

# EAZA NEWS



56  
2006

QUARTERLY PUBLICATION OF THE EUROPEAN ASSOCIATION OF ZOOS AND AQUARIA  
OCTOBER NOVEMBER DECEMBER 2006

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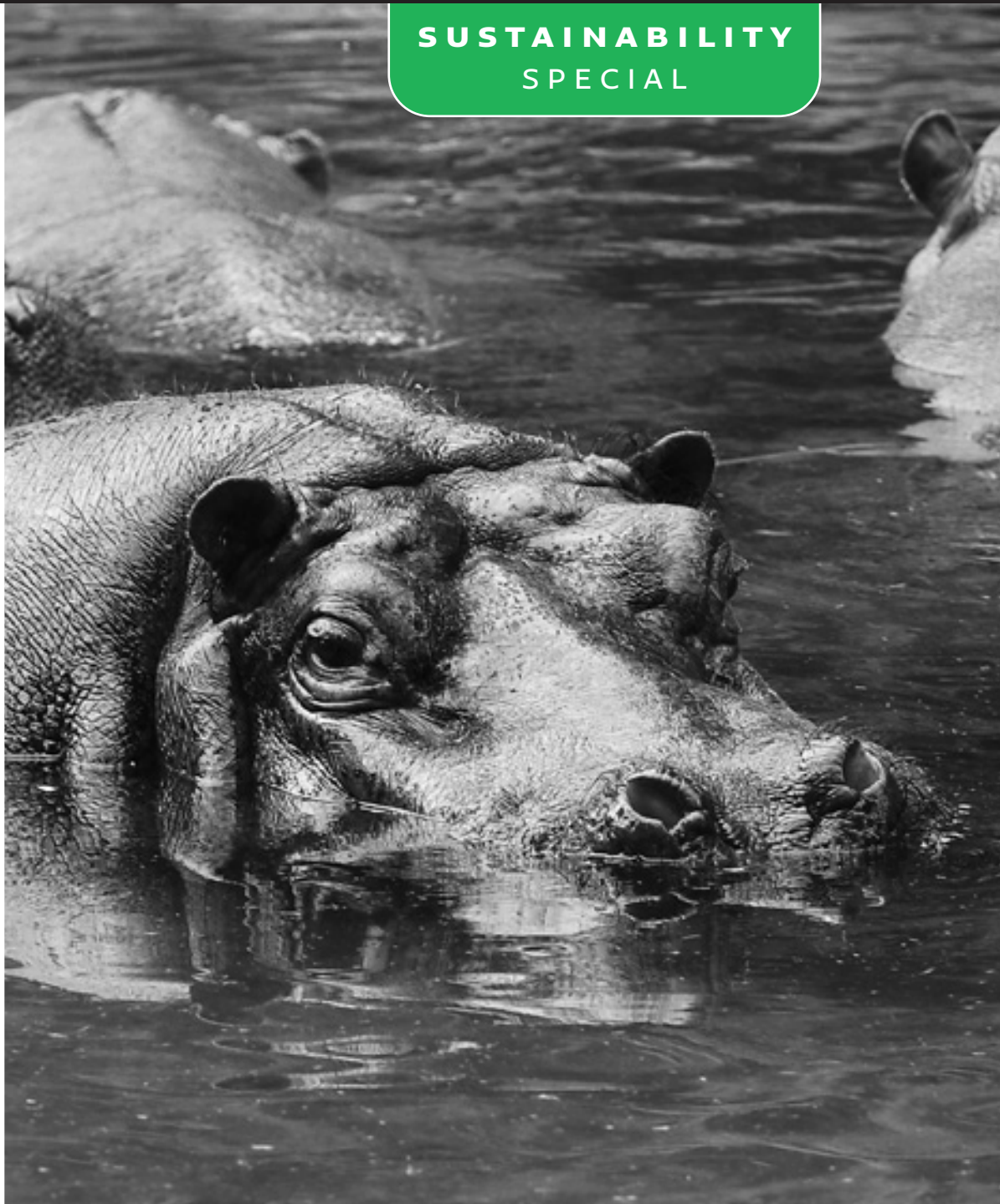
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**COLOPHON**

EAZA News is the quarterly magazine of the European Association of Zoos and Aquaria (EAZA)

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Beekse Bergen · Henk Hiddinga, Emmen Zoo

**FROM THE EDITORS**

The idea to produce a themed issue of EAZA News, dedicated to the increasingly important topic of 'sustainability', was introduced early in 2005. It was long planned for the no. 55 issue, exactly two years after the production of the previous special issue, which was dedicated to elephants. However, it was rescheduled for the after-conference issue, as one of the central themes of the EAZA Annual Conference would also be sustainability. Today, just after the 23rd EAZA Annual Conference took place in Madrid, we are proud to be able to present this 'Sustainability Issue' of EAZA News.

The many different articles in this issue show us that numerous EAZA member institutions are already heavily involved in sustainability projects and policies. All the articles reflect in one or more ways the important role zoos and aquaria can and should play with regard to sustainability as part of our conservation mission: we should 'practice' and 'preach' sustainability! Indeed, zoos and aquaria are likely to be the best places to intensively communicate and educate about sustainability, as we can reach a large and diverse audience.

Needless to say, much more can still be written about sustainability. We just began focusing on this theme in EAZA News, and it will continue to be featured as a special 'Sustainability' section in EAZA News. We sincerely hope you feel inspired by this themed issue and consequently will come up with further experiences and thoughts. Please keep sending us stimulating manuscripts on sustainable matters!

**MEMBER OF**



**EAZA EXECUTIVE OFFICE**

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PHOTO EMMEN ZOO

PHOTO PHILL KNOWLING/PAIGNTON ZOO



## FROM THE EAZA OFFICE

### 23rd EAZA Annual Conference

Well over 500 participants attended the 23rd EAZA Annual Conference in Madrid, kindly hosted by Zoo Aquarium Madrid. The conference was officially opened by José Ignacio Cobo, Director Zoological Division of Parques Reunidos, the company that owns Zoo Aquarium Madrid.

Bert de Boer gave a presentation on global sustainability and awarded Koen Brouwer with a special EAZA Award for Professional Excellence, for his excellent job as former EAZA executive director. Harry Schram was presented as his successor.

Over a hundred presentations, meetings and workshops took place during the next four days of the conference. Plenary sessions during this conference dealt with 'Sustainability' and the 'Global Amphibian Extinction Crisis'. The EAZA AGM on 7 October was followed by the official closure of the conference during which José Ignacio Cobo handed the 'EAZA Annual Conference flag' over to Jan Maciej Rembiszewski, representing next year's host, Warsaw Zoo. The very well-organised and quite productive conference finished with a farewell dinner and a closing party during which everyone enjoyed Latin beats. This grand finale was graciously hosted by Zoo Aquarium Madrid.



### EAZA Amphibian Ark

An entire plenary session during the EAZA Annual Conference in Madrid was devoted to the Global Amphibian Extinction Crisis, after which all attendants received an Amphibian Ark book-mark to draw their attention to the crisis. A series of presentations highlighted the desperate situation of hundreds of amphibian species in the wild, the fact that for over 400 species the only chance of survival for the next few years lies in captive breeding, and how EAZA institutions can and should contribute to this unique and major challenge. The EAZA Amphibian Ark was established earlier in 2006, and together with other regional zoo associations and the WAZA/CBSG Amphibian Conservation Coordinator, this EAZA working group coordinates amphibian conservation initiatives for our region. The EAZA Amphibian Ark also provides support and guidance to all EAZA institutions to play their part in fighting off this global extinction crisis, and will work closely together with the planning group for the EAZA Amphibian Conservation Campaign, which will be launched in 2007. Substantial background information about the Global Amphibian Extinction Crisis will shortly be available on the EAZA website.

## EAZA Amphibian Ark

The survival of  
hundreds of  
amphibian species  
depends on  
the help of  
ZOOS and  
aquariums  
around the world.



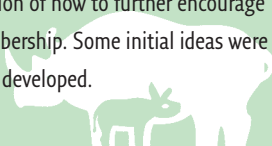
### Membership news

Gunther Nogge has been granted honorary membership of EAZA and seven new EAZA members were approved by EAZA Council, based on the recommendations of the EAZA Membership and Ethics Committee. EAZA has 306 members as of 6 October 2006; please refer to the 'Welcome' section for more information.

### Update from the EEP Committee

The EEP Committee conducted no less than three different meetings during the EAZA Annual Conference in Madrid. A meeting with the EAZA TAG chairs and a meeting with the EEP Coordinators was conducted on 3 October. The recently initiated EEP evaluation procedure received ample attention. All EAZA TAGs are making schedules for evaluation of EEP programmes under the respective TAG umbrella over the coming years, and the first evaluations will be conducted during the coming months. The relevant TAGs will be organising the evaluations and also report back to the EEP Committee about the outcomes. Should an evaluation highlight short-

comings in a particular EEP, the EEP Committee will then, together with the TAG and the EEP in question, decide on the best ways to assist the EEP to improve the situation. Obviously, most EEPs function to everyone's satisfaction, so the EEP Committee expects to see mostly positive outcomes of the first evaluations. The EEP Committee meeting was held on 4 October. One of the items on the table was the question of how to further encourage the 'EEP spirit' among the entire EAZA membership. Some initial ideas were discussed, and an action plan will shortly be developed.



## FROM THE EAZA OFFICE

### AGM decisions

Following the approval of the new EAZA Constitution in April 2006, EAZA Council seats are now assigned in a more proportional division, based on the number of full EAZA members in a country. Term of office of council members has increased from two to three years. Forty-three new council members have been elected by AGM for the

period 2006-2009 (see the 'Who is who' section). The new EAZA Constitution also allows AGM to select countries outside Europe that can have full members (under the old constitution, institutions in these countries could only apply for associate membership). As Jerusalem Zoo has applied for full membership, AGM approved Israel

as the first country outside of Europe that can have full members. Furthermore, the Global Amphibian Extinction Crisis was approved as theme for the 2007/8 EAZA Conservation Campaign, while in 2008/9 a campaign focusing on Europe will be organised. Additionally, EAZA AGM approved a proposal to join the United

Nations' Decade of Education on Sustainable Development. There is a great need for promotion of sustainability and EAZA and its members can play an important role in this. In recognition of this important role, AGM agreed to officially join the Decade of Education on Sustainable Development.

### Technical Assistance in Bulgaria

Bulgaria is one of the core countries in which the EAZA Committee on Technical Assistance and Animal Welfare (TA&AW Committee) is active. Recently, Wim Verberkmoes (Kerkrade), was appointed as country coordinator for the committee's work in Bulgaria and as mentor to Sofia Zoo (candidate for membership). Together with Danny de Man he visited Bulgaria in September 2006. The three main goals of this visit were to follow up on the technical assistance to Sofia Zoo, to discuss the establishment of a Bulgarian Association of Zoos and Aquaria (BAZA) and to learn more about other zoos and aquaria in Bulgaria. Following this visit the TA&AW Committee will develop an updated action plan for the work in Bulgaria for the years to come.

PHOTO EAZA EXECUTIVE OFFICE



The TA&AW Committee is looking for volunteers to help carry the workload. If you are interested or have any further questions, please contact Martijn Los ([martijn.los@eaza.net](mailto:martijn.los@eaza.net)) at the EAZA Executive Office.

### EAZA Awards 2006

Seven EAZA Awards were handed out during the EAZA Annual Conference in Madrid:

#### > PROFESSIONAL EXCELLENCE

- **Esteve Tomás** was awarded with an EAZA Award for Professional Excellence for his great job as former Barcelona Zoo director and former AIZA president.
- **Koen Brouwer** was awarded with a special EAZA Award for Professional Excellence for his excellent job as former EAZA executive director.

#### > INSTITUTIONAL EXCELLENCE

- **Zoo de Doué** was awarded with an EAZA Exhibit Award for its black rhino facility.
- **The Royal Zoological Society of Antwerp's** Centre for Research and Conservation (CRC) was awarded with an EAZA Research Award for performing research in service of conservation.
- **Cologne Zoo** was awarded with an EAZA Conservation Award for its project 'Biodiversity Conservation and Research in the Phong Nha - Ke Bang National Park (Vietnam)'.
- **Zoo de Doué** was also awarded with an EAZA Conservation Award for its global investment in *in situ* conservation and for organising the EAZA Conservation Forum every two years.
- **GaiaPark Kerkrade Zoo** was awarded with an EAZA Education Award for its entire educational oeuvre.

Please also refer to the 'Award' section on the member area of the EAZA website.

### ISIS in Madrid

During the EAZA Annual Conference in Madrid, the ISIS stand was a constant coming and going of people interested in ZIMS or needing technical support. It was very positive to note that quite

a number of EAZA members, both new and old, inquired about joining ISIS. At the 'ZIMS Try-it!' workshops people could actually try ZIMS themselves, albeit a very early test

version of ZIMS. The workshops were well attended and people were both amazed and enthusiastic about the possibilities of ZIMS. ZIMS will be tested extensively over the next few months. Various

options for providing EAZA members with training in ZIMS are currently being explored, but ISIS will certainly be back to provide full ZIMS training sessions during the EAZA Annual Conference in 2007.



## €515,842.81!

The EAZA Save the Rhinos Campaign was officially closed at the EAZA Annual Conference in Madrid. Chair of the Campaign Core Group, Nick Lindsay (ZSL), started the closing session with a brief overview of what happened during the past campaign year. There was some bad news: the death of Tom Foose, the helicopter crash in Nepal that took the lives of many rhino conservationists, and the likely extinction of the West African black rhino.

Furthermore, the heavy poaching on Indian rhinos in Nepal due to the instable political situation and the further decline of the northern white rhino population to only a few animals are lamentable. However, there was also good news: the overall population of black rhinos has increased, and there are signs that the population of Sumatran rhinos is increasing as well. Furthermore, 19 rhinos of three species were born in EAZA member institutions during the campaign year. Of course there was also much positive news about the campaign. The eye-catcher of the closing session was the cheque handed over to Nick Lindsay by EAZA chair Leobert de Boer, revealing the fantastic preliminary fundraising result of €515,842.81!

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### First campaign projects funded

With the fantastic result of over €500,000, it is clear that all initially selected campaign projects can receive full funding. An overview of projects that have already received the requested funding is provided in Table 1, and an overview of projects that will receive full funding in November 2006 is provided in Table 2. The exact amounts and how the funds will be used are described in more detail in the Campaign Info Pack. The projects in Table 2 have been contacted to see if the money can still be used as originally intended.



**Table 1:** Projects that have already received the requested funding.

<b>Project C</b>	Re-establishment of black rhino	Zambia	€16,800
<b>Project D</b>	Lifting crane for rhino capture truck	Zimbabwe	€19,500
<b>Project E</b>	Rhino translocation equipment	Namibia	€34,800
<b>Project F</b>	Hluhluwe EAZA rhino security equipment funding	South Africa	€17,00
<b>Project H</b>	Combating the illegal trade in and demand for rhino horn	Yemen	€10,100
<b>Project I</b>	India rhino vision 2020	India	€92,00
<b>Project J</b>	Conservation of rhinos in India and strategy framework to reduce rhino poaching in range countries	India	€27,600
<b>Project K</b>	Rhino Protection Units for Javan and Sumatran rhinos	Indonesia	€50,000

**Table 2:** Projects that will receive full funding in November 2006.

<b>Project A</b>	Rhino monitoring equipment for National Parks	Kenya	€22,400
<b>Project B</b>	Environmental education programme at the Laikipia Wildlife Forum	Kenya	€27,400
<b>Project G</b>	Rhino horn-fingerprinting project	N/A	€5,550

The status of the SOS Rhino conservation projects in Tabin Wildlife Reserve (projects L and M) is not known at the moment, as is the status of the Sumatran rhino subspecies *Dicerorhinus sumatrensis harissoni*. The core group has contacted the project coordinators for an update and if necessary, funds will be sent to these projects in the coming months.

As more money than the €338,200 required for these 13 projects is available, there are possibilities to support other (waiting-list) projects as well. The EAZA Save the Rhinos Campaign Core Group will look into the needs of the waiting-list projects and if necessary look for other suited funding projects.

PHOTO DVUR KRALOVE ZOO



# EAZA RHINO CAMPAIGN

## Education Awards

Education was an important target of the Save the Rhinos Campaign. Therefore, Education Awards were handed out to participants that organised the most original or innovative education programme or activity for the Save the Rhinos Campaign. The Education Awards were available in two categories: rhino-holding institutions and non-rhino-holding institutions. In each category, the Rhino Campaign Core Group selected a winner and runner-up from the many applications (see Table 3). The chair of the core group, Nick Lindsay, handed out a rhino artwork (donated by Save the Rhino International) and a colour certificate to the award winners and runners-up.

Rhino Award won by Landau Zoo PHOTO EAZA EXECUTIVE OFFICE



**Table 3:** Education Award winners and runners-up

### Education Award: rhino-holding institutions

<b>WINNER:</b> <b>Dvur Kralove Zoo</b>	For organising various activities aimed at children from schools (various levels) and involving many people from outside of the zoos. This innovative programme makes clear that education is not about money but about ideas.
<b>RUNNER-UP:</b> <b>Chester Zoo</b>	For organising a visit by a rhino conservation field worker from Chyulu Hills in Kenya to Chester Zoo, thereby bringing the public in contact with rhino conservation (and vice versa bringing a field worker in close contact with the EAZA Rhino Campaign).

### Education Award: non-rhino-holding institutions

<b>WINNER:</b> <b>Landau Zoo</b>	For organising a very extensive campaign programme, including a calendar with activities throughout the 'Rhino year', that received lots of media attention (22 press articles on rhinos).
<b>RUNNER-UP:</b> <b>Amiens Zoo</b>	For providing a huge amount of information to zoo visitors through various activities and campaign information displays.

## Save the Rhinos successful in North America as well

The North American Save the Rhinos Campaign that was launched in January 2006 has already exceeded its fundraising goal. The North American Campaign is managed by the International Rhino Foundation (IRF) in partnership with the Rhino Advisory Group/Species Survival Plans (RAG/SSP) of the American Association of Zoos and Aquariums (AZA) and Ecko Unltd., a New York-based clothing company that uses the rhino logo.

IRF in cooperation with the RAG/SSP has selected projects benefiting the three most endangered species of rhino – the black, Sumatran and Indian – to be recipients of campaign funds. To date, 46 zoos have joined the North American Campaign, contributing a total of over US\$780,000 (€575,000). Approximately half of these funds were pledged at the outset of the campaign, and half have been raised/pledged through campaign activities since January. Several zoos have made substantial multi-year pledges. About 25 of these zoos had never contributed to rhino conservation through IRF before. The campaign goal is 100% participation by the end of 2006 for all zoos that have rhinos. IRF is working with Ecko Unltd. on special fundraising and public awareness activities. Ecko hosted its second annual Save the Rhinos concert in Central Park, New York, last June, drawing thousands of visitors with publicity as diverse as the New York Post, MTV News, and AllHipHop.com. The North American Campaign will continue on through 2007, giving zoos and companies an opportunity to plan and implement creative outreach and education activities that generate broad public awareness and support for rhino conservation.

PHOTO INTERNATIONAL RHINO FOUNDATION



PHOTO DVUR KRALOVE ZOO



## Rhinos born in EAZA member institutions

A female black rhino was born in Dvur Kralove Zoo on 4 September 2006. The rhino was named 'Etosha' by the staff and is the thirtieth black rhino born in this zoo. Etosha is the second offspring of mother 'Elba', and again Elba is proving to be an excellent mother.

On 13 September 2006 a white rhino, 'Kara', was born at Burgers' Zoo (Arnhem). This daughter of mother 'Kwanzaa' and father 'Dale' is doing very well and already made her first steps on the African Savannah in the zoo. And finally, 'Shikari' a female Indian rhino was born in Stuttgart Zoo on 17 October 2006.



# EAZA MADAGASCAR CAMPAIGN



PHOTO INCK GARBUTT

## EAZA Madagascar Campaign launched!

The sixth EAZA Conservation Campaign, the EAZA Madagascar Campaign 2006/7 'Arovako i Madagasikara (Conserve Madagascar)', was officially launched on 4 October 2006, at the 23rd EAZA Annual Conference in Madrid. The co-chairs of the EAZA Madagascar Campaign Core Group, Lesley Dickie (ZSL) and Alex Rübel (Zürich) gave colourful presentations, introducing the island of Madagascar with its remarkable flora and fauna and the campaign, including its targets and selected beneficiary projects.

Special guest at the launch was Guy Suzon Ramangason, director-general of the Malagasy National Parks Association, Association Nationale pour la Gestion des Aires Protégées (ANGAP). Mr. Ramangason introduced the natural treasures of the island and the many threats to their survival. He also emphasised that the EAZA Madagascar Campaign is fully supported on the island itself. The president of Madagascar, Marc Ravalomanana, wrote the foreword for the Campaign Info Pack, and the EAZA Madagascar Campaign is seen as a huge support for his 'Durban Vision' to triple the protected area system in Madagascar by 2008.

All EAZA member institutions are invited to join the EAZA Madagascar Campaign and help 'Arovako i Madagasikara'!

**Campaign Info Pack** As in previous EAZA campaigns, the campaign core group has prepared a Campaign Info Pack. A campaign CD-ROM with many images and the official campaign logo etc. is included. EAZA members that did not pick up their Campaign Info Pack in Madrid, will receive a copy by mail. Please use the registration form that is included in the Info Pack (or download it from the EAZA website) to officially register for participation in the campaign.



### Campaign targets

- **Raise public awareness** of one of the most important reservoirs of natural history on the planet;
- **Promote ecotourism** to Madagascar;
- **Raise funds** for specific conservation projects throughout the island (target: €500,000);
- **Highlight ways in which the public can make positive contributions to conservation** through activities in their daily lives;
- **Alert EAZA collections to the diversity of Madagascar wildlife** – it's not just lemurs!;
- **Promote the concept of 'twinning'** between EAZA members and National Parks and protected reserves.

### Malagasy succulents

To supplement the 'regular' campaign merchandise, some extraordinary succulent plants from Madagascar can be ordered through Zürich Zoo. Madagascar boasts an extremely large diversity of water-storing plants. Some remarkable species are limited to small habitats found on various parts of the island. The Stadtgärtnerei Zürich (city gardeners service) in cooperation with experts on succulents and the Zürich Zoo, under the supervision of the CITES authorities in Switzerland, have set up a programme for the reproduction of these Madagascan succulents. All plants are reproduced and grown in Zürich, so no plants are taken from the island. Malagasy succulents are beautiful ornamental plants and easy to care for; they are attractive and well appreciated by the public. As live ambassadors of Madagascar they allow their buyers to care for some of the rarest species. The plants are offered to participating EAZA member institutions especially for the Madagascar Campaign. See the Campaign Info Pack for more information and ordering details.

### Beneficiary projects

A total number of 16 conservation projects in Madagascar has been selected to receive EAZA Madagascar Campaign support in the first round, another four projects were selected to receive support in a second round if enough funds are raised. A total of €361,645 has been allocated to these twenty projects.

This means that less than the campaign fundraising target of €500,000 has been allocated to date. This is to ensure that extra funds are available in case of emergencies (following the example of the Shellshock tsunami relief action) and to explore possibilities for investing a part of the money raised in a long-term endowment fund.

### Educational materials

Many educational activities and ideas have been developed by a special education group. See Section 2 of the Campaign Info Pack for more information. As not all materials were ready at the time of printing, some of the materials could not be included on the campaign CD-ROM. Therefore a separate CD-ROM, containing all educational materials, will be sent to all EAZA members in November 2006.



Baly Bay Research Team PHOTO ALICE SMITH



# Ecolozoo, French zoos face the topic of sustainable development

Xavier Vaillant, Zoo de Pont-Scorff, France

**Ecolozoo, training seminar for French zoos, jointly organised by Zoo de Pont-Scorff and Syndicat National des Directeurs de Parcs Zoologiques, 4-7 September 2006, Pont-Scorff, France**

“SUSTAINABLE DEVELOPMENT MEETS THE NEEDS OF THE PRESENT WITHOUT COMPROMISING THE ABILITY OF FUTURE GENERATIONS TO MEET THEIR OWN NEEDS” (Bruntland report, un, 1987).

Today, zoos and aquaria inform the public about the importance of nature conservation. While doing so, we should set clear examples of sustainable actions and should ‘practice what we preach’. But how can we efficiently set up and further sustainable development in our own zoo? Which companies can be contacted? Which steps should we undertake? What are the costs and benefits of sustainability projects? Which funds are available? What is the future of our institutions with regard to sustainability?

To find answers to the above questions, French zoo staff (directors, managers, veterinarians and educators) participated in ‘Ecolozoo’, a training seminar jointly organised by Zoo de Pont-Scorff and the Syndicat National des Directeurs de Parcs Zoologiques (SNDPZ). The presence of sixty zoo managers at this seminar demonstrates that the topic of sustainability is alive in the French zoos and aquaria.

## Providing keys, tools and competences

The seminar provided a complete review of a wide range of sustainability topics. During plenary sessions participants were informed about economics linked to sustainable development; means and methods to bring institutions into compliance with standards such as ISO 14001 and reducing use and recycling of materials. Specialists on these topics were invited to provide keys, tools and competences necessary to implement sustainability in our institutions. For example, an expert explained the process of waste water treatment by reedbed filtration. An extensive presentation on this water treatment method, including the positive results for the environment, was presented by CERZA (Lisieux), a zoo that has been using the system for one year now. Waste-sorting for zoos and visitors, and new sustainable technologies applied to education and marketing, were also important topics in the training programme.

## When ethics meets economics

Specific sustainability themes were dealt with in more detail during workshops. Specialists participated in each of the small working groups of twenty participants. Participants were thus informed about sustainable solutions in a direct and interactive way. An additional workshop focused on the integration of disabled workers in our zoos and aquaria.

PHOTO D. MOREL/PONT-SCORFF ZOO



One workshop specifically dealt with means to reduce consumption of energy and water, and also the use of renewable energy technology. Installing as many windmills or solar panels in our institutions as necessary to produce just enough energy to be independent of energy suppliers was one idea presented. Producers of solar panels nowadays offer a twenty years guarantee for their products, with only a 5% reduction of electric production after ten years.

“Do you know that just by carefully selecting the right construction materials and the best direction of a building with respect to the position of the sun, you can save 40% energy for climate regulation?!”

“Some farmers in the Freiburg county (Germany) sell home-made energy to the city and earn 30% of their annual income from this.”

## Spread the message!

Besides having sustainable practices, zoos and aquaria clearly should play another role with regard to the topic of sustainability. During his presentation at the Ecolozoo seminar, EAZA’s executive director Harry Schram emphasized the importance of spreading the sustainability message to the 125 million visitors EAZA member institutions receive annually. It is obvious that just because of the sheer number of visitors zoos receive, our institutions can play an important role in spurring our society to change its behaviour to act sustainably. ●

## FAIR TRADE

# Zoo retailing in search of a 'fairer' world

Tony Stokes, Paignton Zoo, United Kingdom

Recent years have witnessed over-exploitation of virtually all of the world's natural resources, resulting in challenges to our planets' biodiversity and creating issues common to humans and animals alike. Poverty, shortage of food and high unemployment can have a devastating effect on wildlife as indigenous people turn towards natural resources as their only means of survival. Worthwhile, sustained employment affording dignity and self-respect to producers in developing countries can assist to reduce the impact on wildlife and the environment. Zoos are ideally placed to make a difference. Fair trade shortens the trading chain and returns a greater percentage of the retail price to the producer, cutting out expensive middlemen and building partnerships based on dialogue, transparency and respect.

## Product feedback

Products on the shelves in the zoo gift shop, as well as coffees, teas and other consumables sold in zoo restaurants, can give out a message clearly and effectively. With such a strong customer base, zoos can purchase from suppliers dealing directly with the producers or their representatives, providing a valuable conduit for 'feedback' on product design and suitability. Advice on the use of materials and design detail maximises potential to produce not just traditional styles but modern contemporary creations, ideal for changing lifestyle choices.

## A decade of growth

Initially enthused by one of the first successful fair traders 'Mo Fini', the founder of 'Tumi Latin American Crafts', a strategy for the development of fair trade retailing was developed at Paignton Zoo. A decade of growth has witnessed a considerable retail expansion and the current operation now comprises many hundreds of lines, purchased through dozens of fair traders.

The retailing arm of the Whitley Wildlife Conservation Trust has now become a major force in the sale of fair trade crafts, gifts and lifestyle products and, through shops at Paignton Zoo, Living Coasts and Newquay Zoo, offers one of the largest selections available for retail sale anywhere within the United Kingdom. It is estimated that promoting fair trade has increased sales by 20% overall. This provides valuable additional revenue for the Trust whilst assisting to provide dignified employment and greatly enhanced security for numerous third world producers. Furthermore, it helps to preserve a wealth of traditional skills.

## Creating the impact

Image and product presentation were of paramount importance if we were to achieve our goal, which was to attract attention for design and quality attributes, irrespective of supply and production ethics, which

PHOTO TONY STOKES/PAIGNTON ZOO



would then provide 'added value' rather than the main motivation for purchase. The approach taken was to develop a large specialist section, suitably designed and situated to attract the more discerning and enlightened purchaser while managing to be 'out of bounds' to the hordes of school children passing through. A wide range of products to create impact was desirable, but also spreading the load by purchasing from a range of suppliers was advisable, as this would allow for a good spread of offered products in the event of delayed deliveries or cancelled shipments due to local problems or production difficulties.

The level of success will above all be determined by the quality and ethics of the people tasked with making it work. Passion, desire to make a difference, enthusiasm for the concept and a good level of product knowledge are crucial.

PHOTO HMJ DESIGN



**On site promotion**

Unlike in the consumables market, there is no recognised set standard to identify fair trade crafts and lifestyle products. In the absence of an established standard, a decision was taken at Paignton Zoo to develop our own. Consequently, the 'fairer world' branding was established, which has served to identify products that meet our own criteria for several years now.

Informative 'point of sale' signs developed in support of imaginative product displays should ideally be introduced to accompany each new product or range introduction. Generally this signage needs to be produced 'in house' as most suppliers, and certainly producers, are not in a position to supply it. Providing information about the product, and the people that make it, is not just educational but greatly assists to generate the sale. Availability of this sort of detail attracts the visitor more likely to brandish the 'debit' or 'credit' card in support of the cause.

**Considerations when sourcing the products**

A wide variety of products are available from suppliers who are members of the British Association of Fair Trade Shops (BAFTS) or International Federation of Alternative Trade (IFAT). These organisations appear to have grown considerably in recent years and information is available on their websites ([www.bafts.org.uk](http://www.bafts.org.uk) and [www.ifat.org](http://www.ifat.org)). Additionally, there are many ethically driven individuals who have set up small companies marketing products that they personally imported, often supporting just one or two specific initiatives.

However, there are also companies, or sales agents, prepared to 'piggy back' the momentum, claiming to offer fair trade when the products are

produced in larger factories without any evidence of a strong ethical policy. If in doubt, it is advisable to ask questions and request information in writing, as genuine suppliers will have a good knowledge of production methods, the benefits to the producers and plans for sustainable growth. They will also be fully aware of materials used, any potential environmental impacts and wildlife-related issues that may influence choice.

**Assisting in the 'green' revolution**

Being sustainable is becoming increasingly important and fair trade assists in the green agenda. Whereas big producers pollute the planet as they raid nature's valuable resources, consider that the majority of fair trade merchandise is produced from waste products or naturally occurring materials. The very future of the producers often depends entirely on sustainability.

Government, local authorities, schools, the media and a growing number of consumers are all talking 'green'. Sales of fair trade consumables in the United Kingdom are rising at a rate of around 40% each year, and the most recent 'Mori Poll' indicated over 50% recognition of the fair trade mark by UK consumers. In a recent survey of EU countries, including the UK, 55% of the population expressed willingness to pay a premium for fair trade goods. Therefore, there is no need to compromise on margin and profits. Zoos connecting with fair trade can reap the rewards of the enhanced credibility, motivate employees and impact positively on the 'bottom line'. ●

PHOTO ZOOS GO WILD

**At Paignton Zoo** we recognise that we cannot change the world, but through the development of fair trade – everyday we change somebody's world.



# Projet Grands Singes, a pragmatic conservation effort in southern Cameroon

Adam Britt, Manfred Epanda Aimé and Jef Dupain, Projet Grands Singes, Centre for Research and Conservation, Royal Zoological Society of Antwerp, northern periphery of Dja Faunal Reserve, Cameroon

The southern part of Cameroon is still covered by approximately 200,000 km<sup>2</sup> of tropical forest, much of which is potential habitat for the western lowland gorilla (*Gorilla gorilla gorilla*) and the central chimpanzee (*Pan troglodytes troglodytes*). Currently, less than 10% is gazetted as protected areas, while in 1999, the cumulative number of logging concessions granted since 1959 covered 76% of the total forest area. The increase in hunting pressure as a consequence of logging activities (either directly to meet protein needs of logging company employees, or indirectly by opening up access for commercial bushmeat hunters) is generally known and the hunting pressure on the general fauna and great apes in particular in Cameroon is well documented. If no action is taken to protect the remaining populations of gorillas, chimpanzees and other large mammals in non-protected areas, it is feared that such species will only exist as non-contiguous, genetically isolated populations within protected areas.

## Integrated conservation and development project

Projet Grands Singes (PGS) is an Integrated Conservation and Development Project (ICDP), coordinated by the Centre for Research and Conservation (CRC) of the Royal Zoological Society of Antwerp (RZSA), that was initiated in March 2002 (Eaza News 42/2003, p. 12-13). Project activities are concentrated in the area at the northern periphery of the 5,260 km<sup>2</sup>

Dja Faunal Reserve – a world heritage site – in southern Cameroon. The primary conservation aim of PGS is the improved protection of great ape populations in non-protected areas. Projet Grands Singes employs an integrated approach of scientific research, conservation and development to obtain community driven sustainable use of the forest and its resources, including the great apes.

## A pragmatic approach

Projet Grands Singes works at all times in close collaboration with the local communities. The integration of development objectives enhances the achievement of conservation goals. To this end PGS has established integrated hunting management plans in three villages: Malen V, Doumo Pierre and Mimpala. Projet Grands Singes facilitated the creation and functioning of a local management committee – Comité de Gestion Commaunautaire de la Chasse et du Developpement (CGCCDL) and its legal recognition by the Cameroonian Government in 2004. Another three villages that approached PGS about joining the project will join this year. The ultimate aim is to establish sustainable hunting management plans managed by the local population. This requires further research to determine sustainable hunting levels for the different prey species. Bushmeat hunting provides a vital source of protein for

PHOTO ANTWERP ZOO



villagers and can continue to constitute a core part of their staple diet in future generations if sustainable local management of hunting can be achieved. In order to mitigate the importance of commercial bushmeat hunting, PGS assists the villagers in creating alternative, non-destructive sources of income.

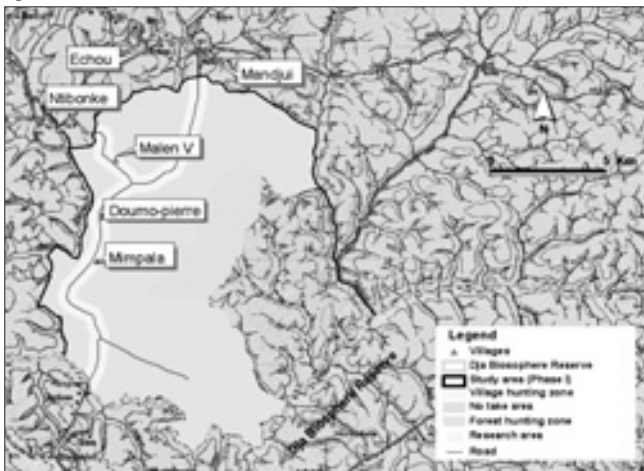
**Micro-development**

Projet Grands Singes encourages suggestions from the local communities for micro-development projects for which PGS can supply technical advice and financial support during the establishment phase. Current examples include cocoa plantations, soap making, oil palm plantations, community women’s plantations, apiculture and fish farming. Such projects are never imposed upon the local communities, rather we prefer that the suggestions come directly from the villagers themselves, stimulating local decision-making and demonstrating local interest and enthusiasm. This approach increases the chance of sustainability of any conservation-linked development efforts.

**Micro-zonation**

The PGS approach involves ‘specific use micro-zonation’. Agricultural land is typically located close to roads, while closed canopy forest is divided into hunting zones and ‘no-take’ areas (still under negotiation). We have negotiated with the local community and Fip. Cam (the logging company who owns the concession) to establish a 60 km² research zone (see Figure 1).

Figure 1: Research zone



Currently chimpanzee and gorilla numbers at our site appear to be highest closer to the villages rather than in the research zone where poaching by outsiders continues to be a major problem. This suggests that the PGS approach to conserving great apes works, as local people no longer hunt these species. We hope to reinforce the capacity of villagers to halt outside poaching from their forests through the establishment of a vigilance committee and close collaboration with ‘ecoguards’ from ECOsystèmes Forestiers d’Afrique Centrale (ECOFAC).

**Scientific tourism**

The PGS research camp ‘La Belgique’ is sited about 10 km from the

village of Mimpala in the southern part of the concession UFA 10047. Projet Grands Singes employs scientific research as a major tool to achieve its conservation and development objectives. This happens e.g. through the creation of employment opportunities for the local population by encouraging foreign researchers and volunteers to work in the area. Currently the scientific research is mainly focussed on the socio-ecology of great apes, and the effects of logging and disturbance, but we hope to extend our research efforts in the future (such as the determination of sustainable hunting levels for different prey species).

**Any parties interested** in conducting short or long-term research on any aspects of rainforest biology are very welcome to contact us (pgs.cameroon@iccnet.cm) to explore possibilities. We can provide the necessary logistical support and infrastructure and have a number of well-trained, experienced and highly motivated local guides. A permanent presence of researchers at the study site would also undoubtedly discourage poaching.

**Capacity building**

A key component of the PGS approach is local capacity building. PGS aims to integrate national scientists and researchers as far as possible into its activities. To this end we have a Cameroonian PhD student and several DEA students working with the project and we collaborate closely with the Institut de Recherche Agricole pour la Développement. Capacity building also includes the training of villagers in scientific survey methods and to act as guides for visiting researchers. To date, thirty members of the CGCCDL have been trained in data collection techniques by PGS.

**Whitley Award**

In May 2006 the PGS approach was recognised with an award of UK£30,000 (€42,000) by the Whitley Fund for Nature. Manfred Epanda Aimé received the prize from Her Royal Highness Princess Anne at a ceremony hosted by the Royal Geographical Society, London. This prestigious award will allow us not only to continue our conservation work with the three existing villages, but also to extend our approach to the three other villages.

**The future**

Projet Grands Singes is strongly committed to its methods, and will continue to seek funding to develop it further with neighbouring communities who would like to see the same approach adopted in their forests. The ultimate goal of the project is the complete autonomous management of faunal resources by the local communities. This will be achieved!

**Acknowledgments**

The Centre for Research and Conservation of the Royal Zoological Society of Antwerp and PGS gratefully acknowledge the structural support of the Flemish Government. PGS is thankful for the financial support of the Whitley-Laing Foundation, Durrell Wildlife Conservation Trust, and the Dutch Foundation Zoos Help. ●

## COMPENSATION

# Sugar palms, an option for compensation of CO<sub>2</sub>-emission at Apenheul Primate Park

Leobert de Boer, Apenheul Primate Park, Apeldoorn, the Netherlands

For many years, Apenheul Primate Park has conveyed a strong message about the importance of nature conservation to its roughly half a million annual visitors. Although this message focuses on the conservation of primates and their rainforest ecosystems in Africa, South America and southeast Asia, it increasingly aims at raising public awareness of the global 'bioregulation crises', which – as a growing group of leading scientists believes – is rapidly approaching. Human-imposed CO<sub>2</sub>-emission is only one of the causes of the risk that global biosphere regulatory systems may break down with unpredictable consequences. Other causes include over-exploitation of resources, human population growth and the resulting loss of natural habitat to food production. However, CO<sub>2</sub>-emission, and its direct bearing on global climate, is one of the major and one of the most well-known factors.

## CO<sub>2</sub> balance of the zoo's message

In order to convey this message, Apenheul needs visitors to convey it to, and sufficient numbers of visitors will only come when we have enough interesting animals and exhibits to show them. However, the vast majority will only come to a country-side park like Apenheul by car, whatever we do to promote other means of transport. As a result, Apenheul's message 'costs' large CO<sub>2</sub>-emissions. Consequently, our great dilemma is: do the 'benefits' of conveying our message outweigh its 'costs'?

As the answer to this question, even if it could be given, would be subjective, we decided that

we should in any case increase the 'benefits' and try to reduce the 'costs'. Increasing the benefits requires improving content and effectiveness of our message, i.e. we will have to improve our education in a variety of ways. Decreasing the CO<sub>2</sub>-emission costs requires insight in the quantities involved.

## Gaining insight in CO<sub>2</sub> quantities

Detailed calculations showed that the total annual CO<sub>2</sub>-emission caused by the sheer existence of Apenheul amounts to 3,500 tonnes per year. Twelve percent is caused by our own energy use (e.g. heating of animal enclosures, offices and service buildings, cooking and

baking of food for visitors), 3% is connected with a variety of other activities (ranging from the production of the office supplies we use, to that of the souvenirs we sell). The vast majority, 85%, is caused by the distances our visitors travel by car to and from the park. These figures indicate that relatively little can be gained by reducing the internal CO<sub>2</sub> costs. Of course we need to continue trying to reduce energy consumption and to use less energy-requiring products, but this will decrease the overall emissions only by fractions. As we need our visitors to convey our message, we can do little to substantially decrease the high percentage of CO<sub>2</sub>-emission caused by their means of



PHOTOS APENHEUL PRIMATE PARK



transport. This can only be achieved in the long run by major changes in society. If we try to do it as an individual institution, we would lose visitors, and the cost/benefit balance would be negatively influenced.

**Compensation**

Thus, at least for the time being, we decided that compensation would be the only possible solution to our dilemma. Compensation of CO<sub>2</sub> emitted in one place by fixing the same amount of atmospheric CO<sub>2</sub> elsewhere is a well-accepted policy to reduce CO<sub>2</sub>-emission globally. This type of compensation is often done by financing reforestation in other regions, countries or continents. However, it involves risks of future illegal logging in reforested areas, while forest fires might undo the effect of compensation in a matter of days.

**Use of bio-fuels**

Another widely accepted possibility for compensation is to replace the use of fossil fuels elsewhere in the world by the use of bio-fuel (CO<sub>2</sub> neutral) for energy production. Apenheul is thus discussing the use of sugar produced by sugar palms for energy production in Indonesia with Willie Smits. Willie is well known from various projects in Indonesia regarding rehabilitation of orang utans, reducing illegal animal trade and reforestation. He has also been working for many years on sugar palms, and he found out that after proper selection these palms can produce as much as three times more sugar per hectare than sugar cane or

beets. Thus, sugar palm plantations are of great interest for efficient production of ethanol which can then be used as fuel in energy plants.

Near the village of Wanariset (east Kalimantan), known from its orang utan rehabilitation project, Willie is working on a successful, large reforestation project (Samboja Lestari), which also involves the creation of areas for the semi-natural housing of confiscated orang utans, bears and other animals, infrastructure for ecotourism, and efficient agriculture for local inhabitants. As the project area is in reach of the city of Balikpapan, which consumes increasing amounts of energy generated from fossil fuels, sugar palm plantations for the production of green energy would be an interesting addition to the Samboja Lestari project.

**Long-term guarantee**

Therefore, we are considering financing the creation of 50 ha of sugar palm plantations. According to Willie's calculations this would yield sufficient sugar/ethanol for the continuous generation of 1 MW electric energy. Additionally, it would provide a decent income for as many as a hundred farmers. Apenheul's CO<sub>2</sub>-emission of 3,500 tonnes annually is equivalent to approximately 0.7 MW continuous electricity use. Consequently, 50 ha of sugar palms would be more than enough to compensate for our total emission. The initial cost for the creation of 50 ha of plantation is surprisingly low: only €50,000, and as long

as the plantation is maintained and managed properly this investment would guarantee Apenheul's compensation year after year. We have already reserved €50,000 in our budget so that planting of the sugar palms can start as soon as there is sufficient certainty that produced sugar will indeed be used for the generation of electricity (and not, for instance, sold for human consumption in times that sugar prices would make this more profitable). •



ILLUSTRATION RHEEDE

## BOTANIC GARDENS

# Botanic gardens and their contribution to sustainable development

Suzanne Sharrock, Botanic Gardens Conservation International, United Kingdom

## Conservation and development are interlinked

Two of the biggest challenges faced by humans today are conservation of our environmental resources and elimination of poverty. However, past efforts to address these challenges have often been separate and even conflicting. Traditional approaches to conservation, which often assumed nature had to be protected from use by humans, have also been unsatisfactory. It is now clear that the problems of conservation and development are interlinked: the goods and services provided by natural resources are needed to improve human well-being, whilst for conservation to succeed it must relate to the needs of the poor.

This link is explicitly recognised by all recent major international policies focused on both development and conservation. For example, the United Nations' 'Millennium Development Goals' primarily focus on reducing poverty, but one of the goals is to 'ensure environmental sustainability'. Similarly, the Convention on Biological Diversity (CBD) was ratified to reflect concerns for environmental degradation, but clearly recognises the importance of taking human needs into account. The secretariat of the CBD recently stated: "Conservation and development are no longer seen as conflicting goals but as mutually interdependent".

Herbalist demonstrates production of traditional medicine PHOTO BCCI



With the most rapid rate of species extinction in earth's history now occurring, and more than one billion people subsisting on less than US\$1 per day, it is essential that we use all means possible to promote sustainable use of our natural resources for the benefit of all.

## The role of botanic gardens

Few people regard botanic gardens as key players in making practical contributions to sustainable development – they are often perceived as places of mainly aesthetic value, prized for their roles in gardening and horticulture but with little or no relevance to the conservation and development agendas. However, it must not be forgotten that the very first botanic gardens were set up with connections to people, as they supported the study and use of medicinal plants for healthcare.

In order to investigate how botanic gardens today are supporting sustainable development and thus contributing to improvements in human well-being, Botanic Gardens Conservation International recently carried out a survey of its membership. The survey results revealed an astonishing array of sustainable development activities that botanic gardens are involved in. This paper provides some examples of these projects, and further examples are available in a report published by BCCI, 'Botanic Gardens: using biodiversity to improve human well-being'.

## Improving nutrition and healthcare

Many botanic gardens promote the sustainable use of plants that contribute to improved nutrition and health. For example, Aburi Botanical Garden in Ghana has been improving local access to medicinal plants by empowering local communities to set up medicinal gardens, thus taking the pressure off wild populations. As well as establishing a model home garden, staff members give a wide range of lectures, seminars, workshops and demonstrations, distribute manuals and provide seedlings to enable communities to set up their own nurseries and first aid gardens.

## Income generating projects

Botanic gardens also help local communities develop income-generating projects based on the sustainable use of plant resources, such as the production of handicrafts. Others, for example Malabar Botanic Garden in India, also help farmers to diversify their crops, to introduce new lucrative crops, or improve livelihood security. Such projects are often designed to help particularly disadvantaged members of a community. For example, Przelewiec Arboretum in Poland runs a training programme 'Women's hands make money' to teach unemployed women how to produce natural soaps.



## BOTANIC GARDENS

Aloe vera plant  
PHOTO ROB DOOLAARD (IZP)/  
ROTTERDAM ZOO



Gardens make many other contributions to community development, from conserving and promoting traditional community knowledge and skills (e.g. Canadian 'first nation' projects), to providing urban recreation space, and even peace zones in areas of conflict (planned in Kabul, Afghanistan).

Botanic gardens also provide an excellent example of how the resources of developed countries can be used in partnerships to support sustainable development in distant communities. For example, relatively well-resourced gardens can share resources and assist gardens in an early stage of development in other parts of the world. The Conservatory and Botanic Gardens of Geneva, Switzerland, has collaborated with Ascunción Botanic Garden and the Red Cross, in Paraguay, to improve local standards of living through the use of medicinal plants. Geneva played an important role in assisting in analysis of the composition, toxicity and taxonomy of traditional medicinal plants, which were then used to create community medicinal gardens in over twenty rural communities.

### Education for sustainable development

Botanic gardens are also important centres for environmental education. There has been a growing interest in education for sustainable development (ESD) amongst botanic garden educators. As a holistic process, ESD attempts to represent the complex and dynamic relationships between the natural and social sciences, thus providing a means of addressing environmental and development issues of the 21<sup>st</sup> century.

### Roots with Shoots

Many botanic gardens are now involved in education for sustainable development programmes. For example 'Roots with Shoots' is a hands-on programme run at the Milner Gardens and Woodland, British Columbia, Canada. School children (Shoots), staff and volunteer mentors (Roots) learn together during food gardening and woodland experiences. The multi-visit on-site programme includes school field trips, pre-school programmes and summer camps. Off-site, a Spring Seed Dispersal programme is taken to classrooms to share native plant and organic vegetable planting activities and information. Over a thousand 'Shoots' and many 'Roots' have already participated in the programme.

### Big answers to big questions

Another, rather different example comes from Australia. Encouraging public debate is the essence of the 'Big answers to big questions' programme run by the Botanic Gardens Trust, Sydney, Australia. The aim of the programme is not to preach but to empower the public to make up their minds about subjects such as 'Will the next world war be fought over water?' or 'Is landscape preservation about yesterday, today or tomorrow?' or 'Is a genetically modified crop better than one doused with pesticides?'. Water was the first hot topic, with the theme encompassing a range of pertinent issues, not the least being the shortage of potable water in Australia, the driest inhabited continent. The Community Education Unit of the Botanic Gardens Trust devised a holistic programme, comprising evening lectures, weekend events, theatre, debates, tours and other public programmes. The programme reached a diverse audience including visitors, Friends of the Gardens, schools and the general public.

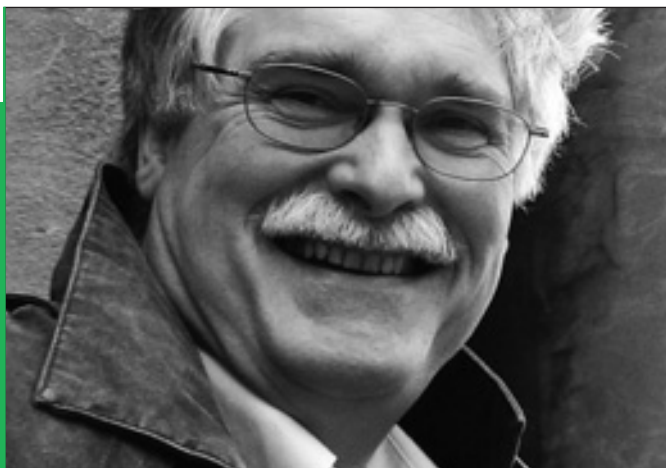
### Guidelines for action in botanic gardens

In order to further promote education for sustainable development and to assist botanic gardens to understand, develop and implement such programmes, BGCI has recently launched a new publication: 'Education for sustainable development: guidelines for action in botanic gardens'. This publication provides a rationale for why botanic gardens need to be involved in education for sustainable development, highlighting the importance of implementing initiatives for sustainable development and offering a range of ideas for educational approaches within botanic garden education. Case studies focusing on the excellent work already being undertaken in botanic gardens across the world are included. These emphasise the need for botanic gardens to become models for sustainability and in this respect, the guidelines also propose a framework for conducting a green audit. ●

Sustainably produced products made from plants in the Canary Islands PHOTO BGGI



**Further information** on the role of botanic gardens in supporting sustainable development is available on [www.bgci.org](http://www.bgci.org). Copies of both reports mentioned in the article are available through the website. Hardcopies can be ordered from [info@bgci.org](mailto:info@bgci.org).



# Lars Lunding Andersen

**Position** Director of Copenhagen Zoo **Last musical seen** 'The Producers' by Mel Brooks **Favourite celebrity** Nelson Mandela  
**Last book read:** The complete collection of poems written by the famous Danish author and Nobel Prize winner Johannes V. Jensen.  
**Hobbies** Listening to jazz and heavy blues, architecture, visiting art galleries, museums and science centres, fishing.

**Please describe your career path.** I have a master's degree in zoology from the University of Copenhagen. Still a student, I was employed by The Zoological Museum in Copenhagen in 1970, to assist in setting up an education department at the museum. In 1974, the director of Copenhagen Zoo, Arne Dyhrberg, asked me to do the same for the zoo. In 1980, I was employed by the new director, Bent Jørgensen, as curator of education and exhibit design - a position I held until 1994 when I became managing director of Copenhagen Zoo. Concurrently with this job, I was editor and author at one of the biggest Danish publishers, editing and writing books for schools about biology and nature. I have been president of IZE, chairman of DAZA and the first chair of the EAZA Education and Exhibit Design Committee. At present I am member of the Danish Tourist Board 'VisitDenmark', and chair of the EAZA Membership and Ethics Committee.

***"You must 'act green' yourself and set a good example for your visitors, otherwise you will lose your credibility".***

**What is the most memorable or fascinating event in your career so far?** The opening of the Children's Zoo in 1985 where I was in charge of the design of the playground 'The Rabbit Town' and the opening of the 'Tropical House' in 1994, where we designed and built all the exhibits including the artificial rockwork in-house. I have many memorable events with the animals; the experiences of several elephants giving birth are among the most exiting and dramatic ones.

**What are the main challenges for the chair of the EAZA Membership and Ethics Committee?** Getting many more zoos and aquaria involved - in committees, working groups, EEPs and so on. Besides this, ethics play an increasingly more important role in the way we run our institutions. Not only animal welfare issues, but also the issue of acting in a sustainable way, e.g. when we build exhibits

and reduce and save resources. Therefore, in the years to come, we will update and develop the EAZA Code of Ethics to have a more holistic approach.

**What have been major changes at Copenhagen Zoo with regard to sustainable zoo management?** We have saved a lot of money (and resources) by cleaning the water in the sealion and seal pools and recycling it. Most of the heating is now district heating, which is much better than having a lot of minor fuel oil and electric-based heating units. Solar panels have been installed at the main entrance of the zoo and on the roof of the education facility. The panels produce some electricity but were primarily installed for educational reasons. One of our staff members is an environmental specialist, whose job is to improve the zoo's environmental performance year after year.

**What do you think are the main challenges to developing a sustainable zoo?** As water is very expensive today, it is good business to clean and recycle it. A simple thing as to switch off the light when you leave a room saves money and a lot of electricity. But most important - being a conservation institution - you must 'act green' yourself and set a good example for your visitors, otherwise you will lose your credibility. We need to practice what we preach.

**When was the last time you decided to change something about your personal environmental behaviour?** We have just improved the insulation of the house to reduce the heating costs. Besides that, we always buy organic products if possible.

**Describe one of your favourite sustainable exhibits in your zoo and in another zoo.** The new Giraffe House which opened in 2003 was the first building in which sustainability was taken into consideration. It was considered when the house was designed and built and later on in the maintenance. Today all new buildings must pass the Copenhagen Zoo's sustainability accreditation test. I cannot remember a good sustainable exhibit in another zoo - but now that I think about it - it appears to me that Artis Zoo (Amsterdam) is very pro-active in this field. ●

# Scottish school children discuss sustainability with their counterparts in Malawi

Maxine Finlay, David Windmill and Thomas Elliot, Edinburgh Zoo, Scotland

**Edinburgh Zoo held a ground-breaking educational event on global citizenship in October 2005 as the first in a series of 'Global Classrooms'. It is hoped that through these events staff at the zoo can engage with children in Scotland and encourage them to act locally and think globally.**

## Into Africa

To launch the Global Classrooms, Edinburgh Zoo, which is owned by the Royal Zoological Society of Scotland (RZSS), invited 300 senior students and their teachers from secondary schools to come from across Scotland and venture 'Into Africa'. The aim of Into Africa was to inform and engage students about the many issues facing people in Africa today, from sustainable development and trade to HIV and AIDS, and enable them to understand their own connections to these issues, as well as see the issues in the wider global context.

After a warm welcome, the pupils were shown a video from Mulanje High School in Malawi depicting a relationship forged with Fortrose Academy, a high school in

Scotland. The delegates discovered that much could be learned by communicating with pupils from Malawi about their culture including environmental issues, health issues and social issues. The day also included an interactive workshop aimed at exploring topics such as child poverty and human rights, as well as a session which encouraged delegates to explore their own perceptions of life in Africa.

## Future of Global Classrooms

After feedback we received from schools following Into Africa, the education department of Edinburgh Zoo is organising another Global Classroom, this time focussing on maintaining biodiversity through global citizenship. A UNICEF represen-

tative will be one of our guest speakers and UNICEF will be part of a programme including workshops and case studies looking at how pupils across Scotland can make a difference. From looking after local woodlands to planting trees in African rainforests, the aim will be to share practical advice and ideas on finding, planning and running projects as well as providing a platform for young people across Scotland to discuss their views and ideas.

## Important role to play

Global citizenship, biodiversity, sustainable development and conservation are all terms which are widely used, but are often misunderstood or, in many cases, difficult for people to define or explain. As an organisation which is increasingly investing its time,

money and efforts into practical conservation projects worldwide, we have come to understand that we have an important role to play in providing people with an understanding of these terms and how these complex issues are interlinked.

Equally as important, we find that in order to achieve success within our own conservation programmes, we cannot separate the conservation goals from the needs of the local people and so an enormous variety of issues ranging from human and domestic animal health to the practicalities of implementing a sustainable harvesting programme for a tropical forest are all, quite clearly, within our remit. ●

PHOTO EDINBURGH ZOO



# Sa Pilipinas Lamang, sustainable development education in Vogelpark Avifauna

Marieke Weishaupt, Vogelpark Avifauna, Alphen aan den Rijn, the Netherlands

**Although the Philippines is a relatively small country, covering 300,000 km<sup>2</sup>, it is one of the most important biodiversity hotspots on earth and ranks high on the list of priority areas for conservation. The Philippine islands harbour an enormous diversity of species, many of which are endemic. Furthermore, there are also few places with as many threatened animals and plants as the Philippines. As protection of animals in the Philippines has such a high priority, Vogelpark Avifauna (Alphen) began supporting conservation projects in the country more than ten years ago, together with many other zoos (among others: Rotterdam Zoo, Chester Zoo and Bristol Zoo) and Flora and Fauna International. As a direct link to the conservation project in the Philippines, Vogelpark Avifauna developed a Philippine exhibit combined with an extensive education programme focussing on sustainability, biodiversity and globalisation.**

## Sustainable conservation

The economic situation in the Philippines is forcing the inhabitants to make use of the country's natural resources. The human population there is still growing, causing an ever greater demand for resources, including living space. Habitat loss is the most important cause of loss of biodiversity in the Philippines. Deforestation is still proceeding at an enormous rate, causing loss of valuable forest ecosystems. Trade and hunting are also important causes for the decline in numbers of birds.

The 'Sa Pilipinas Lamang' project aims to convince the local Philippine people

(e.g. through informative posters and other education materials) to value their natural resources and use them only in a sustainable way. Vogelpark Avifauna has also provided knowledge and materials to support the development of rescue centres for threatened hornbills. It is important to offer solutions for the long term as a start of sustainable conservation.

## Education for zoo visitors

The project Sa Pilipinas Lamang is also featured in Vogelpark Avifauna. Two groups are targeted in Vogelpark Avifauna: zoo visitors and school children. The programme mainly provides an introduction to

sustainable development for both groups and hopefully motivates the participants to take action.

Zoo visitors are informed about problems for tropical rainforests in general, and hornbills in particular, when walking through a Philippine-style indoor exhibit. The education programme, developed especially for schools, directly relates to conservation issues in the Philippines. The education programme originally aimed only at students in the higher primary school grades, but programmes for middle and lower primary school grades have now been developed as well.



PHOTOS VOGELPARK AVIFAUNA



**Themes and principles**

The educational programme has been developed around ten different themes: play, food, plants, hornbills, water in the forest, nature’s treasures (e.g. medicinal trees), sounds, sawas, threatened animals/birds and finally a small office illustrates administrative elements involved. One of the most popular activities is a Philippine ‘cat and mouse’ game made of waste materials. Other assignments focus on FSC wood, responsible use of water at a waterfall and ecotourism at a sawa.

It was decided before initiating the programme that we would inform children about several aspects of sustainable development (sustainability, biodiversity and globalisation) and that we would work with existing examples from the Philippine rainforest.

We have tried to use active education methods which incorporate the different ways in which children learn and the forms of education currently used in nature education. Therefore, a part of a tropical rainforest and a Philippine village, that are as true-to-nature as possible, have been created in the Philippine hall. The children can imagine being in the Philippines when walking through the hall with free-flying birds, unique plants, rice paddy’s and a splashing waterfall. The hall even includes a realistic forest village with a shop, school and bushes to create an optimal Philippine experience.

**Educational programme**

The educational programme starts at school, in the classroom. The problems in the Philippines are introduced by a letter from two Philippine children, which is followed by

a group discussion. The next ninety minutes of the programme take place in the Philippine exhibit at Vogelpark Avifauna. When arriving, the children are briefly introduced to the programme. The children are divided into groups at the small school in the forest village, and receive instructions for the various assignments in the forest. Each group then heads into the forest for a number of assignments that take approximately 15 minutes each. A final discussion is held after the assignments are completed. Back at school, provided materials and suggestions can be used for further lessons.

**Experiences**

The project participants are usually very enthusiastic and positive about the programme. A geography teacher said: “This project connects perfectly to the geography lessons about the tropical rainforest. The theory is discussed at school, but the message really makes sense once you have been in the jungle. The children were impressed by the many sounds of the birds. They were briefly instructed in a life-like Philippine school, after which they did various playful assignments in the tropical hall between bamboo, rice paddy’s and many birds. They especially liked the simple cat and mouse game. Many useful additional assignments were provided for back at school, all in all a complete experience of nature and life on the Philippines.” The children feel that the programme is fun and informative as well. A nine-year-old boy said: “It is possible to do fun things yourself like drawing and doing assignments about birds.” A ten-year-old girl said: “You have so perfectly rebuilt a Philippine forest. I really enjoy the birds flying around. If you would like to focus on another subject, I wouldn’t know what it should be, this is already so much fun!!!” ●

**‘Sa Pilipinas Lamang’ is a cooperation** between Vogelpark Avifauna, the city of Alphen aan den Rijn and NOVIB (Dutch organisation for international development cooperation). Furthermore, the development of the programme was partly funded by the province of Zuid-Holland as part of the ‘Learning for Sustainability’ programme.

# EAZA and global sustainability



Leobert de Boer, Chair EAZA, Apeneul Primate Park, Apeldoorn, the Netherlands

Let me quote some passages of my recent presentation in the plenary session on

*“Man, whether dressed in a black suit in New York, or living nearly naked in the mountain forests of Papua New Guinea, belongs to a contemporary biological species, one of the many millions of other biological species living on this planet today. The number of us now is in the billions. We outnumber almost every other species, at least our fellow vertebrates. But time has come for us to understand that – in spite of our superiority in numbers, intelligence and influence – the trillions and after trillions of individuals of other contemporary species, ranging from microbes, to plants, worms, insects and elephants, all, world-wide, work together to regulate and stabilise the conditions in the outer layers of Planet Earth in such a way that not only they, but also we can live and thrive.”*

*“Many leading scientists are more and more vigorously arguing that the ‘moment of truth’ is much nearer than many of us, the greatest pessimists included, would ever have wanted to believe. The year 2050 now often is mentioned to indicate the time frame magnitude within which global bioregulatory systems (on which humanity is much dependent) may start to break down as a result of human activities, with totally unpredictable consequences. However, that these may be disastrous to the survival of humanity, or at least to the prolonged existence of human culture as we know it today, seems obvious anyway.”*

*“This time frame also marks the length of time still left to us to bring about the necessary changes, to revert current human developments, and to convince the ‘global village’ of the believe that the future of humanity lies in re-establishing harmony between us (as global citizens) and our (global) environment. This means nothing more or less than that humanity must succeed to reach ‘global sustainability’ within the next few decades. Reaching global sustainability, in its turn, means nothing more or less than that humanity should cease to use more than Planet Earth with all contemporary organisms can sustainably – in the long run – deliver to us. Continuously taking (much) more than that may lead to the disturbance and possible break-down of the extensive, but delicate network of equilibria between the living and the non-living components of Earth.”*

*“A couple of decades to reach this ultimate goal by 2050, is ridiculously short, given the slowness with which changes in society and politics usually take place. Having noticed the very limited progress made since the UN’s Rio Conference in 1992, when the necessity of global sustainability was first brought to the attention of a broad political and societal audience, the United Nations recently launched the ‘Decade of Education on Sustainable Development (DESD)’. This decade – 2005/2014 – should see major initiatives of governmental and non-governmental organisations to create the widest possible awareness world-wide of the unavoidability of achieving global sustainability. The zoos of the world, including our EAZA community, can and should play a prominent role in this awareness raising decade.”*

COMBINED PHOTOS SAMUEL FURRER/ZÜRICH ZOO AND NICK GARBUR



## 'Global sustainability' at the 23rd EAZA Annual Conference in Madrid:

*"Looking back at the historical development of EAZA, one could say that the first decade (from the mid-1980's, the years of the making of E(C)AZA, to the mid-1990's) mainly focused on our common responsibilities in ex situ conservation. EEPs, TAGs and collection planning and management were the main topics on our conference agendas. The second decade, starting around 1995, saw an ever increasing involvement with in situ conservation, resulting in the prominent place this issue now occupies in our conferences, in our zoos and in our minds. We are now entering EAZA's third decade, and I propose that for the third time we accept a new challenge, and start working with the same amount of energy and enthusiasm as the two previous times to support the DESD. EAZA's third decade would be perfectly synchronous with the United Nations' DESD, and EAZA would be a perfect partner in helping achieve the latter's objectives."*

*"With my plea to enter a new phase of EAZA activity I am not intending to say that we should stop our previous activities. On the contrary, our ex situ work is more important than ever, and will even become more crucial in the future. We must continue to extend it, just like our support to in situ conservation. Simultaneously, zoos should continue and extend all their ongoing conservation education activities. What I would want to develop in EAZA's third decade now, is that we add a new dimension as kind of an umbrella over all our previous, continued and to be extended activities: the overarching dimension of global sustainability without which our other activities would not make real sense."*

*"For zoos to explore and exploit their full potential of raising massive awareness of the urgent necessity to achieve global sustainability, it requires much more than pushing their educators and education departments to develop the necessary initiatives. Surely, the educators will have to play a crucial role, but to accomplish this great task will require the creativity, the expertise and above all the strong support of all zoo staff, directors, managers, researchers, curators, pr and marketing officers, keepers and all others included. Consequently, if EAZA would decide to accept my proposal to embark on the road of really raising great awareness of the necessity of achieving global sustainability as soon as possible, this unavoidably will have to lead to intensive involvement of all of us, as well as to the building up of organisational and communication structures focusing on this challenging theme; structures as extensive and intensive as those EAZA managed to set up for its ex situ and in situ activities. An enormous challenge indeed, no doubt. But a 'non-refusable' one as well!"*

The above leaves no doubt as to how important I believe EAZA's role in helping to achieve global sustainability should be. This role clearly is not limited to educating our visitors. The current issue of EAZA News presents a variety of examples of how EAZA member institutions take up the sustainability challenge. Examples from which all of us can learn. I sincerely hope that the number of examples will grow rapidly, so that we may need to produce a special sustainability issue each year. ●

## ENERGY SAVING

# Energy saving in large indoor facilities at Burgers' Zoo

Joep Wensing, Burgers' Zoo, Arnhem, the Netherlands and Henri Gieling, Maessen & Hendriks (electro technical installation company), Oosterbeek, the Netherlands

## Energy expenditure

Burgers' Zoo opened the famous 1.5 ha tropical rainforest hall 'Burgers' Bush' in 1988. Several large-scale accommodations have been added to this central building since then. Burgers' Ocean (8 million litres) was constructed in 2000, followed in 2005 by a building with a large foyer and auditorium on the first floor, and stables for the safari animals below. A new safari restaurant and additional stables (giraffes, rhinos) will be built in the near future, which, together with the other large buildings, will result in a building volume of about 50,000 m<sup>3</sup>.

It goes without saying that energy expenditure in the buildings at Burgers' Zoo is enormous. Therefore, measures to reduce energy expenditure and costs were imperative. In former times the buildings were heated by oil-heaters. Later, the oil was replaced by gas. This had several advantages (always available, cleaner, more efficient, cheaper), but was still expensive, and heat created by air conditioners, refrigerators and ventilation systems was wasted.

## Water storage

A relatively cheap and simple solution was however presented by heat storage in groundwater. Excess heat is used to produce warm water that is pumped into and stored in an aquifer (site A), in our case 60 m deep. At a certain distance (in our case at least 200 m, dependant on geological features), water with a low temperature (10°C) is pumped up from the aquifer (site B) with a maximum rate of 93 m<sup>3</sup> per hour, and used to cool water for cooling purposes elsewhere. The water from the aquifer is completely separated from the water distribution systems in the zoo.

During summer, we normally store heat in the aquifer at site A and take cold water from site B. During winter the process is reversed: warm water, at a rate of maximal 53 m<sup>3</sup> per hour, is taken from site A and cold

Auditorium PHOTO BURGERS' ZOO



Technical installation above safari stables PHOTO BURGERS' ZOO



water is stored at site B. The water that is pumped up is about 20°C and via heat exchangers brought to a temperature of 40°C, which is enough for our low-temperature heating system.

## Fine-tuning using hosepipes

The whole storage system produces 1.6 MW coolness and 0.6 MW low temperature warmth. During summer it is now possible to cool Burgers' Ocean, Burgers' Bush, the restaurants and the congress areas comfortably without using the formerly-used 500 kW air conditioner. It even makes it possible to fine-tune the temperature of the floors in the safari stables with built-in cold and warm water hosepipes. During the very hot summer of 2006 (daily temperatures of about 30 to 35°C) the temperature in the tropical rainforest hall was maintained at about 25°C with doors closed.

## Ventilation

There are many heat exchangers for regaining heat from ventilation air before expelling the air, and heating cold air before it enters the buildings. A combination of air treatment- and exhaustion units in the stable area distributes fresh air and produces an under-pressure preventing odours to escape to other (public) areas. Comparable air treatment units were installed in the adjacent part of the Bush and in the auditorium-foyer area. The units for the Bush replace the original 1 MW heater for that area. Energy savings with these devices are estimated to be one-third on the total gas consumption per year.

**In conclusion**, we can say that the combination of heat storage and heat exchangers is very favourable. Heat production is 50% cheaper than with traditional heaters and cooling even 90% cheaper, while the calculated amelioration time will be two years! ●



# Sustainable and energy-conscious zoos in Mecklenburg-Vorpommern



Michael Schneider, Zoologischer Garten Schwerin, Germany

The members of the common interest group of the zoological gardens in Mecklenburg-Vorpommern (Germany) decided on a regional initiative for the development of energy-saving measures and use of renewable energies at their annual meeting in 2004. Eighteen zoos participate in this initiative, including EAZA member institutions Vogelpark Marlow, Rostock Zoo, Tierpark Ueckermünde and Schwerin Zoo.

A special programme was worked out under the leadership of Marianne and Klaus Tuscher from Natur- und Umweltpark Güstrow in order to develop projects for climate protection, saving energy and usage of renewable energy in the zoos. The climate protection projects in the programme play a great role in the environmental education and have a great effect on the public.

## Status report

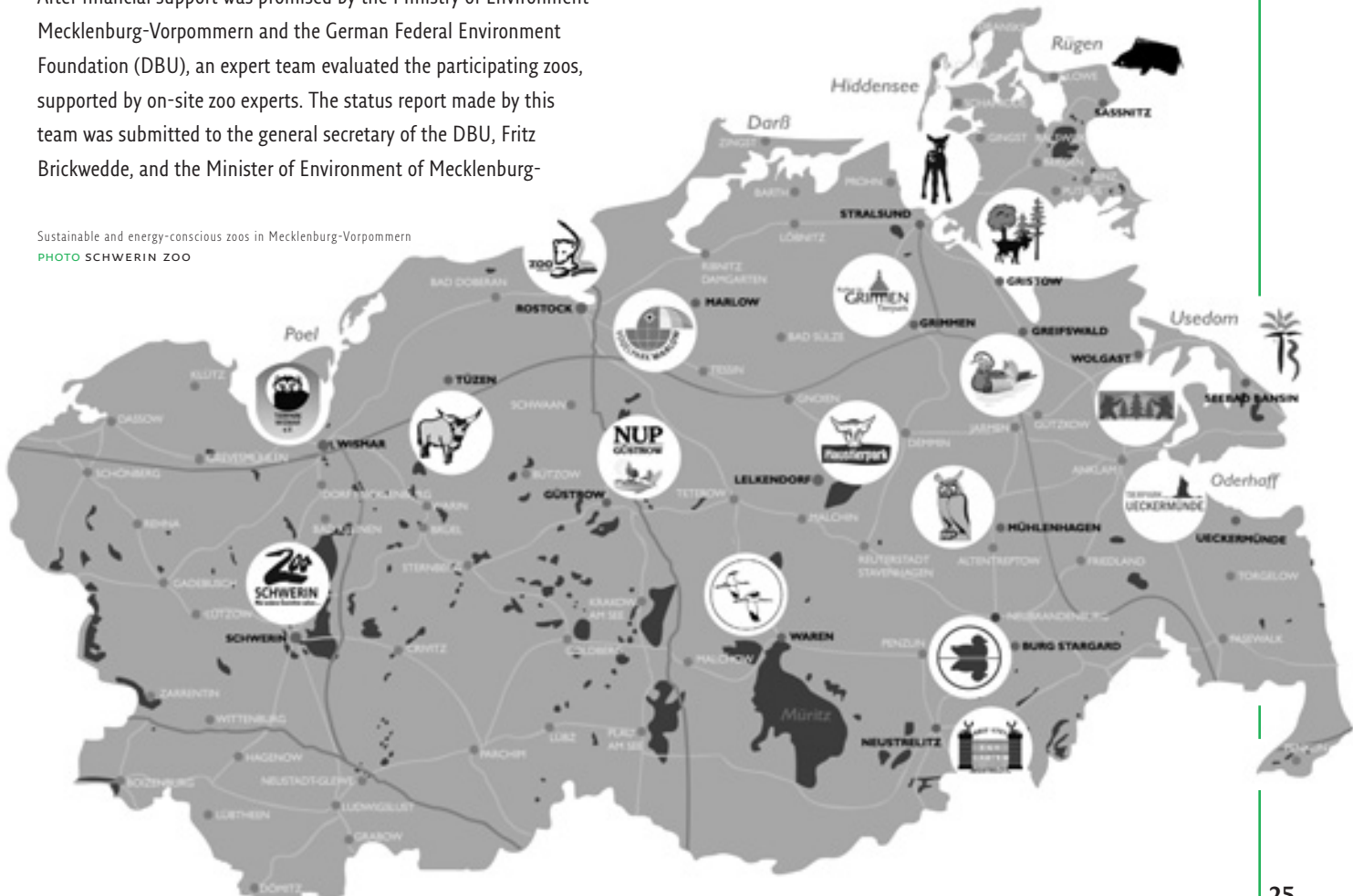
After financial support was promised by the Ministry of Environment Mecklenburg-Vorpommern and the German Federal Environment Foundation (DBU), an expert team evaluated the participating zoos, supported by on-site zoo experts. The status report made by this team was submitted to the general secretary of the DBU, Fritz Brickwedde, and the Minister of Environment of Mecklenburg-

Vorpommern, Wolfgang Methling, during a public event on 21 June 2006. The status report on the regional initiative of the zoos showed that there is a need for action in all of these institutions. The report points out possibilities for self-help, but also recommends measures which can only be implemented with further financial support.

## Huge spectrum

The spectrum is huge. It ranges from a simple upgrading (e.g. for insulation, installation of insulated windows) to complete reconstruction of buildings and the use of alternative energy systems. Selection of the right measure, which has to be sustainable, can only be decided by considering the actual on-site situation. The status report is a first common step for the zoos in Mecklenburg-Vorpommern towards a sustainable management. Further steps will follow soon. •

Sustainable and energy-conscious zoos in Mecklenburg-Vorpommern  
PHOTO SCHWERIN ZOO



## RECYCLING

# Sustainable initiatives at Colchester Zoo

Rebecca Perry, Colchester Zoo, United Kingdom

**Colchester Zoo is dedicated to creating a greener zoo environment, providing a positive example to our visitors. With the help of Colchester Zoo's Green Policy, a committee of staff from all zoo sections from keepers to office, retail and catering, are working to reduce the zoo's environmental footprint by preventing wastage. A wide variety of initiatives has been developed throughout the zoo to re-use, recycle and reduce waste, from wastewater to materials collected around the zoo or donated by visitors.**

## Preventing wastage of water

One of the major areas of focus for Colchester Zoo's Green Policy is to reduce the use of clean water and increase the use of recycled or 'grey' water. Such water conservation is now evident around Colchester Zoo and has been implemented as part of the zoo's development by incorporating environmentally-friendly initiatives into new building design. For example, rainwater collection units have been included in the design of the new Komodo dragon enclosure. Once collected, this rainwater is re-used within the enclosure to provide showers for the Komodo dragons and create the correct humidity levels. It is not just our newest developments that have water conservation measures integrated within their design. Our Eastern black and white colobus enclosure has a reed bed system for treating water, our sealion enclosure has a

system fitted to re-use backwashed water and keepers from both our giraffe and elephant buildings use treated river water for cleaning their enclosures.

## Recycling general waste

Recognising the high levels of general waste created by zoo staff and our visitors, Colchester Zoo has recently implemented recycling schemes to deal with two areas of high wastage.

## Recycling zoo maps

Throughout the year, hundreds of thousands of zoo maps and leaflets are given to visitors and often thrown away at the end of the zoo visit. In order to combat this wastage problem, Colchester Zoo has initiated a new system at the exit, whereby visitors are asked if they wish to recycle their zoo map. If they do not want to keep their map, then they can place it in one of two bins. The maps in good condition are re-used and those in bad condition recycled and shredded for animal bedding or enrichment.

## Recycling animal feed cups

A popular attraction here at Colchester Zoo is our 'Familiar Friends' farm-section where visitors are permitted to feed pellets to some of the farm animals. These pellets are supplied in small plastic cups so that they are easy to handle and not affected by the weather. In order to deal with wastage of cups, a recycling scheme

Recycling of rainwater in Komodo exhibit PHOTO COLCHESTER ZOO



has been initiated whereby, rather than disposing of cups, visitors are encouraged to place them into recycling baskets so they can be re-used.

## Other recycling schemes

Over recent years, Colchester Zoo has also developed numerous other recycling schemes that are dependant on support from our visitors as well as zoo staff. Boxes to recycle ink cartridges can now be found at the zoo office and entrance. These cartridges are then sent to a recycling company, generating funds for Colchester Zoo's charity 'Action for the Wild' to help support *ex situ* conservation projects. Every year we are also often contacted by visitors who offer tree cuttings or Christmas trees for our animals, not only preventing wastage but acting as enrichment for our animal species.

## Leading by positive example

In order to lead by positive example, Colchester Zoo works to increase visitor awareness of recycling waste. Through special events like 'World Environment Day' and 'Sustainability Summer' our education team is able to inform visitors of ways in which people can re-use, recycle and reduce waste in the home and office environment. We also incorporate such information into our daily sealion displays. In order to demonstrate some of the characteristics of sealion training and educate our visitors about effectively disposing of rubbish, our sealions have been trained to pick up a plastic bottle and place it in a recycling bin – a perfect method for incorporating our Green Policy into informal educational displays. ●

PHOTO COLCHESTER ZOO



# Biological water purification through a 'Micro Zoo' at Emmen Zoo

Wijbren Landman, Emmen Zoo, the Netherlands

**Emmen Zoo has resolved to cut its environmental load to 5% of the level in 1999 during the next fifty years. This can be achieved if the load is cut in half every ten years. For the final ten or twenty years, new technological developments will play an important role, but a significant step has been taken during this first decade, due to the large reduction in the intake of drinking water. This has been made possible by purifying and recycling wastewater from the zoo.**

## Clear water

There is water almost everywhere at Emmen Zoo; sharks and green sea turtles are the eye-catching inhabitants of the salt water, while hippopotamuses, otters and pelicans are examples of animals that live in and on fresh water. Most of the creatures that inhabit the water can be clearly seen while they are below the surface. As sharks do not eat a lot, they do not dirty the water much and an enormous filter installation ensures that the million litres of salt water in the sharks' pool are always crystal clear. The fact that the hippopotamuses can be easily seen when they disappear under the surface, on the other hand, is quite remarkable. Hippopotamuses defecate a lot in the water, and because there are 12 hippopotamuses in the herd at Emmen Zoo, almost a tonne of manure is discharged into the water every day. Together with the rest of the wastewater at the zoo, this water is purified in a continuous process in the company 'Waterleiding Maatschappij Drenthe', or the 'water factory'.

## Micro Zoo

The biological purification of the wastewater from Emmen Zoo takes place in several stages. First, the larger components are removed from the water using sieves. Then the water is biologically purified in the 'Micro Zoo' (the 'living machine'). A natural purification process using bacteria, algae, plants, trees, snails and fish is mimicked in this balanced ecosystem, constituting a 'constructed wetland', although the process is sped up and carefully controlled. It consists of a greenhouse in which a huge

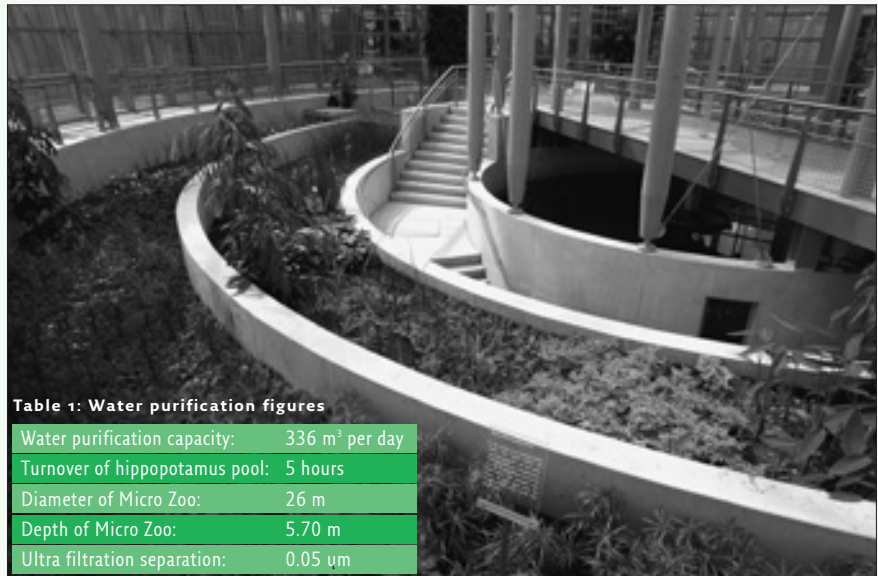


Table 1: Water purification figures

Water purification capacity:	336 m <sup>3</sup> per day
Turnover of hippopotamus pool:	5 hours
Diameter of Micro Zoo:	26 m
Depth of Micro Zoo:	5.70 m
Ultra filtration separation:	0.05 µm

variety of plants grow in a system of deep pools that has enabled the plants to develop extensive roots. The water that is to be purified flows through the pools and the ecological purification is actually carried out by the micro-organisms on the roots of the aquatic plants. Once the dissolved pollutants have been removed, the water goes to the ultra-filtration of the factory. The pores in this system are so small that water flowing from it is free from bacteria. A UV installation forms a second bacteriological barrier, so the water leaving the factory is of a very high quality from a bacteriological point of view. See Table 1 for water purification figures.

## Recycling the water

The clean water is pumped back to the zoo and serves as non-drinking water for toilets, cleaning purposes, and animal pools and ponds.

Recycling water in this way helps the zoo save more than 80% in the amount of drinking water it has to 'import'. The use of drinking water is a legal requirement for the catering trade, so a 100% reduction is impossible. A particularly important aspect of this sustainable use of water is that the quality of the water is appropriate to the function of the location to which it is supplied. The 'African Savannah' is no longer sprayed with drinking water, but with recycled water. The same applies to the water in and around the animal accommodations. Sustainable water purification works excellently in every respect, and the hippopotamus pool is a good example of this. Although the hippopotamuses leave large quantities of manure in the water every day, there is no smell. The water in the pool is now so clear that visitors can see the hippos walking over the bottom. •

PHOTO EMMEN ZOO

CONSUMPTION

# Contribution to sustainable fish consumption



ILLUSTRATION PROVIDIUM

Tania Oudegeest, Rotterdam Zoo, the Netherlands

**As awareness increases about the dire predicament that many fish species are in, efforts increase to preserve what is left. Rotterdam Zoo renewed its conservation message following the International Aquarium Congress in December 2004 where participants agreed on the great need to emphasize the necessity of taking action and taking it now!**

### Marine conservation

Plans were made in 2005 to create a platform in the Oceanium at Rotterdam Zoo that would allow different marine-related organisations with similar conservation goals to join hands. The beach pavilion 'Paviljoen Zeezicht (Sea View Point)' was designed, with windows overlooking the ocean. Each organisation was given the opportunity to express its view on marine conservation at its own window. A fifth window was added to inform the public on marine related news on a regular basis. The different organisations included the North Sea Foundation (NSF), the World Wide Fund for Nature (WWF), the National Park Oosterschelde (NPO) and the Marine Stewardship Council (MSC). The Dutch Ministry of Water Management 'Rijkswaterstaat' later joined the platform. A more solid partnership developed between WWF, NSF and Rotterdam Zoo, leading to the improvement and national distribution of one of NSF's earlier products: the 'VISwijzer (FISHindicator)', among other achievements.

### Increasing consumer power

The VISwijzer is a small and handy guide for consumers showing which regularly consumed fish species are under pressure, or are recovering or are still known to exist in healthy population numbers. Fishing techniques and environmental damage, as well as whether the fish are wild caught or produced in aquaculture are also considered. Consumers can find additional information in the accompanying book 'De goede visgids (The good fish guide)' and website: [www.goedevis.nl](http://www.goedevis.nl). The VISwijzer was updated and reprinted in 2006, and 2.5 million copies were distributed nationally by WWF through national newspapers and magazines. Copies were also distributed during several events that were part of the marine conservation campaign that started in March 2006.

### Conflicting information

The overwhelming amount of conflicting information that reaches consumers makes it very important to spread reliable and thoroughly researched information on fish population numbers and fishery techniques. Both of these issues are being addressed by the Marine Stewardship Council (MSC) and in the course of over 15 years this has led to a solid environmental standard for sustainable and well-managed fisheries. As more products will be MSC-certified in the future, the power of consumers to choose seafood that has not contributed to the environmental problem of over-fishing will also increase.

### Crucial role for aquaria

Aquaria can influence consumers by educating and informing their visitors in many ways. Consequently, Rotterdam Zoo will continue the distribution of the VISwijzer and work on further improvement of these consumer guidelines together with its partners. Furthermore, the zoo will inform and educate its visitors about responsible choices regarding fish consumption and will offer acceptable – or even better – alternatives. ●



PHOTOS ROB DOOLAARD (IZP)/ROTTERDAM ZOO



# Chester Zoo's Café Tsavo, a new building with an environmental theme



Scott Wilson, North of England Zoological Society, Upton-by-Chester, United Kingdom

PHOTOS CHESTER ZOO

**In 2005 Chester Zoo became the first zoo in the United Kingdom to attain the international environmental standard ISO 14001. To achieve this, the zoo had to look closely and critically at its environmental impacts, and develop a comprehensive Environmental Management Strategy, which aims to minimise the zoo's environmental impact, now and in the future.**

Major developments in the zoo provide opportunities to put ideas into practise. In 2006 a new 270-seater café was built, themed to fit in with the zoo's 'African Tsavo Zone'. This presented options, and often dilemmas, for environmentally sensitive construction. A new food retail outlet also provided a prime opportunity and venue for raising public awareness concerning the issues of recycling, fair trade and healthy eating.

## Balancing between aspects

A major hurdle in the construction of Café Tsavo, as with many other building projects, was balancing our environmental aspiration against budgetary and logistical restrictions. A wide range of eco-construction methods were available to meet our environmental aspirations, but with budgetary implications beyond our means, and possible compromises in the desired functionality of the building for visitor use. The finished café is therefore a balance between all these considerations.

The main environmentally-friendly features of Café Tsavo include:

- construction to maximise natural air-flow throughout the building, preventing the need for a high energy-use mechanical air conditioning system;
- energy-efficient heating and lighting systems;
- direct-fired hot water storage (water is heated only as required);
- high thermal insulation in the building to minimise heating and cooling requirements in winter and summer respectively;
- water taps providing a spray rather than full flow and with sensors to achieve reduced water output and usage;
- use of recycled and reclaimed materials in construction and fittings where possible e.g. light fittings made from old chimney pots and tables and chairs constructed from reclaimed railway sleepers.

Some of these features were achieved by careful architectural planning in the early design stages, but many are relatively simple and cheap. The measures significantly reduce the energy and water requirements of Café Tsavo, reducing its environmental impact and ongoing running costs.

## Recycling, a major theme

Recycling is a major theme of Café Tsavo and a direct opportunity to engage with the public in what we are trying to achieve. There are two recycling stations – one each in the inside and outside dining areas – creating central and highly visible features. Each station has separate bins for wood, paper, plastic and general waste. The public are encouraged to separate their own waste for recycling, and interpretation around the units promotes the recycling message. Much of the items in the general waste bin which will go to landfill are biodegradable including all the plates, cups and also cutlery. Even the used cooking oil is recycled, being sent to a local company that produces bio-diesel.

## Fair trade and healthy food

Café Tsavo has a strong healthy food and fair trade theme, for which it was highly praised by celebrity chef Nick Nairn, who officially opened the café in June 2006. All of the hot drinks are from fair trade sources, as are fruit juices and a selection of flapjacks, brownies and fruit bars. Bottled water supplied throughout the zoo is also from an ethical company, whose profits provide water wells for rural communities in Africa.

## Visitor reactions

This is the first large-scale promotion of an environmentally themed facility that the zoo has embarked upon. When a recycling theme was agreed for the café, it was unknown how the public would react and there have been some problems with cross contamination in the bins. This has now been minimised, with staff being on hand to assist customers. Staff input was not planned into the scheme, but has actually been made possible through a positive visitor response to recycling. Visitors actively sorting their own rubbish has resulted in less staff being required to clear tables, with labour transferring to assist at recycling stations instead. A questionnaire circulated in the café highlighted visitor praise for the healthier menu, fair trade produce and recycling scheme. Overall, visitors were very pleased with the services offered in the new café – 75% of visitors found the recycling centre 'very easy' or 'easy' to use, and only 10% of respondents did not use the recycling facilities at all.

**Café Tsavo, shows that it is possible** to successfully balance environmental considerations, healthy food promotion, visitor expectations and the financial needs of the zoo, and provides a model we can learn from in the future! ●

## PARTNERSHIPS

# Sustainable partnerships, building a regional network

Klaus Wünnemann, Tiergarten Heidelberg, Germany

**“Tell me and I’ll forget. Show me, and I may remember. Involve me and I’ll understand.” This Chinese proverb contains a lot of truth. Zoos have always been regarded as a place of hands-on experience. Heidelberg Zoo is being marketed under the strategy ‘Leben live erleben (Experience life live)’, so it was not a major step to develop the idea to show the zoo visitors how we can care for our environment.**

## Environmental Capital of Europe

Heidelberg is the only city that has received the ‘Environmental Capital of Europe’ award twice. The staff of the environment department of Heidelberg City was looking for possibilities to connect their work with the zoo. It is amazing how a whole cascade of actions developed from a simple conversation between a determined member of the civil service from Heidelberg and the zoo officials about energy saving.

## Saving heat and water

The heating system of the zoo was changed from single boilers to a central heating system with a high efficiency combined heat and power (CHP)-plant with a gas-fired peak-load boiler and a district heating system. The system is very energy efficient and saves tons of CO<sub>2</sub> a year. This heating system was partly financed by the federal state, but mostly by the zoo and it is run and maintained by Stadtwerke Heidelberg. Zoo visitors can view the system through a window and the system is explained in a video display.

Biogas power plant PHOTO HEIDELBERG ZOO



“TELL ME  
AND I’LL FORGET.  
SHOW ME,  
AND I MAY REMEMBER.  
INVOLVE ME  
AND I’LL UNDERSTAND.”

Furthermore, a water recycling project in the zoo saves nearly 50,000 m<sup>3</sup> water and some €10,000 waste water costs each year. Most of the water in our ponds and pools is now used several times and runs through several exhibits and is finally flowing into the river Neckar. The waste water is of higher quality than the river itself. The environment department of Heidelberg Zoo provided the expertise and efforts for testing and planning, and the zoo financed the project.

## Energy playgrounds

Heidelberg Zoo furthermore cooperates with the Reimann Dubbers Foundation to educate children about renewable energy via energy playgrounds. Schoolchildren were invited to design these playgrounds. A few responded and ideas were used to construct the prototype of a water energy playground and later a solar energy playground. The water energy playground mirrors the principle of using water for generating energy. The children are taking the role of the sun (e.g. evaporation is illustrated by a gearing and spoons that bring the water to higher altitudes) and a small turn mill driven by water resembles the turbines of a power plant. The zoo acquired two highly attractive playgrounds through investing a lot of time and effort, which has also resulted in a strong relationship with the Reimann Dubbers Foundation.

## Biogas power plant

Stadtwerke Heidelberg built a biogas power plant in Heidelberg Zoo. This demonstration plant forms part of our energy nature trail and a didactic framework scheme. The visitors (approximately 400,000 annually) learn about the biogas plant as a source of renewable energy. Biogas is produced under hermetic seal from decomposing organic substances, in this case the faeces of the zoo animals, fruit pulp and other co-substrates. The micro-organisms transform this organic material into biogas and fertiliser. The extracted biogas is converted into electricity and heat in a co-generation plant with an electrical output of 7 kW.

## Education

Stadtwerke Heidelberg furthermore installed a photovoltaic system at the main zoo playground, which follows the movements of the sun. Stadtwerke Heidelberg also sells a special green power, the FOX Ökostrom, and is bound to use the income for projects to produce and advertise more green energy. Heidelberg Zoo incorporates all these items in their education programmes and KliBA – a regional consultancy agency on energy savings and climate protection issues – has carried out a training course for volunteers and staff of the education department of the zoo. During three evenings volunteers and staff were informed on the basics of renewable energies (e.g. photovoltaic, solar thermal systems, wind energy, biomass) and can now include these topics in their guided tours and education programmes.

## PARTNERSHIPS

Water-energy playground PHOTO HEIDELBERG ZOO



More work still needs to be done to make programmes dealing with energy as popular as the animal exhibits and programmes at the zoo. However, our efforts enhance our credibility, strengthen our message and help us to place our zoo as the leading conservation centre of our region. During this process the partners involved have learned much from, and about, each other and have experienced each other as a friendly first point to discuss ideas, to cooperate and to put forward new thoughts. ●

# Marketing partnerships in nature conservation

Francesca Colautti, Parco Natura Viva, Bussolengo, Italy

**Parco Natura Viva's marketing department has developed a strong marketing partnership with 'Natura Viva Italia' and 'Cartiere Favini' during the last three years. These companies work in different sectors but, like Parco Natura Viva, are deeply involved with nature conservation.**

### Home composting

Natura Viva Italia produces 'Compost Vivo', a recycling kit which can be used by private persons and institutions for composting of organic waste. All school classes that have visited Parco Natura Viva received a 'Compost Vivo' kit, describing the partnership and the zoo's commitment to recycling. Furthermore, Natura Viva Italia produced 10,000 recycling kits for its own clients describing the partnership and providing a discount on the zoo admission price. Thanks to this unusual marketing activity (and the discount label on the kit) the zoo generated much attention and more visitors.

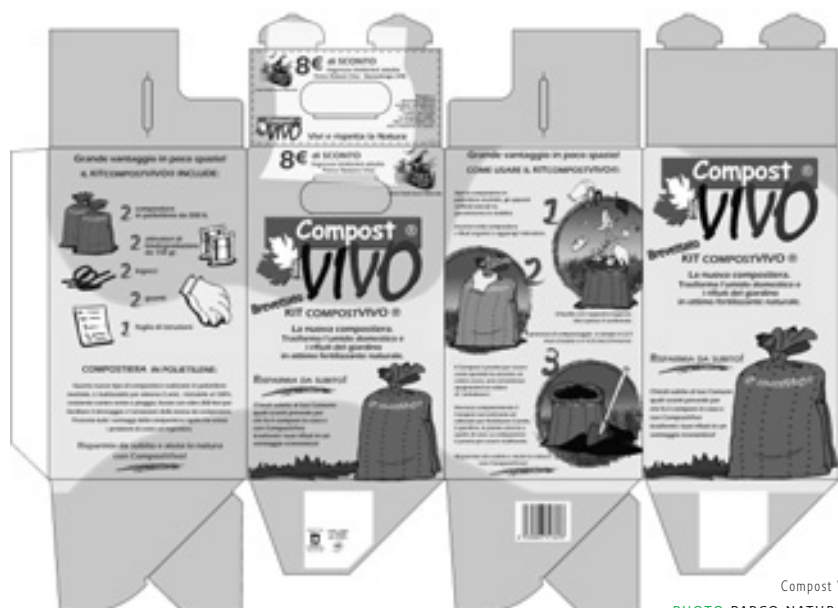
### Recycling paper

Our new partner for 2006 and 2007 is Cartiere Favini, a large Italian paper mill industry specialised in producing paper from seaweed (thereby contributing to save Venice from a seaweed surplus), fruits and cotton (the so-called 'tree free' paper). Additionally, they recycle the polluting by-products of their production system and use these as fertilisers.

Cartiere Favini and Parco Natura Viva will produce millions of 'tree-free' exercise books for pupils all over Italy. A series of animals and the relevant conservation projects that the zoo supports will be featured on the cover. For example, the EAZA Rhino Campaign will be mentioned together with a photo of a

rhinoceros on some covers. The exercise books constitute a promotional instrument which will inform many people about the role of modern zoos.

The name of this project is 'Favini and Parco Natura Viva: together for a sustainable future!' ●



Compost Vivo Kit

PHOTO PARCO NATURA VIVA

These examples prove that it is possible to cooperate with companies that combine progress and respect for nature... it is only a matter of convincing them!

# The World-Garden in Münster Zoo,

## an unusual journey around the globe

Martina Raffel, Allwetterzoo Münster, Germany

PHOTOS MÜNSTER ZOO

**A temporary exhibition was inaugurated in Münster Zoo on 1 May 2006. The 'Weltgarten (World-Garden)' is an interactive, unusual journey around the globe. This exhibition aims to depict the broad scope of globalisation, and offers surprising perspectives and information about this subject. What is globalisation? Scare monger or ray of hope? Opportunity or risk for global fairness and sustainable development? What is the reality of globalisation?**

This interesting travelling exhibition was developed by 'Eine Welt Netz NRW e.V. (One World Television Network)'. This NGO is the umbrella organisation of associations, groups and individuals engaged in sustainable development in global responsibility in the federal state of Northrhine-Westfalia in Germany.

### Go where many people are

The World-Garden at Münster Zoo is one of a number of projects presented at the State Garden Exhibitions of Northrhine-Westfalia. Past projects include the Coffee-Garden at Castel Dyck (Jüchen) in 2002, the Pleasure-Garden at Gronau in 2003 and the World-Garden at Leverkusen in 2005. The projects are funded by the Northrhine-Westfalian Foundation for Environment and Development and the Federal Ministry for Economic Cooperation and Development. The strategy of these 'One World Gardens' is to go where many people are. Therefore, it only made sense to move the latest travelling exhibition to Münster Zoo, as the zoo attracts more than 900.000 visitors a year and is well-known for its commitment to nature conservation and

sustainability, as well as for being an active learning place for pupils in a 'green class room'.

### Exceptional exhibition

Exceptional objects can be found in the World-Garden, e. g. world mills, Hippo Water Rollers, a globarium, a cow with many questions, a mobile phone monument, a solar cooker, the box of a shoeshine boy from Nicaragua, energy cubes and a money shower.

A large satellite picture of the world at night is presented at the main entrance into the World-Garden for the zoo visitors. Human-made lights highlight particularly developed or populated areas of the Earth's surface in Europe, the United States of America and Japan, whereas particularly dark areas include the central parts of South America, Africa, Asia and Australia. This is an impressive way to illustrate man-made light pollution. 'World mills' at the rear side show some examples of people living around the world who describe their wishes and hopes.



### Hippo Water Rollers

'Hippo Water Rollers' make the subject of water, as one of the most important resources, accessible to the visitors. The Hippo Water Roller is a barrel-shaped container designed to transport ninety litres of water. It comprises a drum with a large screw-on cap and a clip-on steel handle. The innovative design allows water to be placed inside the 'wheel' so that even children can easily manoeuvre a full roller over most types of terrain. Children participating in the Hippo Water Roller Race can playfully test these fascinating objects, which help to solve water transport problems in Southern Africa, and compare the water consumption of average citizens of different regions of the world.

Hippo Water Rollers



### Mobile phone monument

Mobile phones are already an indispensable element of daily life – even for students they are a means of communication as well as for impressing classmates. But how many students are aware of the connection to the war in the Democratic Republic of Congo? Eighty percent of the world's coltan reserves, a heat-resistant mineral ore widely used in cell phones, laptops and PlayStations, are in the Democratic Republic of Congo. Nearly three million people have died in Congo in a four-year war over coltan. Often dismissed as an ethnic war, the conflict is really over natural resources sought by foreign corporations – diamonds, tin, copper, gold, but mostly coltan. The mobile phone monument explains this serious subject.

### Towers of knowledge

With its move to Münster Zoo, the World-Garden, which had been shown at the State Garden Exhibition 2005, was enriched with some additional objects. Two new 'Towers of knowledge' created by Münster Zoo explain subjects like desertification in Europe, increase of severe hurricanes and tornados, the relationship between climate changes and loss of species, problems in banana and cut flower productions, as well as the (potential) damages caused by introduced (alien) species. One of the most weighty exhibition parts is now a big, life-size rhino. Having been constructed within the scope of the EAZA Rhino Campaign 2005/2006, five turning panels provide information about the threats to the existing five rhino species, while a sixth panel presents general information about rhinos,

the EAZA Rhino Campaign and its objectives to the zoo visitors. The towers help establish the connection between globalisation and nature conservation.

### Global learning

People are intended to be able to engage in global learning by participating in sustainable and humane global development in the World-Garden. The World-Garden offers possibilities for children and school classes to make a journey around the globe in a ninety-minute-workshop. Some full-time employees of the 'One World Television Network' supervise these workshops or make special tours during the school holidays or at pre-arranged times. The World-Garden is supervised daily by volunteers: numerous One-World or environmental groups in Münster and surroundings have been offered the possibility to display their projects and explain their work for one week each. These groups also take care of the coffee bar in the big white spherical tent where coffee, tea, biscuits and other fair trade products as well as much more information in a media centre are offered to the visitors.

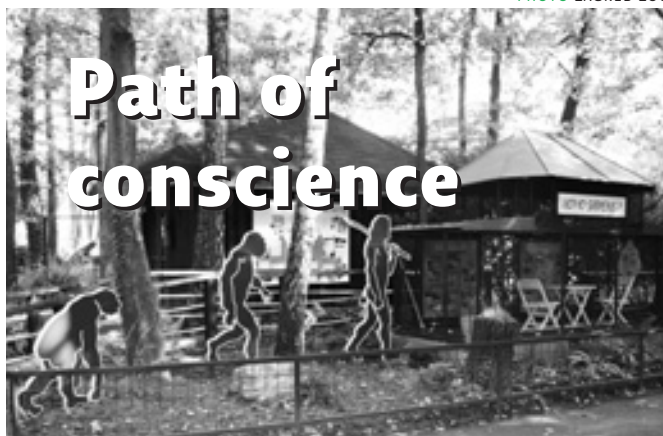
Mobile phone monument



**Due to the great success** and the prosperous presentation of the World-Garden in Münster Zoo, plans are being developed to prolong the World-Garden beyond its original duration (1 May to 15 October 2006) for at least another year. Some objects that are not weather-resistant will not be presented during autumn and winter, but hopefully the whole exhibition will be inaugurated once more in Münster Zoo in spring 2007. ●

## EXHIBITIONS

PHOTO ZAGREB ZOO



## Path of conscience

Tomislav Krizmanic, Zagreb Zoo, Croatia

**Two iron animal cages previously housing owls, coatis and martens that have not been used for the last 15 years are now being used to raise public awareness on the rising ecological and sustainability issues. Zagreb Zoo decided to preserve these historically valuable cages as a reminder of times when animal care was less sufficient and proper. The permanent interactive educational exhibition 'Path of conscience', focusing on the human impact on the environment and the whole planet, opened in the autumn of 2005. The exhibition includes the two old animal cages, a garbage disposal area, presentations on human evolution, and numerous educational panels.**

Our goal was to emphasise the importance of basic co-existence of human beings and other living creatures. The exhibition cages were reconstructed and accompanied by the standard species labels. However, this time they were used to present *Homo sapiens*.

### Good and evil man

One of these cages presents the 'evil man'. It is furnished with plastic furniture and various utensils made of artificial materials. A mirror labeled with the text 'The most dangerous animal on the planet' is also found in the cage, so the visitors get a clear message when they look at their own reflection. Educational panels informally explain the ways in which people destroy planet Earth and show species that have gone extinct as a result of human actions. The second cage shows the 'good man'. It has been redesigned with furniture and objects made of materials that have less negative impact on the environment. The educational panels provide

instructions to visitors about the ways in which people should treat animals and the environment as a whole, as well as the ways in which we can think globally and act locally. A large educational panel placed along a short path points out the consequences of the damaging influence people have on our planet, such as floods, droughts, desertification, avalanches and storms. A small garbage disposal placed next to the educational board emphasizes the overall message.

### Awareness through entertainment

The 'Path of conscience' has been well accepted by the visitors since its beginning. Many people enjoy the cages. They act funny, take pictures and some of them have even been spotted trying to feed each other. While entertaining themselves, the visitors seem to become more aware of the growing ecological issues. Through this interactive educational exhibition, the visitors themselves also become main exponents to the other spectators. ●

PHOTO MÜNSTER ZOO



## CO<sub>2</sub> travel compensation

Martina Raffel, Allwetterzoo Münster, Germany

**Air traffic causes much pollution and contributes to the greenhouse effect. Air traffic is currently estimated to contribute about 9% of the total man-made greenhouse effect. Although each flight thus adds to global warming via its CO<sub>2</sub>- and other emissions, it is not always possible for the environmentally conscious traveller to take into account the ecological consequences and switch to alternative means of transport.**

Consequently, several organisations have now developed possibilities for individuals to take responsibility for the convenient but environmentally harmful air travel by paying 'CO<sub>2</sub> travel compensations' (see for examples: [www.atmosfair.de](http://www.atmosfair.de), [www.greenseat.nl](http://www.greenseat.nl) or [www.clevel.co.uk](http://www.clevel.co.uk)). Although it is impossible to undo the environmental damage caused by air traffic, supporting projects which relieve CO<sub>2</sub>-emission through

these compensations is much better than just ignoring the problem in the hope that some day it will resolve itself.

### Compensation payment

Important zoo community meetings and conferences take place all over the world, contributing to air traffic and consequent environmental harm. Crowded diaries and lack of accessibility by other means of transportation often make alternatives

almost impossible. Therefore, this topic was also incorporated into the 5th EAZA/WAZA International Zoo and Aquarium Marketing Conference which was hosted by Münster Zoo last year under the theme 'The colour of zoo marketing is green'. Instead of shifting the responsibility for any counter measure to the individual participant, Münster Zoo decided to take over the compensation payment for the whole conference. In consultation with WWF, a

careful calculation for the conference participants was done, and Münster Zoo provided €1,000 for the local Biogas Programme in Vietnam. The money was transferred to the German Development Service to aid in the creation of three pilot biogas production plants in Pu Luong Nature Reserve that will be used to demonstrate biogas technology to the local farmers. All three plants were finished by the end of August 2006. ●

# Implementing environmental management

## How environmental considerations have moved from an appendix to the very centre of the zoo operation

Hans Andersen and Rikke Bydam, Copenhagen Zoo, Denmark

PHOTOS COPENHAGEN ZOO

Back in 1998, a decision was made at Copenhagen Zoo that dramatically changed operations and modernisation of the zoo. It was decided that as a modern zoo focusing on conservation, animal welfare, the environment and the effects (both locally and globally) of the zoo's operation on its surroundings, introduction of environmental management was necessary.

### Goals for a cleaner environment

It was decided to aim for the highest possible environmental standard to create a cleaner environment. Consequently, we decided to focus on:

- creating an environmental organisation involving all zoo staff;
- significantly reducing resource consumption;
- aiming for an ISO 14001 certification and for the stricter European EMAS II verification;
- creating and implementing environmental policies covering all aspects;
- using Copenhagen Zoo as an example for cleaner technology and inspiring its 1.2 million annual visitors.

### The key to success is commitment

Environmental management must cover all aspects of the operation; from purchase to construction projects, and from managing director to unskilled staff. We realised from the very start that the key to success would be the commitment of the employees and their mutual responsibility for the environment. It was important to introduce a new body that respected the existing competence levels, but also created new ways of exchanging information and ideas between employees, departments etc. Working groups were formed, and in every working group an environmental interpreter was chosen by the colleagues within the group. This ensured that the interpreter would be motivated and have a personal working relation with the group he or she represented.

The environmental interpreters have to be educated and enlightened to keep them motivated. They meet once a month with an environmental coordinator to evaluate the water and energy consumption results. Field trips are extremely efficient in interpreter education, e.g in understanding what happens to garbage and wastewater. New inspiration can



be found during visits to other sites working with environmental management, such as biodynamic farmers and sustainable housing projects. To further motivate our employees, 10% of all monetary savings due to reductions in energy and water consumption are distributed to employees as a bonus. In return, Copenhagen Zoo expects commitment, responsibility and participation.

### Simple is beautiful

One of our goals was to aim for ISO 14001 and EMAS II certification. The ISO 14001 specifies a framework of control for an environmental management system. Under this system, an institution is certified every three years and inspected by both internal and external auditors twice a year. When following the ISO 14001 requirements it is crucial that the system is as simple as possible, so everyone can use it, and that policies and procedures can be implemented easily. 'Simple is beautiful' also goes for environmental management systems!

# MANAGEMENT

Today, we can conclude that Copenhagen Zoo's environmental management system works very well. Staff from the Bureau Veritas Quality International (BVQI) evaluate our environmental management system twice a year, and report that it is one of the best working systems.



## Creating fast results

The EMAS II (Eco-Management and Audit Scheme) is the EU voluntary instrument which acknowledges organisations that improve their environmental performance on a continuous basis. We started focusing on a single area: water consumption at Copenhagen Zoo. Water was the biggest single resource purchase in the zoo in 1998, even exceeding animal food costs. The first step towards change was to install meters on all water faucets, making it possible to measure and locate consumption. Our first target was to reduce the water consumption with 15% within five years. However, after only six months the water consumption had already been reduced by 17%! This result convinced both the board of trustees and the employees that environmental management made common sense. Consequently, the project was continued and targets for all significant environmental issues (e.g. heat, electricity, garbage, ecological feeds) were implemented.



## Adjusting targets

Our first target for reduction of water consumption was adjusted to a further 30%, followed later by 50%. Although the rate of reduction in water consumption decreased over time, it did not stop, and we achieved the reduction target of 50% in late 2005. A mix of expensive technological solutions and simple changes in daily routines achieved this reduction. Placing water-cleaning plants in the sealion and seal enclosures represent a substantial part of the savings. Water consumption in the chimpanzee facilities was reduced by 75% through the introduction of water dispensers. Shutting the water supply off during the night, setting up water-free urinals and re-using waste- and rainwater for irrigation also reduced water consumption.

## Living like our ancestors?

Some say environmental sustainability means going back to living like our ancestors. In Copenhagen Zoo we believe that sustainability can be combined with modern living. It is necessary to evolve and develop technologies that secure a balance between our use of basic materials and energy sources, and the production of these. To live up to this philosophy, we protect what is endangered but we use what is replaceable. The possibility of combining sustainability and a modern operation depends on the environmental policies that are needed to cover all areas in the operation. Today we have environmental policies covering all activities in Copenhagen Zoo, and these have a big influence on daily routines, long-term planning and construction works. The process for implementing environmental policies in the organisation today is based on our own experiences and the development of cleaner technologies.

Being a modern zoo trying to adhere to the latest standards of animal welfare requires many adjustments and rebuilding of animal enclosures. After building a sustainable giraffe enclosure, new goals have been set for the construction of new enclosures:

- a facility should be as sustainable as possible in both the construction and operational phase;
- construction materials and transport methods should not be harmful to the environment or should be the least harmful option;
- construction should take place in a safe and good working environment, minimising the consumption of energy and raw materials, and avoiding contamination of the environment.

**Other improvements**

Copenhagen Zoo decided to buy all electricity from replaceable energy sources, which resulted in a 33% reduction of CO<sub>2</sub>-emission. Furthermore, the zoo has a policy that prohibits the use of environmentally unfriendly materials (e.g. PVC, wood that is not FSC-certified, chemicals without the eco-label Nordic Swan or EU-Flower and pesticides). As a result of a policy on the use of organically produced fruits and vegetables, 35% of all our fruits and vegetables are now organically grown. Waste is separated to ensure the greatest amount of recycling possible. Today approximately 80% of the waste is re-used, 15% is incinerated in district heat plants and less than 5% is deposited.



AN OLD INDIAN SAYING TELLS US THAT THE WORLD IS NOT INHERITED FROM OUR ANCESTORS! IT IS BORROWED FROM OUR CHILDREN! REMEMBER THAT THESE CHILDREN ARE OUR FUTURE GUESTS.



**TELL THE STORY!**

In our environmental policy we state: "As a communicator of knowledge on animal wildlife on Earth and threatened nature, Copenhagen Zoo concentrates on nature, animal conditions, and the environmental impact we have on our surroundings". By being certified with both EMAS II and ISO 14001 we have achieved a better coherence between our values as a communication centre for animal wildlife and our threatened nature, and the fact that we try to practice what we preach. It is important to tell our 1.2 million annual visitors our environmental story, so hopefully they will leave our zoo inspired to start acting themselves. See the EAZA website ('Magazine' section) for an extensive article on 'How Copenhagen Zoo tells the story!'.

**DO WE PRACTICE WHAT WE PREACH?**

Is it possible to run a modern zoo without paying attention to the impact we have on our surroundings? All our animals serve as ambassadors for their wild counterparts. By opening up a window to the world's threatened wildlife and the threatened nature they live in, we can enlighten, educate and hopefully also provide our many millions of visitors with a feeling that each one of us can make a difference in order to maintain our rare and unique planet as a place with a fantastic biodiversity. See the EAZA website ('Magazine' section) for the complete article.

**IS ENVIRONMENTAL MANAGEMENT HARD-CORE BUSINESS OR MONEY DOWN THE DRAIN?**

Implementing environmental management automatically results in environmental improvements. Using international standards is the best way to ensure that environmental considerations are implemented in the organisation. The important question is however: is there a positive cost-benefit effect in environmental management or is it just money down the drain? See the EAZA website ('Magazine' section) for the complete article, including a cost-benefit overview. ●

# BOOKS

*In EAZA News announcements are published of books that have relevance to zoo staff and other people with a professional interest in zoos. On the EAZA website more information can be found on these books as well as on the publishers.*



YVONNE RYDIN AND EVA FALLETH (EDS.); 2006

## Networks and institutions in natural resource management

Managing natural resources sustainably is a complex task that demands the involvement of many different stakeholders. Network arrangements are increasingly used to try and achieve such sustainable management. This book assesses the practice of such networks using original research into case studies of landscape, habitat and water management from England, Norway, Sweden, Spain and Zimbabwe.

Pages: 264. ISBN: 1-84542-294-5 (hb). Price: UK£58.50. To be ordered from: Marston Book Services Ltd. ([www.e-elgar.co.uk](http://www.e-elgar.co.uk)).



STEVE OSOFSKY ET AL. (EDS.); 2005

## Conservation and development interventions at the wildlife/livestock; implications for wildlife, livestock and human health

This book from WCS and IUCN looks at today's Africa, and how and where wildlife conservation can be a 'win win' land use of choice. The book features some of the most innovative conservation thinking in Africa today and provides real-world examples of the critical role animal health plays in both environmental conservation and economic development. The book focuses on several themes of critical importance to the future of wildlife, animal agriculture and, of course, people: competition, overgrazing and water resources, disease transmission, local and global food security, zoonoses, and other potential sources of conflict related to land-use decision-making and the reality of resource constraints.

Pages: 220. ISBN: 2-8317-0864-8 (pb). Price: UK£20.00. To be ordered from: IUCN Publications Services Unit ([www.iucn.org/publications](http://www.iucn.org/publications)).

A free downloadable pdf is also available at [www.iucn.org](http://www.iucn.org)



CLARE PALMER (EDS.); 2006

## Teaching environmental ethics

This collection explores a wide variety of questions, both of a theoretical and a practical nature, raised by teaching environmental ethics. The essays consider general issues such as the place of environmental advocacy in the environmental ethics classroom; using outdoor environments to prompt reflection on environmental ethics; and handling student responses – such as pessimism – that may emerge from teaching environmental ethics. The essays also consider practical issues, including successfully teaching environmental ethics to students without a background in philosophy; promoting the development of interdisciplinarity; useful ways to structure syllabi; and teaching and learning techniques.

Pages: 240. ISBN: 90-04-15005-6 (pb). Price: €89.00. To be ordered from: Brill Academic Publishers ([www.brill.nl](http://www.brill.nl)).



## Environment encyclopedia and directory 2005

Examining environmental issues throughout the world, this reference title contains thorough definitions and explanations of terms relating to the environment. The volume includes detailed maps, an extensive bibliography and a 'who is who' section, making this an essential one-stop reference work for anyone interested in environmental issues.

Pages: 650. ISBN: 1-85743-224-X (hb). Price: €486.80. To be ordered from: Europa Publications Ltd. ([www.routledge.com](http://www.routledge.com))



CHILLA BULBECK (2005)

## Facing the wild; ecotourism, conservation and animal encounters

'Facing the wild' is a first serious empirical examination of why people seek out animals in their natural environment. The book describes what the desire for this experience tells us about the meanings of animals, nature, authenticity and wilderness in contemporary industrialised societies. Furthermore, it investigates whether visitors change their environmental perspectives and behaviour, as the custodians of wildlife parks would like them to.

Pages: 312. ISBN: 1-84407-138-3 (pb). Price: UK£18.99. To be ordered from: Earthscan ([www.earthscan.co.uk](http://www.earthscan.co.uk)).



LARRY BECK AND TED CABLE (2002)

## Interpretation for the 21st century; fifteen guiding principles for interpreting nature and culture

This uplifting and inspiring book enhances the understanding of how to compellingly interpret our cultural and natural legacy. The 15 guiding principles set forth in this book will assist people working in e.g. wildlife refuges, zoos, nature centres and tourist sites to work more effectively.

Pages: 204. ISBN: 1-57167-522-1 (pb). Price: UK£14.99. To be ordered from: Sagamore Publishing inc. ([www.sagamorepub.com](http://www.sagamorepub.com)).

**As many as 10 Studbooks and 1 Husbandry Guidelines have been received by the EAZA Executive Office in the period July-September 2006. We are very grateful to all who have contributed to these valuable publications and are happy to have received these in printed format. For a full list of received publications of interest, please refer to the EAZA website ('Magazine' section).**

Please continue to send us your printed publications, so we can incorporate these in the online publications list.

**CHANGES TO EXISTING TAGs****Gruiformes** TAG

Rob Belterman (vice-chair), Rotterdam Zoo

**Ciconiiformes and  
Phoenicopteriformes** TAG

Cathy King (chair), Fuengirola Zoo

**Deer** TAG

Noam Werner (vice-chair), Jerusalem Zoo

**NEW EEPs****Polar bear** EEP*(Ursus maritimus)*

Hans van Weerd, Artis Zoo (Amsterdam)

**Dhole** EEP*(Cuon alpinus)*

Heike Maisch, Erfurt Zoo

**Giraffe** EEP

(previously Baringo giraffe and Reticulated giraffe EEPs)

*(Giraffa camelopardalis)*

Marc Damen, Zoo Parc Overloon

**CHANGES TO EXISTING EEPs****Black-footed penguin** EEP*(Spheniscus demersus)*

Janos Szanthy, Artis Zoo (Amsterdam)

**Oriental white stork** EEP*(Ciconia boyciana)*

Cathy King, Fuengirola Zoo

**Geoffroy's cat** EEP*(Oncifelis geoffroyi)*

Raymond van der Meer, Amersfoort Zoo

**Asian lion** EEP*(Panthera leo persicus)*

Neil Dorman, Twycross Zoo

**Tiger** EEP*(Panthera tigris)*

Malcolm Fitzpatrick, London Zoo (ZSL)

**Hartmann's mountain zebra** EEP*(Equus zebra hartmannae)*

Tanya Langenhorst, Marwell Zoo

**Lowland tapir** EEP*(Tapirus terrestris)*

Aude Demoulin, Zooparc de Beauval (St-Aignan)

**Lesser Malayan mouse deer** EEP*(Tragulus javanicus)*

Martin van Hees, Artis Zoo (Amsterdam)

**Blue duiker** EEP*(Cephalophus monticola)*

Wineke Schoo, Burgers' Zoo (Arnhem)

**NEW ESBs****False gavia** ESB*(Tomistoma schlegelii)*

Gonzalo Fernandez-Hoyo, Fuengirola Zoo

**Little pied cormorant** ESB*(Phalacrocorax melanoleucos)*

Martin Kaiser, Tierpark Berlin

**Guereza colobus monkey** ESB*(Colobus guereza)*

Vicky Melfi, Paignton Zoo

**Common hippo** ESB*(Hippopotamus amphibius)*

Jan Pluhacek, Ostrava Zoo

**CHANGES TO EXISTING ESBs****King penguin** ESB*(Aptenodytes patagonica)*

Roslin Talbot, Edinburgh Zoo

**Gentoo penguin** ESB*(Pygoscelis papua)*

Lesley Garland, Edinburgh Zoo

**Marabou stork** ESB*(Leptoptilos crumeniferus)*

Cathy King, Fuengirola Zoo

**West African crowned crane** ESB*(Balearica pavonina)*

Koen Peters, Aqua Zoo Friesland (Leeuwarden)

**Von der Decken's hornbill** ESB*(Tockus deckeni)*

Cathy King, Fuengirola Zoo

**Northern ground hornbill** ESB*(Bucorvus abyssinicus)*

Aude Desmoulin, Zooparc de Beauval (St-Aignan)

**Southern ground hornbill** ESB*(Bucorvus leadbeateri)*

Aude Desmoulin, Zooparc de Beauval (St-Aignan)

**Red-handed tamarin** ESB*(Saguinus midas)*

Aude Desmoulin, Zooparc de Beauval (St-Aignan)

**Aardvark** ESB*(Orycteropus afer)*

Wineke Schoo, Burgers' Zoo (Arnhem)

**Binturong** ESB*(Arctictis binturong)*

John Meek, Newquay Zoo

**Kinkajou** ESB*(Potus flavus)*

Aude Desmoulin, Zooparc de Beauval (St-Aignan)

**Greater kudu** ESB*(Tragelaphus strepsiceros)*

Wineke Schoo, Burgers' Zoo (Arnhem)

**PERSONALIA**

Dr. Theo Pagel will be the new director of the **Zoologischer Garten Köln**, Germany, as per 1 February 2007. He will replace Prof. Dr. Gunther Nogge.

Dr. Dagmar Schratler will be the new director of **Tiergarten Schönbrunn**, Austria, as per 1 January 2007. She will replace Dr. Helmut Pechlaner.

Drs. Franck Haelewijn is the new director of **Association Nationale des Parcs Zoologiques de France** (ANPZ), as per 1 November 2006.

Drs. Koen Brouwer is the new director of **Bioparc Valencia**, Spain, as per 1 October 2006.

Mr. Marc Boardman is the new manager of **Chessington World of Adventures**, United Kingdom, as per 26 September 2006. He replaces Mrs. Nicola Ratcliffe.

Mgr. Inz. Andrzej Malec is the new director of **Slaski Ogród Zoologiczny** (Katowice), Poland, as per 1 September 2006. He replaces Mr. Jan Piotr Liszka.

Dr. Mats Höggren, director of Kolmarden Zoo, is the new chair of the **Swedish Association of Zoos and Aquaria (SAZA)**, Sweden, as per 12 September 2006. He replaces Mr. Hans-Ove Larsson.

**DIRECTORY UPDATES**

Mr. Bruno Lassalle is the new director of **Parc Zoologique de Paris**, France, as per 1 April 2006. He replaces Dr. Claude-Anne Gauthier.

Ir. Marc Damen is the new zoological vice-director of **Zodiac Zoos** (owner of **Dierenpark Wissel**, **Zoo Parc Overloon** and **Aqua Zoo Friesland**), the Netherlands, as per 1 September 2006.

**ADDRESSES AND TELEPHONE/FAX NUMBERS**

The new institutional name of **Zoo Santillana**, Spain, is: **Zoo de Santillana y Parque Cuaternario**. The correct address for the institution is: Avenida Antonio Sandi 12, 39330 Santillana del Mar, Cantabria.

The (temporary) contact details of **Bioparc Valencia**, Spain, are: C/Marie Curie, 4 Bajo, 46920 Mislata, Valencia, Phone: +34 963593082, Fax: +34 963502368.

**TERMINATED MEMBERSHIP**

**Romanian Federation of Zoos and Aquaria**, Romania (former temporary associate member).

# WELCOME TO EAZA

We welcome new members and look forward to a fruitful cooperation. We are convinced that our new members will benefit from the membership services which EAZA offers as a strong pan-European zoo and aquarium organisation. At the same time, we would like to introduce the new members to the readers of EAZA News by providing some general information.

## Associação Portuguesa de Zoológicos e Aquários (APZA)

C/o Jardim Zoológico  
Mr. Fernando Salema Garção  
Estrada de Benfica 158  
1549-004 Lisboa, Portugal  
**ASSOCIATE MEMBER**

Tel: +351 217232949  
Fax: +351 217232956  
E-mail: eric@zoolisboa.pt  
Website: -  
EAZA shortname: FED-APZA



Founded: 2006  
Committees: Executive Committee, Aquarium Committee, Zoo Committee, Marketing, Communication and Associates Committee  
Organisational type: non-profit foundation

The recent, rapid growth in the number of existing zoos and aquaria in Portugal now justifies the existence of a Portuguese zoos and aquaria federation. Although Portuguese zoos could already join the Iberian Association of Zoos and Aquaria (AIZA), the national authorities encouraged Portuguese zoos and aquaria to organise a national association. This was due to the establishment of EU legislation regarding institutions and its transposition to the Portuguese law, more complex licensing processes and the reaction to epidemic diseases.

## AAP, Sanctuary for Exotic Animals

Mrs. Ania Sharwood Smith  
Kempnaanpad 1, PO Box 50313  
1305 AH Almere  
The Netherlands  
**ASSOCIATE MEMBER**

Tel: +31 365238700  
Fax: +31 365384240  
E-mail: info@aap.nl  
Website: www.aap.nl  
EAZA shortname: ORG-AAP



Founded: 1972  
Size: 2.7 ha  
Staff: 45 full-time positions; 7 managers, 1 curator, 0.5 veterinarian, 23.5 animal keepers, 6 educators and pr and marketing employees, 4.2 technicians, 1.6 behavioural specialist and 1 nutritionist.  
Paid attendance: not open to public  
Organisational type: non-profit organisation

Since 1972 AAP, Sanctuary for exotic animals, has been a non-profit organisation. The animals housed at the sanctuary have either been confiscated by European governmental authorities or brought to the sanctuary by various institutions or individuals. In general, AAP operates as a half-way-house, sheltering animals while searching for more permanent housing elsewhere. The sanctuary arranges the intake, rehabilitation and outplacement or permanent housing of individual animals. AAP has worked with zoos in Europe (many of them EAZA members) and worldwide. Becoming an EAZA member simplifies the placement of rehabilitated animals in EAZA member institutions.

## Stiftung Artenschutz

Mrs. Birgit Benzing  
Sentrufer Straße 315  
48161 Münster  
Germany  
**ASSOCIATE MEMBER**

Tel: +49 2518570057  
Fax: +49 2518570053  
E-mail: office@stiftung-artenschutz.de  
Website: www.stiftung-artenschutz.de  
EAZA shortname: ORG-ARTENSCHUTZ



Founded: 2001  
Board: Executive Board, Executive Secretary, Advisory Board, Honorary Board of Trustees  
Organisational type: non-governmental conservation organisation

Stiftung Artenschutz aims to combine the qualifications of zoos, wildlife parks and conservation organisations with those of the corporate sector and private sponsors, in order to maximise efforts for long-term conservation of wildlife and habitats. The main focus of Stiftung Artenschutz is on critically endangered species that do not yet receive sufficient attention from the non-governmental and governmental conservation sector. Over 43 zoos and wildlife parks which partner with Stiftung Artenschutz provide a public forum, reaching out to the millions of visitors to these institutions, spreading the message about the work of Stiftung Artenschutz and its donors.

## West Midland Safari Park

Mr. Robert Lawrence  
Spring Grove Bewdley  
Worcestershire DY12 1LF  
United Kingdom  
**TEMPORARY MEMBER**

Tel: +44 1299402114  
Fax: +44 1299404519  
E-mail: info@wmssp.co.uk  
Website: www.wmssp.co.uk  
EAZA shortname: BEWDLEY



Founded: 1973  
Size: 90 ha  
Staff: 90 full-time positions (60 in animal department); 3 managers, 4 curators, 1 veterinary nurse, 50 animal keepers, 2 educators, 4 pr and marketing employees, 6 technicians, 12 administrators and 268 miscellaneous.  
Number of species: 130  
Paid attendance: 545,000 (2005)  
Organisational type: company organised for profit

West Midland Safari Park started as a commercial safari park and is still operated as a commercial company. The institution covers about 90 ha and incorporates a drive-through safari and extensive walk-through leisure areas. Rather new attractions in the institution include a sealion theatre, a 'creepy crawl' exhibit and a SeaQuarium feature.

## Jardin Zoologique de la Ville de Lyon

Parc de la Tête d'Or  
Mr. Eric Plouzeau  
69549 Lyon Cedex 06  
France  
**TEMPORARY MEMBER**

Tel: +33 328272624  
Fax: +33 328272201  
E-mail: jardin.zoologique@mairie-lyon.fr  
Website: www.zoo.lyon.fr  
EAZA shortname: LYON



Founded: 1858  
Size: 8 ha  
Staff: 130 full-time positions (21 in animal department); 1 manager, 1 curator, 1 veterinarian, 14.5 animal keepers, 2.5 educators, 1 administrator  
Number of species: 55  
Attendance: approximately 1.5 million annual visitors (entrance is free of charge)  
Organisational type: municipal zoo

Jardin Zoologique de la Ville de Lyon was opened by the Municipality of Lyon in 1858. A new management team started to run the zoo in February 2001, and the zoological garden is currently being reconstructed. A 5.6 million dollar project 'the African Savannah' was opened in October 2006. The staff at the zoo strongly believe that EAZA membership will be their catalyst to succeed in the park's evolution. It is felt that cooperative population management is necessary for conservation purposes and that husbandry and visitor education will improve faster when knowledge can be shared within the EAZA network.



## Bellewaerde Park

Mr. Filip de Witte  
Meenseweg 497  
8902 Ieper  
Belgium  
**TEMPORARY MEMBER**

Tel: +32 57468686  
Fax: +32 57467595  
E-mail: fdewitte@europe.sftp.com  
Website: www.bellewaerdepark.be  
EAZA shortname: IEPER



Bellewaerde Park joined EAZA as a temporary member in March 1998. This temporary membership was terminated in September 2002. Bellewaerde Park re-applied for EAZA membership in April 2004, and has now become a temporary member again. Bellewaerde Park is a combined animal and theme park. New enclosures for wallabies and meerkats opened in 2003 and 2004 and enclosures for birds and giraffes were renovated. The most remarkable addition in this period was the expansion of the enclosure for Asian elephants.

Founded: 1954  
Size: 54 ha  
Staff: 67 full-time positions (more than 150 seasonal staff); 1 manager, 1 curator, 0.5 veterinarian, 5 animal keepers, education department, pr and marketing department, administration department  
Number of species: 136 (60 mammal, 76 bird)  
Paid attendance: 654,000 (2005)  
Organisational type: company organised for profit

## Parc Merveilleux

Mr. Guy Willems  
Route de Mondorf  
3260 Bettembourg  
Luxembourg  
**TEMPORARY MEMBER**

Tel: +352 51104852  
Fax: +352 524511  
E-mail: zoo@parc-merveilleux.lu  
Website: www.parc-merveilleux.lu  
EAZA shortname: BETTEMBOURG



Parc Merveilleux is a leisure, recreation and animal park, with sheltered workshops for people with special needs. APEMH (Association des Parents d' Enfants Mentalement), an organisation for parents of children with special needs, now operates Parc Merveilleux. Part of the park staff consists of mentally disabled people, but there are a number of professionally trained animal keepers supervising their work. The institution plans to have more interactive educational programmes to raise public awareness on the importance of nature conservation.

Founded: 1960  
Size: 25 ha  
Staff: 75 full-time positions (of which 45 employees are disabled); 3 managers, 1 curator/veterinarian, 6 animal keepers, 4 educators, 1 pr and marketing employee, 2 administrators, 9 technicians, 2 horticulturists, 45 mentally disabled co-workers and 10 miscellaneous.  
Number of species: 183  
Paid attendance: 150,630 (2005)  
Organisational type: non-profit organisation

## Corporate members

Corporate membership of EAZA can be awarded to commercial entities that supply or service zoos and aquaria.

### Instituto Bioclon

[www.bioclon.com.mx](http://www.bioclon.com.mx)

**CORPORATE MEMBER**  
(as of August 2006)

Instituto Bioclon is leader in the production of antivenoms for poisonous animals like spiders, snakes and scorpions. Furthermore, Bioclon is leader in the production and development of new antivenoms for specific zoogeographic regions.

### HMJ Design

[www.hmjdesign.dk](http://www.hmjdesign.dk)

**CORPORATE MEMBER**  
(as of July 2006)

HMJ have supplied the European Zoo community for the past 15 years with fair trade souvenirs, natural building materials and design/decoration/theming products. In the future we will be putting more focus on natural building materials and design projects, e.g. FSC timber, straw roofing, bamboo, liana, authentic theming projects.

### St. Laurent S.A.

[www.st-laurent.fr](http://www.st-laurent.fr)

**CORPORATE MEMBER**  
(as of August 2006)

For more than twenty years, St. Laurent has been supplying zoos, aquaria and rescue centres with frozen, live and dry food for wild animals. Our European Agreement guarantees you that our products fit sanitary standards used within the European Union. By becoming a partner with a specialist of foodstuffs, you will gain tailor-made services and nutritional quality for your animals.

### Wild Republic Aps

[www.km-europe.dk](http://www.km-europe.dk)

**CORPORATE MEMBER**  
(as of August 2006)

Wild Republic offers a wide range of fun and creative toys, all inspired by the animal kingdom. We constantly strive to develop new and original products and offer all from the cutest to the fiercest in plush animals along with educational and fun puzzles and games. Wild Republic has since its foundation been specialised in providing zoos and aquaria with innovative toys that spark the imagination and make learning fun.

### Harlequin Nature Graphics

[www.harlequin.es](http://www.harlequin.es)

**CORPORATE MEMBER**  
(as of September 2006)

We at Harlequin screen-print our exclusive wildlife designs on high quality garments, using the latest screen-printing equipment. Our prints are famous for their precision and durability. Our wildlife artists are dedicated and enjoy their jobs. We think it shows! All our manufacturing processes are geared to reduce the impact on the environment.

### Brogaarden / Nutrazu

[www.nutrazu.com](http://www.nutrazu.com)

**CORPORATE MEMBER**  
(as of October 2006)

Supplier of specialised feeds for exotic animals under the Nutrazu name. Supplies through distributors in Europe.



# EKIPA

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## HMJ Design

Gl. Skørpingvej 156  
DK 9520 Skørping  
Denmark

Tel: +45 98392799  
Fax: +45 98392899  
[henrik@hmjdesign.dk](mailto:henrik@hmjdesign.dk)



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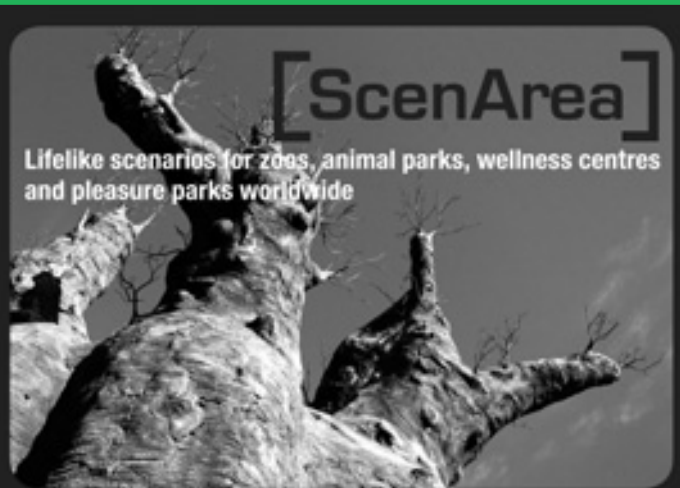
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"Building artificial landscapes is like painting a watercolour painting with a background, foreground and horizon. The basic principles are the same. To make the landscapes look natural, I use basic principles such as the Golden Section, perspective, depth, modelling and colouring. Nature has always fascinated me. It inspires my designs." *(Flemming Rasmussen, graphic designer)*

"I prepare the first sketches to visualise the project and fix the scenography. That's how I can illustrate the customer's thoughts and support their needs and wishes. When the drawings have been approved, I will prepare a miniature 3D model which is used throughout the building process"

*(Helge Bregnhøj-Olsen, graphic designer)*



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## Developmental Puzzles from the Leaders in Nature-Related FUN!

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For information, contact:

**Wild Republic (UK) Ltd.**  
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[info@wild-republic.co.uk](mailto:info@wild-republic.co.uk)

**Wild Republic Europe ApS**  
Fabriksvej 2, 5592 Ejby, Denmark  
+45 6441 1441  
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The supply of high quality food has become a major topic since the recent food crises in Europe. Local and European rules and regulations on zoo foods are currently being reviewed.

The new legislation does not only affect us as suppliers, but are also extremely important to our customers: European Zoos, Bird Parks, Aquariums and Falconers.

For this reason we decided to unite our interests into one organisation, The European Zoo Food Group (EZFG).

Together we aim to set up programmes on the following topics:

- promotion and improvement of R&D on food products,
- quality assurance for the production and supply of zoo food, combination of logistic resources to reduce transportation costs, risk reduction,
- improving our position towards European Commissions,
- how to operate in Europe with open veterinarian borders.

The companies who started the organisation in 2001 are:

HKI bv	- Holland
KIEZEBRINK PUTTEN bv	- Holland
MICHAEL HASSEL GmbH	- Germany
M.H. ANIMAL FOOD	- UK
SAINT LAURENT S.A.	- France

Many practical and inspiring examples for becoming more sustainable and green are presented in this issue of EAZA News. Here we listed a few important general issues to consider before you start.

*Visit the 'Magazine' section on the EAZA website for a more extensive article by Harry Schram on these practical tips for how to start with sustainability in your zoo.*

## 1. SIZE DOES MATTER

We often lack basic figures about our environmental record. If you can't answer at least two out of these three simple questions, then it's time to start measuring, weighing and calculating!:

- How much of your waste production is visitor related?
- What will your institution's energy bill look like five years from now?
- What is your institution's total CO<sub>2</sub> output?

## 2. OUTSIDERS AND INSIDERS

Environmental procedures often require involving outsiders (such as independent consultants). They give you a fresh perspective of things. But never forget to involve all insiders as well: all staff members should be aware of the environmental impact they make – and how to reduce it.

## 3. REMEMBER YOU ARE A ZOO/AQUARIUM!

Zoos and aquaria have live animals – it makes us different from other institutions. Make good use of this – link your sustainability approach to your animal collection. What species are affected by environmental change in their natural habitat – perhaps they can benefit from green ideas put into practice by your visitors?

## 4. PLAN AHEAD FOR A SUSTAINABLE FUTURE

There are many considerations when we plan new exhibits. What species will we keep? How much money can we spend? From a sustainability point of view, the main questions should be: what will be the exhibit's ecological footprint – and have we done everything possible to reduce it?

## 5. SUSTAINABLE DEVELOPMENT IS ABOUT PEOPLE TOO

We tend to focus on the conservation and environmental objectives behind sustainable development. But sustainable development is about people too. It not only addresses the social and economical imbalances that exist both on a global and on a local level, it also attempts to correct these imbalances in such a way that both people and our planet can survive. Promoting fair trade products (construction materials such as FSC-labeled timber, or food products such as tropical fruits, coffee or sugar, or souvenirs for your zoo or aquarium shop) is a powerful means of involving as many people as possible into making a real contribution to change.

## 6. CHOOSE YOUR ALLIES

Zoos and aquaria reach more people than environmental and conservation NGO's. Our audience is very socially and ethnically inclusive. We make ideal allies to help NGO's in their campaigns. Invite them to put up information booths on busy days, involve them in events, perhaps offer some of their merchandising and publications in your shop. Why not feature them in your guidebook, and link up your websites?

## 7. PICK YOUR PARTNERS

Acquiring sponsors or commercial partners is not always easy. So you may wonder: why make it more difficult? Yet integrating sustainability and fair trade criteria in your sponsoring and partnership programmes can benefit both your institution and its sponsors. First of all, it adds to your own credibility. Do you have a good feeling about your commercial partners' policies towards sustainability? You can also adopt a more 'pro-active' policy: are there any companies that you would like to feature because of their sustainability track record?

## 8. EVALUATE YOUR PERFORMANCE

We know how to evaluate breeding programmes and marketing efforts. We must also evaluate our sustainability performance, not just by measuring easily quantifiable targets such as energy consumption or waste production, but also by evaluating our impact on visitors. Are we on the right track? Do visitors understand our message? How do they react to it? Do they change their behaviour?

## 9. PRACTICE WHAT YOU PREACH, AND PREACH WHAT YOU PRACTICE – BUT BY ALL MEANS : STAY HONEST

If we want to inspire our visitors we must be seen to do our very best. Interpreting environmental matters can be just as fascinating as communicating about your animal collection. But do remain honest at all times: if you admit that you are still working on some of the more difficult issues, this will add to your overall credibility.

## 10. NETWORK AND COMMUNICATE

We should really work as a community of zoos and aquaria; this means sharing information and experiences. Where did we find that company that provides sustainable technology or fair trade souvenirs for our shop? Inform your colleagues so we can all benefit – not only from our achievements and successes – we all know we can also learn a lot from each other's mistakes!