

# news

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World Association of  
Zoos and Aquariums  
**WAZA** | *United for  
Conservation*



Sunfish (*Mola mola*) at Oceanário de Lisboa. | © Gerald Dick

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Gerald Dick

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Dear Members,

*As the world financial crisis is transforming into an economic crisis and affecting various parts of the world in different ways, the international zoo and aquarium community is also facing unexpected challenges. On the one hand, I hear from many institutions that the public tends to stay closer to home instead of spending holidays abroad and are deciding to take advantage of experiencing wildlife and exotics in zoos and aquariums close-by. Obviously, this trend leads to an increase of visitors and revenues. On the other hand, institutions are dramatically hit by the crisis due to cutbacks in public subsidies or losses on the stock exchange where money reserves were invested. In addition, some affiliate members face income shortages and decrease of purchase orders.*

*In financially difficult situations, evaluations and appraisals may raise questions regarding the benefits of membership in international organisations such as WAZA, as the immediate advantage is not always visible. And in the short run, this may be correct. But, in the long haul, only a strong international community with strong internal communication and fruitful cooperation, a clear profile and visible international marketing will be recognised, survive and prosper. Therefore, it is very important to set our eyes on the long term perspective and sustainable vision of our zoo and aquarium*



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*community, which we will all profit from. This year’s annual conference and congress is dedicated to global challenges, and I hope that most of you will be able to attend and help shape our common future!*

*This edition of the WAZA News presents many good examples of the conservation work of our community and – in particular – highlights activities of aquariums as well as amphibian conservation following the Year of the Frog 2008.*

*I hope you enjoy it!*

**Gerald Dick**  
WAZA Executive Director ■



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Gordon McGregor Reid

# The President's Page



As I write this latest edition of the President's Page, I am preparing for a visit to Tokyo, Japan where I shall be joined by the WAZA CEO, Gerald Dick and Chris West, Council Member and Chair, Ethics & Welfare Committee.

We are travelling to Tokyo in order to discuss aspects of dolphin welfare and conservation with the Japanese Association of Zoos and Aquariums and others. This is a follow-up meeting to the one held in May 2007 by my predecessor Karen Sausman (now Immediate Past President) and Ed McAlister (also a WAZA Past President who was, at that time, Chair of the Ethics & Welfare Committee). Also attending that earlier meeting was Robert Lacy, Chair of the IUCN/SSC Conservation Breeding Specialist Group. The outcome from our forthcoming meeting will be communicated to you in the next edition of WAZA News and at this year's WAZA Annual Conference being held in St. Louis, USA, 4–8<sup>th</sup> October 2009.

The Association of Zoos and Aquaria in Latin America, ALPZA invited Gerald and me to speak at their 16<sup>th</sup> Annual Conference which took place in the City of Panama, Republic of Panama, 25–29<sup>th</sup> May 2009. ALPZA's general mission of promoting the cooperation between Latin American zoos and aquaria and the worldwide zoo community was a general aim of the Conference. This year's theme focused on the role of zoos and aquariums in striving to achieve sustainable environmental development. Gerald's presentation was on 'Sustainability, a challenge for Zoos' and my own concerned wider issues of 'WAZA Partnering with ALPZA and Regional Zoos'.

I was delighted to meet with the ALPZA President, Marie Clara Dominguez, who explained that the organisation was formed in 1990 and has been a WAZA member since 2004, working actively within the international community. ALPZA is a transnational, not-for-profit organization that brings together zoological institutions and aquariums across Latin America, with the purpose of promoting their integrated development. ALPZA includes 42 institutions, 18 individual members, and 3 National Associations and organizations that all work well together and also kindly support WAZA's efforts. The membership now spans 13 countries, namely Mexico, Panama, Cuba, Colombia, Venezuela, Brazil, Bolivia, Peru, Ecuador, Chile, Argentina, Santo Domingo and Uruguay. May this beneficial growth long continue!



I am very pleased that the forthcoming WAZA publication entitled 'Turning the Tide – A Global Aquarium Strategy for Conservation and Sustainability' is now in the final draft stages and will be launched at the WAZA Annual Conference in St. Louis. The production of this important strategy document has been led by Mark Penning, our President-elect and current Chair of the WAZA Aquarium Committee. There are key contributions to this document from eminent aquatic biologists and conservationists. As well as being keenly anticipated in the Zoo and Aquarium world, this publication is being welcomed by leading global conservation NGO's including the IUCN Species Survival Commission, Conservation International, Wetlands International and RAMSAR, who have all agreed to officially endorse the document.

And finally, I am delighted to confirm the results of the 2009 WAZA Council ballot. Our next WAZA President will be Mark Penning and his President Elect is Jörg Junhold with Jo Gipps, Ryszard Topola and Chris West remaining on Council. Newly elected Council Members are Lee Ehmke, Minnesota Zoological Gardens, USA; Rick Barongi, Houston Zoo, USA; Joanne Lalumière, Granby Zoo, Canada and Cesare Avesani, Parco Natura Viva, Italy. I would like to extend a very warm welcome to the new Council Members whom I look forward to meeting at the St. Louis Conference, if not before, and to pass on my heartfelt thanks to both Jerry Borin and Jeff Bonner who will be standing down as Council Members at the same Conference.

See you in St Louis! ■

Michael Farquhar – Two Oceans Aquarium, Cape Town

# The Maxine Project Continues

## Five years of shark releases from the Two Oceans Aquarium

The **Maxine Project**, a joint **AfriOceans Conservation Alliance (AOCA)** and **Two Oceans Aquarium** initiative, began in 2004 with the release of Maxine, a 197 kg ragged-tooth shark (*Carcharias taurus*), who had been enthralling guests at the Two Oceans Aquarium for 10 years as one of the star attractions in the 2.2 million litre I&J Predator Display. Since Maxine's release in 2004, four ragged-tooth sharks have been released from the Two Oceans Aquarium accompanied by four wild-caught ragged-tooth sharks.

The contentious issue of the release of animals back to the wild from public and private Aquariums, including the IUCN guidelines for shark re-introductions and the recommendations and guidelines made by Hall (2003) were discussed in some detail by Patrick Garratt in an article in the WAZA magazine (Nr. 7, 2005).

Led by shark specialist Dr. Malcolm Smale, this programme has two interlinked objectives: firstly, to investigate the post-release behaviour of ragged-tooth sharks from the Two Oceans Aquarium, and secondly, to investigate the behaviour of wild ragged-tooth sharks in order to add to our understanding of the biology of this important inshore predator and aquarium species on the South African coast.

All sharks (Table 1) were fitted with Wildlife Computers (Mk 9 or 10) PAT tags in addition to Vemco ultrasonic tags and standard spaghetti tags. All animals were released in Struisbaai, 10 km east of Cape Agulhas (the southern most tip of the African continent, **Figure 1**), where all wild sharks were caught.

PAT (Pop-up Archival Transmission) tags collect depth, temperature and light level data while being towed by the animal. The tag is released from the animal at a user specified date. At a user specified date the tag, allowing it to float to the surface. Once on the surface, the tag transmits summarised information to the user via the Argos satellite network, which at the same time uses the transmissions to pinpoint the position of the tag at the time of release. Since a full set of archival data is stored in non-volatile memory, should the tag be recovered a detailed analysis can be made of the data recorded every 5 seconds (in our case) for the duration of the deployment.

Ragged-tooth sharks favour high profile inshore reefs where they have been observed resting during daylight hours under large overhangs and in deep caves. As a result, they are not ideally suited to PAT tags as there is a chance that the tags, if released during these resting periods, may become trapped underwater and therefore never transmit any data. We have been fortunate over the 5 years of this study in that 7 of the 9 tags deployed have yielded data (**Table 1**). In addition, we were extremely fortunate in 2007 to recover one of the satellite tags. The data preserved on this tag gave us new and detailed insights into the daily activities and behaviour of ragged-tooth sharks along the South African coast.



© L. Rochat  
Release of shark Dee.

## Where do the sharks go?

Historical catch data and anecdotal evidence suggests that the range of ragged-tooth sharks on the South African coast extends south-westwards during summer and shrinks back eastwards, as sea-surface temperatures begin to drop, at the onset of winter. We therefore timed the release of all sharks to coincide with the end of summer (Release Date, **Table 1**), thereby allowing us to test this hypothesis in addition to achieving the two objectives of the project.

As the Distance and Direction results from **Table 1** indicate, both the wild and the released sharks migrated eastwards, as expected, during the period of tag deployment but with considerable variation in the speed of the movement between individuals (<1 km/day to >14 km/day). There was, however, no discernable difference between aquarium released and wild individuals in terms of the speed of movement or the total distance moved, suggesting that released animals quickly revert to their wild behaviour.

There were a number of new insights gained from the transmitted data and, in particular, the retrieved tag (Tamera):

- Recorded depth range extended to 108 m.
- Temperature range: 9.8–22.4 °C. Although animals have been recorded at higher temperatures in the northern extent of their range, 9.8 °C is the lowest temperature at which this species has been recorded in South Africa.
- Ragged-tooth sharks were previously known to venture to depths greater than 40m; it was assumed that these were short feeding forays. Our data show that they can and do spend considerable amounts of time at depths > 40 m.
- The above data explains the occurrence of deep water species, e.g. hake (*Merluccius capensis*) in the diet

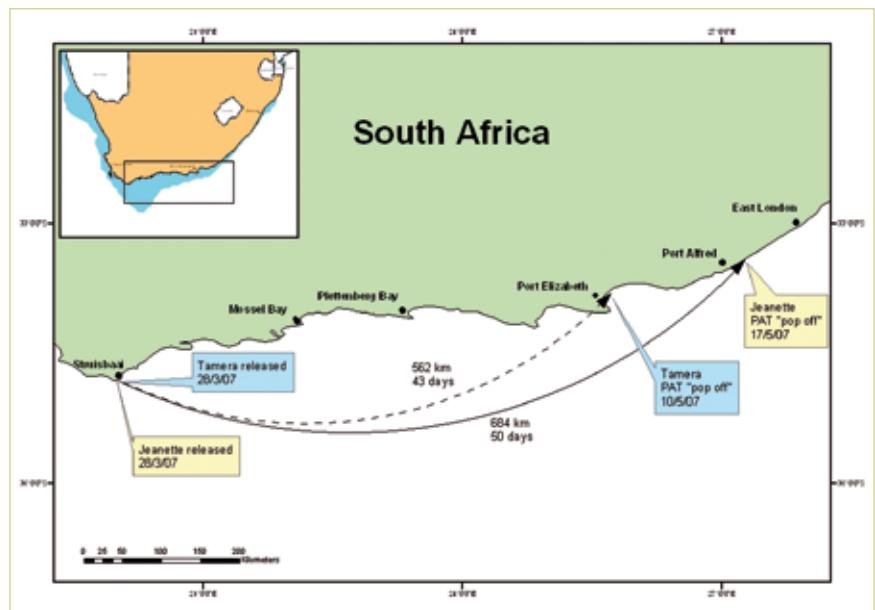
### Conclusion

We have shown that sharks released into their original population not only survive, but also revert to normal migration patterns (including one captured as 0 year old). Hall (2003) suggested that aquarium releases should occur at the site of capture, but we have also shown that if ragged-tooth sharks are released within their normal range, normal post-release behaviour and migration patterns can be expected.



© G. Spiby  
Release of shark Maxine.

**Figure 1:** Map showing the movement of the ragged-tooth sharks Tamera (Aquarium release) and Jeanette (wild caught). The lines do not depict actual movement tracks, only the total distance moved over the deployment period. (M. Smale et al, 2008)



**Table 1:** Identity, weight at release, release date, tag pop-up date, distance travelled and direction from release point, and elapsed days from release date for all 9 sharks (released and wild caught) tagged since 2004.

Name	Aquarium or wild	Weight (kg)	Release Date	Tag Pop-up date	Distance & direction	Time (days)
Maxine	Aquarium	192	18/3/2004	11/7/2004	298 km east	115
Maxine	Aquarium	192	18/3/2004	3/2/2005	419 km east	320
Val	Aquarium	210	4/4/2005	5/8/2005	No Data	n/d
Sam	Wild	243	5/4/2005	9/8/2005	993 km east	126
Dee	Aquarium	196	15/3/2006	11/7/2006	700 km east	117
Lesley	Wild	138	15/3/2006	15/7/2006	970 km east	122
Jeanette	Wild	52	28/3/2007	17/5/2007	684 km east	50
Tamera	Wild	122	28/3/2007	10/5/2007	562 km east	43
Elle	Aquarium	165	12/3/2008	24/3/2008	11 km east	12
Tameraz	Wild	160	13/3/2008	No Data	No Data	n/d

Dirk Petersen and Michaël Laterveer – Rotterdam Zoo | Mike Brittsan – Columbus Zoo & Aquarium

# International SCORE network



Public aquaria work on the conservation of endangered coral species

All over the world, coral reefs are declining rapidly and in large part due to anthropogenic threats and climate change. Habitat preservation is the best way to conserve ecosystems, but threatening global patterns show no signs of relief that would allow coral reefs to recover. However, improvements in ex situ and in situ conservation techniques might help to conserve and restore endangered coral species in future.

SCORE (SEXual CORal REproduction) is an international platform for public aquaria and science institutions aimed at promoting ex situ and in situ coral conservation ([www.score.org](http://www.score.org)). The project, which has been initiated by the Rotterdam Zoo (Netherlands) in 2001, has grown to one of the leading initiatives in this field involving the international aquarium community. Initially, basic breeding techniques were developed in the marine laboratory of the Rotterdam Zoo which are now used by more than 50 institutions worldwide for sustainable aquarium stock management, public education programs, conservation research, and from 2009 for *in situ* conservation of critically endangered Caribbean *Acropora* corals. In 2004, the Columbus Zoo and Aquarium (USA) joined the management of the project to help organizing the U.S. institutions, and developing the vision and goals of SCORE.

## Workshop program connects aquarists and scientists

Besides establishing breeding protocols for an increasing number of coral species, SCORE has organized annual international workshops from 2005 to increase practical and theoretical knowledge on coral breeding among aquarium staff. This workshop program rapidly attracted leading scientists in coral reproduction, population genetics and cryopreservation who could carry out their research with the support of SCORE, and otherwise would have struggled to achieve their goals. Having aquarium staff and scientists working hands-on together in the field does not only have a synergistic effect regarding research and development of breeding techniques, but also brings together people from different fields on a personal basis enhancing cooperation between institutions. Three of the four workshops were dedicated to the critically endangered Caribbean stony corals. In 2010, a regional workshop will be organized by the Omaha's Henry Doorly Zoo (USA) at the annual Regional Aquatics Workshop (RAW).

## Breeding critically endangered Caribbean corals

The Elkhorn coral *Acropora palmata* is a critically important reef-building coral in the Caribbean due to its massive wave-resistant structure. Unfortunately, field populations of Elkhorn corals have declined over 90% in the last few years throughout their range. Although some populations still spawn throughout the Caribbean, recruitment of newly settled larvae has been limited. In the past years, leading coral specialists have tried to supplement in situ populations with new recruits; however, they didn't attain any significant success. Because of the precipitous declines and lack of recovery, *Acropora palmata* is besides the Caribbean Staghorn coral *A. cervicornis* the first coral that has been listed as critically endangered under the IUCN Red List in 2009.

## Large scale restoration project for the Elkhorn coral

Due to the promising results of the past years, SCORE was asked by the National Oceanic and Atmospheric Administration (NOAA) to initiate in situ restoration efforts for the endangered Caribbean coral species. Currently detailed plans are developed for two field locations in Puerto Rico (USA) and Curacao (Netherlands Antilles). Both locations harbor some of the last remaining populations of the Elkhorn coral which are still reproductive and are accessible for sampling. In a three-years project, a field protocol will be developed on how to restore in situ populations using sexual reproduction. Nevertheless, funding remains a major issue and will determine how successful the project will develop in the coming years.

Sexual recruit of the Elkhorn coral in an aquarium.  
© Dirk Petersen, Rotterdam Zoo



For further information, please check [www.score.org](http://www.score.org) ■

Inês Seruya – Lisbon Zoo

# Lisboa zoo: 75 years after Darwin



Darwin's Evolution commenced only 75 years before Lisbon Zoo's creation

The commemoration of the Lisbon Zoo's 125<sup>th</sup> anniversary was celebrated on a larger scale this year as it coincides with another important scientific event: Charles Darwin's 200<sup>th</sup> birthday. To celebrate, the zoo entered into a partnership with the Calouste Gulbenkian Foundation to create the exhibition "Darwin's Evolution".

From the 12<sup>th</sup> of February to the 24<sup>th</sup> of May, visitors could view the first three-dimensional Darwin reconstitution. It was created using photographs and two modules imported from the American Natural History Museum and portrayed Darwin's office and the reconstitution of his trip in the Beagle ship. The zoo guaranteed the presence of several species: Turtle, Suricate, Golden Lion Tamarin, Piranhas, Anaconda and Chuckwalla, to alert the visitors to the importance of the preservation of these species, which is being increasingly threatened by humans. The educational program "Meeting Darwin" was also held in the zoo itself. Students were invited to follow the instructions left by Darwin in letters throughout an exploratory course. During the course they were able to observe the lives of some of the species that inspired the scientist to question the planet's biological diversity. The students also had the opportunity to debate with "Darwin" about the theory of evolution and to comment about his trip on the Beagle.



© Lisbon Zoo  
Darwin exhibition, Lisbon: Meerkat (*Suricata suricatta*).

In the last 125 years the zoo has grown, but unlike human beings, hasn't gotten older. In fact, it is even younger, at least according to the concept of "The New Old Zoo". The winds of change entered in 1990 with Félix Naharro Pires who was elected president of the board administration. He created a series of working areas regarding the improvement of veterinary care and animal feeding and also commercial, marketing and public relations service. Naharro Pires, an agronomic engineer, had been working in the zoo as administrator since 1980 and occupied the president's chair until he passed away. From the beginning, his goal was to modernize the zoo and its services. It was in the aforementioned decade that repairs to improve of the zoo commenced. Many animals saw their "homes" improved by substituting the concrete pavement with soft soil, the introduction of platforms, ropes, water, chains and other proper structures for them to stimulate their natural behavior. That was only the beginning of an incessant reorganization and rebuilding of a zoo that is getting younger and wilder.

One of the most successful creations during that time was the "Dolphin Bay". It is one of the zoo's most successful areas. Besides the natural affection of humans for the marine animals and the affinity humans easily create with dolphins, the daily presentations impress young and old. The first residents of the "Dolphins Bay" (four dolphins and five sea lions) arrived from Chicago and Florida, in the USA. The fishing village as a stage-set was the perfect stimulus to produce the stories for the shows. The stories have different versions but the purpose stayed the same: To alert the public to the importance of the preservation and conservation of the species. In order to do what it promises, the zoo must move beyond the "Dolphins Bay" and into the public domain. To be more accurate, in the river Sado (located in Alentejo, in the south of Portugal), where there's a population of dolphins in danger of extinction. This problem is always part of the focus in the presentations on the stage, not only because it was the human hand which caused it, but also because it's the humans themselves who can fix it. That is what the zoo is trying to do in cooperation with the Nature and Biodiversity Conservation Institute (ICNB).



© Lisbon Zoo

125<sup>th</sup> Anniversary of Lisbon Zoo, visit by the President of the Republic of Portugal, Prof Doutor Aníbal Cavaco Silva and his wife Maria Cavaco Silva, far right: Francisco Naharro Pires, Lisbon Zoo President, 28<sup>th</sup> May 2009.

The investment in animal care and enterprise relations was followed by a strong investment in education. The educational politics of the Lisbon Zoo follow the steps of the worldwide zoos, who's goal is to inform the visitors, especially new generations, regarding the promotion of the respect for nature. In fact, nowadays, zoos are no longer mere exhibition spaces. Their mission is animal protection and preservation, with bigger focus on endangered species, guaranteeing their well-being and the necessary conditions for reproduction. This duty is not only accomplished within the walls of the zoo, but also in natural habitats, where animals are reintroduced into the wild as often as possible.

### Zoo in the Wild

The zoo began its participation in EEPs (European Endangered Species Programme) in the early 1990s. Originally there were four programs and currently there are 66. It is also active in managing studbooks and pedigree registration books concerning a certain population of an animal specie under human care. It is, inclusively, coordinator of the international studbook of the Black Faced Impala, the European studbook of the Lowland Nyala and the European studbook of the Spiny Turtle. Research is also done in situ, which means carrying out activities in natural habitats. These investigation projects wouldn't be possible without the intense collaboration the zoo maintains with national and international universities, with which it promotes internships and projects in ethnology, biology and veterinary medicine. It's remarkable that it was the Lisbon Zoo (with the National Zoo Technical Station) who performed the first, rare, successful artificial insemination of a female Siberian tiger.

The Farankaraina Forest is one of the last remaining intact forests of Madagascar and therefore, has been chosen by the Lisbon Zoo and the Zoo de Doué-la-Fontaine in France for a conservation project. Four dams and the house of Sahongongno have been built and an ecolodge is now under construction. A documentary called Earth from Above has been shot. Support is also provided for the gorilla in situ conservation program in Cameroon and for the Okapi in the neighboring Democratic Republic of Congo.

*...the Lisbon Zoo has made an immense effort to be a vehicle for one of the most important messages in the world today: "The conservation of nature"...*



© Gerald Dick

Dolphin Bay at Lisbon Zoo.



© Gerald Dick

Darwin exhibition, Lisbon:

Golden lion tamarin (*Leontopithecus rosalia*).

In Colombia a program for the Grey Tamarin includes a study of the tamarin mortality causes, a census of the existing animals in the wild and the creation of a protected area. It also promotes an improvement of the official welcoming centers' conditions, where it's made a selection of the animals ready to be freed and the ones who will enter a reproduction program in Colombia. So far, sixteen reproductive couples have been established and sixteen animals have been born, of which only four haven't survived. One of the main tasks of the zoo's conservation program is to educate the local population in order to protect the fauna and flora around them. Workshops and other means are used and there are plenty of activities promoted to alert the inhabitants to Grey Tamarin protection.

In Brazil the Lion Tamarin in situ Conservation Program is funded by the zoo and it establishes forest corridors to connect the different areas where this species lives. In the same country, the zoo also finances the Capuchin Monkey Conservation Program.

Last but not least: The Indonesian Island Flores. The island is one of four where the Komodo Dragon still exists. The other three islands, Komodo, Rinca and Gili Motang are protected areas, but the same doesn't apply to Flores. That's why a conservation program is being promoted by the Rotterdam Zoo, with financial support from many European countries including the Lisbon Zoo.

As part of the SOS Carnivore Campaign of EAZA, the Lisbon Zoo supports an Iberian wolf conservation project called "Wolf and Men: Partners in Survival". The survival of this subspecies of the grey wolf is seriously at risk. There are about 2000 of them in nature: 300 in the North of Portugal and the remaining number in Spain. The project aims to reduce the amount of damage caused by wolves to cattle and by divulging security techniques among farmers (whose first instinct is usually to shoot the wolves). It will also educate them about a peaceful coexistence with the wolves and try to improve the monetary compensation systems for the farmers' losses.

But the wolf is not the only carnivore that needs help in Portugal. The most famous case is probably the Iberian Lynx. The Lynx is the most endangered feline specie in the world and this makes a strong case for attempts to protect it. There are only about 200 specimen left in Spain and its presence in the territory of Portugal is not confirmed. One of the main reasons for this serious risk is the dramatic decrease of the European Rabbit (decreased by 50% since 1950), which nearly constitutes the entire food source for the Iberian Lynx.

There are also carnivores in the sea and some are facing severe extinction risks. The Mediterranean Monk Seal is a case in point, with a population of no more than 500 animals. In 2008, an alliance to promote Mediterranean Monk Seal protection was created and there is already some good news: In Madeira (one of the Portuguese archipelagos) there are 30 seals recorded with an increasing tendency in numbers.

For 125 years, the Lisbon Zoo has made an immense effort to be a vehicle for one of the most important messages in the world today: "The conservation of nature" and that is certainly another reason to celebrate. ■

Rémi Jiagho – IUCN environment expert

# A second WAZA?



## The floodplains of WAZA Logone, Cameroon: A threatened heritage

**The Waza Logone floodplains lie in the extreme north of Cameroon. A large area of these plains is periodically flooded by the waters of the Logone river when it overflows its banks. The plains lie between latitudes 10° and 13° N and longitudes 14° and 16° E and have an estimated overall area of 7,960 sq. km (approx. 3,070 sq. miles).**

The climate of the plains is a sudano-sahel subtype. Their topography is mostly flat, consisting partly of the alluvial plain of Lake Chad and the fluvial systems draining into it and partly of a vast peneplain. The publications of Letouzey (1968, 1985) are an excellent source of basic information on the vegetation of the Waza Logone floodplains. In the southern region, the peripheral areas are prairie which is periodically flooded, the remainder mostly savannah bearing trees or shrubs. In the northern region, the formerly submerged areas bordering on Lake Chad are covered with so-called Hardé vegetation. In the part of the floodplains included in the Waza National Park, the vegetation varies according to the duration and depth of the flooding and the relevant soil conditions, and consists of sub-groups in which the most prevalent grass is *Vetiveria nigritana*. As one passes from the regularly flooded areas to the higher ground in the Waza National Park, the prairie vegetation gradually gives way to bush and wooded areas in which *Ferdhebia albida* and *Lannea humilis* predominate.

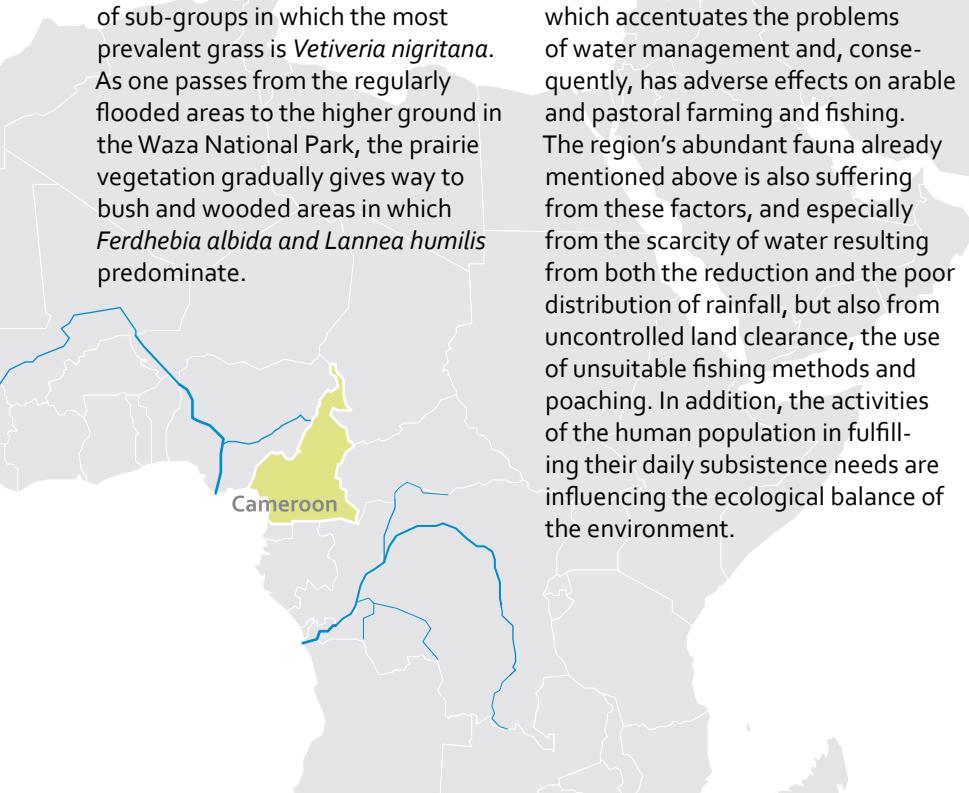
The Waza Logone floodplains are the site of the Waza National Park, which is some 170,000 hectares (approx. 650 sq. miles) in area and is the habitat of a rich and varied fauna. The Waza National Park is recognized by the UNESCO as a biosphere reserve. Great importance is attached to preservation of the area's biodiversity, especially as it contains the migration routes to the Kalamaloué National Park (area: 4,500 hectares = approx. 17 sq. miles) used by various species. Several inventories of the Waza National Park fauna have confirmed that the park is the habitat of at least 30 hairy mammals, including, for example, various species requiring preservation, such as elephants and lions, plus a wide range of herbivores, carnivores, rodents, primates, reptiles, birds, etc. More than 370 different species of birds have been identified. This figure includes more than 71 species of aquatic birds, of which roughly twenty are internationally recognized.

In general, the region's biodiversity is influenced by a number of factors, notably climate, soil, water table and human influences. There has been a regrettable reduction in rainfall which accentuates the problems of water management and, consequently, has adverse effects on arable and pastoral farming and fishing. The region's abundant fauna already mentioned above is also suffering from these factors, and especially from the scarcity of water resulting from both the reduction and the poor distribution of rainfall, but also from uncontrolled land clearance, the use of unsuitable fishing methods and poaching. In addition, the activities of the human population in fulfilling their daily subsistence needs are influencing the ecological balance of the environment.

The lack of alternative sources of income is one of the reasons justifying abuse of timber and wildlife resources for commercial purposes. The same applies to commercial exploitation of gum arabic, which is harvested in the Waza National Park, in many cases by unsuitable methods.

The Waza Logone floodplains are an exceptional region of great importance to both the local fauna and flora and the human beings living there. It is also an extremely fragile region, affected by complex interactions and heavily dependent on adequacy of rainfall and flooding levels. Mankind and his frequently too greedy methods of exploiting natural resources also constitute a menace to the region. It is reasonable to expect that this tendency will be counteracted by the efforts of the Cameroon government and the initiatives undertaken by its partners in the region's development. But the situation is nevertheless precarious, and it will be essential to ensure that the broader plans of action defined in the 2007 management plan are actually implemented. There are essentially three objectives which can be defined as follows:

- Research and protection of the Waza Logone floodplains with the aim of promoting social and economic development in the whole Waza Logone region
- Countering of the effects of man's uncontrolled exploitation of the region's natural resources in order to enable long-term development of these activities
- Encouragement of consultative and concerted management in order to consolidate settlement in the heart of the Waza Logone floodplains ■



Gerald Dick – WAZA

# WAZA Joins Hands with RAMSAR



On June 17<sup>th</sup> 2009, a Memorandum of Cooperation was signed between WAZA and the RAMSAR Convention on Wetlands. Both organisations are concerned about biodiversity conservation and wetland dependent species. In addition, awareness work (as part of Ramsar's CEPA approach) such as communication, education, participation and awareness is of mutual interest. Hence, a focus on joint activities which will be raising awareness throughout the networks of both institutions. Many zoos and aquariums which keep wetland dependent species focus their educational activities on wetlands which is most likely the most endangered ecosystem. Geographically, a very close relationship between a zoo and RAMSAR is being planned at the Ugandan Wildlife Education Centre (UWEC) in Entebbe, Uganda. It has been planned that a Wetland Centre for Eastern Africa will be situated right in the zoo.

In order to facilitate access to wetland related information, the memorandum will help provide up-to-date information and awareness material. During the Ramsar CoP 10 in Changwon, Republic of Korea, Seoul Grand Park Zoo and Busan Aquarium already supplied a great deal of information on wetlands in their exhibits, as well as an educational programme on the importance of wetlands and their sustainable use.

"Zoos and aquariums play such an important role in educating the public about conservation," says Anada Tiega, Secretary General of the Convention on Wetlands; "We hope that we can help to improve the public awareness and the need for change particularly in relation to the Convention on Biological Diversity's focus on "2010: Year of Biodiversity" and the World Wetlands Day 2010 theme of "Wetlands, Biodiversity, and Climate Change".

The Convention's mission is "the conservation and wise use of all wetlands through local, regional and national actions and international cooperation, as a contribution towards achieving sustainable development throughout the world".

The Convention uses a broad definition of the types of wetlands covered in its mission, including swamps and marshes, lakes and rivers, wet grasslands and peatlands, oases, estuaries, deltas and tidal flats, near-shore marine areas, mangroves and coral reefs, and human-made sites such as fish ponds, rice paddies, reservoirs, and salt pans. ■



© Ulrike Fox, WAZA

Signing of the Memorandum of Cooperation; Anada Tiega, Secretary General, RAMSAR Convention and Gerald Dick, WAZA Executive Director.



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Left to right: Andrew Seguya, Director of UWEC, Uganda Wildlife Education Centre, Entebbe and Gerald Dick, WAZA Executive Director and Paul Mafabi, Commissioner, Ministry of Water & Environment and Ex-Chair of the RAMSAR Standing Committee.

Brij K. Gupta – Central Zoo Authority



# Conservation Action Plan for the Amphibians

Recommendations of a workshop, held at Mysore, India on 7<sup>th</sup>–8<sup>th</sup> January, 2009

Two days workshop organized by the Central Zoo Authority (Ministry of Environment & Forests, Government of India) at Mysore, India to prepare an in situ and ex situ Conservation Action Plan for the amphibians on 7-8<sup>th</sup> January, 2009 at Mysore in collaboration with Sri Chamarajendra Zoological Gardens, Mysore. The workshop was attended by more than 35 personnel's which included amphibian experts from University of North Orissa, Central Zoo Authority, Wildlife Institute of India and Zoo Outreach Organization, Zoo Biologists, Scientist and Field Biologists working on amphibians. With the help of participants at the workshop an expert group finalized a list of 16 species of amphibians in the country for inclusions in conservation breeding in India.

The ex situ group at the workshop finalized following:

- a list of species that will serve as a long-term target for ex-situ conservation in the country and
- also a list of species that will serve to initiate conservation breeding of amphibians, gain skills and establish infrastructure.

Based on these objectives a list of 151 species obtained from the CAMP/GAA assessments for India was taken for evaluation. The major criteria used were "clarity in taxonomy" and "declining in native habitat", in order to assign species into two lists:

- list of 11 amphibian species that have been identified for initiating Conservation Breeding and skill development in India.
- list of 16 amphibian species that have been identified for long-term Conservation Breeding in India.

The species assigned to the category – no taxonomic clarity are those whose taxonomy are not clear, form species complexes or those whose related species have taxonomic problems leading to wrong identification. In the present list, the species that require ex-situ inputs are represented and the coverage of different parts of the country is also taken care of. In the present form zoos in different regions will be able to participate in the amphibian ex-situ conservation program and this might serve well for amphibian conservation in India. It was decided that this information may kindly be perused for initiating a vibrant conservation breeding program for amphibians in the country.

The other recommendations of workshop were following:

- Need for a Nation-wide Inventory of Amphibians Fauna.  
*Responsibility: Wildlife Institute of India, Dehradun/identified National level Universities and other agencies involved in herpetological studies.*
- A general prescription to be recommended in wildlife management in Protected Areas (PAs) that are located in high rainfall areas to carefully regulate creating new check dams and a gully checks to prevent soil erosion, because it compromises on crucial habitat for amphibians. Development projects such as dams in and around PAs should also be examined by experts for impacts on amphibian breeding habitats.  
*Responsibility: Ministry of Environment & Forests and State Forest Departments.*
- Options need to be explored on creating new conventional PAs, conservation reserves and community reserves dedicated to amphibian species in different parts of the country.  
*Responsibility: Ministry of Environment & Forests and State Forest Departments.*

- Need for a wildlife biologist attached to PAs, for inventory of species, monitoring of amphibian populations, enumerating of impacts on amphibian populations and demarcating of crucial breeding habitats for amphibian within PAs.  
*Responsibility: Ministry of Environment & Forests and State Forest Departments.*
- Revision in Indian Wild Life (Protection) Act, 1972 to include more species.  
*Responsibility: Ministry of Environment & Forests.*
- Sensitization of policy makers, managers, zoo staff and visitors on amphibians.  
*Responsibility: Ministry of Environment & Forests, Central Zoo Authority, State Forest Departments and Zoo Operators.*

Sixteen target species were identified to initiate planned conservation breeding programme, to achieve the same selected zoos shall start to exhibit and standardize protocols on selected 11 species.

*Responsibility: Central Zoo Authority and Zoo Operators.* ■



© Brij Gupta  
*Bufo bedommi.*

Kevin Zippel – Amphibian Ark

# Amphibian Ark

## Community Updates



On the species prioritization front, our Taxon Officers are honing the prioritization tool to make broader conservation action recommendations, and ultimately have it assimilated into the IUCN Red List update process for amphibians. Upcoming prioritization workshops in 2009 include Indonesia, Brazil, Sri Lanka, and possibly also Argentina, Bolivia, Cameroon, Caribbean, Chile, and Guatemala.

In husbandry training, we added new Training Officer Ron Gagliardo, who helped lead the AZA husbandry course as well as another in Malaysia. Ron's position is funded through a private foundation and hosted by Zoo Atlanta. Our partners at DWCT led a workshop in Bolivia, and saw several offspring courses in Latvia, the Netherlands, and Germany spawned from their 2008 course in Jersey. Our partners in ARAZPA held a workshop in Sydney as well as abroad in Thailand and Malaysia. Upcoming workshops in 2009 include Indonesia, Sri Lanka, Brazil, and possibly also Argentina, Cuba, Gabon, Panama.

In addition to our Training Officer, AArk has also recently added Carlos Martinez Rivera as our Taxon Officer for Latin America, where he facilitates partnerships and will help coordinate Taxon Management Groups. Carlos is based in Philadelphia and his part-time work with AArk is donated by The Philadelphia Zoo.

Our partners around the world continue to lead model rescue and management programs, including the public opening of EVACC in western Panama, a new coalition to start a similar program in eastern Panama, and rescue of Caribbean mountain chickens. Led by the San Diego Zoo, partners from throughout the AArk community met to draft updated standards for amphibian biosecurity practices.

AArk launched a new Seed Grant program awarding two \$5000 grants to projects in Kenya and Madagascar. We also worked with the enthusiasts at [www.Caudata.org](http://www.Caudata.org) to launch a new annual grant program for salamander conservation with \$1000 going to "Pandi mushroom-tongue salamander Project: Conservation status assessment of a threatened Andean salamander from Colombia – *Bolitoglossa pandi*" submitted by Giovanni Alberto Chaves Portilla, Fundacion Ecodiversidad Colombia.

For publicity, we supported wonderful articles in The New Yorker, National Geographic, CSM, Time For Kids, and the PBS documentary The Thin Green Line, as well as our own AArk Newsletter #6 and Recommendations for Raising Live Amphibians in Classrooms. We also solidified our presence on the public networking sites and invite you to join us in our Facebook Group and Cause as well as on MySpace. We are currently designing a new membership program and campaign that we hope to launch in a matter of weeks... keep an eye on our website [www.amphibianark.org](http://www.amphibianark.org).

Venezuela Cochran Frog  
(*Cochranella helenae*).

© César Luis Barrio Amorós, Fundación Andígena



Outside the ex situ sphere of the AArk, our ACAP partners continue to make significant progress as well. The IUCN/SSC Amphibian Specialist Group and partners preserved habitat for 11 threatened amphibians in Sri Lanka while Reid Harris et al. published on their work using probiotic bacteria to give chytrid-resistance to otherwise susceptible species.

Many thanks to all of our WAZA partners who are involved in and support these important conservation actions. Progress is measurable, but slow and not in proportion to the need. Please, if you are not already involved, get onboard the AArk! ■

Nate Flesness and Chris West

# WAZA and ISIS Cooperation



WAZA and ISIS are the two zoo- and aquarium- service organizations of global scope. WAZA now has over 240 direct institutional members and includes many hundreds more indirectly through the 25 Association members of WAZA. ISIS now has 825 institutional members worldwide plus a number of Association members. The memberships of WAZA and ISIS are largely overlapping, and the roles are complementary. WAZA has a broad role as a global umbrella organization, ISIS is narrowly focused on providing zoological information services to its' members – software for institutional and regional collection-management use, plus pooled animal and husbandry data.

**General Cooperation.** There has been sustained cooperation between WAZA and ISIS for many years. ISIS is an affiliate member of WAZA, and WAZA, reciprocally, an Association member of ISIS. Since WAZA members comprise 1/6<sup>th</sup> or more of ISIS total membership, under ISIS' bylaws, WAZA has a representative seat on ISIS' Board of Trustees (along with AZA and EAZA who also qualify for permanent ISIS Board seats in this way). ISIS' Board of Trustees traditionally hold one of their semi-annual ISIS Board Meetings at the WAZA annual conference.

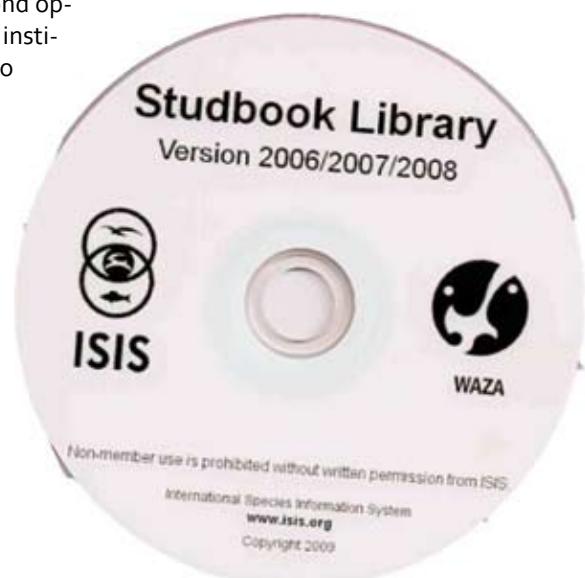
**Studbook Library.** For the last dozen years, WAZA has endorsed and supported ISIS' assembly and production of the WAZA/ISIS Studbook Library DVD (a new version of which has just been distributed). This community service provides institutions with a convenient single electronic library of (now) 1400 studbooks plus a large number of husbandry manuals, and saves a surprising amount of money (if studbook-sponsoring institutions distribute their work electronically this way instead of printing and mailing traditional printed studbooks, it saves one to several thousand US dollars each – multiplied by

1400 studbooks, the community savings totals millions of US dollars for each Studbook library edition). WAZA mandates that all their international studbooks be included in this electronic library, and ARAZPA and EAZA mandate their regional studbooks be included as well. Most known studbooks from other regions are included.

**Global Available/Wanted.** Recent discussion among ISIS, WAZA, AZA and EAZA staff has generated an idea regarding a new worldwide zoological service – a global available/wanted animal list. For many years ISIS has cooperated with AZA and EAZA by supporting their regional available/wanted services, providing convenient web links from identified available animals on their regional association web services, to ISIS' detailed background information on these specimens. Available/wanted services serve institutions and animals best when substantive information about the animal's background is provided. The new idea is that ISIS would continue to support regional available/wanted services via regional association websites (and in fact in future can help lower regional association costs by directly providing regional available/wanted web services to them), but ISIS will use the forthcoming ISIS ZIMS system to provide the first-ever global available/wanted service, as a second option to institutions. Most institutions will prefer to try to place available animals close to home. However, when that is not successful, it will be good to have more options. In addition, as part of ZIMS, this new service would of course provide key information on the available animals.

**ZIMS Update.** Since ISIS took direct control of the ZIMS project last October, we are on schedule, on budget, and on track to ship ZIMS Release 1 beginning in April next year (2010). ZIMS release 1 will replace ARKS and ISIS central database, and is funded by the generous pledges received from 143 institutions plus ISIS' external fund-raising. A significant ZIMS software fee, due on delivery (or earlier to reserve a place in line), has been announced by the ISIS Board to sustain development on the next ZIMS release (veterinary, replaces ISIS' MedARKS). Pledges are considered payments against the ZIMS software fee, so most of the 143 pledging institutions are paid in full already. ZIMS will provide powerful modern collection information services to the zoo and aquarium community worldwide.

**Future Cooperation.** In the future, there will certainly be more areas where cooperation between WAZA and ISIS will be beneficial to the organizations and animal collections they serve. There is helpful overlap at governance levels between WAZA Council and ISIS' Board of Trustees, and good cooperative staff relationships already exist, so we are limited only by resources and good ideas. Suggestions for either are most welcome. ■



Diana Sarmiento-Parra – Executive Director &  
Joao B. Cruz – Vice President, ALPZA

# ALPZA

## Committed to Biodiversity Conservation in Latin America and with the International Community

ALPZA was created in 1990. Since then, the Association has grown significantly, and became stronger with the participation of more members in Latin America and other regions. Currently, the Association has gathered representatives from 14 countries in Central America, Caribbean and South America with more than 90 members including institutions, professionals and associated organizations.

Latin America concentrates huge natural richness, and compiles a large variety of eco-regions, which includes all biomes from around the world, except Tundra and Taiga. This is the region of the planet with more diversity of species; six of the twenty two Latin American countries are categorized as megadiverse and several of them are in the first ranks in the world regarding number of species; Brazil is the second in number of mammals and plants, Colombia is first in birds, amphibians and orchids and Mexico is second in the world for its number of species of reptiles; also, ten of the twenty countries with the most number of amphibian species are in the region.

© WAZA

XVI ALPZA Congress, Panama City,

26–29 May 2009, from left to right:

Gordon McGregor Reid, Clara Dominguez,

Diana Sarmiento, Haydy Monsalve

Redwan, Gerald Dick.



But the threats are rapidly increasing and the species are disappearing; the agriculture frontier has been expanded and the forest have been converted into land for crops or towns; pollution, destruction of habitats and water reservoirs, pet trade and global warming are just some of the causes of extinction of populations and species.

Zoos in Latin America are equally diverse. They range from very small to very large institutions and from zoos and aquariums with limited resources, to others with enough to invest in in situ conservation projects. ALPZA has targeted its objectives on the accomplishment of the WZACS, particularly on the contribution of zoos and aquariums to conservation in Latin America, in accordance to its mission to promote the development of both, its members and zoos and aquariums in the region, together through contributing to biodiversity conservation.

So, this is why ALPZA, since 2005, has been working on actions to accomplish these goals and every year has revised its strategic plan and the actions. Training zoo personnel has been a priority. That's why ALPZA has promoted and facilitated training initiatives in the region. In 1998, supported by Africam Safari, ALPZA created a Training Centre for Latin American Zoos and Aquariums; in addition, this year in Panama, as it has



been every year in different countries since the beginning of the Association, ALPZA has organized its annual congress, which have included training workshops on diverse subjects such as management skills, husbandry, animal welfare and environmental matters. Furthermore, ALPZA has promoted and incentivized the attendance of its regional members to workshops, courses or similar events by both, offering grants and other supporting actions, and organizing courses in different countries, in partnership with other institutions.

ALPZA has increased its participation in the international community. The Association has created important alliances, which have been very important for its own development. Since 2005, ALPZA and EAZA signed a MOU that have had important outcomes for both regional associations. This year, ALPZA and AIZA has formalized a cooperation agreement to support each other; ALPZA and PAAZAB have a close relation in order to contribute on the development of both associations; and ALPZA, aims to continue actively participating in the WAZA initiatives and expects to encourage the participation of more Latin American institutions in the world association.

ALPZA is developing and participating in different projects. The Association has started its Cooperative Species Management Programme and has initiated the establishment of the regional studbooks. Also, is developing a virtual platform to share information within the association area and worldwide; has led the Frogs Campaign in Latin America; and soon will launch its second campaign on Pet Trade. Thus, ALPZA will continue working within the region and with other organizations to strengthen Latin American zoos and aquariums in its mission to promote the conservation of the biodiversity and the natural resources of the region. ■

Gerald Dick – WAZA

# Book Review

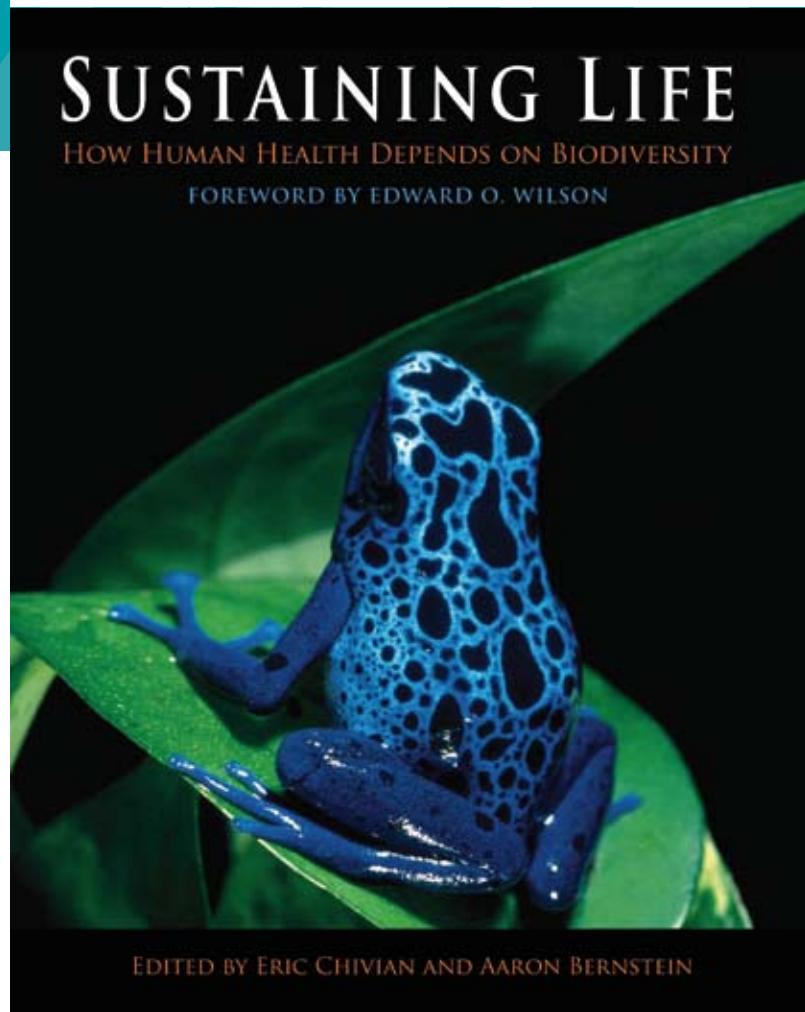
## Sustaining Life: How Human Health Depends on Biodiversity by Eric Chivian and Aaron Bernstein

Oxford University Press,  
New York, 2008 | 566 pp. |  
ISBN 978-0-19-517509-7

In addition to Ed Wilson's and Bert Hölldobler's *Superorganism*, *Sustaining Life* was named 2008 "Best Biology Book" by the Library Journal and is the winner of the Gerald L. Young Book Award in Human Ecology which is awarded annually to a book exemplifying the highest standard of scholarly work in the field of human ecology. The award was presented at the International Human Ecology Conference in Manchester, UK, June 29–July 3, 2009 and titled „Human Ecology for an Urbanizing World.“ An impressive number of about 300 people (chapter authors, contributing authors, assistants, photographers, illustrators and editors) were engaged in the preparation of this book.

Eric Chivian is founder of the Center for Health and the Global Environment at Harvard Medical School. Together with three other faculty members he won the 1985 Noble Peace Prize for "International Physicians for the Prevention of Nuclear War".

The book *Sustaining Life* clearly demonstrates the concept of "ecosystem services" (i.e. how intact ecosystems benefit the health and well-being of humans). It is the first book focussing on health aspects of biodiversity loss. In addition, fundamental issues such as extinction rates, the IUCN Red List or threats to biodiversity like invasive species, pharmaceuticals, war and conflict are also introduced. The chapters are clearly laid out and full of examples, coloured pictures and tables, which makes it very reader-friendly.



The introduction to the term "ecosystem services" (which stands for the benefits that all living things obtain from ecosystems), is most likely the first comprehensive attempt to tackle this new field. It ranges from food, medicine, air, water, soils and climate to cultural services and supporting services like pollination.

The current amphibian crisis (mainly caused by chytridiomycosis) is covered, as well as the huge potential for gaining medicine from amphibians. Taxonomic examples range from bacteria and insects to vertebrates and man. Although there is a chapter on GM crops and organic farming, the overall focus is a zoological one.

Other examples relate to climate change and the consequences for human health, resulting in many pages on creepy, crawly creatures. For example, mosquito reproduction and survival illustrates the dependence on, and the impact of, air temperature. In general they reproduce in

greater numbers and also bite more often, which increases temperatures. In addition, Malaria, for example, has been associated with changes in land use and resettlement throughout the tropics. In Africa, deforestation promotes a major disease vector: The *Anopheles gambiae* mosquito. Malaria has also become more widespread in the Amazon region where deforestation creates suitable breeding sites for *A. arlingi* mosquitoes.

*Sustaining Life* illustrates how the management of natural resources and the preservation of biodiversity can sustain health across the globe. In the back of the book there are valuable appendices for further reading, including one on treaties, conventions, and intergovernmental organizations that exist for the conservation of biodiversity, as well as one on non-governmental organizations with the same purpose.

<http://chge.med.harvard.edu> ■

# Announcements

## WAZA Council

### Elections 2009, Results

WAZA Council election count has been completed. The ballots were counted under the supervision of a notary at the WAZA Executive Office on July 3<sup>rd</sup>, 2009. The results of the election are as follows: The simple majority has been achieved by the highlighted candidates.

185 ballots total

- **President**
- **Mark PENNING**, Durban (RSA)  
144 yes & 41 abstained
- **President Elect**
- **Jörg JUNHOLD**, Zoologischer Garten Leipzig (D)  
151 yes & 34 abstained
- **Region 1 North America – Canada & USA**  
(7 abstained, 21 invalid)
- David JONES, North Carolina Zoological Park (USA) 87 yes
- **Lee EHMKE**, Minnesota Zoological Gardens (USA) 117 yes
- Jim FLESHMAN, Cameron Park Zoo (USA) 71 yes
- **Rick BARONGI**, Houston Zoo (USA) 107 yes
- **Joanne LALUMIÈRE**, Granby Zoo (CA) 89 yes
- **Region 2 Europe and Near East** (6 abstained, 27 invalid)
- **Jo GIPPS**, Bristol Zoo (UK) 128 yes
- **Ryzsard TOPOLA**, Zoo Łódz (PL) 124 yes
- Françoise DELORD, Zoo Parc de Beauval (F) 102 yes
- **Cesare AVESANI**, Parco Natura Viva (I) 105 yes
- **Region 3 Mexico, Central America and the Caribbean, South America, Africa, Oceania, Asia**  
excluding Near East  
(5 abstained, 0 invalid)
- Sally WALKER, (IN) 39 yes
- Amy CAMACHO, Africam Safari (MX) 43 yes
- **Chris WEST**, (AUS) 98 yes

## IUCN World Conservation Congress 2008: Resolutions published

The resolutions and recommendations which have been adopted during the World Conservation Congress in Barcelona in October 2008 are now published by IUCN and can be found as download on the IUCN web site [www.iucn.org/congress\\_o8/](http://www.iucn.org/congress_o8/).

Resolution 4.017 entitled "Stopping the amphibian crisis" has been launched by WAZA and supported by numerous partner organisations as well as governments. The main operative paragraph reads as follows and is meant to support the global endeavours to save vanishing amphibians.

The World Conservation Congress, at its 4<sup>th</sup> Session in Barcelona, Spain, 5–14 October 2008, provides the following guidance concerning implementation of the *IUCN Programme 2009–2012*:

**REQUESTS the Director General to:**

(a) use the existing partnerships with international bodies to help implement amphibian conservation, encompassing assessment, research and both *in situ* and *ex situ* measures;

(b) establish a focus within the core programme area "Conserving Biodiversity" on the implementation of existing policies and governance systems with a goal of: (i) bolstering research; (ii) establishment of protected area management systems and ecological corridors especially for amphibians; and (iii) concomitant renewal of the Global Amphibian Assessment efforts with special attention to the species previously classified as Data Deficient; and (c) have the Secretariat support and cooperate with the continuing efforts of the Amphibian and the Conservation Breeding Specialist Groups of SSC to: (i) address this unparalleled conservation crisis; and (ii) support the development of other collaborative efforts to implement the Amphibian Conservation Action Plan of IUCN, especially those involving diverse disciplines.

MOTION: MOCION:			CGR4.MOT021		
Stopping the Amphibian Crisis					
Gov. / Gouv. / Gob.			NGO / ONG		
YES OUI / SI	NO NON	ABST	YES OUI / SI	NO NON	ABST
					
96	0	6	266	4	18
100.00%	0.00%		98.52%	1.48%	
Total: 96			Total: 270		
<b>Approved / Approuvée / Aprobada</b>					

WAZA Executive Office

# Petition to the Politicians and Parliaments of the World

During the "Year of the Frog 2008" zoos around the world collected signatures for amphibian conservation. 74,838 signatures have now been handed over to IUCN, also in support of resolution 4.017 on stopping the amphibian crisis, which has been submitted to the World Conservation Congress 2008 by WAZA and supported by zoos as well as governments and NGOs worldwide.

**"We, the undersigned, support the zoos and aquariums of the world, which are carrying out public awareness, conservation breeding and habitat protection. We call on our leaders and governments to commit resources for urgent global action to rescue frogs and other amphibians."** ■



© Ulrike Fox, WAZA  
Jane Smart, Head of IUCN Species Programme and Gerald Dick, WAZA Executive Director.



© Gerrald Dick, WAZA  
The backbone of the petition on amphibians: 65,130 signatures arrived physically in the WAZA Executive Office.



© Jörg Adler

Jörg Adler, Director of Allwetterzoo Münster and Gerald Dick, WAZA Executive Director receiving appreciation awards during 20<sup>th</sup> Annual General Meeting of PAAZAB, Entebbe, 22 May 2009.



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# Going, going, gone....

Plants and animals around the world are increasingly under threat of extinction. International Union for Conservation of Nature (IUCN) is the world's main authority on wildlife conservation. Information about threatened plants and animals is collected by scientists around the world and put together into a Red List of Threatened Species. Each species is given a level of threat which highlights the problems it faces in the wild.

This logo is used around the Zoo to show our threatened animals.

### Red list categories

	<b>Extinct</b> Definitely none left.		Dodo Extinct late 17th Century
	<b>Extinct in the wild</b> Only survive in captivity.		Socorro dove*
	<b>Critically endangered</b> An extremely high risk of becoming extinct in the wild.		Sumatran tiger*
	<b>Endangered</b> A very high risk of becoming extinct in the wild.		Cuban crocodile*
	<b>Vulnerable</b> A fairly high risk of becoming extinct in the wild.		Casowary*
	<b>Near threatened</b> Likely to become one of the above categories in the near future.		African elephant*

\*Animals in Paignton Zoo Environmental Park.

Paignton Zoo is involved in the conservation of wildlife around the world as well as co-operative breeding programmes for threatened species.



Convention on Biological Diversity

## 2010: Zoos and Aquaria become Biodiversity Embassies

The UN General Assembly has declared 2010 as the UN Year of Biodiversity in recognition of the global target to significantly reduce the rate of biodiversity loss globally. WAZA is a supporter of the Countdown 2010 initiative of IUCN in support of reaching the goal since 2005. Additionally WAZA is about to enter an agreement of cooperation with CBD (UN Convention on Biological Diversity).

In support of international activities, WAZA members will get information and promotion material about biodiversity, thus acting as biodiversity embassies, places where you can easily and quickly see and understand diversity. As this theme is such an overarching one, many different activities of zoos and aquaria will fit under this umbrella. WAZA is preparing a book on biodiversity, highlighting WAZA in situ projects, in addition WAZA and IZE are preparing an educational resource manual. As soon as more details are available from the UN, members will be informed accordingly. ■

## IUCN Red List Design gains momentum!

Zoos and aquariums use the new design to educate visitors about the conservation status of species, one such example comes from Paignton Zoo, UK.

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Laurel Colton – LA Zoo

### Mother’s Day Sundae

A “Mother’s Day Sundae” was held on May 10 in Pasadena, California, to raise money and awareness for the Year of the Gorilla (YoG) campaign. Guests made their own ice cream sundaes and enjoyed other refreshments. Interpretive Naturalist of Zoology and Los Angeles Zoo Docent, Joleen Lutz, gave an informative and humorous talk on amazing animal mothers: “Belly Buttons, Brood Pouches, and Other Beginnings”. Los Angeles Zoo Conservation Committee Co-Chair, Laurel Colton, presented a musical slideshow on wild gorillas’ endangered status. An information table featured gorilla facts, YoG leaflets, and a poster on YoG goals. Gorilla photo sales and a silent auction raised US\$ 430 for the Greater Los Angeles Zoo Association’s Conservation Fund, 100% of which will go to the YoG’s wild gorilla conservation projects. ■



© LA Zoo  
LA Gorilla Day: Laurel Colton (left) and Joleen Lutz (right) on the Gorilla Day at Los Angeles Zoo.



© Gerald Dick. WAZA  
St. Louis Zoo special information plate on Year of the Gorilla.

### A School Girl for Gorillas

A 12-year-old girl, Monika Beuzet, of Wilson Middle School in decided to take the YoG campaign to her school and has been raising money and awareness since May together with her classmates. In fact, she has raised \$ 600 in just one month! ■



© Laurel Colton, LA Zoo  
Monika Beuzet at School: Monika Beuzet and classmates collecting money for gorilla conservation.



WAZA Magazine Vol 11 on Gorilla Conservation published.

“All About Gorillas” as an abridged version now also available in German!

Roland Wirth – Zoological Society for the Conservation of Species and Populations (ZGAP), Germany

# Javan Warty Pig

WAZA Project 8024

## The Establishment of a Conservation Breeding Programme for Javan Warty Pig (*Sus verrucosus*), Java, Indonesia

The Javan Warty Pig, *Sus verrucosus*, is an endangered wild pig species endemic to Java and associated offshore islands (Indonesia). Population numbers remain unknown and habitat destruction in the form of transformation of natural forest into production forest and hunting have been the main causes for the decline of the species. Today, the animal lives in a very small fragmented habitat and under intense pressure for its survival. The population survey conducted in 2003/2004 and the International meeting on the strategy for conserving the Javan Warty Pig in 2006, both recommended the establishment of a captive breeding program of Javan Warty Pigs in Indonesia for the ultimate purpose of re-introduction. The output of the project would be the availability of enough genetically sound captive *Sus verrucosus* which can be used for a re-introduction program, as well as for studying the biology of this poorly known species, whereas the long term aim of the project would be to establish a viable, free ranging population in parts of the historical distribution area of the species. Simultaneously with the development of captive breeding, a molecular study needs to be done as there are no data available to distinguish pure *S. verrucosus* from hybrids of *S. verrucosus* and the widespread wild boar *S. scrofa*.

Population management will be conducted as follows:

- The initial captive population will be managed in Indonesia with all wild caught founders remaining in Indonesia, as per Indonesian Law
- The minimum number of founders aimed for will be 6 pairs
- The genetic purity of all founders will be tested using the molecular data as mentioned above
- The number of offspring will be managed to retain genetic variation according to the minimum value that will be set up in consultation with Population Management experts of the International Zoo community
- Creation of a "Javan Warty Pig Conservation Consortium" and Stud Book
- The five years target of the project is 25–50 captive born offspring
- The establishment of two additional breeding colonies, at Surabaya Zoo and at Singapore Zoo within 2–3 years due to their expertise in managing endangered Asian wild pig species

- The distribution of 25% of the offspring (F1 and onwards) on breeding loan for the creation of additional insurance colonies to national and international zoos
- The establishment of a sound re-introduction program according to IUCN guidelines

This project is implemented by Cikananga Species Conservation Centre (CSCC) and Indonesian Research Centre for Biology (LIPI). The Project is endorsed by the IUCN/SSC Pigs and Peccaries Specialist Group and EAZA Pig TAG and financially supported by the Zoological Society for the Conservation of Species and Populations (ZGAP) (Germany), Los Angeles Zoo (USA) (since 2006) and Wrocław Zoo (Poland) (since 2007).

Javan warty pig (*Sus verrucosus*) in the newly built enclosure at Cikananga, 2009.  
© Pavel Hospodarsky



Johannes Peschke – Zoo Heidelberg, Germany

# Common Hamster

WAZA Project 9001

## Common hamster (*Cricetus cricetus*) conservation plan, Germany

The common hamster population in the surroundings of the City of Mannheim – which is one of two remaining populations in Baden-Württemberg – experienced a dramatic decline in recent years. There were once four separated distribution areas in this federal state, of which two became already extinct within the last decades. Near the city of Mannheim within the Rhine-Neckar-Region the highest population densities existed and pest control measures were carried out regularly until 1981. Since then due to the expansion of the cities and villages in the area, the building of additional roads and the ongoing intensification of agriculture a steady decline could be observed. Due to further expansion in recent years the city of Mannheim was obliged by the laws of nature conservation to devise a conservation plan.

Conservation measures in terms of habitat management and restoration are carried out to improve the status of maintenance of the wild populations. Farmers are contracted to leave cereal strips (5m/ha) unharvested to increase food availability in summer and/or to plant lucerne fields which is the key habitat of the common hamster. Contracts run initially for five years. The project focusses currently on five separate (sub-) populations which have suffered habitat loss in recent years. There are currently 20 ha under contract. Populations are monitored every spring by burrow counts to control their development. In Heidelberg Zoo a breeding colony was established in 2004 to provide the stock for reintroduction. In 2007 reintroduction started with 46 animals and 65 hamsters could be released in 2008.

This project is implemented by the Zoo Heidelberg in collaboration with the City of Mannheim, and with the support of the Animal Park Worms and the "Institut für Faunistik". ■

Hamsters (*Cricetus cricetus*)  
in the breeding station  
at the Zoo Heidelberg.  
© Heidelberg Zoo



Camouflaged hamster (*Cricetus cricetus*) in the lucerne field.  
© Heidelberg Zoo



Christoph Schwitzer – Bristol Conservation and Science Foundation, UK

# Lemur Programme

WAZA Project 9003

## Lemur Programme Sahamalaza – Iles Radama, Madagascar

By The blue-eyed black lemur (*Eulemur flavifrons*) was rediscovered by science in 1983 after more than a century of uncertainty about its existence. After some initial surveys it soon became clear that the species was one of the most endangered of all lemurs, and that it did not occur in any existing protected area. The species is restricted to a small distribution area on and around the Sahamalaza Peninsula in northwest Madagascar. *Eulemur flavifrons* and the other lemur species living in Sahamalaza are threatened by forest destruction, both for slash-and-burn agriculture and to gain space for grazing cattle, and by hunting. Blue-eyed black lemurs were assessed Critically Endangered (CR A2cd) by the International Union for the Conservation of Nature (IUCN) at their most recent Red List Assessment in April 2005, based on an 80% population reduction during the last 25 years. The same probably applies to the Sahamalaza sportive lemur (*Lepilemur sahamalazensis*), a species only described in 2006, which was not yet assessed at the Red List Assessment.

The Association Européenne pour l'Etude et la Conservation des Lémuriens (AEECL), a consortium of European zoological gardens and universities, with the involvement of representatives of local communities from the Sahamalaza Peninsula and representatives of several environmental institutions, implemented a community-based natural resource management programme (CBNRM) in December 2000. Two objectives of this programme were identified: to maintain and strengthen natural processes and the condition of terrestrial and marine ecosystems; and to improve natural resource use techniques in order to improve the standard of living of the local human populations. An action plan (Natural Resources Community Management Plan) was proposed and is currently being implemented.

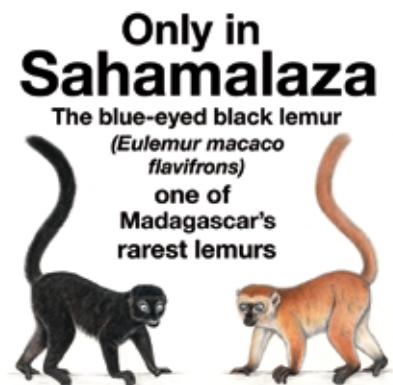
The initial goal of the Programme Sahamalaza – Iles Radama was the creation of a national protected area for the blue-eyed black lemur and other species living on and around the Sahamalaza Peninsula. This goal was achieved in two steps: The area was declared a UNESCO Biosphere Reserve in 2001, and in July 2007 the marine and coastal national park Sahamalaza – Iles Radama was inaugurated by the Malagasy government. The current goals of the programme are to assist the local communities living around the core zones of the protected area in sustainably managing their natural resources; to implement and maintain an effective protection of the lemurs in Sahamalaza and their habitat; to study the conservation ecology of the blue-eyed black lemur, the Sahamalaza sportive lemur and other endangered species living in the protected area in order to inform ongoing conservation measures; to improve the standard of living of the local communities. ■

Sahamalaza Flagship species:  
female blue-eyed black lemur (*Eulemur flavifrons*).

© BCSF



Project T-shirt design  
(English version).



Patricia Medici – IPÊ, Institute for Ecological Research, Brazil

# Lowland Tapir Conservation Initiative

WAZA Project 9007

## From the Atlantic forest to the Pantanal

The four living species of tapirs occur in the tropics of Central America (Baird's tapir, *Tapirus bairdii*), South America (lowland tapir, *T. terrestris*, and mountain tapir, *T. pinchaque*), and Southeast Asia (Malayan tapir, *T. indicus*). The lowland tapir has the broadest range of the four species extending from north-central Colombia and east of the Andes throughout most of tropical South America down to north eastern Argentina and Paraguay. The species is currently listed by the IUCN as "Vulnerable" in the categories A2cde+3cde (IUCN Red List 2008). Additionally, lowland tapirs are listed in CITES Appendix II (2005), and as Endangered in the U.S. Fish & Wildlife Service list.

In 1996, Patrícia Medici started a long-term Lowland Tapir Research and Conservation Program in the Atlantic Forest of the Pontal do Paranapanema Region, São Paulo, Brazil, which she slowly built into what is considered today a model for multidisciplinary conservation efforts. This program has included studies in ecology, population demography, epidemiology, genetics, habitat use and effects of habitat fragmentation, as well as promotion of community involvement, environmental education and habitat restoration efforts. One of the main achievements of the Atlantic Forest Tapir Program has been providing scientific information to restore critical tapir habitat (corridors and stepping-stones) identified through telemetry studies. Results of the project are currently being used to design a Regional Action Plan for Tapir Research and Conservation in the Atlantic Forest biome which will be implemented throughout the next years.

In order to advance scientific knowledge and promote the conservation of this widely spread but seriously imperiled large mammal, Patrícia has

now launched a country-wide Lowland Tapir Conservation Initiative that will establish tapir research and conservation programs in other key biomes of Brazil. The first of these is a new Lowland Tapir Research and Conservation Program in the Brazilian Pantanal, where no tapir research has ever been conducted. The Pantanal is increasingly threatened. Deforestation is now widespread throughout the region, threatening tapirs and other wildlife with local extinction.

The Pantanal Tapir Program was established in 2008. The main goals of this new long-term program are to collect ecological, demographic, epidemiological and genetic data to assess the conservation status and viability of tapir populations in the Brazilian Pantanal. As in the Atlantic Forest, results will be used as the basis for the design of a specific set of recommendations for the conservation of the species in the Pantanal. Some of these recommendations will certainly include strategies for population and habitat conservation and management, reinforcement of public protection in existing protected areas, establishment of new protected areas, and promotion of conservation awareness among local landowners. Tapirs will be used as ambassadors for conservation in the Pantanal, catalyzing habitat conservation efforts, environmental education, as well as training and capacity-building and scientific tourism initiatives.

The next biomes where the initiative will be established in the near future are the Amazon and Cerrado. Tapir Programs in each biome will aim to benefit tapirs as well as a large number of other species and key habitats while having long-term positive impacts on the local communities. The combined database of tapir



© Patricia Medici

Direct sighting of a tapir (*Tapirus terrestris*), Salina in April 2009.

### Financial support

- AAZK – American Association of Zoo Keepers, Puget Sound Chapter, USA
- Brevard Zoo Conservation Fund, USA
- Chester Zoo, North of England Zoological Society, UK
- Cleveland Metroparks Zoo, USA
- Columbus Zoological Park Association Inc., USA
- Connecticut's Beardsley Zoo & Jim Knox's Wild Zoofari, USA
- Dutch Foundation Zoos Help, Netherlands
- Emmen Zoo, Netherlands
- Givskud Zoo, Denmark
- Golden Ark Foundation & Golden Ark Award 2008, Netherlands
- Houston Zoo Inc., USA
- Idea Wild, USA
- John Ball Zoo Society, Wildlife Conservation Fund, USA
- Mohammed bin Zayed Species Conservation Fund, UAE
- Nashville Zoo at Grassmere, USA
- Oregon Zoo Future for Nature Conservation Fund, USA
- Parc Zoologique CERZA Lisieux, France
- Parc Zoologique d'Amnéville, France
- SeaWorld & Busch Gardens Conservation Fund, USA
- Whitley Fund for Nature & Whitley Awards 2008, UK
- ZooParc de Beauval, France

information coming from different Brazilian biomes will contribute to the process of implementing the priority actions included in the new IUCN/TSG Lowland Tapir Action Plan resulting from the Lowland Tapir PHVA Workshop held in 2007.

Approximately 70% of the funding of the Lowland Tapir Conservation Initiative comes from American and European zoo conservation funds. ■

Dana Holečková – Zoo Dvůr Králové, CZ

# Back to Africa: Flying Black Rhino

WAZA Project 8013

## Reintroduction of the black rhino to Tanzania

The role of modern zoos not only involves keeping endangered species, but also returning them into their native habitats in the wild. Even back in 1960s and 1970s, dozens of thousands rhinos ranged throughout the African savannahs south of the Sahara, with the black rhinoceros (*Diceros bicornis*), the lesser form of African rhinos being the most abundant. Four subspecies of this rhino dwelled the most of the appropriate habitats in West, Central, East and South Africa. In 1960, the population was estimated to 100,000 animals. As a result of uncontrolled hunting – namely poaching, numbers dropped rapidly to critical 2,300 individuals in 1993.

Owing to the conservation efforts of international community as well as those of a number of African countries, the small populations could be stabilised and newly developed in strictly guarded, usually fenced areas. Each of the animals now possesses its personal guard who keep them under almost constant control, which is very frequently facilitated by a miniature transmitter applied into the base of the horn to allow for 24/7 telemetric monitoring. This type of guarding proved to be effective and the black rhino numbers started to rise with a year-on-year increase of 4.5%. Although a time to celebrate a victory has not yet come, estimated wild black rhino numbers totalled to 4,180 animals in June 2008, with the Republic of South Africa, Namibia, Zimbabwe and Kenya hosting the largest populations.

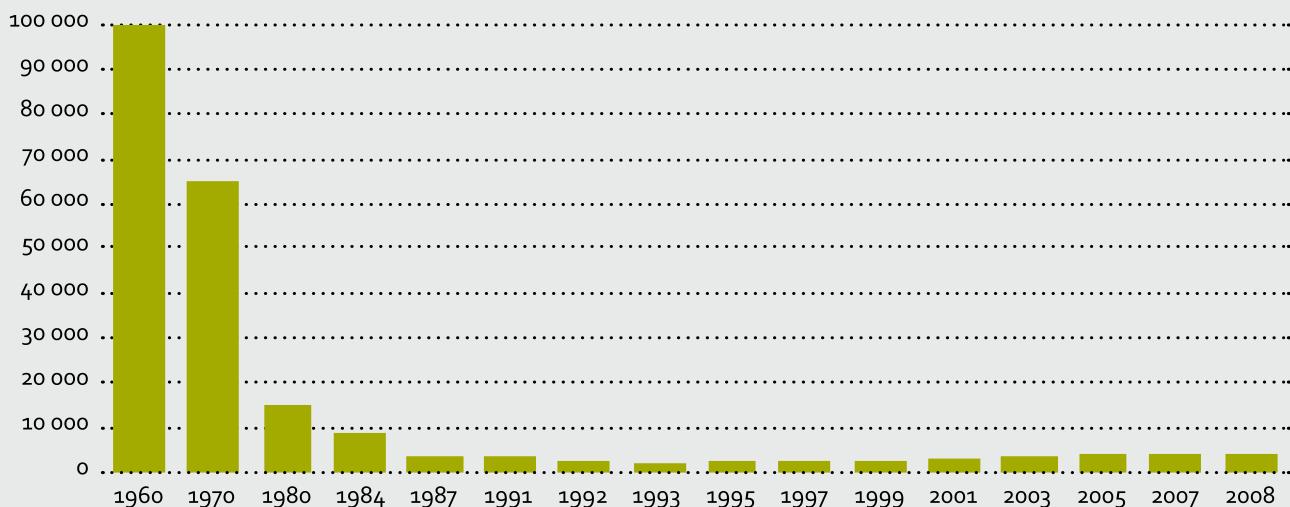


© Dana Holečková, Zoo Dvůr Králové  
The Boeing plane that has carried the animals.

### Reintroduction into Mkomazi National Park, Tanzania

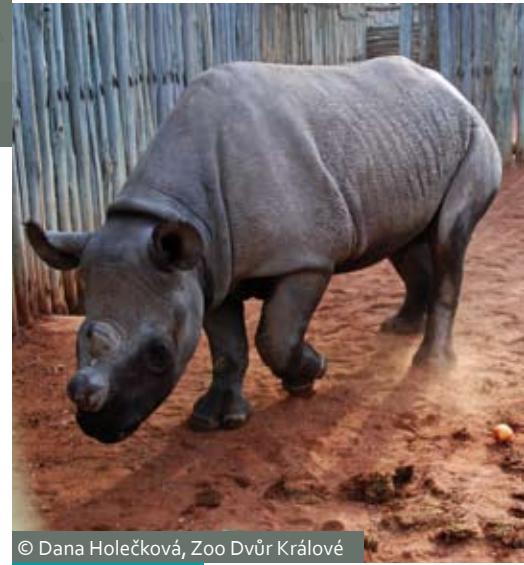
Having been a successful black rhinoceros breeder, Dvůr Králové Zoo who has already achieved the 5<sup>th</sup> generation in captivity as the first black rhino captive holder worldwide, decided to carry out the programme of reintroduction of black rhinos into the wild as the 3<sup>rd</sup> European zoo, following Frankfurt a/M and Port Lympne/Howletts. In 1974–2008, there were 33 eastern black rhinos (*Diceros bicornis michaeli*) born at Dvur Kralove Zoo, out of which 29 animals were raised successfully. Three (2.1) zoo-bred animals were included in the reintroduction project in Tanzania-based Mkomazi National Park that has been implemented as the WAZA Project No. 8013.

### Development of black rhino populations in the wild since 1970





© Dana Holečková, Zoo Dvůr Králové  
A group of wild black rhinos watering in the evening, Mkomazi National Park.



© Dana Holečková, Zoo Dvůr Králové  
Jabu in the boma.

Being a part of Tsavo Ecosystem and contiguous to Kenya's East Tsavo National Park, Mkomazi is a natural territory that stretches over the area of 3,272 km<sup>2</sup> the North Eastern Tanzania. It was just Tsavo National Park, where the black rhinos for Dvůr Králové Zoo were captured back in 1971. Out of those animals, there is still one that lives in Dvůr Králové: Jimmi, an almost 40-year-old female. This is a grandmother and great-grandmother, respectively, to the young rhino triplet that has now returned into the ecosystem of their predecessors.

Following a careful preparation period, the transport took place from 27 to 29 May 2009. First, the animals weighing 850 to 1,100 kg were loaded into crates, which took several hours. Afterwards, they were transferred in trucks from Dvůr Králové nad Labem to Amsterdam, about a thousand kilometres away. The transport was carried out during the night, when there was no threat of overheating and traffic jams on highways. The fleet including an accompanying car departed at 8 pm on 27 May; it arrived at the Amsterdam airport the next day just before the noon. With press people invited – the transport was funded by a Suzuki's Dutch office – the crates weighing 1.5 tons were loaded on pallets and into the airplane that started shortly before midnight. After a safe flight in the altitude of only 3.5 km, the Martinair

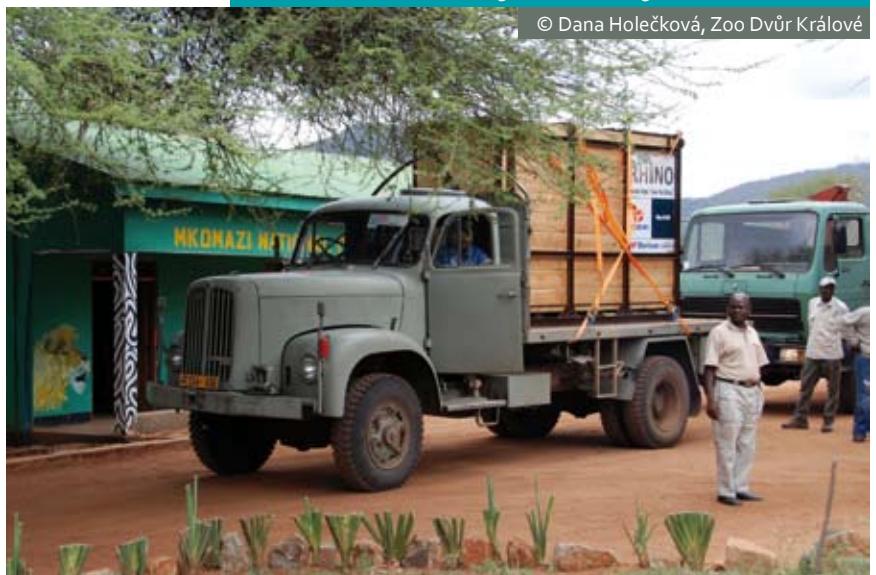
plane landed at the Kilimanjaro Airport, Tanzania, at 8.30 am. In addition to Donor's representatives, the rhinos were accompanied during the flight by Jan Žďárek, a rhino keeper from Dvůr Králové, Berry White from the UK, a future keeper of the rhinos, and Pete Morkel, a South Africa-based veterinarian with responsibility for medical sedation of the animals during their journey as well as the management of the transport as such. In Tanzania, the rhinos changed the means of transport – they were transferred in trucks to Mkomazi National Park nearly 200 km away, where they were unloaded, one at a time. The unloading process took about four hours. The three young rhinos include a five-year-old female Deborah born on 11 November 2004, with the reference number DK 27 meaning

this is the 27<sup>th</sup> black rhino born in Dvůr Králové in the row, a 3.5-year-old male Jamie DK 29 born on 2 January 2006, and a 2.5-year-old male Jabu DK 31, born on 1 February 2007. While Jamie is already a fourth captive-born generation, Deborah and Jabu even represent a generation five.

Now there will be a smooth process of animals getting used to the bomas, which will be followed by expanding their space with natural enclosures. As they will be settling down, they will have to switch to a different diet and learn the electric fencing around. A transmitter has been applied to all rhinos inside her front horn. The slow process of acclimatization to the life in the wild will take about two years.

A truck with a crate containing a rhino entering Mkomazi National Park.

© Dana Holečková, Zoo Dvůr Králové



Paul Crump – Houston Zoo | Edgardo Griffith – EVACC

# El Valle Amphibian Conservation Center (EVACC)

WAZA Project 6005

Panama's amphibians are in serious trouble. Like the rest of the world's frogs, toads, salamanders, and caecilians, Panama's amphibians are declining because of a plethora of reasons. Forty-nine out of 197 species (~ 25%) on the IUCN's Red List of Threatened Species are threatened with extinction. Habitat loss, pollution, and invasive species all take their toll, but above all, amphibian chytrid is having the most significant effect. Amphibian chytrid works quickly and at this time no known *in situ* mitigation tactics are effective. Enter Amphibian Ark and its constituents, the global *ex situ* community.

El Valle Amphibian Conservation Center (or EVACC) had its humble beginnings back in 2005. Situated on the grounds of the Nispero Zoo in the mountain town of El Valle de Anton in Western-central Panama, this in-range *ex situ* facility's primary purpose is to prevent the extinction of some of Panama's incredible amphibian biodiversity.

Numerous goals have been accomplished since amphibians were moved into the holding area of the facility in early 2007. Several species have been bred for the first time at EVACC, some for the first time in the world, but more importantly, almost all for the first time in Panama. EVACC is equipped with molecular equipment for performing its own preliminary amphibian chytrid screening, a full suite of diagnostic tools for investigating other medical issues, and receives regular support from top veterinarians and pathologists in North America.

In April of this year, EVACC opened its doors to the public. The exhibition side of the facility contains over a dozen enclosures showcasing the biodiversity of the region. Exhibits portray a variety of habitat types that exist in Panama and the amphibian species that exist within them. The centerpiece of the exhibition side is a large mountain stream exhibit that prominently features the Panamanian Golden Frog in a replica of its natural habitat.

EVACC has achieved a lot in the last 4 years but it still has a long way to go. Most species are represented by too few founders to ensure the viability of the captive population long term. The chances of acquiring these founders decrease everyday as amphibian chytrid advances further east. EVACC's modest footprint couldn't hold all the captive populations of its priority species even if it were possible to collect them; more space is needed to achieve all the objectives of the project.

Steps are being taken by concerned biologists to increase capacity for amphibian conservation in Panama. It will take the continued attention of the numerous organizations and institutions that have supported EVACC, and the conservation of Panamanian amphibians, to halt and eventually reverse the declines that are occurring. ■

Canal Zone Treefrog (*Hypsiboas rufitellus*).

© Gerald Dick. WAZA



João Falcato Pereira – Oceanário de Lisboa

# Examples of Aquarium Conservation Projects



© Gerald Dick. WAZA  
Coronated Treefrog (*Anotheca spinosa*).



© Gerald Dick. WAZA  
Red-eyed Tree Frog (*Agalychnis callidryas*).



© Gerald Dick. WAZA  
Edgaro Griffith at EVACC.

## Assessing heavy metal impact on the European Eel (*Anguilla anguilla* L.) in Portugal and the *Anguillicola* parasite in brackish waters

The European-eel stock is in clear regression since the 1980's. Although many threats arise from the climate change impact on Ocean currents, which may have a great impact on the eels larvae migration, the main causes for this regression are based on land. Among many other cause the overfishing of glass-eels for aquaculture purposes, reduction of the available habitat due to dam constructions, the reduction of water quality and the presence of a nematode parasite.

After ICES declaration in 1998, that the species was outside safe biological limits it is the EU member states' obligation to have a national plan for managing this species. Data concerning the biological and chemical impact of the nematode *Anguillicula crassus* and heavy metals are deficient in Portugal.

CLEAN EEL's goal is to contribute for a management plan of this species and for its conservation on an international level. The quantification of the impact caused by parasite infestations and heavy metal contamination in this specie, aspects considered important in the overall decline of European eels, is critical to achieve the objective of conservation. This study was promoted by the Oceanography Institute of the University of Lisbon.



© Oceanário de Lisboa  
European Eel (*Anguilla anguilla*).

João Falcato Pereira,  
Director of Oceanário de Lisboa,  
Gerald Dick, WAZA Executive Director  
and Vasco, the Oceanário's mascot.

© WAZA





© Gerald Dick  
Loggerhead Turtle (*Caretta caretta*).

### Protection and Integrated Management of Sea Turtles in Cape Verde

The project of protection and integrated management of sea turtles started in 2007 and was implemented in a small fishing community in the county of São Domingo, located in the Island of Santiago, Cape Verde. This project, developed by the University of the Algarve, includes two components and attempts to contribute towards the conservation of five sea turtle species still occurring in this country. The first component includes social aspects and searches for alternative income sources for local populations, such as ecotourism and turtle watching. The second component is a more conservation oriented one, having the goal of ensuring the preservation of these threatened species.

After 2 very successful years where the killing of sea-turtles for food purposes by the local population was reduced to nearly zero, the project is now integrated with similar projects occurring in other islands of Cape Verde, joining forces for a sustainable effort for the conservation of sea-turtles in the whole archipelago.

In 2009 the project will be expanded to the Archipelago of S. Tomé e Príncipe, where sea-turtle conservation efforts are still in very early stages.

<http://tartarugascaboverde.wordpress.com/tartarugas-marinhas>

### Distribution and colonization strategy of the European River Lamprey (*Lampetra fluviatilis* L.) in the river Tagus hydrographic basin

This project results from a partnership between the University of Évora and University of Lisbon (Oceanography Institute). The objective is to expand the knowledge on spawning migrations of one of the currently most threatened species in Portugal, the River Lamprey, as well as identifying factors on which its survival depends upon. The River Lamprey is a confirmed occurrence in the Tagus basin but occurs nowhere else in the country.

European River Lamprey (*Lampetra fluviatilis*).

© Oceanário de Lisboa



# Recent updates

## 64<sup>th</sup> Annual Conference and WAZA Congress

Early Bird Registration extended till 10<sup>th</sup> September 2009

[www.stlzoo.org](http://www.stlzoo.org).

Global Challenges will be addressed by the following guests:

- **Ahmed Djoghlaf**, The Executive Secretary of the UN Convention on Biological Diversity | *Conservation and Sustainable use of Biodiversity from Z to A: Zoos & Aquariums & the Convention on Biological Diversity for 2010 & Beyond*
- **Jane Smart**, IUCN | *The IUCN Red List of Threatened Species: Reaching the WAZA Public*
- **Simon Stuart**, IUCN/SSC | *The Species Extinction Crisis: Can We Win the Battle?*
- **Russ Mittermeier**, Conservation International | *Conservation Prioritisation: The Challenge of the Hot Spot Concept*
- **Katie Frohardt**, Fauna Flora International | *Strategic Importance of Flagship Species & Habitats*
- **Jane Madgwick**, Wetlands International | *Conservation, Human development & Poverty Alleviation: The Benefits & Challenges*
- **Rick West**, ICOM | *New Challenges for ICOM- International Council of Museums* ■

### Future WAZA conference venues

- 2009 St. Louis, USA (4–8 Oct 09)
- 2010 Cologne, Germany (17–21 Oct 09)
- 2011 Prague, Czech Republic (2–6 Oct 2011)
- 2012 Melbourne, Australia (7–11 Oct 2012)
- 2013 Disney Animal Kingdom, USA
- 2014 New Delhi, India ■



© Gerald Dick, WAZA  
Northern Entrance St. Louis Zoo.



© Gerald Dick, WAZA  
Executive Office staff, from left to right:  
Silvia Geser, Gerald Dick, Ulrike Fox,  
Natasha Jackson, Thomas Althaus.

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# Recent updates

## Membership application

### Kyiv Zoo, Ukraine

- Sponsors:  
Vladimir Spisin (Moscow Zoo)  
Vladimir Topchy (Nikolaev Zoo)
- Founded: 1909
- Mission:  
Kyiv Zoo is an object of Wildlife Conservation fund of Ukraine of national value. It was created to carry out environmental, scientific, research and educational work; to create rare and exotic animal displays; to conserve rare and exotic animals gene pools; to carry out wildlife fauna studies; to develop the scientific basis for captive animals breeding.
- Area: 37.5 ha
- Collection:  
3400 specimens of 400 species
- Staff: 221 Permanent & 17 Temporary
- Visitors: 745'177
- Owned by: Municipality of Kyiv
- Director: Svetlana Berzina
- Address:  
32 Peremohy Prospect,  
Kyiv 03055, Ukraine
- Conservation:  
The zoo is a full member of the Eurasian Regional Association of Zoos and Aquaria (EARAZA), Birdlife International in Ukraine. It takes part in European Endangered Species Breeding Program (EEP) and Work Group on invertebrates of EARAZA



© Kyiv Zoo  
Nilgai antelopes (*Boselaphus tragocamelus*) at Kyiv Zoo.

At the beginning the menagerie existed on donations from private individuals and patrons of art, and collection was filled up mostly by the wild animals which had been abandoned by their owners. On May 16th, 1912 Kyiv Zoo was assigned a new location for the zoo (23,2 hectares) not far away from the buildings of Kyiv Polytechnic Institute. The lay of the land was not suitable for dwelling houses, but fitted perfectly for the zoo development. The ponds were dug for the waterfowl and on the upper territory the enclosures and cages were constructed.

The long-term reconstruction of the zoo began in 1966. The Main Entrance and the ticket office were built; in December, 1970 the modern Bird pavilion covering the area 2400 sq. m was constructed; the Aqua terrarium was opened in 1972; in 1976 the Primate House was built (2700 sq. m) and in May 1982 "The Island of the Beasts" was opened. In 1983 a decision was made by the Council of Ministers of Ukraine Soviet Socialist Republic, and Kyiv Zoo was given the title of a State Zoological Park and it was included into the list of subjects of the Wildlife Conservation fund of Ukraine.

Kyiv Zoo steadily moves towards international standards as an influential establishment of ecological education, conservation of the gene pools of rare animals, and also as a wonderful peaceful place.

As an experienced environmentalist and a representative of a "New for Ukraine" generation of managers the new director has initiated changes in zoo management, efficiency and education.

Kyiv Zoo Development Program till 2013 was developed and in January 2009 it was approved by Kyiv City State Administration. The Program enables us to make the Kyiv Zoo activities more transparent and sustainable.

On the request of Kyiv Zoo management different respected international environmental organizations and zoo managers have been involved in the updating process. A team from the World Veterinary Service inspected the zoo in April 2008 and gave recommendations which have been followed and extensively implemented.

In 2009 Kyiv Zoo celebrates its 100<sup>th</sup> anniversary. The zoo has been developing and improving and it makes great efforts to become one of the leading scientific and educational organizations of Ukraine.

# Recent updates

## Membership application

### Padmaja Naidu Himalayan Zoological Park, India

- Sponsors:  
Angela Galston, Diergaarde Blijdorp  
Jürg Junhold, Zoo Leipzig
- Founded: 1958
- Mission:  
The Zoological Park is striving for the maintenance of ecological balance in the Eastern Himalayas with the following objectives: *Ex situ* conservation and captive breeding of endangered Himalayan animal species; Educating, motivating and initiating awareness campaign among the local people as well as visitors on the importance of conservation of Himalayan eco-system; Initiating applied research on animal biology, behaviour and health care.
- Area: 27.34 ha
- Collection: 34 Species, 282 Specimen
- Staff: 48 Permanent & 25 Temporary
- Visitors: 2'877'490
- Owned by:  
Government of West Bengal
- Director: Alankar K Jha. IFS
- Address:  
Jawahar Parbat (Birch Hill),  
Darjeeling-734101, India
- Conservation:  
The PNHZP Darjeeling was established on August 14<sup>th</sup> 1958, located at an altitude of 7000 ft in Darjeeling, India. The Park is dedicated for the Conservation of Eastern Himalayan Ecosystem. It is eminently suitable for housing and breeding of the animals from foothills of the alpine zone as this is the optimal altitudinal zone for the purpose.



© Alankar K. Jha. IFS  
Zoo gate of Padmaja Zoo.

The zoo is categorized as a small zoo but it is one of the leading zoos of the world in terms of its conservation efforts. Darjeeling zoo is the only zoo in South-East Asia with one of the most successful Conservation Breeding Programs of highly endangered Snow leopard and Red Panda. It has released 3 zoo-bred Red Pandas back to the wild, thus commiserating the in-situ conservation effort in West Bengal.

The zoo has been nominated the coordinating zoo by CZA for conservation breeding of Snow leopard, Red Panda, Tibetan wolf, Satyr Tragopan and Himalayan Salamander, and participating zoo for Himalayan Tahr, Himalayan Monal, Blood Pheasant and Grey Peacock Pheasant.

Apart from the above species the zoo also houses Clouded leopard, Common leopard, Royal Bengal Tiger and some exotic pheasants like Reeves's, Golden and Silver to name a few.

The National Studbook for Red Panda, Snow leopard and Tibetan wolf are maintained by the Darjeeling zoo.

The Bengal Natural History Museum will soon be shifted to the zoo. The zoo is also involved in various educational outreach and awareness programs. The zoo staff gives their maximum cooperation and guidance to the University students and school children in their Project and Review works.

Red Panda (*Ailurus fulgens*).

© Alankar K. Jha. IFS



## Membership application

### Greifvogelzoo Bayerischer Jagdfalkenhof, Germany

- Sponsors:  
Karl Görnhardt, Deutscher Wildgehegeverband (DWV), Kumek Almenbayev, Almaty Zoo
- Founded: 1976
- Area: 8 ha
- Collection: 63 Species, 238 Specimen
- Staff: 10 Permanent & 16 Temporary
- Visitors:  
120'000 paying and 2'000 free
- Owned by:  
Bock Kuhlmann GmbH & Co. KG
- Address:  
Schloss Schillingsfürst, Am Wall 14,  
D-91583 Schillingsfürst, Germany
- Conservation:  
The zoo participates in the EEP for the European Sea Eagle, the Stellers Sea Eagle, the Bearded Vulture and the Andeancondor. It also participates in a program to counteract the decimation of the Sakerfalcon in southeast Kazakhstan.



© Bayerischer Jagdfalkenhof  
Harpy Eagle (*Harpia harpyja*).

The visitors get information about the biology, geography, way of life and breeding of birds of prey and owls. The information is displayed on information panels in the museum and at the flight demonstration. Children make up a majority of the visitors and ask the most frequent questions during the flight demonstrations. At the falconry they have the possibility of not only admiring the birds of prey in captivity, but also in free flight. They become witness to the interaction and cooperation between birds and humans. This enables the zoo to help visitors free themselves from the view of birds as evil predators and instead, realize how aesthetic, strong and agile birds are. Their interest is intensified and the understanding for the necessity of the preservation of these birds and their habitats enhanced.

The zoo participates in the EEP for the European Sea Eagle, the Stellers Sea Eagle, the Bearded Vulture and the Andeancondor. It also participates in a program to counteract the decimation of the Sakerfalcon in southeast Kazakhstan.

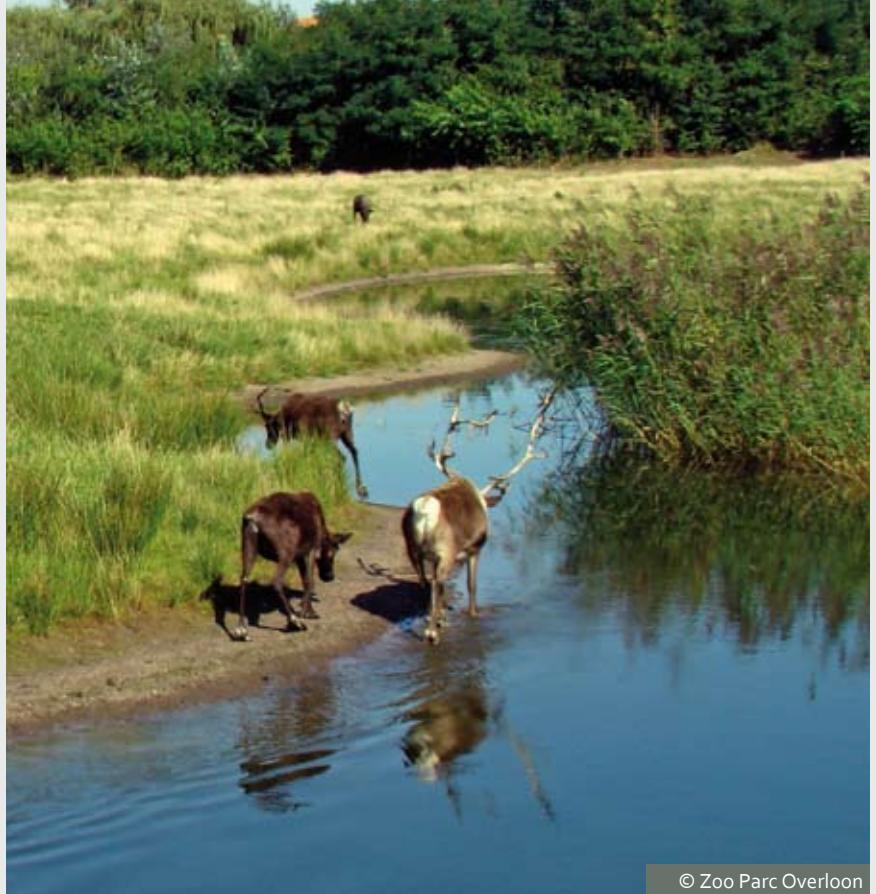
New breeding methods for birds of prey in captivity are being developed by the zoo. Various methods for the prevention and treatment of typical illnesses are being cultivated. In 2005, an investigation regarding population, conditions and preservation of the Bearded Vulture, Egyptian Vulture, Himalayan Griffon Vulture and the Griffon Vulture were performed in Asia.

The technical jargon of the historical falconry has remained unchanged and the zoo strives to preserve the culture of falconry and the traditions thereof.

## Membership application

### Zoo Parc Overloon, The Netherlands

- Sponsors:  
Jörg Adler, Allwetter Zoo, Münster, Germany and Hans Bosma Dierenpark Emmen, Emmen, The Netherlands
- Founded: 2000
- Mission:  
The mission of Zoo Parc Overloon is to develop, manage and promote a zoo that gives the visitor the opportunity to experience recreation, education, nature conservation and natural sciences in a way that raises their awareness and respect for flora and fauna.
- Area: 16.5 ha
- Collection:  
85 Species, 866 Specimen
- Staff: 43 Permanent & 55 Temporary
- Visitors: 200'000
- Owned by: Zoo Parc Overloon BV.
- Director: Dr J. Hans van Weerd
- Address:  
Stevensbeekseweg 19-21,  
Overloon, NL-5825 JB,  
The Netherlands
- Conservation:  
Zoo Parc Overloon participates in working with other parks in breeding programs to conserve endangered species. Many endangered animals live in the Parc as part of special breeding programs. These animals include Small Pandas, Sika Deer, Dalmatian Pelican and Black-and-white Ruffed Lemur amongst others.



© Zoo Parc Overloon  
Reindeer (*Rangifer tarandus*) enclosure.

Zoo Parc Overloon has been established in 2000 and has grown in the following years from 11.5 ha to almost 17 ha nowadays, whereas plans for further expansion exist. The zoo design is based on the three principles of "Less Money, More Value", "Landscape Immersion" and "Nature Settings". This has resulted in a zoo where lanes and enclosures blend in with nature, with inconspicuous or invisible exhibit boundaries where visitors find themselves eye to eye with the animals.

The animal collection has 886 specimens of 85 species. The core collection has an Asian signature, but animals from other origins are shown as well.



Binturong (*Arctictis binturong*) enclosure.

© Zoo Parc Overloon

## Membership application

### Pangea Rocks, Denmark, nominated as corporate member

- Sponsors:  
Denmark Aquarium and Copenhagen Zoo
- Founded: 1994
- Mission:  
We connect people with wildlife through exceptional animal exhibits that stimulate natural behavior and well-being for the animals. Pangea Rocks is a leading company in the European aquarium and zoo exhibit industry and we are able to support sizeable projects on an international level. We aim to ensure safety standards are maintained and budgets are carefully coordinated and adhered to.
- Clients include:  
The Deep, Randers Regnskov Tropical Zoo, Apenheul Zoo
- CEO: Mr. Jan Møller
- Address: Navervej 13, 6800 Varde, Denmark ([www.pangea.dk](http://www.pangea.dk))
- Member of: EAZA and EUAC



Pangea Rocks is Europe's largest and most experienced Rockwork and environment construction company with a reputation for high standard and attention to detail.

Pangea Rocks work can be seen in many international zoos, aquariums as well as in theme-parks, museums and entertainment centers.

The company can muster a staff of over 50 outstanding technicians, fabricators, talented sculptors and artists, with many years of international experience in the field of artificial rockwork and replication of other natural aquatic and landscape features.

Pangea Rocks staff includes a talented group of designers and construction technicians who can provide a full, in-house design-build capacity from conceptualization and architectural planning and management,

engineering, construction, project realization, and specialties installation. The fact that our previous clients often return for our expertise with new projects, reflects our high standards of quality, naturalistic accuracy and attention to detail.

We offer many different services, from "just" theming to full turn-key service for designing and building zoo exhibits, terrariums, aquariums and stainless steel wire mesh installations. Pangea Rocks is the leading supplier of artificial corals, replica kelp and other aquatic plants for marine and freshwater aquarium in Europe. Pangea Rocks is deeply committed to creating meaningful, well designed exhibits with particular attention to animal welfare and curatorial requirements.

The Deep, Hull, England.

© Pangea Rocks



### New zoo directors

- **Dennis Pate** replacing **Lee Simmons** at Omaha's Henry Doorly Zoo
- **Scott Barton** replacing **Lewis Greene** at Fresno Chaffee Zoo
- **Marc Damen** replacing **Mr. Anton Dorresteyn** at Rotterdam Zoo
- **Enny Pudjiwati** replacing **Sri Mulyono** at Ragunan Zoological Park
- **Steven L. Monfort** replacing **John Berry** at Smithsonian National Zoological Park
- **Stacey Johnson** new at The Living Desert
- **Bert Castro** replacing **Jeff Williamson** at Phoenix Zoo
- **Rick Janser** replacing **Joy Wolf** at the Albuquerque Biological Park
- **Cameron Kerr** replacing **Guy Cooper** at Taronga Zoo
- **Hans Bosma** replacing **Henk Hiddingh** at Dierenpark Emmen
- **Peter Evans** replacing **Calvin White** at Toronto Zoo

### New WAZA Members

- **The Superlative Group**
- **Nandankanan Zoological Park**

### New Life Members

- **Felix Weber**, formerly Goldau Landscape and Animal Park, Switzerland (retired Nov 2008)
- **Manuel Mollinedo**, formerly San Francisco Zoo, US (retired June 2008)
- **Jeff Williamson**, formerly Phoenix Zoo, US (retired Jan 2008)
- **Itaru Uchida**, formerly Nagoya Port Foundation, Japan (retired 2008)
- **Přemysl Rabas**, formerly Zoopark Chomutov, Czech republic. (retired Dec 2008)
- **Guy Cooper**, formerly Taronga Zoo, AUS (retired Aug 2009)
- **Jan Maciej Rambiszewski**, formerly Warszaw Zoo (retired Jan 2009)

### WAZA membership as of July 2009

Regional Associations	25
Institutions	245
Affiliates	14
Corporates	3
Life and Honorary members	84

Panamanian Golden Frog (*Atelopus zeteki*).

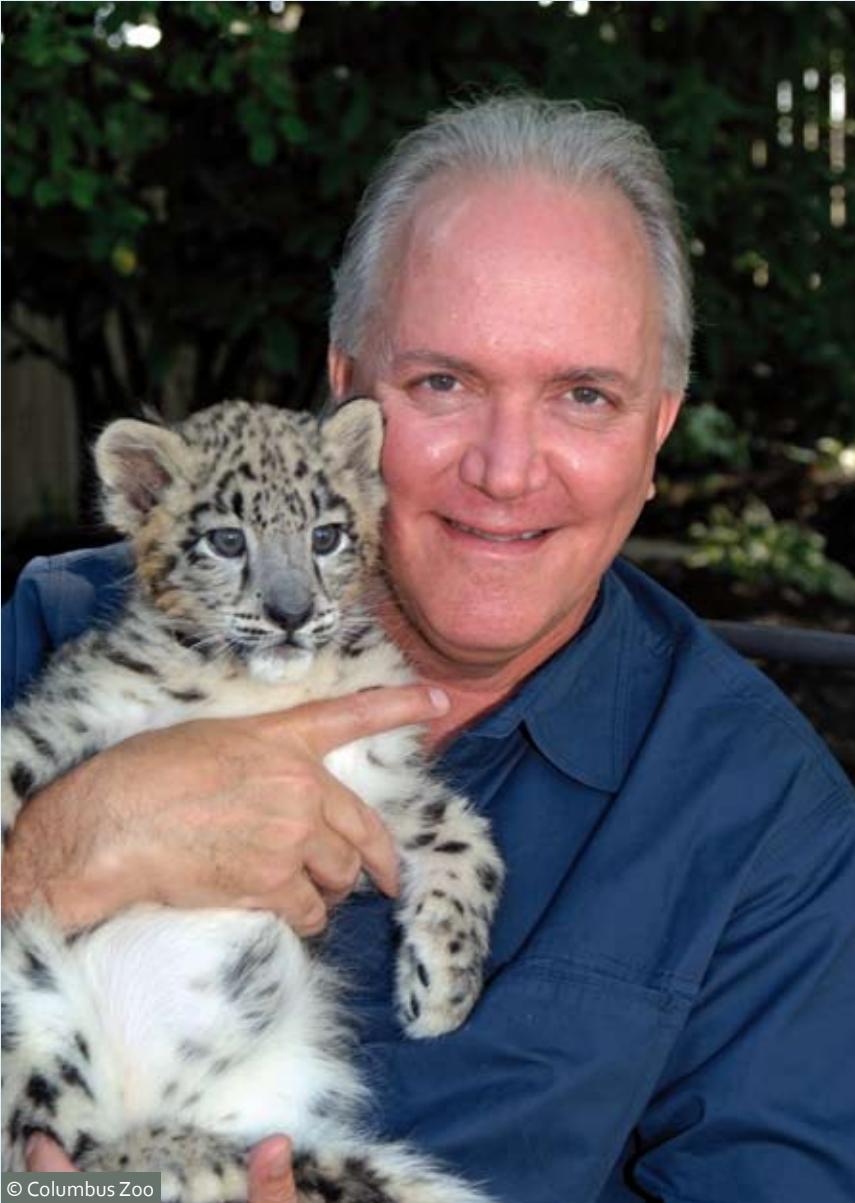
© Gerald Dick. WAZA



Patty Peters – Columbus Zoo & Mike Morris – Atlanta Journal-Constitution

# Obituary

Jeff Swanagan,  
Director of Columbus Zoo and Aquarium



© Columbus Zoo  
Jeff Scott Swanagan.

Jeff Swanagan, the Executive Director of the Columbus Zoo and Aquarium, passed away on the evening of Sunday, June 28 2009. Jeff returned to Ohio a year ago to lead the Zoo's operation which includes Zoombezi Bay and Safari Golf Club.

Jeff began his zoo career at the Columbus Zoo in 1980. He worked as a keeper and educator and was the Ohio facility's education director from 1982 to 1987 before leaving to become the Deputy Zoo Director at Zoo Atlanta. After 11 years of work at Zoo Atlanta In 1998 Jeff became CEO of the Florida Aquarium.



© The Atlanta Journal-Constitution  
Jeff Swanagan at Georgia Aquarium.

Leaving that job in 2002 to lead the efforts to build and open the world's largest aquarium, the Georgia Aquarium in Atlanta. "Jeff was an integral part of the team that took my vision of the Georgia Aquarium and made it a reality," aquarium founder Bernie Marcus said. "He was the first employee, and I will always remember the hours we spent together — the frustrating ones and the exhilarating ones," Marcus said. "I smile when I remember during the opening when Jeff and I did TV interviews at 5 a.m. around the country encouraging and enticing people to come from far away. Just this week we reached our 10 millionth guest, so I know Jeff and I were successful. He will always be remembered as a friend and a creator of the Georgia Aquarium."

Jeff was a visionary, educator and wildlife advocate whose mantra was "touch the heart to teach the mind."

## Asociación Latinoamericana de Parques Zoológicos y Acuarios



"Construyendo comunidad"



World Association of  
Zoos and Aquariums  
**WAZA** | *United for  
Conservation*

[www.waza.org](http://www.waza.org)