by the EAZA Council and the Annual General Meeting, finding consensus across the community.

Further work is being done by the Taxon Advisory Groups to create taxon-specific guidance on acceptable behaviours, messaging and training techniques.

The Members are expected to use this framework as the basis of their demonstrations and animal care but are encouraged to be creative and culturally relevant within the boundaries of the system. Since the establishment of the Animals in Demonstration standards, EAZA has seen a number of zoos and aquariums reassess and redesign their demonstrations to be more educational, focused on human/animal interaction, the intelligence and adaptability of the animals, and their natural behaviour. The EAZA Demonstration Standards have also been the basis of other international organisations to judge their own standards by. By connecting visitors to the animals through the medium of demonstrations, EAZA Members create an opportunity to inspire and engage and achieve the conservation and educational goals that all Members share.



EAZA Accreditation Programme screening in progress



Engaging younger visitors at Zoo Ústí nad Labem

© Zoo Ústí nad Labem

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## EDUCATION AND THE EAZA ACADEMY

Zoos and aquariums are unique among conservation facilities, in that they incorporate a clear mission to educate citizens about nature and animals. While education has always been a key part of the zoo offering, it is only relatively recently that such education evolved to include a specific purpose: to help engage the public directly in the global effort to protect nature.

EAZA Members excel in this mission, sharing resources and knowledge to do everything from helping meet global targets for biodiversity awareness to helping a primary school class learn about what actions they can take to help support local wildlife. Research shows that knowledge of an animal species doesn't increase our commitment to save them – making a connection by seeing, smelling, hearing an animal, makes all the difference provided that the encounter includes education about the actions needed to save the species; our programmes aim to provide visitors with engaging, informative and empowering experiences that meet this need.

EAZA's Conservation Education Committee is made up of experienced professional educators from across the Association's international network across the continent and beyond. As such, the Committee represents a broad range of cultures and perspectives that encourages clarity of communication – something that translates into the shared Conservation Education Standards and further into the educational work of each Member. The Conservation Education Standards not only affect how education is planned and delivered, but also how the zoo should be designed to allow for the best possible learning experience. They encourage Members to aspire to make species conservation interesting and relevant to the daily lives of visitors and encourage them to take part in nature



Lisbon zoo's innovative online education programmes reach students all over the world

protection activities locally. They ask Members to take every technological opportunity to provide education to people outside the zoo or aquarium, indeed sometimes on the other side of the world; and they strive for a wide range of varied educational approaches, each with its own measurement to assess its effectiveness and to help with its continual refinement.

This structured approach allows Members to write a standardized educational strategy that is also flexible enough to take into account the local culture and learning norms of the community and which is delivered by qualified professional educators. Programmes can be anything from an hour long lesson to a summer camp of a few days, part of the national educational curriculum or a privately organized learning experience during the holidays. They may link directly to specific species or campaigns being highlighted by the zoo or aquarium or may be much more general. What they all have in common is a commitment to the highest levels of educational delivery – all with the aim of producing a well informed and environmentally sensitive community that is actively working for a better future for nature.

Outside of the public domain, EAZA is also committed to education and professional development for the staff of its Member zoos and aquariums. The EAZA Academy was set up to provide training in key elements of zoo and aquarium operations and the shared population management work of the Association as a whole. The EEP Management courses induct curators and animal managers into the working structure of the EAZA Ex Situ Programmes. This provides them with the skills they need for the successful management of an EEP population, from understanding the pedigree and genetic records of animals to make breeding recommendations, to the research and analysis that helps them design a Long-Term Management Plan and fulfill the roles of the programme.



Other Academy courses include Exhibit Design, to help zoo and aquarium managers provide the ideal conditions for the animals in their care; Animal Training courses to help managers prepare animals for transportation or medical care; Fundraising for conservation projects; Animal Welfare Training to ensure the highest standards of care and positive welfare; Record Keeping; and aspects of public education practice. Courses take place both at the EAZA Executive Office and in zoos and aquariums across our network. In some cases courses are organized locally and presented in association with EAZA, and more recently, Academy courses have been taking place online, vastly increasing the ability of tutors to reach

Zoo education helps raise biodiversity awareness through applied activities such as art classes.

 © Pavla Jarošová

audiences both inside and outside EAZA. These tutors are professionals from the EAZA network and beyond, and bring a wealth of personal experience and knowledge that is key to mentoring Academy students. We believe that sharing knowledge and practices helps to improve the work and outcomes of zoos and aquariums whether or not they are EAZA Members and therefore make access to materials such as video lectures and discussions as accessible as possible.

EAZA is also acknowledged by the European Commission as a partner in both public education and zoo and aquarium-related capacity building. Along with many of our Members, we are an enthusiastic participant in the European Commission-led United for Biodiversity Coalition, a global initiative that brings together science engagement facilities to build pressure on politicians to act with ambition in the service of species and ecosystem conservation. On the professional side, EAZA experts are part of a coalition helping to train EU Member State authorities in the successful implementation of the European Union Zoos Directive.

EAZA zoos and aquariums seek every day to find innovative ways to harness their knowledge and passion to make a difference to the planet and its animals. A strong conservation education philosophy at all stages and to all audiences helps us to do better conservation work with the active support of the public and their representatives – as such, it could not be more important to the success of any modern zoo or aquarium.

## CASE STUDY

## TRAINING IN ACTION: THE IMPACT OF APPLIED KNOWLEDGE ON DAILY PRACTICE

*Dr. Georgina Spyres is Head of Education and Research at Attica Zoological Park since 2010. She works with other environmental NGOs and participates in international education networks, including as facilitator of the Evaluation and Research group of the EAZA Conservation Education Committee. Her love of nature began as a child in a Greek seaside village and since then she has worked in chemical oceanography research before starting her journey as an environmental educator in 2002.*

My favourite question is “How do you know that?” How do you know? Is it hearsay? Did you read it? Did you observe it? Maybe this questioning is annoying for some people, but it’s useful for an educator!

When I started working at Attica Zoological Park, the first thing I did was read the EAZA Conservation Education Strategy. I had more questions. Do our programs help us achieve the strategy? Which methods are most effective? Are visitors learning and changing?

I wanted to evaluate our work to better understand our visitors, what we offer them and whether we are successful in creating pro-conservation behaviour change. I attended the EAZA Academy Survey Design Course in October 2014 held at London Zoo to increase my capacity to answer these questions. The course covered visitor

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survey design and data collection and analysis. The sessions on research and survey design were most helpful for me.

Afterwards, my journey with evaluation started simply with customer satisfaction surveys. We have had wonderful reviews and this survey data gives me confidence when communicating to stakeholders. Negative feedback also helped; we could change materials that were not being used as intended. We then evaluated visitor attitudes, which helped us identify effective and ineffective presentations.

I'm also working with the EAZA Conservation Education Committee to create new training on evaluation.

To make a long story short, evaluating our work is a journey of discovery which makes us better educators, and good educators are essential for conservation to succeed!

EAZA's Academy allows staff to grow and develop their skills through professional development and expert training in their field.



Dr. Spyres leads an education briefing at Attica Zoological Park

© Attica Zoological Park



EAZA interacts with the European Union's policies and processes wherever possible: in 2019, EAZA produced a manifesto for the Parliamentary elections

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EUROPEAN PARLIAMENT  
ELECTIONS 2019  
EAZA MANIFESTO

Progressive zoos and aquariums  
working together for nature

EUROPEAN PARLIAMENT  
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# 8

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# REPRESENTATION AND PARTNERSHIPS

As centres for science engagement and species conservation, animal care and welfare, conservation education, and scientific research, EAZA Members are continually seeking ways to improve the work they do and the effects it has on the wider world.

We believe that better outcomes in all of these areas are possible if our community works together with legislators and conservation partners to find the best possible use of its unique talents in the wider national and international policy frameworks; we can also be more effective if those frameworks help support us in our efforts to do better. It is therefore vital that EAZA and individual EAZA Members maintain close relationships and active dialogues with a wide range of stakeholders.

EAZA is not the only zoo and aquarium accreditation body worldwide. We work closely with the World Association of Zoos and Aquariums (WAZA), the Association of Zoos and Aquariums (AZA, based in the USA), the Zoo and Aquarium Association (ZAA, Australasia), and other similar associations to coordinate our work at the global scale. Many EAZA Members are also members of WAZA. This coordinated community has led to the publication of the World Zoo and Aquarium Strategies for Conservation, Conservation Education, Animal Welfare, and Sustainability, and the creation of Global Species Management Plans (GSMP) for *ex situ* conservation of several of the world's most endangered species.

EAZA, its fellow associations and individual EAZA Members are also active at global forums such as the Convention on Biological Diversity (CBD) and the Convention on the Trade in Endangered Species (CITES). The CBD is the principal intergovernmental forum on biodiversity and is responsible for the global strategy of the United Nations to protect it. The CBD global biodiversity framework also includes targets which outline the main areas where countries need to take action, for example on promoting public awareness of biodiversity, or on the protection of habitats. Governments then draw up action plans to meet those targets. The EU Biodiversity Strategy for 2030 is the main European action plan, which is implemented locally by national governments and their appointed agencies. Zoos and aquariums play a significant role in

helping countries work towards those targets, so it is also important to act at both EU and national levels to make sure that our voice is heard and our services are included as an integral part of these strategies.

CITES is an international treaty that regulates the trade in endangered species, and which aims to ensure that organisms and the products made from them are protected from over exploitation. Given that zoos and aquariums need to move animals to maintain healthy populations, it is vital that our community not only understands the decisions made for each species, but that they also help shape them so that we achieve the best possible conservation outcomes from the EAZA network.

At the EU level, EAZA maintains an office in Brussels to help establish and maintain relationships with the main branches of the Union: the Parliament, the Council and the Commission. Staff from the EAZA Executive office and EAZA Members also meet regularly with other EU and civil society stakeholders to ensure that we identify areas of common or divergent interest and opinion, and work to find solutions that help the natural world wherever it is touched by the activities of European countries and their citizens. The Brussels office has contributed to consultations on subjects including the assessment and implementation of the EU Zoos Directive, the reform of EU animal health law and regulations for the control of invasive alien species.

EAZA counts among its Members the major national zoo and aquarium associations who engage with legislators and other stakeholders at national and local levels. Many EAZA Members are also members of their national zoo and aquarium association, and this aids a strong coordinated approach. National associations were, for example, very active in securing funding from governments to ensure the continued welfare of animals during the 2020 pandemic crisis and are closely implicated

in local and national strategies for the conservation of biodiversity and the effective education of visitors.

It is not only the big political forums where EAZA is represented. EAZA is a long-time Member of the International Union for the Conservation of Nature (IUCN), the world's largest conservation organisation, and contributes to the work of several of its specialist commissions including the Species Survival Commission (SSC) and the Commission on Education and Communication (CEC). The Species Survival Commission is the commission with which EAZA works most closely. It oversees the work of Specialist Groups (SGs) with a particular focus on specific taxa or activities, from the Antelope Specialist Group to the Asian Songbird Trade Specialist Group. The so called 'Assess, Plan, Act' cycle is a core structure behind the work of the IUCN SSC, that EAZA and its Members are fully embedded under. Various EAZA Members support Red List Authorities that help assess if, and to what extent wild populations are threatened with extinction. EAZA and several EAZA Members are strong contributors to the work of the Conservation Planning Specialist Group, that develops holistic and stakeholder inclusive conservation action plans for those species that are in need for it. The aforementioned Specialist Groups are a key player in this work as well, and experts from EAZA TAGs are members of SGs to contribute to their work (and vice versa). Several EAZA Members also host a Specialist Group, contributing an important resource for their operations. To complete the cycle, EAZA and its Members also contribute to conservation actions both within our zoos and aquariums, through our advocacy work and in the field.

Every four years, IUCN organises the World Conservation Congress, the world's forum for strategizing on species survival, protection of wild areas, lobbying for strong legal protections for nature and so on. EAZA and our Members see ourselves as a vital part of these conservation

conversations by providing scientific expertise and supporting solutions to issues. We are active in the Union at all different levels and are committed to working together as part of the diverse IUCN community.

On top of that, EAZA works in partnership with conservation organisations of a more specialist nature, and we work hard to maintain open channels to help support their work, both directly and via the connections we make in our work with the various national and international bodies. Conservation is by its very nature political, in that helping species survive usually requires human communities to adapt. There are costs involved with conservation, both societally and economically, that must be seen by all stakeholders to be to the long-term advantage of all. Achieving this long-term view and creating the circumstances in which animals and people all benefit means that everyone affected needs to agree. This combined with a holistic view of the global population of a species wherever the animals are present is emblematic of the IUCN SSC's One Plan Approach and EAZA zoos and aquariums, with their experience of stakeholder engagement both in the field and in their home communities, are ideally placed to provide support or leadership to such projects.

Leading in species conservation, animal care and welfare, conservation education, and scientific research requires an active presence at forums of all levels from the municipal to the global. EAZA and its Members continue to commit to lending their voices and expertise to these meetings to help design a future for the world in which people and animals can live together without the constant threat of extinction – just as they commit to the work of carrying out the measures to make sure that that future is possible.

## CASE STUDY

## SETTING THE STANDARDS FOR THE EU ZOOS DIRECTIVE

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One of the reasons why zoo directors founded EAZA's predecessor, the European Community Association of Zoos and Aquaria, and then EAZA itself, was to add a united zoo voice to the political debate about the future of European zoos and their possible contributions and obligations. This debate began in the 1980's, involving the European Parliament, national governments, and animal-related NGOs. Its culminated in 1999 with the adoption of the EU Zoos Directive, through which the EU countries decided to strengthen the role of zoos and aquariums in nature conservation and ensure appropriate housing conditions for the animals. Since then, each zoo in each EU country must hold a licence that is based on this law.

EAZA is mentioned in the Directive as a standard-setter whose guidelines for the care and accommodation of zoo animals can aid the development of national standards. As a relatively short text, the Directive does not prescribe how the Member States should implement it. To fill this gap, the EU has published a 'Good Practices Document' in which EAZA's standards and the practice of many EAZA Members are broadly cited.

EAZA also represented its Members when the European Commission was carrying out a 'fitness check' between 2015 and 2018 to verify that the Directive serves its goals and remains fit for purpose. Our position statements and evidence helped build a strong case in support of the Directive's potential to boost the conservation impact not only of the progressive EAZA Members but of the entire EU's zoo sector.

Following this evaluation, the EU launched a three-year project to help the EU countries implement the Directive more thoroughly. EAZA has been part of this process, too. In trainings and in meetings with government authorities, we have been providing insights from contemporary zoo practice, with topics ranging from conservation, research, education to inspections and compliance with the licensing requirements. This way, the history of EAZA continues to be interwoven with that of the EU Zoos Directive.



EAZA conducts regular study tours for Members in Brussels to learn more about the institutions we work with.

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SUPPORTING THE WIDER COMMUNITY  
OF ZOOS AND AQUARIUMS

Coquerel's sifaka  
*Propithecus coquereli*

© Chester Zoo

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## SUPPORTING THE WIDER COMMUNITY OF ZOOS AND AQUARIUMS

Zoos and aquariums have changed immeasurably in recent decades – or rather, good zoos and aquariums with a solid visitor and revenue base and solid staff training regime have changed, with huge advances in enclosure design, population management and indeed every aspect of zoo and aquarium operations.

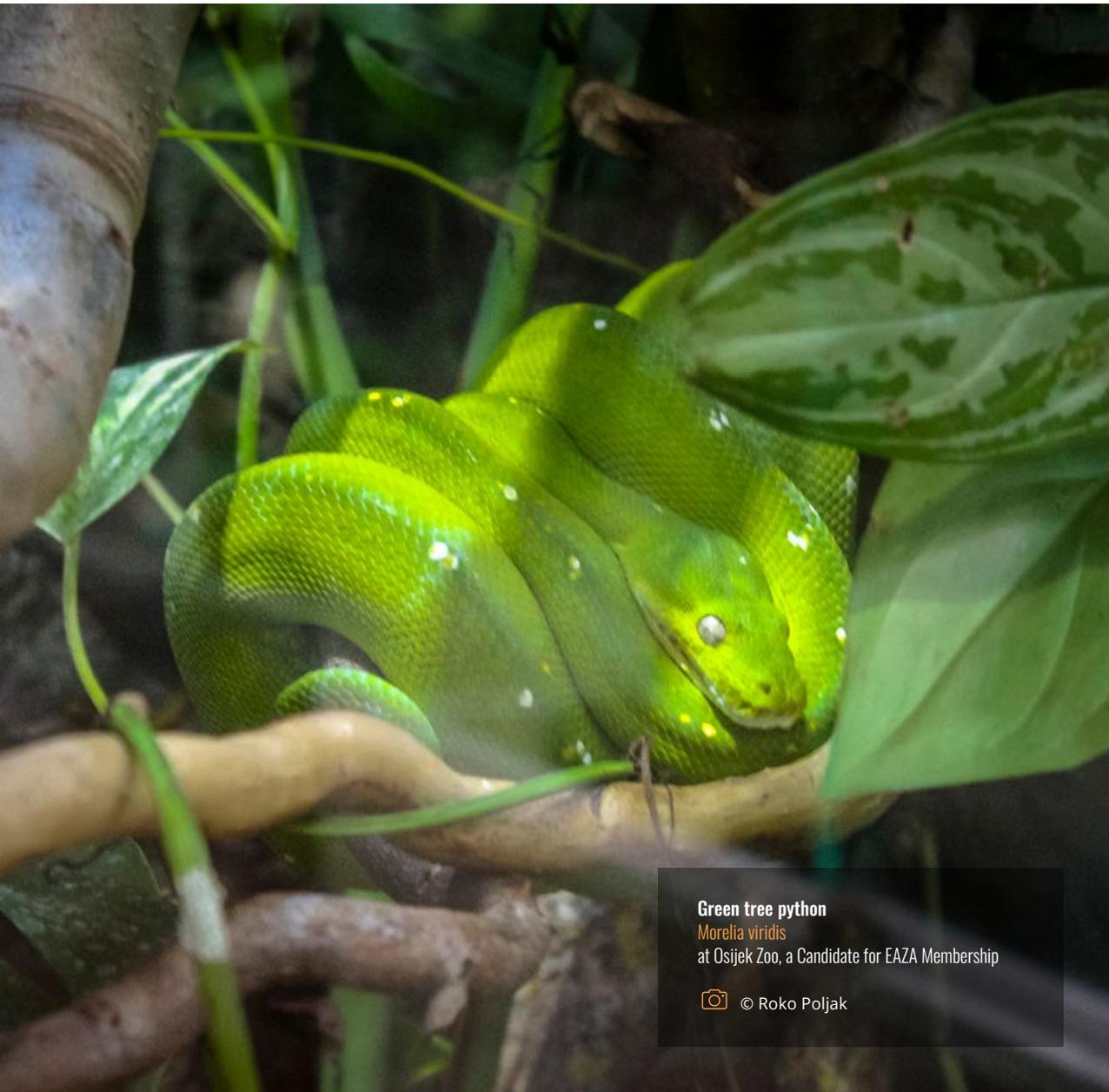
A lot of the knowledge about how to make a zoo or aquarium successful is shared among the EAZA community and beyond, but that doesn't assure success, and there are many pressures, historical, geographical and political that can prevent institutions from working effectively. For many years, this was primarily the case in the developing economies of the Eastern part of Europe, and EAZA felt strongly the moral obligation to provide guidance and assistance to these zoos and aquariums; as a result, the Association established a group, now called the Technical Assistance Committee, in 1995.

The Technical Assistance Committee (TA for short) is made up of a group of senior professionals from EAZA Member institutions, who act as supervisors and mentors of zoos and aquariums that have asked for help to improve. The mentors provide this assistance and advice as part of the EAZA Candidate for Membership programme, a structured system for providing experience and knowledge to zoos and aquariums with the aim of helping them meet EAZA Standards.

Many zoos and aquariums have significant challenges to face if they are to survive and become contributors to conservation, education and scientific research. Most importantly, there are many institutions which cannot provide a high standard of care to their animals. The TA Committee's mentors understand clearly the factors that hold back some of these zoos and aquariums and are able to provide a roadmap that, if conditions are met, can help them to take their place in the EAZA community and become long term contributors in all of the major areas of animal care, conservation, conservation education and research.

Mentors work with the Candidate for Membership (CfM) to review the facilities and funding available, review the political context in which the CfM operates (especially if it is a municipally owned zoo), and suggest changes that are appropriate to the long-term success of the individual institution. This may mean convincing the owners that not all species can currently be held by the institution (especially ones requiring complex housing and/or experienced zookeeping), and that other species could occupy the space more effectively; it could mean securing small amounts of funding to help renovate existing structures or add furniture that make the environment more stimulating for the animals; or it could mean convincing the mayor's office that the institution could operate more effectively as an independent company owned by the city. Almost all CfMs benefit from the injection of knowledge, and afterwards seek to continue to increase their own knowledge base via ongoing training of their staff and interactions with the wider EAZA community.

EAZA has 24 Candidates for Membership under supervision as of 2020. These zoos are extremely diverse in terms of locations and operational circumstances, and their relationship with EAZA and its Members illustrates our belief that zoos and aquariums can be a positive force for nature and our relationship with it that transcends other boundaries. Current CfMs range from Kazakhstan in the East, via Iran and Russia, through Croatia to Belgium, and each is provided with a mentor who has experience of the issues facing it, and strategies to overcome them. In other cases, mentors and Members closer to the CfM can also provide a more constant supervision – such as Qaliqilya Zoo in the West Bank of Palestine and mentored by Jerusalem Zoo, or material assistance provided by Budapest Zoo to Tirgu Mures Zoo in Romania.



**Green tree python**  
*Morelia viridis*  
at Osijek Zoo, a Candidate for EAZA Membership

© Roko Poljak

The TA mentors cannot be everywhere, though. The Committee therefore prioritises institutions that show a commitment to change, and which have the clear potential to become successful Members of EAZA or partners in conservation. CfMs have to show an accurate picture of their current situation in detail, as well as demonstrating a sense of dynamism in their management.

The Candidates for Membership programme is not a replacement for the national authorities who are responsible for licensing zoos and aquariums, and whose remit includes all instances where wild animals are shown to the public. EAZA, made up of and financed by its Members, does not have the resources to ensure that all such places meet welfare standards and local regulations and laws, and no mandate to act if they do not. As a result, the Association does everything it can to encourage struggling zoos and aquariums not in the CfM programme to improve their knowledge and practices, and with them provide better outcomes for the animals in their care and potential partners in conservation, education and research. EAZA publishes “The Modern Zoo: Foundations for Management and Development”, a manual that is freely available, alongside the Standards for the Accommodation and Care of Animals in Zoos and Aquaria, the benchmark for any zoological institution serious about its future. We also provide open access to our Journal of Zoo and Aquarium Research, Best Practice Guidelines, some Academy courses, and a whole suite of our conferences including the EAZA Zoo Nutrition Conference, EAZA Education Conference, Animal Welfare Forum and Conservation Forum events.

EAZA also advises government agencies on the inspection of zoos, especially compliance with the EU Zoos Directive, the legislation that governs the operation of any publicly accessible institution with wild animals in the European Union. The Association is committed to providing ongoing support to the EU and Member States to help implement

the Zoos Directive effectively. As our Standards go beyond the requirements of the Directive, and because of our long involvement with Technical Assistance, Accreditation and animal care and welfare, EAZA is a trusted partner of the European Commission and EAZA Standards are a model for zoos and aquariums across the continent and beyond.

So while not every zoo or aquarium can be a Full Member of EAZA in the short term, the Association has designed and implemented a structure that can help them on the road to becoming a Full Member. We believe that all zoos and aquariums in our region should aspire to work with the very best, and that efforts to reach our Standards should be encouraged and rewarded. Good zoos and aquariums can make a significant difference to species conservation and education, and that does not depend on their size – it depends on their commitment to change and our commitment to help them; we stand ready to assist zoos and aquariums that wish to make the most of the facilities, expertise and advice we can offer so that the sector can truly contribute.

## CASE STUDY

## KALININGRAD ZOO: PATHWAYS TO EAZA MEMBERSHIP

One of the first zoos to become a Candidate for Membership, shortly after this new category was established, was Kaliningrad Zoo. Founded in 1896 as the 'Königsberger Tiergarten', Kaliningrad Zoo is now one of the three oldest zoos in Russia. Their EAZA involvement began in 2004, and their first mentor was the director of Moscow Zoo, Vladimir Spitsin. Later their mentorship was taken over by André Stadler (Alpenzoo Innsbruck, Austria).

Kaliningrad Zoo's progress towards meeting EAZA Standards had its ups and downs, and the zoo has been a Candidate for Membership for quite a bit longer than the standard term of five years. But their work got a boost around 2013, when new strategic plans were developed for the zoo. In the following years, zoo staff committed to their EAZA involvement by attending a number of EAZA Academy workshops on topics such as record keeping, animal welfare and enrichment. According to the zoo's staff, their mentor played an important role in this learning process: he provided "a deeper and more up-to-date approach to animal welfare and enrichment practices", and helped with "detailed information and lots of kind advice".

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Two members of EAZA's Technical Assistance Committee visited Kaliningrad Zoo in 2017 and drafted a roadmap for the zoo's final phase as a Candidate for Membership. In 2019 Kaliningrad Zoo became a Temporary Member of EAZA. At the time of writing of this book, there were still a few issues that needed to be resolved before Kaliningrad Zoo could be awarded Full Membership. But while this has not been achieved yet, the zoo is certainly on its way to become a fully accredited and valued member of the EAZA community.

Kaliningrad Zoo also has some advice for other zoos and aquariums that receive technical assistance: "Be as open to your mentor as you can, show them not only the most attractive sides of your zoo, but all the problems as well. Follow your mentor's advice but try to keep the things that make your zoo unique!"



Aquarium exhibit at Kaliningrad zoo

© Alexander Grebenkov



For further information about how to become a member or make the most of your membership, please contact the EAZA Executive Office.

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