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Dear WAZA members and friends!

A busy year full of events and important occurrences is drawing to a close. WAZA launched the first member driven joint project on biodiversity and offered numerous communication materials and tools to members. “Biodiversity Is Us” took flight during the IP WAZA Marketing Conference and has already been picked up by a majority of members. This initiative of the world zoo and aquarium community has been acknowledged by the United Nations at the COP 12 of CBD in Korea and related institutions, such as natural history museums have expressed interest in promoting WAZA’s project as well.

In order to get to a real strong global outreach, I urge all members to get involved, either by using the designs, the films, the smartphone application or the social media streams or even better: all of them. It is important to get keepers, curators, communicators and educators more involved, only your full buy in will help to make a difference for the world’s biodiversity.

When writing this, I am still in New Delhi at our Annual conference under the theme of biodiversity but also focusing on workshops dealing with important strategic questions of conservation and animal welfare, population management and euthanasia as well as with the WAZA corporate strategy for the next five years. All of those issues were progressing very well and this year’s conference is already marking a milestone for the world zoo and aquarium community. Improved cooperation and information exchange will have to lead to a stronger internal cohesion and an even more important and recognized role in conservation.

Best wishes for the festive season and a Happy New Year!

Gerald Dick
WAZA Executive Director

I am writing this note having just arrived in New Delhi for the 69th WAZA Annual Conference, hosted by India’s Central Zoo Authority. Delegates from around the world will be gathering over the next few days to advance the work of our association, with a thematic focus around the Biodiversity Is Us campaign, now officially launched and being implemented. Many of these delegates will also participate in the Conservation Breeding Specialist Group annual meeting, which is traditionally held in conjunction with WAZA’s annual conference. The CBSG meeting will explore Application of the One Plan Approach in India and Beyond. These meetings promise to be lively and fruitful, coming at a particularly critical moment in the development of India’s zoos, and at what feels like a period of turbulence and change in the global zoo/aquarium community.

This will be the first WAZA Conference ever conducted in India, or anywhere in South Asia for that matter. Holding the meeting in India is both symbolically and substantively important: as the world’s second-most populous nation and home to over 200 zoos, India’s deeper engagement and alignment with the global zoo and aquarium community will provide bi-lateral benefits. Relative to more established western zoos, disparities persist in many areas, including access to financial resources and professional development opportunities. But India’s rapidly advancing economy, growing urbanization and consequent environmental challenges mean that the need for active and progressive zoos will become increasingly critical here. The value of having WAZA meet in Delhi and interact with Indian zoo professionals, including those already associated with WAZA and others who aspire to be, is clearly recognized by the Central Zoo Authority, which has worked for years to plan and organize this event.

For WAZA members traveling to India, the benefits of the Delhi Conference are also evident. The once-a-year opportunity to re-connect with old friends and colleagues has always been promising of the great ‘value propositions’ for WAZA membership; there is no question that some of the unity of purpose and sharing of best practices that strengthen the zoo/aquarium community are facilitated and maximized through these gatherings. But the chance to meet new colleagues, in this case including many Indian zoo directors and conservationists who have been specially invited to participate, and to see how zoological institutions operate in one of the world’s most bio-diverse countries, also offer important opportunities for experiences and partnerships for visiting zoo professionals.

Our annual conferences provide a chance to reaffirm those areas upon which there is strong agreement and consensus, but also to work on areas where philosophical or cultural schisms still exist. Over the past year, divisions have formed (or re-surfaced) over a number of issues, ranging from the practice and messaging surrounding euthanasia as a population management tool; the appropriateness of cetacean exhibition and methods of acquisition from wild populations; and defining how to measure, evaluate and improve animal welfare. WAZA can never be a “one size fits all” organization; but we do need to continuously strive to find areas on which consensus can be achieved, and to push forward on areas where leadership is called for. The World Zoo and Aquarium Conservation Strategy is a prime example of bold leadership that was necessary to clarify the primary purpose of zoos and aquaria – namely biodiversity conservation in situ. Today, given rapidly changing public sentiment and the political ramifications that result, it is time for WAZA to develop a clear framework for optimising the welfare of animals in our institutions, and – just as importantly – to effectively communicate how we are achieving that to the communities and interest groups that have the power to support us... or to impede us. The WAZA Animal Welfare Strategy, now in draft form, promises to be an important step in that direction.
Thank You India!

Biodiversity, Connection to People and Strategies

At this year’s annual conference, which was held in New Delhi, 2–6 November 2014, 259 participants of 38 countries participated in a very productive and hospitable atmosphere, a very intense and wonderful week! The Central Zoo Authority of India made this event to one of its best in WAZA history, since thanks go to all their staff under the leadership of Mr Bishan Bonal and Dr Brj Gupt. After introductory keynotes by Joel Sartore, illustrating the conference theme, Biodiversity is us, with stunning imagery, Prof David Mellor introduced the 5 Freedoms of animal welfare. Excellent examples of biodiversity conservation and education were presented of the Indian subcontinent and workshops were held on euthanasia, population management, the WAZA animal welfare strategy, the WAZA conservation strategy and the new proposed seven strategic directions for the WAZA corporate strategy, 2015-2020. Numerous social events showed Indian hospitality and offered ample opportunities for liaising and networking.

Among other important themes, illegal trade of wildlife was clearly addressed as it becoming an obvious and increasingly important threat to biodiversity. The membership endorsed and approved a resolution on legal, ethical and sustainable sourcing of animals. At the occasion of the conference, the Minister for Environment, Forests and Climate Change, Mr. Prakash Javadekar, took part in a public burning ceremony of confiscated wildlife products in Delhi zoo.

The proposed institution would act as a Technical Advisor to the Central Zoo Authority and will provide expert help to the States and in ex situ conservation breeding of endangered species, and organize training courses for in-service zoo personnel and stakeholders in India as well as for zoo personnel of South Asian countries.

With over five months since the launch of the project we are seeing more and more institutions using the tools, making them their own by adapting them to their needs as well as national and regional associations making them available to their own members.

This process has been accompanied by an extensive promotion of the tools, both at meetings of the zoo and aquarium community and other relevant conferences. By the end of the year a global promotion of the project will have been undertaken, among them national and regional conferences. This has highlighted the interest from small to medium size institutions using the tools through their affiliation to national and regional associations. Among WAZA members we have also had good engagement, the online platform, which is the location where WAZA members can download and visualize the tools, has registered access by members from around the world. Indeed, 352 individual users have registered to use the platform, representing 72 different institutional members of WAZA and 36 different countries on all continents (see map Figure 1).

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The social media campaign has also been growing steadily with over 8800 users on Facebook and over 152 individual users have registered to use the platform, representing 36 different institutional members of WAZA and 36 different countries on all continents (see map Figure 1).

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With the revised Convention on Biological Diversity (CBD) Aichi targets advocating an increasing role of zoos in conservation, the global zoo community simply must find efficient and cost-effective ways of helping to preserve biodiversity in situ. High profile, charismatic species are popular with zoo visitors, and also predominate among zoo field conservation initiatives. However, conserving these species in situ requires serious funding and logistical effort that could be focussed far more effectively working with policymakers and conservation managers working to conserve species closer to home. Native animals and plants often take a back seat in conservation planning by zoos, but neglecting these critters on our own doorsteps misses a huge opportunity for efficient investment of conservation funds, and local community engagement.

Biodiversity Action Plans (BAPs) and other national equivalents set out targets for biodiversity conservation based on priority species and habitats, providing a framework that zoos can utilise to increase the value in situ biodiversity provisioning, alternative cost-effective ways of helping to prevent extinctions, and encourage “adaptive management”. The process was intended to be guided by science, but executed by non-specialists, making it an attractive and effective bridge between research and implementation.

To find out more:
circle@flamingoland.co.uk or www.circle-conservation.org or www.flamingoland.co.uk/zoo-and-conservation.html

1 CIRCLE, Environment Department, University of York, UK
2 Flamingo Land Theme Park and Zoo, UK

Sarah Bond° and Andrew R. Marshall°

Zoo Biodiversity Action Plans:
Protecting Native Species Living in and Around Zoos

In 2011, WAZA member Flamingo Land (North Yorkshire, UK), was the first British zoo to create a Zoo BAP, which was soon followed by guides for other zoos, now being promoted by the British Association for Zoos and Aquariums (BIAZA). A new global version of this guide is currently in press (contact CIRCLE – details below). The national UKBAP and a local authority BAP were used as guidance in the creation of the first Zoo BAP, before consulting stakeholders, staff, conservation groups, land-owners and scientists. This, coupled with pilot surveys, identified important features of biodiversity in the area, threats, timescales and any potential conflicts. Target species and habitats were selected that were either on site, or had existed in the past and could feasibly be restored. The Conservation Measures Partnership “Open Standards for Conservation Practice” were used to map the direct and indirect influences on the target habitats and species, which then allowed social and biological indicators to be selected and monitored to track progress. This was especially important to ensure an evidence-based approach to future decisions, provide feedback and encourage “adaptive management”. The process was intended to be guided by science, but executed by non-specialists, making it an attractive and effective bridge between research and implementation.

For any further questions, please contact me, Tiago Pinto-Pereira, the WAZA Decade Project Manager – tiago.pintopereira@waza.org.

* All data quoted are true as of the 24th of October 2014.
Conservation Dividends through the Use of Sustainable Supply Chains

With the thousands of aquatic species on display in zoos and aquaria around the world, it would seem difficult to know where they all came from, but it need not be. All aquarium animals have an origin and source, most come from fisheries and are supplied by businesses or individuals to aquaria. For many years there has been little concern for where and how aquatic species came to arrive to the end users, the zoos and aquaria, resulting in a negative impact on the perception of the value of these animals. The cheapest animals are still being handled and supplied, an issue that would never be encountered in relation to mammal or avian collections. Aquarium professionals see their procurement as being different than terrestrial animals as a justification for using poor, unregulated suppliers. In more recent times aquarium animal sourcing has been highlighted as an area of concern for the industry but very little has been achieved. To be able to "walk the talk" aquaria now need to be an active part of conservation in their aquatic collections. Aquaria must be motivated to be more aware of the problems within fisheries around the world.

Management

The first, most important concept that must be considered in supply is that all wild caught aquarium animals come from fisheries. The fisheries should be and are becoming the primary concern for aquarium collectors since they are the first step in every supply chain. If the first step in the supply chain is an unmanaged, unregulated fishery, then the supply chain cannot be sustainable and honest conservation cannot be achieved. There are many different kinds of fisheries where aquarium animals will be caught, these include:

- **Comprehensive Fisheries**—These are clearly defined aquarium fisheries that are organized, well managed, enforced and undergo regular scrutiny to verify that they are sustainable. These fisheries consider not only the animal populations but the resilience and health of the environment and societies when establishing guidelines. The Aquarium Fish and Coral Fisheries of Australia and Florida, are examples of the most well regulated and managed fisheries in the world. These fisheries provide traceable supply chains.

- **Restricted Fisheries**—These areas have established fisheries management plans (both food and aquarium fisheries) but are lacking oversight and regulation due to a lack of resources. They are one of the primary sources of aquarium animals globally. Fiji for example is considered to have restricted fisheries. Illegal, destructive fishing practices can occur due to lack of enforcement of law and lack of concern for the greater impacts on the environment but effort is applied to stop these practices. Sodium cyanide use in these regions has been greatly reduced. Distribution channels can be difficult to trace.

- **Community Fisheries**—These are in locations such as the Philippines, that have laws requiring fisheries management, but unfortunately there are no resources nor leadership to implement plans. Although the local communities try to find ways to protect their reefs, it is not yet a sustainable type of fishery and this process has allowed over 80% of the reefs to become damaged. Few local fishermen are doing the fishing and the supply chains are hidden because they are operated by overseas conglomerates. Destructive forms of fishing are commonplace.

- **Free-for-all Fisheries**—Under this arrangement the law grants free access to all fishers to work where and how they want. Indonesia is one such free-for-all fishery where most fishing is done by "outsiders" (fishers from other countries). Cyanide and dynamite are used throughout aquaria and food fisheries. Corruption prevents any enforcement of laws to prevent these technically illegal practices. Sustainability is not possible in these fisheries and the chain of custody is impossible to follow.

There is another category to consider that is not a well-known or acknowledged "fishery" as it supplies very specific, dynamic species like whale sharks, bowmouth guitarfish and hammerhead sharks. These are considered "by-catch fisheries". Trans-shippers and sourcing agents buy animals caught in commercial fishing nets (eg: set nets) paying above market rate for living specimens. Taiwan’s whale shark fishery is one, where the sharks have been legally or illegally harvested for food but also targeted for aquarium orders. These fisheries are most often found in regions with poor or no fisheries management arrangements.

**…aquaria now need to be an active part of conservation in their aquatic collections…**

Chain of Custody

Connecting the fishery to the aquarium requires a chain of custody that can be very simple or quite long and complex. It is interesting to note that single or short, traceable supply chains originating in established, well-managed fisheries are most sustainable but these are also the least common. The majority of aquarium animals distributed globally come from regions of least management and the supply chains are long involving collectors, middle-men, exporters and importers. The “importer” categories are consolidators, trans-shippers, jobbers, wholesalers, etc.
Suppliers

The supplier is the primary point of contact for all aquaria when acquiring animals. It is a mistake to assume that knowing the supplier means that an aquarium can trace the origins of their animals. In fact, in most instances, the supplier is simply a wholesaler or trans-shipper at the end of a very long line of actors in the supply of the animals. Suppliers can be categorized in the following ways:

- **Collector Supplier-Businesses** that own and operate their aquarium collecting stations, collect the animals, long-term house and care for the animals, then pack and ship them directly to the aquaria or wholesale operators. These businesses have full control and a complete, single chain of custody.

- **Import Wholesaler-Businesses** that purchase their animals from collector suppliers or from consolidators, house the animals short-term, then ship them to aquaria. These operators consolidate animals from a variety of regions, preferring to source the least expensive animals in order to create the greatest profit margins. They are so far removed from the fisher that caught the animals that it is impossible to trace chain of custody or verify collection technique.

- **Transhippers-Businesses** that only sell animals that have been collected and handled by export wholesalers or food fisheries. They act as brokers, consolidating shipments from a variety of wholesalers into a single shipment. Alternately they act as distributors, completing import services then dispersing the animals to various aquaria. They are characterized by limited or no holding facilities and often transhippers never see the animals they are distributing/on-forwarding.

- **Sourcing Agents-Persons** or businesses that service public aquaria are characterized by limited or no oversight to prevent this practice from occurring where there is no management arrangement; there is no management where the least fishery management can be achieved from a single, traceable supply chain. There are costs associated with ethical, sustainable sourcing, but cost should never be the only factor that determines sourcing is ethical, legal and demonstrably sustainable.

A clearer understanding of how fisheries relate to the supply chains is required for ensuring that aquatic populations are ethically sourced. Public aquaria globally are providers of education to the general public, sharing the message of conservation, especially when the animal population is educating millions for conservation and environmental protection. At present over 80% of all fishes entering the aquarium trade, from which public aquaria and hobbyists/enthusiasts acquire their animals, originate from areas in the Indo-Pacific; where the least fishery management takes place. The collectors are known for using sodium cyanide for the collection of the fishes. This practice of cyanide use is illegal, but occurring where there is no management arrangement; there is no oversight to prevent this practice which is destructive environmentally and socio-economically.

The positive news is that zoos and aquaria have choices. It is unnecessary to have aquarium acquisition policies that allow purchases from opaque supply chains and unregulated fisheries. Rather, there are collector suppliers that work in managed fisheries where provision can be achieved from a single, traceable supply chain. There are costs associated with ethical, sustainable sourcing, but cost should never be the only factor when assembling an animal population, especially when the animal population is educating millions for conservation and environmental protection.

The map (Figure 5) demonstrates the areas where most aquarium animals are sourced and the types of fishery management arrangements that exist in these locations.

**How do your Animal Acquisition Policies measure up?**

**Are your animals:**
- From managed & regulated fisheries
- Sourced from transparent supply chains, traceable to the collector
- Collected from destructive fishing practices
- Contributing to the local community / economy
- Caught bycatch-free

**Or are they:**
- From poorly managed & unregulated fisheries
- Sourced from opaque supply chains and untraceable
- Collected using destructive fishing practices
- Having destructive social consequences for communities
- Bycatch-intensive, including targeted bycatch

**Conservation Dividend**

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Beyond the Zoo Gates and into the Sumatran Jungle

When most people think of Perth, Western Australia, they don’t conjure up images of the Sumatran Jungle, but that’s exactly what’s happening for visitors exploring Perth Zoo’s new ‘Jungle School’.

The new visitor experience which opened earlier this year immerses Zoo visitors in the sounds of the Sumatran forest as they walk along a 125 metre boardwalk. Watched from above by Perth Zoo’s colony of 12 Sumatran Orang-utans. With misting machines and over 2000 new plants to reflect the smells, sights and noises of a rainforest, it is certainly hitting the right note with Zoo visitors.

Jungle School tells the story of the plight of Sumatran orang-utans and educates and encourages visitors to take action to protect wildlife. It outlines the Frankfurt Zoological Society’s (FZS) Bukit Tigapuluh Ecosystem Protection Program led by Dr Peter Pratje, which teaches orphaned and confiscated Sumatran orang-utans the lessons they need to survive in the wild. The FZS has now introduced more than 155 Sumatran orang-utans back into Bukit Tigapuluh, where they were previously extinct.

Perth Zoo has been a partner with the FZS on the Bukit Tigapuluh program since 2006 – as husbandry advisers, veterinary experts and also as one of the major funders of the program. Through its community fund-raising program, Wildlife Conservation Action, Perth Zoo provides funding for the wildlife protection patrols, elephant human conflict mitigation project, local community education and infrastructure programs. This is part of a formal agreement between the Zoo and the FZS which is now in its 8th year.

As well as telling the story of the work at Bukit Tigapuluh, Jungle School also tells the story of how Perth Zoo runs a ‘jungle school’ at Perth Zoo, in preparing its own zoo-born orang-utans for release to the wild. In 2006 and 2011 two Perth Zoo orang-utans joined the Bukit Tigapuluh FZS release program. Another Perth Zoo orangutan, a young male, Nyaru is presently being prepared for a release, planned for 2015. The driver has been the dramatic decline of Sumatran orang-utans and the absolute urgency to act. The Bukit Tigapuluh program is supported by the Indonesian Government as a backup for the only other remaining populations of Sumatran orang-utans in Aceh Province in north Sumatra.

So to get the animals back into the wild at Bukit Tigapuluh and breeding – there have now been 5 births to date – is really important.

At Perth Zoo young Nyaru is presently being provided access to an area with a huge tree to practice nest building; he is being given food which more closely resembles jungle fruits as well as lots of leaves and fodder, rather than the carefully curated diet of the other orang-utans in the zoo breeding program.

Meanwhile, Perth Zoo visitors love the Jungle School story and in school holiday periods Zoo staff is doing activities on the boardwalk explaining the five lessons for life in the forest. The interpretation theme of Jungle School outlines the five key skills which an orangutan must master before it can be released. These lessons for life in the wild are central to Jungle School and the new visitor experience:

- Stay in the Trees (arborealism)
- Getting Along (socialisation)
- Find Food & Water (foraging)
- Know Your Neighbourhood (orientation)
- Make a Nest (nesting skills)

Children get really involved in the Jungle School story and in school holiday periods Zoo staff is doing activities on the boardwalk explaining and helping kids experiment with their own nest building skills. As well as to understand the imperative for orangutan conservation, a major priority of Jungle School is to encourage visitors to contribute to the Zoo’s conservation fundraising. To date, over 2 million $AUS have been raised for the partner wildlife conservation projects through Perth Zoo’s Wildlife Conservation Action program. As Jungle School is now up and running it is hoped that it will give the work in saving wildlife another boost.

*Thanks to concept designer Studio Hanson Roberts and architects Ireland Pedersen Hook.

© Perth Zoo

A young orangutan at Bukit Tigapuluh.

© Perth Zoo

Perth Zoo’s Jungle School orang-utan exhibit.

© Perth Zoo

The newly constructed climbing post at the Jungle School exhibit.

© Perth Zoo

Checking what orang-utans need to eat at the Jungle School.
Reflecting on the 2014 International Zoo Educators Conference

Sarah Thomas from London Zoo delivered an introductory workshop on the Social and Emotional Aspects of learning that was also a stand-out contribution to the conference proceedings, and Nalini Mohan from the Wildlife Conservation Society kindly shared simple assessment techniques that will now be embedded within education programs across the world.

On behalf of the IZE board and our membership, I must offer a sincere thanks to the team at Hong Kong Ocean Park, where hosting and facilitating an incredible conference. The education team, led by Isabel Li and Suzanne Gendron, showcased an exceptional commitment to integrating fun and meaningful experiences into their Park, all whilst seamlessly coordinating a brilliant conference.

Dr. Leah Melber presented an inspiring case study of work undertaken by Lincoln Park Zoo, where teenagers were provided with authentic learning experiences that reached beyond the zoo confines and had them surveying bats on their school rooftops.

As the International Congress of Zookeepers enters its 15th year, the future shines bright for this organization, and for zookeepers around the globe who are part of it.

The ICZ first came into existence by way of an AAZK (American Association of Zoo Keepers) conference in 2000, in Columbus, Ohio. At that time, a grant had brought together members of seven of the world’s professional zookeeper organizations. The idea to form an international zookeeper association came about, and the ICZ was born. Since then, the ICZ has come into its own, with a Constitution, Bylaws, and incorporation in Australia. Partnerships and MOUs with like-minded institutions such as The Shape of Enrichment and the International Rhino Keepers Association have helped the ICZ strengthen ties between zookeepers around the world.

The ICZ Mission Statement puts it quite well:

The ICZ will build a worldwide network amongst zookeepers and other professionals in the field of wildlife care and calculating. This exchange of experience and knowledge will improve the professionalism of zookeepers for the benefit of the animals under their care and promote awareness and actions that will contribute to the preservation of wildlife everywhere.

2014 World’s Professional Keeper Associations that make up the ICZ:

• American Association of Zoo Keepers (AAZK)
• Association of British & Irish Wild Animal Keepers (ABWAK)
• Australasian Society of Zoo Keeping (ASZK)
• Asociación Ibérica de Cuidadores de Animales Salvajes (AICAS) (Spain & Portugal)
• Association Francophone des Soigneurs Animaliers (AFSA) (France)

• Berufverband der Zootierpfleger (BdZ) (Germany)
• Stichting De Harpij (Netherlands and Belgium)
• Zookeepers’ Association of the Philippines (ZAP) (Established 2006)

Now, nearly 15 years and 4 successful international conferences later, the ICZ has many accomplishments, and many more projects on the horizon.

International Congress on Zoo Keeping (Conferences)

The first major goal for the ICZ was to organize an international keeper conference, or congress. In 2003, the first congress of the ICZ was held at Avi-fauna in the Netherlands. In 2006, the Congress was held at the Gold Coast, Australia. In 2009, the Congress was held in conjunction with the 5th AAZK National Conference at Woodland Park Zoo, Seattle, Washington, USA. In 2012, the Congress was held at the Wildlife Reserves Singapore. A total of over 1,100 zookeepers from all over the world have attended the four previous ICZ conferences. The forthcoming 5th International Congress on Zoo Keeping will be held at Leipzig, Germany, September 9–13th, 2015. It is anticipated that at least 300 zookeepers and other delegates from all around the world will attend this Congress. Associations interested in hosting a Congress after 2015 should contact the ICZ Steering Committee.

ICZ and the Shape of Enrichment Workshop

In November 2012, the ICZ and The Shape of Enrichment worked hand-in-hand in presenting two environmental enrichment workshops under the auspices of the EAZA Academy. These workshops were held at the Sofía Zoo in Bulgaria, and the Tbilisi Zoo in Georgia. The workshop in Bulgaria was co-organized by the Zoopark Sofia, the Bulgarian Ministry of Environment and Water, and was attended by zookeepers, zoo directors and ministry officials whose job is to monitor zoos all over Bulgaria. The participants of the Tbilisi Zoo workshop were all zoo-based, and represented zookeepers, curators, and directors from Tbilisi Zoo, Minsk Zoo (Belarus) and Yerevan Zoo (Armenia). Lectures on animal welfare, a zookeeper’s job, and essential husbandry skills were interspersed with environmental enrichment lectures, which made up the majority of the workshop. All of the lectures and activities were well-received and participants of the two workshops were impressed overall.

Animals Asia and the Chinese Association of Zoological Gardens

In 2013 ABWAK was invited by Dave Neale, Animal Welfare Director of Animal Asia Foundation, to attend the Zoo Directors Conference in China. Over the last three years the Animals Asia Foundation and other partners have worked closely with the Chinese Association of Zoological Gardens (CAZG) to improve welfare in Chinese zoos and safari parks. To facilitate this they have organised a series of workshops aimed at senior staff and have enlisted the help of international speakers to present ideas and best practices from other countries.

The meeting took place from the 16th June to the 21st June at Shenzhen Safari Park in Guangdong province, and ABWAK Chairman Ross Snipp accepted the invitation to give a presentation. Ross was asked to talk spe-
14 15

Since the conference there has been encouraging points with regards to develop and progress during employ-
ment are also limited. The Chinese zoo Directors were therefore very keen to learn about professional zoo-
keeper courses, as well as the ABWAK workshop programme.

Since the conference there has been a significant development and the government ministry responsible for the traditional zoos has now issued a National Zoo Development Plan. The Animals Asia Foundation commented “This document contains some very encouraging points with regards improving animal welfare, instructing zoos to provide animals with hus-
bandry conditions which meet their physical needs and let them express natural behaviours, provide daily health care, develop animal hospitals, strengthen the training of zookeepers to improve their professional knowl-
edge and banning all kinds of circus animal performances.

Zookeeper: An Introduction to the Science and Technology, by Mark D. Inwin, DVM, was published in December 2013. The book is a collaborative ef-
fort, with 73 contributing authors, and seven contributing artists, a diverse group of experts from varying back-
grounds and regions of the world. The 66 major chapters discuss an impres-
sive range of topics, such as animal welfare, ethics, wildlife rehabilitation, taxon-specific husbandry guide-
lines, nutrition, preventive medicine, behavioral husbandry, enrichment, emergency preparedness, and crisis management. The comprehensive array of content covers every aspect of successfully running a modern zoo. Seemingly a handbook for new zoo-
keepers, this book is in fact a resource which will prove useful to even the most seasoned zoo professional.

The ICZ hereby declares that hence-
forth, October 4 will be known as International Zookeeper Day. The ICZ represents a resource of over 6,000 keepers worldwide. Zookeepers involved in any Conserva-
tion Project anywhere in the world. Conservation is very important to the ICZ and we would like to share information from these conservation projects worldwide. Our plan is to compile information on all of these conservation projects and encourage the involvement of other zookeeper, or better still maybe some will start new ones of their own. Many conserva-
tion projects are run, managed, or helped by keepers.

Keeper Notes

Keeper development and the ad-
vancement of the animal care profes-
sion have become top priorities for the ICZ. The role of the ICZ in helping keepers, especially those in develop-
ing countries and those without their own associations has been huge. Nothing else that has occurred in the last 14 years has had such a positive effect on the global development and networking of the world’s zookeepers.

The Future of ICZ

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Illustrated Manual of Zookeeping

The ICZ is currently working on a project to create a completely il-
ustrated; i.e. drawings, photographs, and illustrations, zookeeper manual. This manual would be provided to zoo in countries that may have staff that are not able to read or write. This idea was initially proposed to the ICZ Steering Committee by a veterinarian who works at a zoo in a developing nation. This strictly illustrated manual would also be useful to spread to other countries because there will be no need for translating between lan-
guages. The manual will be based on one already created by one of ICZ’s members, the Zookeepers Associa-
tion of the Philippines (ZAP). This written manual teaches zoo keepers how to be safe and productive and give the animals they care for the best lives possible.

International Zookeeper Day, October 4

The ICZ hereby declares that hence-
forth, October 4 will be known as International Zookeeper Day. The intention is to honor and recognize the dedication and devotion that zookeepers around the world show the animals under their care, and to the conservation of wildlife ever-
twice as the date approaches, consider how your institution might show appreciation for the hard work zookeepers do every day.

Zoo Technology book

Zookeeping: An Introduction to the Science and Technology, by Mark D. Inwin, DVM, which works at a zoo in a developing coun-
try, was published in December 2013. The book is a collaborative ef-
fort, with 73 contributing authors, and seven contributing artists, a diverse group of experts from varying back-
grounds and regions of the world. The 66 major chapters discuss an impres-
sive range of topics, such as animal welfare, ethics, wildlife rehabilitation, taxon-specific husbandry guide-
lines, nutrition, preventive medicine, behavioral husbandry, enrichment, emergency preparedness, and crisis management. The comprehensive array of content covers every aspect of successfully running a modern zoo. Seemingly a handbook for new zoo-
keepers, this book is in fact a resource which will prove useful to even the most seasoned zoo professional.

Mark D. Inwin, the book’s editor, has pledged that all profits from the book will be used to purchase cop-
ies to provide to zoos and keepers which would not otherwise be able to afford them. Working together with the American Association of Zookeepers and the ICZ, a working group will be established to distrib-
ute books in the future.

differently about professional standards for zookeepers, keeper qualifications and the work that ABWAK has taken

...The ICZ has many things to accomplish before becoming a major player in conservation...

Increased communication, advanced husbandry, and the sharing of ex-
pertise are the products of the ICZ. Another great example of the ICZ’s positive influence has been the trans-
formation of Dreamnight at the Zoo from a European-based event into an international success story.

The ICZ will continue to establish a global network for zookeepers. Al-
ready many keepers have developed lifelong friendships with colleagues throughout the world as a result of the ICZ. Additionally, there is greater opportunity to share expertise with colleagues on a global scale.

The ICZ will work towards developing and supporting conservation. The ICZ has many things to accomplish before becoming a major player in conser-
vation; however, the future looks bright for the development of a global conservation effort for zookeepers. We envision a flagship conservation effort that all of the world’s keepers can promote and take pride in.

There are many things yet to accom-
plish, but already the ICZ has developed faster and achieved more than anyone could have imagined when the idea first came about in 2000. Many individuals and associations have supported the ICZ. We hope that you find the accomplishments and potential of the ICZ as exciting as we do, but we need your help in planning for our future. This cannot be done by the Steering Committee alone. We need your feedback and involvement. Most importantly, the ICZ belongs to all of you. Speak up, get involved, and help guide the evolution of your inter-
national keeper association. We hope to see you at the next ICZ conference in Leipzig, Germany on September 9–13th, 2015!
Decades of Passion

Vladimir Vladimirovich Spitsin was born on October 26, 1941 in the city of Gorkiy (now Nizhniy Novgorod) into the family of military officer. In 1959, Vladimir graduated from secondary school, and in the same year started working at the Leningrad Zoo as a loader; he was not yet 18 years old at that time and therefore could not work as a keeper but as soon as he turned 18, he was appointed a keeper of herpetology and ornithology department. It was during his work at this department, that Vladimir Spitsin gained his first experience of keeping, feeding and capturing various species of snakes, both poisonous and non-poisonous, and became a specialist in husbandry of various bird species, from emus to small passerine birds.

In 1962, I was called up to serve two years of military service as a sergeant at the Soviet army military school of transport drivers. I returned to the Leningrad Zoo in 1964, and worked as a keeper and then as a zoo technician in the mammals department. Five years later in 1969, I was appointed Zoo Deputy Director responsible for engineering and household management. Simultaneously, in 1967 I became a distance learning student of the Leningrad State University (Department of Biology) where I specialized in research of vertebrate animals.

In 1974, Igor Sosnovsky, Director of the Moscow Zoo, invited me to work for the Moscow Zoo as Deputy Director for Science and Zoology. After Igor Sosnovsky retired in 1977 (he had worked at the Zoo for 27 years), I was given the position of the Director of the Moscow State Zoological Park. This appointment was made by the Moscow city government and its officials always seemed to be happy with my managing activities so I worked in the same position till 2006. In 2006, when the northern branch of the Moscow Zoo in the city of Veliky Ustyug was opened, I was appointed General Director of the Moscow Zoo, to manage the activities of two zoos. Since 2013 I have been the President of the Moscow Zoo.

I was proud to have contributed greatly to the cause of wildlife conservation, having created one of the best wild animal collections in Europe, and providing the best possible conditions for the preservation and breeding of rare and endangered animal species, as well as some that have become extinct in the wild. By investing a tremendous amount of energy into the construction and reconstruction of the Moscow Zoo, we were able to turn our zoo into one of the main attractions of the Russian capital.

As the Director, I was pleased to do my best to greatly enhance the reputation of the Moscow Zoo, and establish and develop cooperation with over 50 zoological gardens in Europe, Asia, America, and Australia, coordinating animal exchanges with the world’s best zoos.

The Moscow Zoo is formally recognized as the leading zoo of Russia. In 1991, I was appointed the Chairman of the Council for Coordination of Activities of Russian Zoos under the Ministry of Culture of the Russian Federation.

The Moscow Zoo was replenishing the collection of animals and breeding species of high scientific and genetic value. The Moscow Zoo was providing a unique scientific and educational research program. Great bustards, Steller’s sea eagles, Amur leopards, Amur tigers, polar bears, mountain ungulates of Eurasia and other rare species of animals successfully breed at the Moscow Zoo’s Breeding Station.

I feel that one of the best achievements of the Moscow Zoo is its Scientific Research Department that was an initiative of mine in 1979. This department has been working successfully since then and the results of its staff research work are well-known not only in Russia and CIS countries, but also abroad.

One of my other projects was the establishment of the Eurasian Regional Association of Zoos and Aquariums (EARAZA) in 1993. I was the Chairman of the EARAZA for all the years since its creation. By now, EARAZA comprises more than 80 zoos, botanic gardens, aquariums, oceanariums, and exotariums of Russia, the CIS countries, Czech Republic, Baltic countries, and Israel. The Moscow Zoo serves as the scientific, methodological and informational centre of this organization.

I enjoyed giving much of my time and energy to the creation of the Breeding Station for Rare Animal Species under the auspices of the Moscow Zoo. Now the Breeding Station founded in 1997 has an area of about 170 hectares, located near the city of Volokolamsk in the Moscow Region. The Breeding Station maintains a large collection of birds, mammals and fish, and is carrying out activities aimed at the breeding of rare species of animals which can be transferred to other regional or world zoos. Some animals are reintroduced in the natural habitats under EARAZA conservation programs. Great bustards, Steller’s sea eagles, Amur leopards, Amur tigers, polar bears, mountain ungulates of Eurasia and other rare species of animals successfully breed at the Moscow Zoo’s Breeding Station.

Under my guidance, extensive educational activities are carried out at the Moscow Zoo and other EARAZA member institutions. Special days on various themes are organized for the visitors, as well as lectures and guided tours dedicated to conservation of rare and endangered species of animals. Moscow Zoo is an active member of the European Association of Zoos and Aquariums (EAZA), and the World Association of Zoos and Aquariums (WAZA), participating in joint conservation events of both of these organizations.

In 1983, I was awarded the title of Honoured Worker of Culture of the Russian Federation; in 2000, I was granted a status as full member of the Russian Academy of Natural Sciences. I took part in the activities of many wildlife conservation organizations of Russia, and chaired a number of editorial boards for the EARAZA publishing activities. I was kindly awarded a number of different honours from the Russian Federation Government.
Manfred Nieckisch

Biologist and ecologist, holder of a number of both, executive and honorary positions

Prof Dr Manfred Nieckisch is biologist and ecologist and became Director of Frankfurt Zoo in 2008. He has been actively involved in international conservation work since 1980, initially with WWF Germany/TRAFFIC and later with The Tropical Forest Foundation Oro Verde. In 2010 he became Professor of International Nature Conservation at the Goethe University of Frankfurt (Germany) after teaching and researching at the University of Greifswald (Germany) in the same position for 10 years. He also is lecturer at both the University of Hanoi (Vietnam) and the Universidad Internacional de Andalucia (Spain). In addition, Manfred Nieckisch holds a number of honorary positions, including President of the Society for Tropical Ecology (gtoe) and Vice-President of the Frankfurt Zoological Society (FZS) and of the Global Nature Fund (GNF). He is a member of the Administrative Council of the Senckenberg Natural History Society (SNG) and Advisor to National Geographic’s Global Exploration Fund. At the World Conservation Congress in 2004, he was re-elected as Regional Councillor of the World Conservation Union, IUCN and chaired the IUCN Programme and Policy Committee, serving for the maximum possible two terms. He has produced more than 100 publications. Geographically, the focus of both his scientific and practical conservation work lies in developing countries in tropical regions, especially in Latin America and Vietnam. Privately he loves old books, Italian operas and tango and has a strong interest in the ethology of Amazonia and Tierra del Fuego.

WAZA: Do you think zoos and aquariums, as a community, do enough to pro-actively promote the role they play in conservation?

Manfred: There is no doubt that, today, we as a community are doing more than ever before for conservation, and this has to be acknowledged of course. On the other hand, I believe we are far from doing enough in this field. There is still so much to do, especially as most of the targets set to halt the loss of biodiversity (for example, using tropical (and other) timber from sustainable sources only) have been missed so far. However, we do have to recognize that many zoos and aquaria have limited possibilities to really live and promote conservation as a top priority. Financial constraints, but also limited physical space inside the zoos and aquaria and/or lack of human resources are serious obstacles. Despite the intensive efforts by many members of our community, we are still seen by many of our visitors first and foremost as a place to relax and a place to enjoy animals. There is nothing wrong with that, but one of our main tasks now should be to gain more attention and credibility with regard to our conservation activities. Traditionally we have been asking ourselves: Which animals do we want to keep and how do we have to keep them? But, these days, there is a third and even more important question: Why are we keeping these animals? Just for fun? I think this is definitely not enough!

How can zoos and aquariums better translate high-level policy discussions and decisions to their visitors? Careful! Let me issue a word of warning: I don’t believe that it is our task to translate and convey high-level policy discussions and decisions to the general visitor. My experience is that our visitors are much more interested in knowing what they can do themselves to promote conservation. Using our environmental education programmes, we can influence consumer behaviour, which is an area where governments have very limited, if any, possibility. So, let’s stay close to our visitors, high-level policy issues are often very complex and weak, not concrete enough to be explained easily and we may easily get lost here. It is a matter of addressing appropriately the right target groups.

Fifty scientific papers that I have written on such topics as history of zoos, ecological problems, conservation and restoration of populations of birds and mammals were published. Among them: “Ratite Birds in Zoos and Breeding Stations”; “Moscow birds and mammals were published. I am grateful to all the colleagues and friends who cooperated with me. My whole life I was engaged in what I loved, surrounded by excellent professionals, and kind-hearted people.

Vladimir Spitsin is loved and respected by his colleagues and Russian zoologists in general, as well as biologists in many countries because of his great dedication to our common cause, his vast knowledge and his experience. In WAZA he was also actively engaged for many years, and a regular participant in annual conferences, congratulations to the 150th Anniversary of Moscow Zoo!

WAZA news 4/14
How important is it for zoos and aquariums to be involved with high-level policy discussions outside purely zoo and aquarium sectors, such as the CBD COPs? That is a question completely different from the previous one. In all fields where we are competent we must address politicians to achieve our conservation goals and we should as closely as possible work with the secretariats of CITES, CBD and with the delegates at the COPs. But let’s also recognize that on quite a number of important matters we are not really competent; for example, the issue of intellectual property rights, of access to genetic resources, of biodiversity from the previous one. In all fields where we are competent we must closely as possible work with the secretariats of CITES, CBD and with the delegates at the COPs. But let’s also recognize that on quite a number of important matters we are not really competent; for example, the issue of intellectual property rights, of access to genetic resources, of biodiversity wherever possible.

Is the Biodiversity is Us project an appropriate way to translate these decisions (in this case addressing Aichi biodiversity Target 2) to the general public? Yes, it is! The project is definitely a good starting point and basis for further action.

How can we, as a community, better influence international policy? Backed up by a strong community of zoos and aquaria, united in WAZA, our priority lies in lobbying for conservation decisions with both local and national politicians, as, eventually, their politics form the international policy.

What were the obstacles, if any, to make use of the WAZA “Biodiversity is Us” material or first experiences? At Frankfurt Zoo, we are using a specially prepared container as an Information Point where we present the film with its sound track. This setting has the great advantage of a quiet atmosphere inside the contain-er and our visitors are not distracted by other events.

The main problem for our visitors so far concerns the downloading of the “Biodiversity is Us” app using the QR codes on the posters without having access to (high-speed) Wi-Fi. We have reports that slow internet connec-tions or low data capacities have pre-vented visitors from downloading the app. Every zoo will have to adapt the campaign to the social and cultural situation and the local possibilities and realities. Thus, a campaign like this can be made much more efficient using guided tours, lectures and en-

vironmental education programmes with direct contact to the visitors. In summary, I see the Biodiversity is Us project as a good starting point and basis for further action.

How can we, as a community, better influence international policy? Backed up by a strong community of zoos and aquaria, united in WAZA, our priority lies in lobbying for conservation decisions with both local and national politicians, as, eventually, their politics form the international policy. Vice versa, the sum of these de-centralized activities forms the support structure for our common global goals.

How do you see the importance of messaging, between institutions as well as between countries and re-gions around the world, to promote the role of zoos and aquaria? Communication in all directions leads to the “identity” of zoos and aquaria. But, first of all, we may not create expectations which we cannot satisfy at the end, and we should act within our respective social and cultural con-text. It is, in my opinion, important that the WAZA office gets feedback and information from their member zoos and aquaria to be able to bundle those activities and, thereby, form a global movement. At the same time, such a process will help each partici-pating zoo to see that we are acting as a community – and this is neces-sary to make us stronger.

Zoo Talk
By Patricia G. Patrick and Sue Dale Tunnicliffe

A WAZA-led global evaluation showed that visiting zoos and aquariums has a positive impact on their visitors’ biodiversity literacy (see this year’s report A Global Evaluation of Biodiversity Literacy in Zoo and Aquarium Visitors), providing evidence for the value of zoos and aquariums as education providers. The book Zoo Talk, authored by Patricia G. Patrick and Sue Dale Tunnicliffe, provides a new look at informal education, sug-gests activities for educators to em-ploy and identifies potential learning opportunities in zoos and aquariums.

Founded on the premise that zoos and aquariums are “bilingual” – that the zoo or aquarium, in the shape of its staff and exhibits, and its visi-tors speak distinct languages – this enlightening analysis of the informal learning that occurs in zoos and aquariums examines the “speech” of exhibits and staff as well as the discourse of visitors beginning in the earliest years.

Using real-life conversations among visitors as a basis for discussion, the authors interrogate children’s re-sponses to the exhibits and by doing so develop an “informal learning mod-el” and a “zoo knowledge model” that prompts suggestions for activities that educators can use before, during and after a zoo or aquarium visit.


Handbook of the Mammals of the World, Vol. 4: Sea Mammals
Edited by Don E. Wilson & Russell A. Mittermeier

The Handbook of the Mammals of the World is published in association with Conservation International and the International Union for Conservation of Nature (IUCN). This fourth volume on sea mammals provides complete accounts of all species in these impor-tant groups. Keeping sea mammals, notably cetaceans, in human care is challenging and controversial, so hav-ing a sound scientific understanding of these species is essential.

Marine mammals include some of the most fascinating animals on earth. Large, majestic whales and stunning, playful dolphins have provided mys-terious companionship to humans at sea for hundreds of years. These mag-ical creatures, along with the equally fascinating dugongs, manatees, earless seals, walruses and eared seals, have developed a completely different set of adaptations from their terrestrial ancestors and relatives.

Lavishly illustrated with colour photos-graphs showing different behaviours of all of them, the text contains the latest up-to-date information on all 25 families in three orders of sea mammals, covering the pinnipeds, sirenians and cetaceans. The book contains 30 colour plates, 667 colour photographs and 147 distribution maps.

In addition to the third volume on primates (reviewed in WAZA News 3/2013) and the second volume on hoofed mammals (reviewed in WAZA News 2/2012), we also recom-mend the first volume covering the carnivores of the world, published in 2009. The other four volumes of the Handbook of the Mammals of the World, covering the remaining mam-malian taxa (Vol. 5: Marsupials, Vol. 6: Rodents, Vol. 7: Insectivores, Vol. 8: Bats), are forthcoming.
Book Reviews

Animal Welfare: Focusing on the Future
Edited by David Mellor and David Bayvel


The first issue of the Scientific and Technical Review published in 2014 was entitled “Animal Welfare: Focusing on the Future”. This issue outlines contemporary thinking about factors that promote or jeopardise the productivity, health and welfare of the wide range of animals used for human purposes. It also considers likely future developments in animal welfare thinking and management and, where possible, references influences of the diverse practical, economic, political, socio-cultural and religious factors that may be encountered globally in various cultural contexts.

This issue of the Scientific and Technical Review was edited by David Mellor and David Bayvel. While not specifically focusing on the welfare of zoo and aquarium animals, it provides a welcome and valuable resource for the development of the World Zoo and Aquarium Animal Welfare Strategy, to be launched in 2015. This is not the least the case as David Mellor is heavily involved in the production of this Strategy.

India’s Elephants Photographs by Annette Bonnier

By Annette Bonnier


“Annette Bonnier’s work with the elephants of India is a testament to her fascination with these great creatures and the unique and intricate relationship they share with humanity – at times worshipped and other times enslaved. This interdependence is as controversial as it is complex” says Steve McCurry in his foreword to this impressive large-sized book. With over 200 colour photos this book salutes the Asian elephant in the two differing roles in Indian society, one that wavers between the animal as an enlightened, spiritual being and as a beast of burden. Bonnier sees her photographs as a cultural documentation of elephants in Indian society. The photos were taken on four trips between 2011 and 2013 and are a stunning documentation of the elephants’ interaction with humanity. The range of various photos goes from mahouts guiding logging elephants, to temple elephants, swimming elephants in the Bay of Bengal to Ganesh, the elephant-headed Hindu god.

If you love elephants, then this coffee table book is a must have and if not you will fall in love with those wonderful and mysterious creatures.

ICZ Congress
9–13 September 2015 | Leipzig, Germany

The International Congress of Zookeepers (ICZ) will hold the 5th ICZ congress at Zoo Leipzig. With the theme of “Let’s Zoolocalize” it is hoped that many of the world’s zookeeping community will attend to share their experience and connect with others in the profession. A number of pre- and post- conference tours will be offered. Several travel grants can be offered through the ICZ Paul Howse Scholarship, which is funded by the Silent Auction of the previous congress and from further sponsorships received. Information on these grants will be posted on the ICZ website closer to the congress.

Enquiries should be sent to congress@iczoo.org and the ICZ website will be updated as new information becomes available.
WAZA Partners with GRASP

WAZA joined a partnership with the UNEP Great Ape Survival Partnership with the view of supporting the conservation of apes. In times of increasing illegal trade and the bushmeat crisis (cf WAZA News 3/14), it is important to join hands and to enhance cooperation between the zoo community and the United Nations network.

WAZA Webinar on Animal Transportation Online

As part of the cooperation with San Diego Zoo Global and the WAZA e-learning tool, a new webinar on animal transport has been put together by Andreas Kaufmann for WAZA and is now available for free on the platform (WZA website/Get involved/E-Learning).

Wetlands for Our Future: World Wetlands Day 2 February 2015

Join us on 2 February 2015 to celebrate wetlands and their vital role for humanity. About 300–400 million people around the world live in or around wetlands. All of humanity depends on wetlands for fresh water, food, and as a shield against rising sea-levels, diverse and beautiful plant and animal species are also to be found in this essential ecosystem.

And yet newly published estimates show that 64% of the world’s wetlands have disappeared since 1900, begging the frightful question: Is a future without wetlands a possibility?

In order to draw attention to the value of wetlands, and to prevent, stop and reverse their current degradation, the Ramsar contracting parties decided on “Wetlands for our Future” as the common theme for both World Wetlands Day 2015 (WWD 2015) and the upcoming 12th Meeting of the Ramsar Conference of the Parties, to take place in Punta del Este, Uruguay, from 1 to 9 June 2015.

During 2015, the world will set the post-2015 agenda in the Sustainable Development Goals which will replace the Millennium Development Goals. Wetlands are central to the provision of multiple ecosystem services that underpin our future development.

To help support 2015 WWD activities, we have produced a variety of materials in English French and Spanish that can be downloaded from the Ramsar website (www.ramsar.org/activity/world-wetlands-day-2015).

These include posters about WWD 2015, how to enter the Youth photo-contest, which runs from 2 February through 6 March 2015, and actions you can take to help stop wetland degradation, hand-outs with facts, figures and paradoxes about wetlands, and ideas on how to organize an event.

These materials are meant to serve as an inspiration and can be adapted to your context to make them meaningful for your local and national situation. Adding your logo, changing the language – all is possible with the design files. Please contact ramsar@ramsar.org or download the materials directly on the website.

Since its inception, the production and distribution of materials for World Wetlands Day have been financially supported by the Evan Project, funded by the Danone Group.

The Haus-des-Meeres is a Zoo-aquarium occupying an unsightly World-War-II anti-aircraft tower close to the center of Vienna. Its non-martial aquarium use dates back an unbelievable 57 years, and logically the post-war redevelopment started from the basement upwards. Eventually, however, we reached the top of the building and had to appropriately “tile our roof”.

Three years ago we decided to top the building with a Caribbean reef aquarium and also to add a bar which gives our visitors a chance to relax and have a drink while enjoying a panorama view of Vienna. It is a difficult task to transform a building whose sole intention was to withstand bombs while shooting down airplanes into a zoo designed to attract visitors. Large amounts (a total of 200 metric tons) of reinforced concrete blocked the visions of our architects and had to be removed using diamond saws. Tilted, leaking walls and ceilings had to be uprighted and proofed, two new staircases were erected, and an additional elevator was added to provide all our guests with access to the 11th floor, which is 52 m above ground.

The Caribbean reef tank, which lies in the heart of the newly gained space, holds 260,000 liters of home-made seawater, has a large, curved front-pane, and 4 glazed portholes on its side wall. We even added a smaller pane in the back wall, which allows the guests in the elevator to sneak a peek on the reef from behind.
The aquarium was designed to be as sustainable as possible, and we therefore added thermostat-regulated ventilation and thick thermal insulation to the walls in order to keep heating and cooling costs as low as possible. At the same time, we installed new power-saving LED lighting technology that also helped circumvent the toxic mercury commonly contained in standard metal halide aquarium lamps. We even added the newest generation of low-power-consuming circulation pumps. They create a near-natural laminar current for the inhabitants of the artificial reef.

The reef is now home to a variety of Caribbean littoral fishes including wrasses, angelfish, basslets, snappers, grunts, jacks and two species of rays. Our rooftop coral reef even hosts a species of hammerhead shark – the bonnethead aka Sphyrna tiburo. Unlike their eight other hammerhead kin species, bonnetheads are IUCN listed as “least concern”, are small sized, and perfectly suit our “medium-sized” aquarium. Together with the other reef denizens, they were purchased from a supplier in Florida who increasingly sources fish from aquaculture operations and therefore minimizes takes from natural Caribbean stocks.

The new construction (including the cladding, supporting structure and habitats) cost around 7 million Swiss francs. Most of this was paid by the city of Bern, but the animal park association (Tierparkverein Bern) also made a substantial contribution.

Three habitats as an alternative to many small aquariums

Our original plan was to simply replace the glass roof and supporting structure of the vivarium. That work would have taken six months, and the public would not have benefited much from the changes. For that reason we decided to move the projected renovation date of the aquarium forward, and carry out the work simultaneously. That meant we had to tear down the aquarium and rebuild it. We built three habitats as an alternative to building many small aquariums. The facilities were opened in November 2013.

In one of the two Amazon basins there contains 85’000 litres of water in total; within the basin there now live piranhas, Sterba’s corydoras, armoured catfish, cardinal tetras, and giant hatchetfish. A fascinating spatial depth is achieved thanks to the steep richly structured banks, lush vegetation on the surface of the water and space above. One peers into the darkness of the river course, eager to discover which large fish will glide into the light – a Xingu river ray on the river bed, a group of pacus or Orinoco peacock cock-bass, or the fierce silver arowana?

In the mangrove enclosure at the other end of the room, it is low tide – but in a few hours it will be high tide. Mangrove plants with many branches are growing frometchings in the sand. Pearce’s mudskippers bob between the plants, trying to avoid capture by one of the four-eyed fish constantly lurking there. Small crumbly heaps of sand is proof that a fiddler crab has just dug itself in; if you’re patient you can spot a crab hunting for food. If you’re lucky, it will wave to you. Banded archerfish and scats live in the deeper part of the mangrove. The change from low to high tide is effectuated by a system of pumps and ‘backstage tanks’ developed by the Zoological Garden: 6,000 litres of brackish water is moved from the enclosure to the tanks; seven hours later, it is pumped back into the enclosure. Regular stimuli from a pump ensure lasting natural-seeming water movements.

Between the Amazon and the mangrove enclosures, the door opens to the ‘underworld’: the synthetic vaulted ceiling. Regular stimuli from a pump ensure lasting natural-seeming water movements.

To find out more: www.haus-des-meeres.at
First Conference of Latin American Zookeepers

Inspired by experiencing valuable knowledge exchange during the 2013 ALPZA Annual Congress in Brazil, the Latin American Zokeepers Network worked with Temaïken to organise the first Conference of Latin American Zookeepers. This conference took place during the 2014 ALPZA Annual Congress, hosted by Parque de las Leyendas in Lima, Peru. The conference was partially funded by a WAZA Training Grant, lasted four days (16 hours in total) and had four international instructors from Busch Gardens and Temaïken. Additionally, 15 zookeepers from 13 institutions in Argentina, Brazil, Chile, Colombia, Cuba, Mexico and Peru gave talks about their experiences with animal training, environmental enrichment and strategies for teamwork. There were discussions at the end of each afternoon.

Eighty attendees from 15 Latin American countries, mainly zoo and aquarium keepers, were active participants in this conference. The funds from WAZA were used to give full scholarships to six zookeepers from six ALPZA member institutions in five countries (Argentina, Chile, Colombia, Cuba and Mexico). A board of experts selected these recipients from over 30 applicants from all over Latin America—a number that shows the huge interest of our members to train their zookeepers.

The primary goal of the conference was to build capacities of zookeepers to improve the handling and management of their animals, thereby raising the standards of animal welfare in the region and helping the institutions to improve the management of their collection. Throughout the conference we managed to give the technical staff of Latin American institutions advanced and updated knowledge and practical skills in wild animal keeping.

During the conference, attendees and facilitators discussed relevant issues for the zoo and aquarium community to raise animal care and welfare standards in Latin America. The conference included the following topics:

- Animal husbandry: animal behaviour, observational skills, training, enrichment, handling and restraint, animal transports and shipments, zookeepers’ roles in animal nutrition, geriatric care, veterinary care, reproduction and hand-rearing.
- Problem-solving: planning and determining the causes of complex problems, implementing the plan—safety, crisis management, behavioural issues and research skills.
- Communication: teamwork.
- Zookeepers’ role in education.

Through the engagement of the attendees with professional colleagues, and subsequent communication through the Latin American Zookeepers Network, participants are able to apply the new knowledge and techniques acquired back at their home institutions and share them with their co-workers.

After the success of updating zookeepers’ knowledge, ALPZA is committed to continue training strategies by organising a second ALPZA training conference on new paradigms for animal management in Latin America. For this event, participation of professionals that are responsible for leading animal caretaker teams (heads of animal divisions) will be promoted. No other position in the organisation will have such an integrative role like the heads of animal divisions. They are required to implement strategic plans entrusted by directive boards and also respond to daily animal welfare requirements identified by zookeepers. We are certain that new training of this group of professionals is essential to sustain and even increase animal welfare standards.

ALPZA, Temaïken and the Latin American Zoologists Network are deeply grateful to WAZA for supporting the first Conference of Latin American Zookeepers, a relevant and meaningful training opportunity for the zoo and aquarium animal caretakers in Latin America.

Established in the West Bank city of Qalqilya in 1986, Qalqilya Park Zoo is the only municipal zoo in the Palestinian Authority. It is a popular local attraction seeking to join the international zoo community. Thanks to a generous training grant from WAZA, Jerusalem Zoo led a formal staff training course that took place in both Qalqilya and Jerusalem with five full-day training sessions conducted over a three-month period. The training programme was developed and presented by senior Arabic-speaking Palestinian staff members of Jerusalem Zoo.

Given that Qalqilya Park Zoo is the only opportunity for children in the West Bank to learn about wildlife conservation, and environmental sustainability issues, this programme is of critical importance and is also aimed at ensuring the highest standards of animal care and welfare. It is a wonderful example of how the international zoo community can serve as a vehicle to build bridges over political conflict by uniting people and nations to act for the benefit of nature conservation and sustainability.

The aim of the programme was to switch the focus of the Qalqilya Park Zoo team from recreation to education. The specific goals of the training programme included improving the overall level of knowledge and skills of staff members; raising standards in all aspects of zoo management; helping to establish a visitor education programme; and establishing the first step towards co-operation between Israeli and Palestinian nature conservation institutions. The course included both theory and practical hands-on training exercises covering the following topics:

- The History of Zoos
- The Role of a Modern Zoo
- Capturing and Restraining Animals
- Animal Welfare and Enrichment
- Health and Safety Procedures
- Animal Nutrition and Diet Planning
- The Zookeeper’s Role in Visitor Education
- Visitor Experience
- Guiding
- Management
- Exhibit Design
- Landscaping and Maintenance

Practical exercises were developed to deal with the existing animal collection, and participants were also exposed to the animal collection at Jerusalem Zoo to broaden their perspective. Visitor education activities were demonstrated and various educational signage options were discussed. The particular needs of the conference in the Qalqilya Park Zoo’s collection were assessed with a view to planning the redesign or modification of existing exhibits. Everyone involved in this programme was inspired by the participants’ enthusiasm.

In addition, the programme provided the course presenters with an opportunity to experience a greater sense of responsibility vis-à-vis the wider community of zoos. Designing and presenting the course allowed the presenters to conduct a thorough review of their own duties and to consider the advantages and disadvantages of various approaches in order to engage effectively with the trainees.

Jerusalem Zoo would like to thank WAZA and the Municipality of Qalqilya for their support of this course that, we hope, is the start of a stable and ongoing staff training programme for Qalqilya Park Zoo to enable it to achieve standards of operation and animal care consistent with those required by WAZA and be welcomed into the international community of zoos.

© Jerusalem Zoo/Qalqilya Park Zoo
Practical training session at Qalqilya Park Zoo
Staff Training at Port Moresby Nature Park, Papua New Guinea

Zoos Victoria has a sister zoo partnership with Port Moresby Nature Park in Papua New Guinea, with a shared programme goal of collaborating to increase capacity of the park to become a zoo-based conservation organisation. In May 2014, this was supported by a WAZA Training Grant to enhance the skills of the park’s animal keepers and horticultural staff.

Two Zoos Victoria managers – Richard Hudson, Assistant Curator at Healesville Sanctuary and Tom Millane, Nursery Manager at Melbourne Zoo – worked with the park’s managers over two weeks to support skill enhancement of the park’s five animal keepers and 15 gardens and landscaping staff. Ten staff from “14 Mile”, a nearby animal park, also joined for animal husbandry skills training.

Extensive training schedules were prepared in collaboration with park managers prior to arrival. Whilst these provided a valuable foundation and many elements were utilised, on-ground adjustments were required to satisfy cultural and knowledge challenges and enabled a suite of solid outcomes.

Animal staff:
• Animal husbandry refresher training sessions.
• Daily animal feed checklists were prepared with keeping staff.
• Photographic record of all animal food types and prepared dishes. This is in place in the park’s food preparation building.

Animal handling training for keepers. This included role-plays to strengthen encounter outcomes for visitors, an important objective for the park in increasing engagement with the wider Port Moresby community. Increasing staff confidence and daily condition of blue-eyed cockatoos has seen these birds since used in multiple successful encounter experiences.

Animal encounters model (key characteristics, delivery style, messaging, etc.) delivered for all park education and keeping staff, and interviews conducted to identify teachers appropriate to provide animal encounters for students and visitors.

Horticultural staff:
• Comprehensive nursery stock-take spread sheet developed, including details for each species on propagation, pest control and minimum stock targets.
• Improved propagation efficiency through guidance in conventional techniques, using cuttings and improved potting mix.
• Relocation of plants for sale provided an excellent opportunity to highlight factors critical for successful retail nurseries. The transition to a “showroom” displaying plants for retail sale (an important income stream for the park) has been embraced by staff.
• Relocation of a large tree into a tree-kangaroo exhibit enabled increased awareness and understanding of safe work practices. This was also a very valuable exercise for staff across the park to work together, improving appreciation of each other’s work and skills.
• Recognising that most park staff do not speak English, all activities were conducted and documents produced in Tok Pisin (Melanesian pidgin) and English, with park educators as excellent translators.

All park participants were presented with Certificates of Completion. They also completed attendance logs and provided individual feedback on the training. These are being used to support ongoing staff development. Follow-up needs have been identified, such as further training for animal keepers to build confidence in handling large raptors.

Park staff were a wonderful group to work with and it was easy to establish meaningful rapport that ensured hands-on learning was engaging, effective and fun. Park managers have noted that the enthusiasm and willingness of staff to learn has been heightened by the knowledge that Zoos Victoria is investing long-term interest and support into the park.

Our thanks to WAZA for supporting this initiative and to the park’s managers for their passion and enthusiasm.

Jens-Ove Heckel – Landau Zoo, Germany

Capacity Enhancement Workshop for Association Djibouti Nature

BirdLife International, NABU (BirdLife Germany) and Landau Zoo joined forces to share their expertise to develop the capacity of Association Djibouti Nature (BirdLife Djibouti) during a workshop funded by the BirdLife/UNDP/GEF Migratory Soaring Birds Project, NABU and Landau Zoo in Djibouti in May 2014.

Association Djibouti Nature is a non-governmental organisation established in 1999. It is an Affiliate Partner of BirdLife International. Its mission is to contribute to the conservation, sustainable management and appreciation of nature and to improve the livelihoods of people in Djibouti.

Association Djibouti Nature acts as the leading authority on Djibouti’s avifauna. As such, its work concentrates in priority on globally threatened species and key biodiversity sites like the critically endangered Djibouti francolin (Francolinus ochropectus), the only endemic bird species in Djibouti and the Forêt du Day, which is the main stronghold of this species.

The workshop’s objective was to enhance the core capacity of Association Djibouti Nature through an assessment of the capacity needs and the provision of support towards the development of strategies and plans essential for the governance and core functioning of the organisation. Among the various outputs of the workshop, a four-year strategic plan was developed to boost the efficiency of Association Djibouti Nature at the conservation and financial level.
The Bongo Surveillance Project’s objective is to secure a future for the last remaining mountain bongos (Tragelaphus eurycerus isaaci) in the wild. The bongo antelope is on the edge of extinction. The Bongo Surveillance Project has not only highlighted the plight of the critically endangered mountain bongo, but the serious destruction of the forest and the potential implications for the local communities. The bongo as a forest-dependent species is a flagship species for Kenya’s remaining high forest ecosystems. Efforts towards the conservation of bongos will in turn benefit the Kenyan forests and preserve these vital “water towers”.

The mountain bongo is critically endangered mainly due to poaching, habitat loss, disease and predators. The species has undergone a drastic decline over the past 50 years, with inferential data suggesting that there may be fewer than 300 individuals remaining in the wild, mainly confined to the Aberdares. The Bongo Surveillance Project is led by Mike Prettejohn and his team of expert trackers drawn from the communities residing in areas adjacent to bongo hotspots. The project has a long-term commitment since it was engaged in the original surveillance commencing in 2004.

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One of the key objectives of the Bongo Surveillance Project is to provide protection and ongoing monitoring of the identified bongo hotspots. This is confined to small groups, one in SW Mt. Kenya, two in Aberdares, one in Elburg and two in Maus (one of these was only recently discovered by the team in the Maasai Mara Forest – possibly up to 20 that need immediate protection). Vital scientific data are collected from the surveillance, forming a crucial information-baseline about bongo locations, habitat utilisation and threats.

The Bongo Surveillance Project also runs an effective conservation education programme through the formation of Bongo Wildlife Clubs. There are currently 19 local schools involved in this activity. The conservation education reaches into the heart of the communities living close to these forests. The potential outreach is 20,000 people.

The bongo trackers from the communities play a pivotal role in protecting the remaining bongos and their habitats by conducting regular patrols, collecting data from camera traps, removing snares and traps, and reporting and recording (by GPS mapping) any illegal activities that require interventions by the institutions managing the ecosystem. Working closely with the communities is vital for the success of the project.

Support through new technology and innovation is key to the success of the Bongo Surveillance Project, and includes introduction to solar lighting, alternative fuels for cooking (reducing demand for charcoal) and new economically designed cooking equipment that maximises available fuel (Jiko). Agricultural projects, such as initiating potato plots, fish ponds (a new source of protein), bee-keeping and introducing high-yield milk dairy goats, all have the potential to develop into significant income-generating initiatives. An example of the outreach programme’s measurable conservation benefit is tree planting and tree nurseries in each community and school.

Transfer of ISBs to new institutions
• On 24 September 2014, CPM approved the transfer of the slender-horned gazelle (Gazella leptoceros) ISB to Brigid Randle (The Living Desert, USA).
• On 28 August 2014, CPM approved the transfer of the Spix’s macaw (Cyanopsitta spixii) ISB to Cromwell Hoppe (Saint Louis Zoo, USA).
• On 1 September 2014, CPM approved the establishment of an ISB for the Cape ibis (Geronticus camelus), kept by Harrison Edell (Dallas Zoo, USA).
• On 23 August 2014, CPM approved the transfer of the partulid snails (Partula) ISB to Beatrice Steck (Basel Zoo, Switzerland).
• On 14 August 2014, CPM approved the transfer of the scrub furred gecko (Cyphosaurus auriculatus) ISB to Al Ain Zoo, UAE.
• On 17 August 2014, CPM approved the transfer of the Javan leopard (Panthera pardus melas), kept by Keni Sultan (Taman Safari, Indonesia) in cooperation with Christian Kern (Tierpark Berlin, Germany).
• On 20 August 2014, CPM approved the establishment of an ISB for the South Island brown kiwi (Apteryx australis), kept by Forbes Zoo (New Zealand).

Pending issues
• On 14 August 2014, CPM approved the translation to the Arabian oryx (Oryx leucoryx) ISB is vacant.

Transfer of ISBs to new keepers
• On 23 August 2014, CPM approved the transfer of the Baltimore okapi (Okapia johnstoni) ISB to Al Ain Zoo (New Zealand).
• On 20 August 2014, CPM approved the transfer of the Spix’s macaw (Cyanopsitta spixii) ISB to Al Ain Zoo (Switzerland).
• On 14 August 2014, CPM approved the transfer of the Cope’s giant gecko (Cyphosaurus aureus) ISB to Acra Zoo (USA).
• On 1 July 2014, CPM approved the establishment of an ISB for the Javan leopard (Panthera pardus melas), kept by Keni Sultan (Taman Safari, Indonesia) in cooperation with Christian Kern (Tierpark Berlin, Germany).

There are currently 132 active international studbooks (ISBs), including 163 species or subspecies (nine ISBs cover more than one taxon). The following events regarding ISBs have occurred since 1 July 2014:

ISBs archived
• None.

ISBs established
• On 1 July 2014, CPM approved the establishment of an ISB for the Javan leopard (Panthera pardus melas), kept by Keni Sultan (Taman Safari, Indonesia) in cooperation with Christian Kern (Tierpark Berlin, Germany).
• On 20 August 2014, CPM approved the establishment of an ISB for the Cape ibis (Geronticus camelus), kept by Harrison Edell (Dallas Zoo, USA).

Transfer of ISBs to new institutions
• On 24 September 2014, CPM approved the transfer of the slender-horned gazelle (Gazella leptoceros) ISB to Brigid Randle (The Living Desert, USA).
• On 28 August 2014, CPM approved the transfer of the Spix’s macaw (Cyanopsitta spixii) ISB to Cromwell Hoppe (Saint Louis Zoo, USA).
• On 1 September 2014, CPM approved the transfer of the black lemurs and blue-eyed black lemur (Eulemur macaco macaco and Eulemur macaco flavifrons) ISB to Peggy Hoppe (Saint Louis Zoo, USA).
• On 23 August 2014, CPM approved the transfer of the slender-horned gazelle (Gazella leptoceros) ISB to Al Ain Zoo, UAE.
• On 17 August 2014, CPM approved the transfer of the Javan leopard (Panthera pardus melas), kept by Keni Sultan (Taman Safari, Indonesia) in cooperation with Christian Kern (Tierpark Berlin, Germany).
• On 20 August 2014, CPM approved the establishment of an ISB for the South Island brown kiwi (Apteryx australis), kept by Forbes Zoo (New Zealand).
Future WAZA Conference Venues

- **2015**
  Al Ain, United Arab Emirates
  11–15 Oct 2015

- **2016**
  Africam Safari, Puebla, Mexico
  9–13 Oct 2016

- **2017**
  Barcelona, Spain
  15–19 Oct 2017

- **2018**
  Bangkok, Thailand
  21–25 Oct 2018

- **2019**
  Tenaiken, Argentina

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WAZA Executive Office

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New WAZA Members

- **Xiamen Sino-Africa Wild-world tourism Development Co. Ltd | People’s Republic of China**

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New Directors

- **Yutaka Fukuda** has been appointed Director at Tama Zoo, Japan
- **Shannon Block** is the new director of the Denver Zoological Gardens, USA
- **Dwight Lawson** is the new director of Oklahoma City Zoological Park, USA
- **Myfanwy Griffith** replaced Lesley Dickie as EAZA Executive Director as of 1st October
- **Aleskander Niwinski** replaced Lech Banach as director of Poznani Zoological Gardens, Poland as of 1st October
- **Sanna Hellstrom** is the new director of Helsinki Zoo, Finland

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**Xiamen Sino-Africa Wild-world tourism Development Co. Ltd, People’s Republic of China**

- **Sponsors:** Jansen Manansang (Taman Safari, Indonesia) and Viet Lam Phan (Saigon Zoo & Botanical Gardens, Vietnam)
- **Founded:** 2001
- **Area:** 18 ha
- **Collection:**
  - Mammals: 117 species and 264 specimens
  - Birds: 205 species and 100 specimens
  - Reptiles: 80 species and 565 specimens
- **Staff:** 60 permanent, 0 temporary
- **Visitors:** 450,000 paying, 50,000 charity
- **Owned by:** “A natural person investment or holdings”, profit organisation
- **Director:** Zhou Yu Wei
- **Member:** SEAZA, Chinese Association of Zoological Gardens, East China Collaboration Area of the Chinese Association of Zoological Gardens, Fujian province Association of Zoological Gardens
- **Address:** Room 316 Zhifu Building, #363 Shangtang community, Neicuo County, Xiang’an District, Xiamen City, PRC

The Xiamen Sino-Africa Wild-world tourism Development Co. Ltd in Fujian province of PRC, acquired the Xiamen Zoo and it’s a company developing the comprehensive park with the animals as the theme. There are more than 60 staff, with professional veterinarians, animal trainers and zookeepers. More than 50 species and 1000 1st-class & 2nd-class national protected animals for the purpose of breeding and research program, including the national treasure of giant panda, and the 1st-class national protected Siberian tigers.

With the municipal government city development, the Xiamen Zoo can no longer meet the demand of the development. An area of (186 hectares) has been allocated by the China government to build a new Xiamen safari park.

The new Xiamen Safari Park includes: day zoo, night safari, animal rescue center, animal quarantine area, butterfly and insect museum, bird park, botanical garden, culture village, resorts and animal theme restaurants. The Phase 1 contains a day zoo with multi-commercial area and is scheduled to be opened by 2nd quarter of 2016.

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Wild Republic special WAZA plush toy collection in support of Biodiversity Is Us.

© Gerald Dick, WAZA

Wild Republic special WAZA plush toy collection in support of Biodiversity Is Us.
Recent Updates

Oubity

Prof. Dr. Dr. h.c. mult. Heinz-Georg Klös
6 January 1926–28 July 2014

In Memoriam
Heinz-Georg Klös was born in the city of Elberfeld (today Wuppertal) in North Rhine-Westphalia. He became the director of Zoo Osnabrück in 1954, being the youngest director of a zoo. Only two years later he was called to Berlin as the director of the once famous zoo and began his work as of 1st January 1957.

In 1953 he summarized his work on the Berlin Zoo: “My order when starting my work in Berlin was the compilation of an extensive animal collection based on the immense number of species of the pre-war era. In times of fast dwindling nature – or to put it in another way: in a world of rampant development of economy and civilisation, it depends on organizing animal collections in a way that they serve the maintenance of endangered species in large breeding groups. Zoos and national parks have to become refuges, become oases and rescue centres for an appallingly threatened nature in times when humans are increasingly interfering in natural processes.”

As a zoo-man with all his heart he developed Berlin Zoo to one of the leading zoos of the world. He worked together with nature conservation groups and took part in many international organizations. For example the first “Symposium der Zooarzte” (symposium of zoo vets) was held in Berlin supported by Tierpark Berlin and Zoo Berlin in 1959. He was a member of the IUDZG, now WAZA, and became an honorary member in 1993. Prof. Heinz-Georg Klös passed away after a long illness at the 28th July 2014.

Mary Healy
1953–2014

In Memoriam
Mary Healy, director of the Sacramento Zoo, passed away while in Ecuador in early August. Mary and her husband, Steve O’Brien, were leading a trip of Sacramento Zoo friends and colleagues to the Galapagos.

Mary began her career in the zoo profession as a bird keeper in 1975 at the Riverbanks Zoo and Garden. In 1983, she became the bird curator at the San Antonio Zoo. In 1990 she began work at Discovery Island (a now closed Disney property) and in 1999 became the Executive Director of the Sacramento Zoo.

Mary was a very active member of the Association of Zoos and Aquariums. She joined the Association right after she began working in the zoo business and quickly immersed herself in serving on many of its Committees. Mary pursued her passions with her whole heart and soul. A highlight of her career was serving on the AZA Accreditation Commission and as its chair and on the AZA Board of Directors and as its chair. Mary was known for always having time to help people and loved to mentor bird keepers and bird curators throughout her career.

Mary joined WAZA in 2001 and attended a number of the WAZA Annual Meetings. She was very excited to have recently been elected to the WAZA Council and had attended her first WAZA Council meeting in Entebbe, Uganda in May.

The WAZA community has lost a great leader, great advocate and a great friend.

Obituary