

Journal of the International Association of Zoo Educators



Number 38, 2002

Journal of the International Association of Zoo Educators

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ISSN 1040-5208



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From the Editor

Postscript

Recently, while sorting out some old books at home, I came across a yellowed, but intact document dating from 1678 titled, 'Isles and Territories Belonging to His Majesty in America'. In it New York is described as, 'large, containing about 500 well-built houses', whose inhabitants, 'drive a considerable trade with the Indians for skins of Eels, Deers, Bears, also for those of Beaver, Otter and other furs.' It's interesting to think that when these pages were printed there were probably still Dodos on Mauritius and Elephant Birds on Madagascar, the flintlock rifle had only recently been invented and the world's great ecosystems remained intact. I doubt that anyone alive in 1678 could have guessed at what the world would be like in 2003 and we, in turn, find it equally difficult to project our imaginations three and a quarter centuries into the future.

If however, in 2327, someone should find this journal in the 24th century equivalent of a dusty attic, wouldn't it be pleasant to think that the animals mentioned in it, Sumatran Tigers, American Bison, Mexican Wolves, Gorillas and Orang utans might still be around in real life, and not just on paper and celluloid?

We know that, as educators, we have a vital role to play in preserving biodiversity. Sometimes just one good idea can act as a catalyst to achieve real results and that's why the conferences we arrange and the communications around and in between them are so important. A former boss of mine, a past president of IZE, once told me that if he came home from a conference with even just one good idea he could implement back home, then that made it worth attending. As for me, if you find just one good idea among the excellent submissions in this journal that you can apply to your own situation then it will have made all the work involved in putting it together well worthwhile!

I can't finish without thanking our Regional Editors, Louise, Melissa and Martin for their support and, here at Chester, Kate Brankin for all her help without which, as editors are fond of saying, this journal would not have happened.

Just as this journal was going to print we received the sad news of the death of Karl Ruf and two colleagues in Uganda. We therefore begin this journal with a tribute from Gilman International Conservation followed by a reprint of Karl's impromptu but memorable speech from the IZE Conference in Guadalajara, Mexico in 2000. I know that everyone in the international zoo education community will wish to extend their heartfelt sympathies to the families of Karl, Kambale and Jean. We will remember with gratitude the huge contributions these men made in helping to protect the Ituri forest and all its inhabitants.

Stephen McKeown

Karl Ruf

In Memoriam

It is with great sadness and loss, that I must report the tragic death of three of Gilman International Conservation's most dedicated field conservationists who have been with the Okapi Project since 1987.

Karl Ruf, Director: GIC Okapi Project, Kambale Saambili, Director of Research and Logistical Coordinator for the Okapi Project and Jean Nlamba: Okapi Project Co-Director, Coordinator of World Heritage Sites in Eastern Congo for UNESCO; were all killed in an automobile accident in Mburra, Uganda on Sunday afternoon, December 8, 2002. They were returning from a very dangerous mission in the Democratic Republic of Congo where they met with rebel leaders in control of armies fighting in and around the Okapi Wildlife Reserve. They were lobbying for respect of the Okapi Wildlife Reserve boundaries and intervention to control the looting and killing by undisciplined troops. The situation in the Eastern Democratic Republic of Congo is the worst it has been since the war started in 1997. Karl, Jean, and Kambale could not stand by and let the Okapi Wildlife Reserve be overrun by rebel armies. Karl's last words to me were , " I cannot do nothing! I must try and convince the military leaders to help us protect all the wildlife of the Ituri!"

Jean Nlamba leaves behind a wife and six children in Kinshasa. Kambale Saambili leaves behind a wife and three children in Kampala, Uganda, who must now move back to the Democratic Republic of Congo as Kambale was in Uganda on a student visa. Karl Ruf leaves behind his wife and partner, Rosmarie, who worked side by side with him over the last 25 years to conserve wildlife in the Democratic Republic of Congo.

All these families will need additional help and support to get through these already difficult times. We are creating a family support fund at White Oak Conservation Center to help fund basic housing, food, education, and health care for the families of these dedicated conservationists. Your tax-deductible donation can be sent to Gilman International

Conservation in care of White Oak Conservation Center at 3823 Owens Road, Yulee, Florida, 32097.

There will be a service for Karl Ruf in Switzerland as soon as that can be arranged. When Rosmarie returns to the United States, we will have a special memorial service for Karl at White Oak and you will be notified.

On behalf of all the GIC Staff, I thank you for your ongoing support of okapi conservation in the Congo and ask for your continued help to overcome this great loss of our very dear friends. Gilman International Conservation will be rededicating its efforts in memory of Karl, Jean and Kambale to protect and preserve the remarkable Ituri home of the okapi, Mbuti Pygmies, and many more forest species for all the people of the world.

John Lukas, Gilman International Conservation

SPEECH GIVEN BY KARL AT THE IZE CONFERENCE 2000, Guadalajara, Mexico

I must apologize for taking this time from the regular meeting schedule, I know your time is very valuable. I had not planned to give a speech at this conference so I do not have any slides, diagrams or overheads to show you. However, after being with you for several days, I feel the need to speak to you from my heart.

First, I must admit that I am not a Zoo Educator. I do not have a University background. You know what I am? I am a butcher! Yes, I know how to butcher cows and pigs and I know how to make wonderful, tasty sausages.

But then, I worked for 10 years as a zoo keeper, mainly with Elephants and Gorillas and I dreamed of working in a field project to help save the wild habitats for these animals. Today, I am Project Director of Gilman International Conservation. My dream became true.

But, I have another dream!

On Wednesday, I participated in a workshop, lead by Angela Hernandez, where she demonstrated the interdependence of eco-systems in the oceans. She used a thin rope, held by 12 people and as soon as one single person let go of the rope, the whole system collapsed.

South America, Central America, North America, Europe, Asia and Australia, all these Continents are represented in this room. If we would demonstrate this same interdependence between the Continents, we would soon find out that the largest and one of the most important pieces is missing: AFRICA!

Jambo Rafiki! Mbote Nabiso! Bonjour mon ami! I miss these greetings and I miss sharing this wonderful experience with our friends from Africa who were not able to be here in Mexico.

Yes, we had sponsors from two institutions for Marcel Enckoto and Peter, two guys many of you know very well. Unfortunately, they could not get a visa to enter the country. Mexico is not the only country that makes it difficult for Africans to enter their country, so does the United States and many countries in Europe. However, if we would have sponsorship for people of other nationalities working in Africa, I am convinced that someone in this room would be from that Continent.

And let me tell you, it makes a big difference to participate at the IZE meeting.

Six years ago, I went with Marcel to the IZE conference in Los Angeles. Marcel is not a Zoo Educator. I hired him off an Italian road construction company, where he worked as an accountant. What he learned from YOU in Los Angeles, Copenhagen and Taipei, he brought back to the Okapi Wildlife Reserve in Congo, and today, Marcel is the leader of the Education team which contains 12 Educators. He is also Chairman of AZOREN. I am very, very proud to say that we have one of the best education programs on the whole African continent thanks to Marcel and thanks to YOU, for all he learned at the different IZE meetings.

You all know the terrible story about the bushmeat

crisis which has so badly increased over the last five years in Africa. Elephants, Gorillas, Chimpanzees, Antelopes, Birds, thousands of kilograms of bushmeat changes hands every day. About 180,000 people, hired by logging companies, eat bushmeat every day! In war zones, thousands of soldiers eat bushmeat as their daily rations. Gorilla meat is served as a delicacy by some African leaders when they have parties for their wealthy friends and neighboring dignitaries.

I blame it on Conservation Education which is non existent for 99% of the whole African Population.

YOU, zoo educators made a big difference in your institution. I am sure that the coming generations, like those young people sitting there: Jenner, Edgar, Jose, Norma, Diana, Karina, Sandra, Adriana, Luis, Norma Elizabeth and Maria, will make a difference for the environment in YOUR country thanks to all the wonderful Education programs you have in YOUR zoos.

BUT CAN THEY MAKE A DIFFERENCE IN AFRICA? Look into their eyes and ask yourself: They understand the importance of Conservation and they like Snakes, Elephants, Gorillas, Spiders, Birds and Butterfly's, but CAN THEY STOP THE KILLING IN AFRICA?

NO!

As long as the African children and the parents do not have access to education programs like you have in YOUR zoo, the killing goes on. WITHOUT EDUCATION, there is NO CONSERVATION!

I told you at the beginning that I had another dream: Let me share it with you now. My dream is THAT THIS ORGANIZATION, IZE, HELPS THE AFRICAN CHILD AND THE ADULTS IN CONSERVATION EDUCATION WITH THE SAME EFFORT AND DEDICATION YOU DO FOR YOUR OWN PEOPLE!

HELP ME, THAT THIS DREAM BECOMES TRUE.

Thank you.

Karl Ruf

Zoo Education and Conservation Outreach in Action:

An Exciting Twinning Relationship Begins

Donna J. Sheppard, Calgary Zoo Education Volunteer

The following article was written shortly after Donna's return from a 16-week volunteer work stint at Guyana Zoo.

My experience in Georgetown, Guyana's capital, was always challenging, often overwhelming and rich with learning. My only goal prior to my departure for South America was simply to establish a positive relationship with staff at Guyana Zoo. I thought this could be achieved by having no expectations, taking my lead instead from staff members who could best express their interests and greatest needs at the zoo.

I started slow, trying to get a feel for the atmosphere at the zoo. One of the first things I did was to spend at least a day with each zookeeper. Zookeepers are not the people many children dream of becoming 'when they grow up' in Guyana. I could see right away that keepers were not well respected, and this effort from my side did not go unnoticed.



After several weeks, I sat down with the zoo manager, Mr. Peter Khatoo, and devised a work plan. Some of the highlights of this plan included assisting in the Nature School with the development of teaching materials and lesson plans, creating education signage for the exhibits, conducting informal computer training sessions with management staff, designing and developing captive enrichment initiatives, forming a pioneering education volunteer programme – a first for Guyana Zoo – and a weekly zookeeper training programme.

Both of the training programmes turned out to be

a lot of fun. The zoo staff competed in a weekly grudge match between the 'Tapirs' and the 'Jaguars' to see which team knew most information from the previous week's class. Zoo management had warned me early on that the keepers would probably need several reminders throughout the day to ensure that they turned up for that day's class. This was never necessary. In fact, as the class progressed, interest grew and keepers would come to me at lunch requesting their 'animal fact books' so they could study for the upcoming review quiz. At the end of the training programme, I held a graduation ceremony and, as part of the ceremony, I recognised all the staff who had 100% attendance – this number included more than half of them.



The Education Volunteer Training Programme was also a wonderful experience, the participants providing a breath of fresh air to the zoo every weekend. I trained seven of them, mostly young university students. Their enthusiasm and love for animals buoyed me up every Saturday after a week full of challenges. These volunteers have been trained to rove the zoo grounds while informally educating the public, to lead formal tours and to present interpretive talks to groups of visitors. From the start of the programme, I trained them to be self sufficient, as management support was not guaranteed. This resourceful group of young people will be important leaders in the future educational development of Guyana Zoo.

The staff and volunteer training programmes were a success to be sure, though it would be unrealistic to present my experience at Guyana Zoo in only a positive light. Many a day went by in which every project I attempted blew up in my face. Things that would take me a couple of hours at home would take all week, and even then, I may not have advanced the cause any further (though I would be completely exhausted!). The zoo is bogged down by political corruption, a lack of funds and a society still living the legacy of a 19-year dictatorship. People are not paid enough to 'go the extra mile' and they are very tired (zookeepers work seven days a week, for example!). People are used to seeing animals in unhealthy conditions, and their compassion is muted.

My participation at the zoo became more significant as time progressed, and it was important for me to have spent the length of time there that I did. Staff began to trust me only after several months had passed. After proving myself to be reliable, individuals were more inclined to come to me with questions and comments. To this end, I think the biggest compliment I received was the following statement from one of the zookeepers: "Other people who have come here have worked with the animals; you, Donna, worked with us". For me, this was the essential thing - I wanted the zoo staff to experience a feeling of self-respect, of being valued. As the staff gathered animal knowledge, they became more outspoken about sharing this knowledge. This was exciting.



But, obviously, it was not only the Guyana Zoo staff that benefited from this exchange. I, too, learnt a great deal: cross-cultural communication, patience and acceptance, veterinary care, public relations and exhibit design. All of these things I learned in a very hands-on fashion, for my involvement at Guyana Zoo included participation in all of the zoo's functions.

In addition, I had a committed group of staff members back at Calgary Zoo rallying behind me. I sent bi-weekly updates via e-mail, and these were circulated through Calgary's education department. In this way, people were able to follow my progress. My requests for educational materials, specific veterinary expertise and enrichment guidelines were met with a host of resources sent by numerous Calgary Zoo folks. This support made me feel that the Calgary's outreach efforts did not fall on my shoulders alone; we were a team of people assisting



Guyana Zoo. And, we were a team of people growing and learning through our exposure there.

I feel that it is essential for 'first world' zoos to work at whatever level possible with developing world zoos. The latter are typically located in regions rich in biodiversity, and are very important sources of animal education and nature appreciation for local populations.

In many cases these zoos are the only places where this kind of learning occurs - I know this to be true in Guyana. Families and school groups access the zoo as an affordable recreation option. As 90% of Guyanese live along the coast, and access to the interior is limited, opportunities to observe animals in the wild come few and far between.

The preservation of tropical animals cannot be achieved without the local population's awareness of the intrinsic value of these creatures. At a local zoo, people can observe animals, wonder at the things they do, and appreciate their existence. This is a good starting point for conservation.

So what's next?....I will be heading back to the Guyana Zoo for another four-month stint. While there, a second Calgary Zoo staff volunteer will join me for a month. In this way we will introduce another Calgary person to the equation, through someone who already has an established relationship with the Guyana Zoo staff. I'm looking forward to my return!

PLANETKEEPER – Tiger Task Force

‘Partners in Conservation’

John Gardner, Adelaide Zoo Education Officer

Zoo education should not only include awareness, knowledge and understanding of social and ecological aspects of conservation and engender positive attitudes, but should also empower people to take ‘positive action’ for conservation. It was this belief that motivated the Adelaide Zoo Education Service to develop and implement ‘Planetkeeper’, a programme for schools with just such an aim.



As part of the action component of the programme, one teacher included use of Indonesian language in one of the awareness activities

The Adelaide Zoo Education Service is itself the result of a long-term partnership between Adelaide Zoo, the State Education Department and Catholic Education; this has allowed its formation and enabled it to operate for schools and the public.

The Planetkeeper programme demonstrates how partnerships can, with an added component of ‘action’, assist in the conservation of threatened species. It involves a commitment by school children (Reception – Year 12) to assist in the survival of tigers in a number of ways, and includes both ‘Knowledge’ and ‘Action’ components.

Currently, Planetkeeper concentrates on tigers, but the focus animal could be any species and will change from time to time.

‘Partners in Conservation’ is central to the entire Planetkeeper – Tiger Task Force programme, and without such cooperation it could not be successful. The first of these partnerships was formed well before the programme started, with communication between the Adelaide Zoo Education Service and Bittu Saghal, editor of Sanctuary Magazine in India, and others. These contacts, plus Bittu’s knowledge, experience and value as a source of information and suggestions, were crucial in establishing the foundations of the Planetkeeper scheme. Our thanks go to Bittu, and also to former Education Officer Melissa Wyatt for her role in the development of the programme.

Schools, Adelaide Zoo, its Education Service and tiger keepers form partnerships in the first stage of the Planetkeeper programme.

Classes that commit to the scheme receive a lesson with an Education Officer at the zoo. During the lesson discussions occur about such things as tiger adaptations and their survival value, where and how they live, the Sumatran tiger’s habitat and its role within it. The plight the species is faced with is also considered, along with the contributing social issues.

Depending on the age of the students, these issues could include population growth, poverty, economic crises, culture and consumerism. Other discussions take place about the role funding, or lack of it, can play in endeavours to assist tiger conservation. Children are also given the opportunity to see, touch, handle and learn about tiger artefacts and traditional medicines, as well as to find out what role other children have played and how they too can be effective in working towards tiger sustainability.

During their day at the zoo the students also attend a session with the tiger zookeeper. The keeper talks about feeding, housing, enrichment, general needs and issues specific to the zoo’s animals, as well as answering any questions. This is done where students can view our two Sumatran tigers.

For visiting the zoo and attending both Education Officer and keeper 'Knowledge' sessions, the students receive their first certificate.

To achieve Certificate 2 level, the 'Action' stage of Planetkeeper has the students involved in fund raising – minimum target \$100.00(Aus) - as well as at least one other activity. This may include writing a letter to a Prime Minister or President, or starting a petition, writing an article for a school or community newspaper, sponsoring a tiger or any other activity – writing to a pen pal, for example – that will raise awareness of conservation issues..

When they join teachers receive a Resource Pack to assist them. It contains tiger information, zoo trails, a myriad of ideas for fund raising, contact details for letter writing, petitioning and protesting and ideas encouraging children to act responsibly towards their own local environment.

Upon completion of the fund raising and other 'Action' components of the programme, an application for Certificate 2 is completed. This requires the teacher to report on what the children did to raise money, how much was collected and an account of the other activities they were involved in. A successful application will enable the students to receive their second certificate and become official Planetkeepers.

It is envisaged that a page on the zoo's Education Service web site will keep students up to date on tiger matters, both locally and globally, and also allow them to e-mail us about any other conservation efforts they become involved in.

The next stage sees another partnership, involving the delivery of the funds raised by students to their chosen conservation organisation via the Adelaide Zoo's Education Service. Currently, funds are directed to the ARAZPA Wildlife Fund Tiger Project or Save the Tiger Fund to assist these organisations in their efforts to conserve tigers.

Bodies such as these rely heavily on funding through such things as grants and donations. Although individual amounts raised can be relatively small, many such contributions over time will lead to significant results.

One class from an Adelaide school raised \$600.00(Aus) selling food at a school Sausage Sizzle on Federal Election Day, as well as other activities that included producing posters and writing letters to heads of government, newsletter articles and information leaflets that were distributed throughout the local community. A special needs class with only eight students managed to raise \$500 (Aus) through a variety of activities which included placing 'Tiger Head' money boxes in local businesses. Another class was so inspired by the whole Planetkeeper experience that they raised extra money that they sent to other conservation organisations involved in helping threatened species.

We are hopeful that there is no final stage for the Planetkeeper programme, but that students and teachers will carry with them, for life, the knowledge, skills and motivation to continue to be involved in conservation, inspiring others into action to 'make a difference' by working as Partners in Conservation.



During the lesson with an Education Officer students have hands-on fun and learning with tiger artefacts

Trailing Chief Black Bison - an event for children at Rotterdam Zoo

Chris Peters, educator at Rotterdam Zoo

Every year, during the late spring and summer holidays, Rotterdam Zoo organises an event for children between six and 13 years of age. For 2002, it was decided that the project would be free and linked to the new Bison Prairie exhibit donated by the Friends of Rotterdam Zoo.

The “bottom (story)line” of the project was to show how people like the Native Americans lived harmoniously with nature in earlier times. They never killed for joy, but only for food and basic needs like clothing and shelter (from skins) and tools (from bones, sinews, etc). We chose Chief Black Bison as the wise man that would communicate with the children, and so we named this summer activity “Trailing Chief Black Bison”.



*Children enjoy beating a
Native American handmade drum*

SHEETS AND ‘SKINS’

The first part of the event was a trail sheet which led the children to ‘skins’ with information marked on them, each hanging in a wooden frame, and to various activities: a dance floor for the bison-dance, the bean-dance and the sun-dance; visiting the Three Sisters (a famous Indian agricultural combination of beans, corn and pumpkins); listening to the story of Turtle Island (which became America); a rock for making petroglyphs; and so on.

In completing the trail children developed their own totem, a symbolic identity something like a passport.

A totem is often an animal of power and special meaning to the person who carries its name. During their search from symbol to symbol on the ‘skins’, the children hunted certain letters. Together these formed the word ‘TATANKA’. This means ‘bison’ in the Lakota language, and was the password for an Internet site.

Back at home they could log in to www.diergaardeblijdorp.nl and use the password to access all kind of activities, like making and printing their own totem, colouring a picture, giving themselves an Indian name and a chance to win (prize for the most original name) one year’s subscription to ‘Baribal’, a famous Dutch children’s magazine about Native Americans, and more.

All the elements were designed and made in a special house style. The artificial skins were of silk screen decorated canvas, printed in house, and, with our illustrations and texts, were a great success.

Also, with the help of the Botanical Department, a collection of plants, used by Native Americans as sources of medicines or of paints, was exhibited outside. Special signs with an organic look explained how the plants were used.

TEPEE VILLAGE

During the summer holidays a village of eight teepees was built next to the Bison Prairie. This village was inhabited by living, traditionally-clothed, Dutch



*Dutch ‘Native American’ family acting out a day
in the life of a prairie-dwelling Lakota family*

CONCLUSIONS

'Native Americans', acting out the daily life of typical Lakota families - handcrafting, making drums, designing dreamcatchers, woodcarving, cooking...the chores of a normal day. Before the children arrived at the village their faces were painted at the Schmink Tepee. They could choose the face of a Crow Indian, a Thunder Bird, a Sioux or a Bison Hunter. They could then visit the fully furnished Family Tepee of Chief Black Bison.

One of the highlights was listening to Native American tales at the Story Tepee, while in the middle of the village children were allowed to make traditional music on the drums. During the weekend two intensive pow-wows were performed together with the children.

ZOO CAMP WITH NATIVE AMERICANS

The same theme was also the focus of 15 summer Zoo Camps, exciting overnight experiences at Rotterdam Zoo. The children (about 25 for each camp) enjoyed a barbecue in the evening together with the Native Americans, after which Chief Black Bison told an impressive story with the rhythm of drums in the background. A tour followed, relating this story to the near extinction of the bison.

After a lot of activities during the evening, a closing session encouraged the children to be considerate to each other and to nature, with specific reference to the bison.

Saturday began with an early morning ceremony to welcome the sun, led by Chief Black Bison. After that came breakfast, and then it was time to go home, with many memorable experiences to recollect and share.

During this six-week summer event more than 175,000 people visited the tepee village, enthusiastically participating in the activities. For example, more than 2,500 children had their faces painted, about 3,780 listened to the Native American stories, many hundreds visited the family tepee and thousands of parents and children experienced the pow-wows.

About 36,000 trail sheets were handed out, although how many really finished it is hard to say. Observations indicated most of them were working seriously. The Internet site was visited 2,660 times, among which 956 used the password 'TATANKA' to access the activities as described above. The USA was the source of 60 'hits'.

Trailing Chief Black Bison got a lot of attention from the local and national newspapers, magazines and television. Together with the new Bison Prairie, it was the highlight of 2002 for Rotterdam Zoo.



One of the highlights was listening to Native American tales in the Story Tepee

Employees as Conservation Ambassadors

*Deirdre Ballou, Associate Director of Conservation Education,
Zoological Society of San Diego*

Frontline zoo employees represent a wealth and diversity of skills and experience that can benefit the growing number of conservation field projects. The value of incorporating these employees ranges from increased interest in their own organization's mission to direct contribution to projects. Perhaps most importantly, it offers the opportunity to groom employees as conservation ambassadors. When this idea was presented to our organization, nobody questioned why we would attempt this effort, but rather, how.

The Zoological Society of San Diego (ZSSD) participates in field conservation projects around the world, currently conducting approximately 47 in situ projects in 23 countries. Historically, conservation teams were comprised of researchers and curators, and occasionally, veterinarians were included. During the past few years, our Education Department has become a key player on these teams, serving to coordinate educational outreach elements in our conservation projects.

These elements incorporate components that involve the local communities at the project site, as well as providing a conservation message for our own community, our membership and our employees. Since frontline employees represent our first point of contact with more than five million guests per year, it is paramount that they be groomed as conservation ambassadors. And the best way to teach employees about conservation is by involving them in field projects. Finding a way to take staff out of their regular jobs for short periods to accomplish this endeavour became my challenge, while we also needed to find a way to make our end results equitable, accountable and undeniably effective.

How It Is Done...

We first utilise our in-house communication vehicles (employee newsletters and bulletin boards, for example) to communicate what conservation projects are in operation and how to apply to participate. Next, the application process documents required skills and additional talents that might be useful. Selected applicants are asked to complete a written interview, as well as a brief essay on why they wanted to participate and what they could add to the project.

From that pool of candidates, a group of employees is selected for final interviews, while supervisors are contacted to check on job performance and availability of each candidate. In person interviews are conducted by a panel of representatives from the Education and Conservation Departments, and new team members chosen, based on their abilities and 'team fit'.

(Replacement labour funds are made available to any department allowing its employees to participate. Such funds are written in at the start of the budgetary process, as a required component of any grant proposals involving the use of frontline employees.)



***San Diego Zoo Employees who participated
in Monarch Butterfly Project came from
Horticulture, Merchandising, Research and
Conservation departments as well
as the animal departments***

The scope of the projects requires a range of obligations, but not every employee can make the same commitment. Some are able to spend more time helping with the preparation and the follow-up reports, while others can only attend pre- and post-trip meetings, in addition to the actual time spent in the field.

Teams number between one and eight employees, with every project coordinated by an acting supervisor, or team leader, during the project administration. The duties and responsibilities of each employee while 'on project' are developed by this team leader and communicated well in advance of implementation.

Those selected undergo training sessions on the project topic, travel protocol and team dynamics. Role clarification is undoubtedly the most important component in the training and the one that needs much attention as new team members learn to work effectively together. Depending on the scope of a project, three or four team meetings are held prior to its implementation, with an equal number of debriefings after completion.

In addition to travel reports, each employee is required to make a formal presentation to his or her department. On completion, members of the team are selected to write articles for in house publications, some delivering presentations to outside organizations as well.

What do we gain by including frontline employees in conservation field projects? We are able to enhance employees' understanding of our organization's mission and goals, increase their desire to support conservation and utilise them as vehicles for disseminating information to other employees. The end result is an ever-growing cadre of conservation ambassadors that are effectively spreading 'the message' throughout our organisation and into our community. In addition to the accomplishments of the team at the project site, an effective educational



***Workshop for Interpretive guiding techniques
at Monarch Butterfly reserve in Mexico***

campaign for our internal and local audiences is implemented.

After 18 months of trial and error, the results of the effort to include frontline employees in field projects have proven worthwhile. We are currently gaining momentum and employees are seeking more opportunities. Our organisation is now preparing to

implement a new pilot programme that expands the current scope by pairing employees with field researchers in 12 countries over the next two years.

Model Conservation Education Project: Monarch Butterfly Conservation in Mexico

Project Summary:

Since it was featured in the August, 1976, issue of National Geographic magazine, much media attention has been focused on the monarch butterfly over-wintering sites near Angangueo, Michoacan, Mexico. It is undoubtedly one of the most amazing wildlife encounters available to the common tourist: tens of millions of monarch butterflies roosting in acre upon acre of pine trees. There are approximately 300,000 annual visitors to this area, all during the five-month season.

At the invitation of a Mexican Non-Governmental Organisation, Bosque Modelo, the ZSSD is helping to offer sufficient guest services at the reserves, and has offered ideas for interpretation, trail design, merchandise venues and other visitor facilities.

One particular issue for which our support has been requested is the over-use of wood from the Oyamel pine trees by local people. In a sustainable resource project, the craft of pine needle weaving has been encouraged in women's groups, promoting the use of fallen needles as a source of income while encouraging the protection of the trees.

Composition of Project Team:

Representatives from the following departments were selected over a two-year period: Birds, Building and Grounds, Conservation, Education, Mammals, Merchandising and Operations.

Team Accomplishments:

- * upgrade of current graphic interpretation panels at reserve sites
- * installation of merchandising displays for sustainable use products
- * numerous interpretation workshops for reserve guides
- * workshop for artisan groups on sustainable resource development
- * design and development of interpretation materials for guides

Barranquilla Zoological and Botanical Foundation

Rosamira Guillen, Executive Director

The Barranquilla Botanical and Zoological Foundation (Fundazoo) is a non-profit organisation that currently administers Barranquilla Zoo, a five-acre urban zoo located in Barranquilla, a city of 1.7 million inhabitants on the north coast of Colombia, South America.

Fundazoo was created in 1993 to lead the process of recovery and reconstruction of Barranquilla Zoo, a 50-year-old institution that had much deteriorated, both physically and financially, under the city's public administration.

Throughout the past nine years, Fundazoo has been able to remodel 85% of the zoo, based on a master plan which focused on developing naturalistic animal exhibits, replicating native habitats and thus providing better living conditions for the captive animal collection.

All of this was possible as a result of an aggressive fund-raising campaign directed at local commercial and industrial companies from the private sector, and also through institutional programmes such as the "Adopt an Animal" scheme, which currently groups more than 50 local and regional entities.

Currently Barranquilla Zoo has an animal collection of over 450 individuals of 160 species, 85% native to Colombia and 15% exotics from Africa, Asia, Australia and North America.

Visitor numbers have increased by almost 45% over the last nine years, now averaging some 300,000 annually.

Fundazoo has also worked on strengthening the educational potential of the zoo, creating an Education Department in 1996. This has become a focus of activity within the zoo, a centre of development for environmental education strategies such as public awareness campaigns, community outreach programmes and developing educational material for the classroom, designed to support the efforts of local schools to teach about the natural environment.

All of these objectives were proposed and planned in a three-year education master plan, currently in its first year of development.

One of the most successful experiences of Fundazoo has been the development of an educational campaign for the conservation of the Cotton-top tamarin (*Saguinus oedipus*), a small primate endemic to the north coast of Colombia and highly endangered as a result of the illegal pet trade and deforestation.

The objectives of this campaign included increasing the general public's knowledge of the species, especially its endemic condition and endangered status encouraging a positive attitude towards the Cotton-top, strengthening a sense of pride and 'ownership' increasing environmental responsibility among the public, including awareness of the need to conserve wildlife and thus reducing the illegal pet trade in Cotton-top tamarins.

This campaign was developed in two phases: a three-month media awareness scheme and an educational programme currently in operation.

The media awareness effort focused on using local media (radio, TV and newspapers) to communicate the campaign's message, selling promotional material in commercial malls throughout the city and developing educational activities within the zoo, using the recently built Cotton-top tamarin exhibit.

The material developed for the classroom had a wide scope, including not only the tamarins but also drawing attention to the numerous threats faced by wildlife as a whole, to general ecological principles and to the role humans can play in creating, or solving, these problems.

For the development of this campaign, Fundazoo obtained the support of local and international institutions, including Conservation International, Pittsburgh Zoo, Cleveland Zoo, Disney's Animal Kingdom (Proyecto Titi) and Dupont Colombia S.A.. The fund raising collected close to US\$30,000, exceeding all expectations.

Fundazoo is currently planning new, follow-up activities and strategies to be implemented over the coming months. It is committed to its mission and vision, aiming to lead environmental education throughout the Caribbean region of Colombia, one of the seven most biologically diverse countries in the world, but also a nation with one of the highest rates of deforestation and habitat destruction.

The Evolution of Environmental Education at Munda Wanga Environmental Park, Zambia

Emma Stone, Education Manager

In 1950, a gentleman named Ralph Sander founded a botanical garden that was destined to become the showpiece of Lusaka, the capital city of Zambia. At the time, he was a colonial civil servant working for the Department of Game and Tsetse Control and he called his garden *Munda Wanga*, which means “My Garden” in Nyanja (one of the many national dialects). He gained an enviable reputation as a botanist and was responsible for the establishment of many of the parks, gardens, and tree-lined avenues in Lusaka. An article written about him entitled ‘The Gardener of Chilanga’ was published in a 1966 edition of Readers Digest. Sadly, after 28 years of work, he died in 1978 having sold the estate to the government.



***The new Education Centre takes shape
at Munda Wanga***

At the time the economy of Zambia was booming, and with the assistance of government grants, the Munda Wanga Gardens prospered and was eventually enlarged to contain a zoo (now referred to as the Wildlife Park and Sanctuary), displaying both indigenous and exotic species. A number of exotics brought to Zambia via the Chipperfield Circus were donated to the President, who passed them on to Munda Wanga. These included tigers, American black bear and Axis deer, many of which still reside at the park today.

Regrettably, the government grants could not be sustained and the estate passed through many

governmental and parastatal hands. Without proper management and capital, the facilities declined. Munda Wanga sadly became a horror story, with many of the animals starving in their cages; those that survived did so only through kind donations and support of local interested parties.

After many years of neglect a new organisation was formed, the Munda Wanga Trust. The Trust took over the management of the Park, and in 1998 Munda Wanga became known as Munda Wanga Environmental Park, encompassing a Wildlife Park, Sanctuary and Botanical Gardens. Today the park is undergoing a complete rehabilitation programme, with new enclosures being built and endangered species breeding and release programmes well under way.

After two years of rehabilitation it was obvious that, with over 55 percent of visitors comprising children in school groups, there was a need for some form of educational activities at Munda Wanga. In 2000 I was tasked with developing a park-based Environmental Education (EE) programme and Interpretation Centre. I have to say I was somewhat daunted by the bus and (literally) truck loads of children arriving at Munda Wanga on a daily basis. So the first task was deciding with what and how I was to do this.

I decided to focus on networking as the starting point. Perhaps naively, I assumed at first there would be a paucity of EE practitioners within Zambia. However, to my surprise, I was happy to find a number of educators working on private and government funded projects throughout the country. Here I could tap in to a wealth of experience of developing educational programmes within the Zambian context.

I started with a workshop, for which I managed to find funding from local companies. The workshop was aimed firstly at introducing EE practitioners to the EE programme at Munda Wanga and, secondly, as a brainstorming session for its development. This was a good start, and I gained a lot of valuable

contacts and ideas to work with. This was followed up with visits to local schools around the city, gaining support for and interest in the programmes.

As the next priority was funding, I developed a project proposal that was sent to as many potential local and international sponsors as possible. Internationally, I approached a large number of zoos and wildlife parks, gaining opportunities for assistance with both the development of materials and funding for the programme. A number were very helpful, especially Chester Zoo (UK), Bronx Zoo (USA) and Columbus Zoo (USA).

With the assistance of volunteers we also held a number of fund raising events, collecting a healthy sum of cash. Having no classroom or educational facility within the park, I decided to start developing the education centre. It is hoped that the centre will provide holistic environmental information, for all ages, bringing the botanical, wildlife and cultural factors together. A number of topics that were highlighted during the first workshop were chosen to be covered within the interpretation centre. These included habitats of Zambia, endangered species and cultural aspects of the changing environment.

As is the theme throughout Munda Wanga, we decided to use what we already have - an old concrete lion cage. It was agreed that this concrete building would be a fantastic location for the Education Centre, giving the public a feel of what it would have been like living behind bars. Using the old holding cages around the main room, we decided to create habitat zones that would reflect those found within Zambia. In addition, the building will house the education office, classrooms and a resource library.

Having gained sponsorship from a sign printer, I started developing interpretative displays and hired a crew to commence the structural renovations of the building. Work was finally underway.

During this time hundreds of visitors continued to spill through our gates, and with only one educational staff member (me!) it was difficult to cope with the school groups, never mind develop activities to conduct with them. It was clear that the next priority was to hire a full time Zambian educator, as well as

developing the educational capacity of our existing staff.

Again making use of whatever resources we already had, I commenced a training programme for our security guards and a number of gardeners who could be free to assist with some interpretative guiding during the busy periods. This worked well, with members of staff really rising to the challenge.

Through our links with Chester Zoo (UK) we were also able to gain their support. Members of the educational staff at Chester conducted some training at Munda Wanga and provided guidance and assistance with the developing interpretation programme. As a follow up to the in house training, I was also able to send Besa Kaoma, one of the gardeners who showed great EE potential, on a three-month Tour Guide Training Certificate run by the Ministry of Tourism. We have also secured a scholarship, from the Southern Africa Development



Guide training at the American Black Bears

Community Regional Environmental Education Programme (SADC REEP), for Diana Ngula, our full time Interpretative Guide, allowing her to attend a two-week EE certificate course in South Africa. Slowly our educational capacity is building.

During this time I was able to attend the second African Zoo and Reserve Educators Network (AZOREN) conference in Kenya, again thanks to support from Chester Zoo (UK). This proved to be a great blessing. The conference was attended by delegates from all over Africa, many of which were in the same situation as myself, facing the same

challenges. I was able to share my experiences and thrash out ideas with others about the challenges.

It was obvious that for people like myself, working in developing countries with little access to resources, books or the Internet, networking was perhaps the most important source of training and learning.

The benefits of networking also come in the form of training support and funding, as illustrated in my meeting with Tom Naiman from the Bronx Zoo (USA), through which I was able to gain their support for Munda Wanga. With funding sourced from the American Zoo and Aquarium Association (AZA), the Bronx are planning to conduct training workshops based at Munda Wanga, develop educational materials and, jointly with Chester Zoo (UK), fund the salary of a full time Zambian educator. This was the real push that the programme needed - with training and an educator we can finally start to achieve our goals as an educational institution.

As we are slowly progressing, Munda Wanga is getting more and more involved in developing national EE activities. We have commenced an outreach programme sponsored by Toyota Zambia, through which we are able to bring underprivileged groups from far and wide to Munda Wanga.

Since 2001 I have also been working on a steering committee alongside seven other educators from various projects, including the Environmental Council of Zambia (ECZ) and WWF. In the last year we have successfully created the first and only EE networking organisation within Zambia, the Zambia Network of Environmental Educators and Practitioners (ZANEED). On December 14, 2002, Munda Wanga proudly hosted the first Annual General Meeting (AGM) and official launch of the network, which will be opened by the Director of the Zambian Wildlife Authority (ZAWA) and the Minister of the Environment.

This day will be a great step in the evolution of EE at Munda Wanga, demonstrating that we have made much headway in turning a horror story into an educational resource for the benefit of the Zambian community. I would like to thank all those people and organisations who have contributed to the

development of Munda Wanga's EE programme: Bronx Zoo (USA), Columbus Zoo (USA), the British High Commission in Zambia, Paignton Zoo (UK), Toyota Zambia, Quentin Allen, Jersey Zoo (UK), Cheyenne Mountain Zoo (USA), Robin McLaughlin of San Diego Zoo (USA), Darcy King and especially Steve McKeown from Chester Zoo (UK).



Phoenix, orphaned at a few days old by ivory poachers, is used to help the conservation message to visitors

As always, if anyone wishes to get involved, assist us in our endeavours or simply network and share ideas, I can be contacted through the address below.

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Czech and Slovak Educators’ “Experience Tour” in the Netherlands

Tomas Hajnys, Zoo Educator from the Czech Republic’s Dvur Kralove Zoo

Eighteen Czech and Slovak zoo educators, including myself, participated in a four-day “experience training” course in four Dutch zoos – Rotterdam, Apenheul, Burger’s and Emmen. The event took place from 8 – 11 April, 2002, with educators from Bratislava, Brno, Decin, Dvur Kralove, Hodonin, Jihlava, Ohrada, Ostrava, Plzen, Praha, Usti nad Labem, Vyskov and Zlin.



Turtle Reproduction Exhibition at Rotterdam Zoo

We were invited by Chris Peters from Rotterdam Zoo and were especially interested in ‘zoo education strategy’ – teaching, guided tours, interpretation, staff presentations, the use of IT, holiday programmes, printed information, co-operation with ‘the media’ and so on.



***At Rotterdam Zoo with Chris Peters,
who made our trip possible***

Chris accompanied us on an excellent tour of Rotterdam’s ‘Oceanium’. It was a marvellous experience, in the shape of an adventurous journey from the Dutch coast to the North Sea, the deep Atlantic, the Caribbean Sea and on around the world. The public can ‘travel’ the route at leisure, taking in the experience at their own rate.

Chris also guided us through the Asia Trail he and his colleagues had designed. We saw the educational facilities, including some very fine models of birds’ nests, turtle shells and such, then joined a talk about animal reproduction given by zoo educator Loes Kettenis.

We discovered, too, how ‘behind the scenes’ facilities such as animal kitchens, stables, veterinary hospitals and aquarium filter systems can be valuable educational resources.

Ms. Constanze Melicharek was our guide through the very special primate park at Apenheul, with its grassy surrounds and ample space for the animals. We greatly admired both the indoor and outdoor orang-utan enclosures, richly endowed with trees, as well as ‘Gorilla Island’. Zoo staff give talks during feeding sessions, while billboards along the new Amazon Rainforest Trail highlighted EAZA’s 2002 Atlantic Coastal Rainforest campaign.



***An Elephant Bird with eggs
at Apenheul Primate Park***

At Burger’s Bush, natural enclosures of desert and ocean allow visitors to ‘read’ from ‘open textbooks’, without having to rely on labels or signs, resulting in very deep first impressions. Here we enjoyed

biologist Tom Bien telling us the history of the zoo from its conception.

There is also a large chimpanzee group, used by students researching primate behaviour, the results of which are additionally useful to keepers and curators. Education has a prime role to play at Emmen Zoo, where Agaath Kooi arranged a highly rewarding, full-day schedule for us. A big hit were the naked mole-rats in their artificial burrow system. While the mole-rats live in communities reminiscent of some invertebrate societies, visiting children also have a system of tubes to crawl through, giving them a taste of the underground life. A theatre show about Lemon sharks was memorable as well.

We were impressed to see how quickly the new zoo across the motorway is being built: crossing a kilometre-long bridge brought us to the construction site of a penguin enclosure and a new entrance gate. Everyone on this trip found the experience very productive, as well as exciting and enjoyable. It provided a unique opportunity to share new ideas, and with zoos now reaching some 4.5 million people each year in the Czech Republic and Slovakia, tours such as this are very important in helping zoo educators achieve their goals ever more effectively. We would like to thank all those who went out of their way to help us, with a special appreciation to Chris Peters.



Lemon Shark Theatre at Emmen Zoo



Interactives in the Oceanium at Rotterdam Zoo

Interactive Areas...

An Educational Alternative in the Zoos

Biol. María Eugenia Martínez Arizmendi

Head of the Education Department, Guadalajara ZooGuadalajara, Jalisco, México

INTRODUCTION

Through the evolution of zoos, education programs have been developed to the extent of being considered as pillars of the modern goals of these institutions. Zoos use many diverse didactic programs. Education in a zoo or aquarium is not limited to looking at animals and reading information about them. The resources that can be applied are very varied and, in particular, they have to be highly interesting, attractive and effective, so the visitor can absorb what we want them to through these programs. One educational resource that has been used as part of informal education programs, is interactivity, a method based on offering practical experiences where the visitor is actively involved in discovering information or analysing an event for example.

Robert Semper suggests in his article “Science Museums as Environments for Learning”, that interactive areas provide learning resources for communities of all ages. Interactive experiences motivate children, young people and adults to be more curious and thus to understand how and why things happen. In addition, “experience play” or “play to experience” are the means by which we can better appreciate the present situation of our environment.

HISTORY

The history of interactivity in zoos started in the late 1970s and early 1980s with the appearance of contact areas, children’s zoos and individual materials produced by the educators for use as a tool in their talks and around the zoo.

Sherman Rosenfeld, in his article “Interactivity in Learning” (1987), mentions a number of zoos that are starting to include spaces where people can touch, smell or listen, as part of the zoo experience.

In the science room of San Jose Zoo’s Children’s Zoo there are exhibits demonstrating the way animals see. In the primates room of San Francisco Zoo’s Discovery Center, the visitors are invited to compare the adaptations of their spinal column and skull with those of apes.

In 1977, the National Zoo in Washington D.C., opened ZOOLAB, a room offering interactive tools to the visitor, such as eggs, feathers, animal furs, skulls, skeletons, and examples of animal diets. This program won the approbation of the American Association of Zoological Parks and Aquariums (AAZPA), now AZA, winning them the award for the best educational program in 1978. This success motivated the creation of their BIRDLAB at the end of 1978, and their HERPLAB in 1982.

Zoos like the Bronx in New York and the Copenhagen Zoo in Denmark (1986), are starting to design children’s zoos, where visitors can not only touch or feed an animal, but are able to participate in learning activities about natural processes that are mostly outside of the experience of a kid that lives in a modern city with access to modern technology.

In 1987, in the European Zoo Educators Conference, held in Copenhagen, Denmark, Sherman Rosenfeld himself emphasized that if we want to invest wisely in the future growth of the education programs in zoos, we have to design areas that satisfy the visitors’ curiosity via direct participation.

So we enter a new era where most of the zoos and aquariums across the world are offering interactive elements in their school programs. It is accepted by everyone that the best way a child can learn, is by experiencing things for himself.

The Saint Louis Zoo, in St. Louis, Missouri, at the beginning of 1990, opened a whole interactive building, called “The Living World”, where animals and cutting edge technology are combined, so the visitors can spend all day learning about Ecology with biodiversity as a focus. It includes a theater for 400 people, where they show high quality movies about “the living world”. There is no doubt about the success this area has enjoyed, and above all, the acceptance by the education departments in the United States.

Mexico has now developed an interactive learning center named “La Guarida”, (‘The Den’) within Guadalajara Zoo, not only the first of its kind in Mexico, but in Latin America.

METHODS

“La Guarida” opened in October of 1998, the main object being to offer a high quality educational alternative for our visitors, that could be an extra tool by local teachers, and parents. The development of our project was based on the theme of this article, interactivity.

We know that one of the elements on which the interactivity concept is based, is that children and adults can learn through play, but how exactly does this work? For me, healthy childhood development depends to a large extent on the activities that children carry out in relation to the game, so it’s important that the methods used in the game bear upon the following aspects of their lives:

- **SOCIAL ASPECT:** because it involves the coordination of activities with one or more partners, most of the game forms work in a natural way between boys and girls of similar ages. Also, it can strengthen the relationships between children and adults if they participate in a play activity in a combined way.
- **CREATIVE ASPECT:** as the children have the freedom to test new ideas in the game, it stimulates the imagination, which is the base for the creative development
- **PHYSICALLY:** it provides total body exercise and helps develop coordination.



Visitors finding out about the distribution of different ecosystems in Mexico

- It helps with **INTELLECTUAL DEVELOPMENT** in a problem-solving environment because you learn to make judgements and analyse data in an informal way.
- The game provides a feeling of **SECURITY AND SELF-ESTEEM**, because it makes the children the owners of the environment in which they are playing.
- The rules of the game prepare the individual to **ACCEPT LIMITS**, both in their immediate reality and in a wider social dimension.

Having clarified these elements, “La Guarida” looked for having a main concept and therefore it will be involved in the pursuit of that history. Unlike many other interactive centers and museums, “La Guarida” has a character, who lives in a hole in a tree. The knowledge he has gathered about the environment forms the basis of the story that he will tell the visitors. We have three themes: Ecosystems, Animal Characteristics and Animal Adaptations.

From our experience we can highlight some considerations in the design of an interpretation or interactive area:

- **MODULE DESIGN:** it essential that the design of every exhibit should be attractive, easy to interpret, and be easy to operate, all this to offer a better quality in the service; it should also appease that the public has the enough time to discover the procedures that they are looking for. Each module should have an objective, an interactive experience, and they should offer additional knowledges, besides of the main

theme; it should be adapted for handicaps and it should also count with enough space to put an explaining sign and how to use it.

Judie Diamond in her study about family behaviour in science museums, reports that many people spend a period of less than one minute in each one of the exhibits but there are other groups that spend between five to fifteen minutes per module.

The visitors choose the subject they are more attracted to, and so they decide the amount of information they want to include in their learning process.

In the case of “La Guarida”, there are four modules on which the public spends more than one minute. These modules are designed to use not only the sense of touch, but also vision and hearing. The specific subjects that are treated in these modules are: - Animal coverings-, in which the visitor can touch different kinds of furs, shells, whiskers, eggs, etc. Another module is the –‘Tracks in the stone’, where a giant rock has several animal tracks encrusted in it, and so visitors can compare the size of each track with their hand; it also has a peephole inside through which they discover the owners of the animal tracks. There is also the module called ‘The sounds of the animals’, where visitors, through a phone, can listen to different animal sounds. It is worth mentioning that one of the most popular modules is, ‘The Spider and its Web’, where the child or adult wears a special suit, pretending to be an insect, and then, through a swing, they will get stuck in a velcro spider’s web. The object of this module is that the visitors can understand why it is so difficult for an insect to survive when it gets caught in a spider’s web, differentiating it from the traditional spider’s web games, where the child only plays with it, but never experiences the feeling of being caught.

- **ADAPTATIONS FOR THE DISABLED** we can’t forget that interactivity is a basic tool for work with disabled people. These centers stimulate the senses, essential in working with many kinds of handicap.

- **LONG LASTING MATERIALS:** the materials that will be used for the design of any interactive area, have to be very resistant, light, attractive and above all, they should be easily obtained in your locality. The materials used in “La Guarida” are, in most cases, compressed wood, Formica, MDF, flexiglas,



This Display Allows People to feel what it's like to have horns and explains the difference between horns and antlers

acrylics, glass fiber, cd roms, computers, mirrors, videos and modified public telephones.

- **MAINTENANCE:** most of the success that the interactive center has, depends on the maintenance given to the room; a broken module makes the visitors to take a very bad impression of the place and above all, it limits their learning and devalues the exhibition.

- **GUIDES OR INTERPRETERS:** in any interactive area of any size, it is important to use an interpreter or guide, who acts as a link between the public and the exhibit. If a visitor on his own is unable to interpret the exhibition properly, there should be a guide who can help the visitors and offer them the knowledge.

In the case of “La Guarida”, “The Bugs” are our main character’s assistants. Every day they attend the general public and also school groups besides controlling and protecting the equipment. “The Bugs” are a group of young enthusiastic people studying at high school or college.

EVALUATION

Since opening three years ago, “La Guarida” has had more than 720,000 visitors, who have come for half-hour and one hour sessions in the case of the general public and school groups respectively. Guadalajara Zoo receives on a normal Sunday, around 6,000 to 8,000 visitors, and on a Sunday during vacations this can rise to 14,000 visitors, of whom, even with half hour sessions only 3,000 can be admitted to the center.

While there are many ways to develop learning experiences, interactivity is one of the most complete. As a kind of informal education, it allows one to reach all sorts of audiences and so the interactive centers are educational institutions, but not schools. The learning within these centers happens in a social context; people visit them and relate to other family members, with friends, partners, teachers, and they do this consciously and unconsciously, so there is a mix of sexes, ages, experiences and knowledgements.

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Conservation Education Definitions

At the IZE Conference in Vienna in 2002, delegates were asked to write down their definition of 'Conservation Education'. As you can see we had an excellent response! As one might expect, several themes emerge. One being that Conservation Education isn't perceived as just a philosophy but more a very powerful means to achieving something tangible. 'Awareness to action' sums up a lot of your comments. Perhaps surprisingly only a few people used words such as love, awe, wonder, and beauty. Perhaps the others took emotional engagement as implicit? It would be interesting to repeat this exercise again in the future to see if our perceptions and objectives have changed.

DEFINITIONS

- Conservation Education can be defined as the technicalities or logistics adopted for wildlife restoration campaigns.
- A branch of Conservation Educational branch that has diverse ways of managing or maintaining the value of nature.
- Slogan-like definitions are not helpful – we are not running an advertising campaign. What conservation is, or should be, can only be elucidated through serious debate or reasoning. Indeed, conservation as a personal and social idea has no fixed definition, but is constantly evolving in meaning
- Any type of education that conveys environmental damage and results in improved natural resource management.

A process of :

- promoting the preservation of nature by using communication through interpretation in all forms to convey the desired message.
- conveying messages on the importance of preserving nature.
- promoting the preservation of flora and fauna using different media to convey the message

Education programmes which serve the following tasks:

- Sensibilities of nature and environment
- Raise awareness for conservation
- Empowerment to act both locally and globally on a personal and social level.
- Conservation Education (CE) is the combination of two words that have become one word to zoo educators. CE is the ability to give people opportunities to grow in knowledge and create changes to their life style and their environment.
- The key word is education – which implies creating awareness, changing behaviour and habits and providing skills and knowledge. All this is focussed towards wildlife conservation either in-situ or ex-situ. There is therefore little or no difference if conservation Education is referred to as environmental education, zoo education, etc
- Developing a sense of love, awe and wonder at the natural world, leading to a desire to act in a way which will conserve the biodiversity of the world. To impart a sense of wonder and stewardship for the natural world
- Helping people to gain a wider knowledge and better understanding of the natural world and what effect humankind has had on it. Through this learning we want people to make changes in their behaviour for the benefit of that world.
- Teach people of all ages to take care of all flora and fauna in the world locally and globally by letting people feel, smell and hear aspects of nature and culture.
- Conveying knowledge and attitudes with the specific intention of impacting human behaviour and eliciting positive actions on behalf of the environment and wildlife.

- Education concerned with the teaching and learning of the concepts involved in preserving and conserving biodiversity and the techniques and strategies effective in achieving this objective.
- To educate people about conservation issues, species, environments, habitats, ecosystems, etc. To help change people's perceptions and therefore actions to a sustainable way of life.
- Any activities that make people change their mind and above all, their "behaviour" related to nature.
- Make people understand that to preserve nature means to preserve humankind.
- Is it right nowadays to think of "conserving" or should we better say "to manage in a sustainable way"?
- We are first and foremost zoo educators, not preachers of conservation; help people see the wonders of nature and the desire to conserve will naturally follow
- Learning for sustainability. Act locally, think globally. Raise awareness for changing our (European) lifestyle.
- Conservation Education is the teaching and learning process of how people and nature interact in such a way that the balance of life on this planet is maintained.
- Is a methodology to raise awareness of the problems facing wildlife in general by giving more knowledge in an active way on different topics.
- Conservation education provides information of the actual situation of nature – from single species to biotopes in an affective way. The presentation of ambitious initiatives and projects of organisations (like zoos) as well as individuals stimulates people to take action.
- We show our zoo's conservation programmes to the audience and draw them into our local work.
- Every educational activity in relation to a conservation project of the zoo and in the area where the project is carried out.
- Providing information, activities and experiences to enable people of all ages to discover the world around them and the inter-relationship of species and the environment, as well as the relationship of Man to the world. Cons Ed aims to enable people to make informed choices to act in a more sustainable way and thereby support the conservation of nature and natural resources.
- Education that in the broad sense affects people to act with more responsibility when it comes to use of resources and the conservation of living organisms. Activity which excites, involves, stirs people into emotionally caring about environmental issues.
- Leading on to *enabling*, by offering ideas, information and tools (practical and intellectual) to make informed decisions and act in a positive way. Telling stories is not enough, but it's a start. Encouraging the *desire to act* is where it's at, as well as offering the *possibility* to act.
- Increase awareness on the role that man plays in and the influence that man has on natural processes, starting with one's own immediate environment. And introduce ways in which one can make this role as positive and effective as possible.
- To increase awareness of people on the beauty and necessity of biodiversity in such a way that the people care more and may alter their behaviour to contribute to conservation and to decrease their environmental destructiveness.
- All the activities that make people change their mind and, above all, their behaviour related to nature. Make people understand that to preserve nature means to preserve mankind. Two questions: what is the difference between conservation and environmental education? Is it right, nowadays, to say 'conserve' or would it be better to say 'manage in a sustainable way'?
- information about conservation development
- different target groups
- create awareness
- change behaviour
- invest to achieve conservation goals

- To become part of Nature again through a better knowledge of animals and plants and through respect for them. Conservation education owes a duty, not only to children, but to each and every individual that lives on this planet, be they 0 or 100 years old.
- Conservation education is an action through of it you can teach all about the environment of all the world, and you can use a lot of things for teaching that I think that the conservation education is a tool for the new generations for the future, the new man will be more aware and take better care of the world.
- Facilitate the process: awareness, interest, procedures and understanding for nature, flora and fauna leading to attitudes that secure sustainable use of natural resources.
- The effort to conserve and increase awareness of the wildlife species and natural resources, fauna and flora through systematic methods, programs and activities and using educational tools as a medium to awake human feelings toward living together in a better world.
- Conservation education includes any education about nature, wildlife, the environment etc that has as its underlying mission, the goal of encouraging the development of appreciation, knowledge or participation related to the protection of nature. In short, it is any form of applied environmental education that has conservation as its underlying goal.
To communicate about the interdependence of all living things on the planet.
- Equipping oneself with the necessary information to enable one to make information on the sustainable use/harvesting of natural resources.
- This is a process of promoting preservation of nature by using communication through interpretation in all forms to convey the desired message. A process of conveying messages on the importance of preserving nature. A process of promoting the preservation of flora and fauna using different media to convey the messages.

Book Review

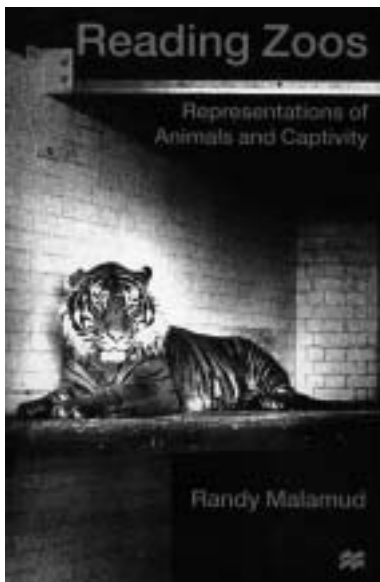
- *The Welfare Ark* -

- *Reading Zoos* -

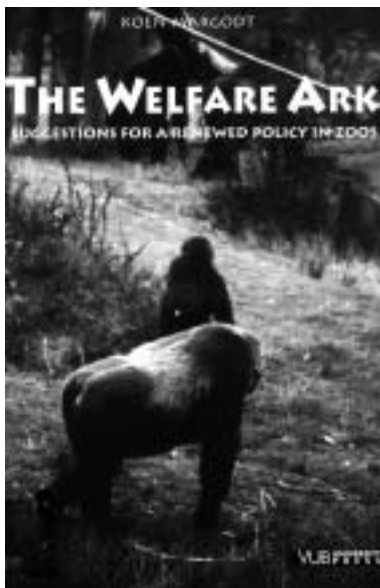
Reviewer: Stephen St C. Bostock

*(Honorary Research Fellow in Philosophy at University of Glasgow, formerly
Education Officer for Glasgow Zoo)*

Reading Zoos: Representations of Animals and
Captivity, Randy Malamud
Macmillan, London, 1998



The Welfare Ark: Suggestions for a Renewed Policy
in Zoos, Koen Margodt
VUB University Press, Brussels, 2000



If you tell me giraffes can't be appreciated properly in zoos, but only in the wild, I think you have a point. If you go further, as Randy Malamud does, to the point of telling me it's impossible to see a giraffe in zoo, a real giraffe, but only 'a (stinted) representation of a giraffe', then I think you're talking nonsense. Professor Malamud, who teaches literature at Georgia State University. may be only half serious about the giraffe, but he's a strangely extreme critic of zoos, for whom the horror of captivity allows no zoo any redeeming feature.

He calls his book Reading Zoos because he considers zoos carry sinister messages about domination and so on, but his book is also a study of the astonishing number of novels, plays and poems which refer to zoos.

But don't zoos help us to appreciate real, live animals? Not for Malamud. The giraffe comment comes in a partly humorous passage about how his young son is to be spared being misled about wildlife by visiting zoos but instead will be introduced to woodpeckers in the garden and cows at the farm. Fine, but how can cows possibly be real if zoo giraffes aren't? And come to that, if giraffes aren't real, presumably none of the other animals in the zoo are. Koen Margodt, whose book The Welfare Ark is also critical of zoos but otherwise utterly different from Malamud's, refutes Malamud's giraffe comment neatly by recalling a stick-throwing game he once had in a zoo with a sea-lion - obviously a sea-lion of character, not just a representation of one! Quite so.

As a source of reference on creative writers' reactions to zoos, Malamud's book is useful, reminding us just how many sensitive people don't like zoos. But it seems to me that Malamud's own hostility for zoos causes him sometimes to misread his authors - Virginia Woolf, for example, who seems to have been in the habit of characterising her human acquaintances in terms of animals she met in regular visits to London Zoo.

(Malamud calls Whipsnade a 'suburban zoo', by the way, and there are other odd slips, like calling the Zoological Society of London the 'Royal Zoological Society' or suggesting that Pooh was based on a tame polar bear.)

The messages Malamud reads in zoos are about their being demonstrations of human dominance over other animals, and of imperialism, this latter applying especially to London Zoo. Malamud is here reiterating the claims of previous writers such as Bob Mullan and Garry Marvin in *Zoo Culture* and Harriet Ritvo in *The Animal Estate*, all of whom in my view are blowing up a kernel of truth out of all proportion, as I tried to argue in a book of my own, *Zoos and Animal Rights*. Malamud adds extra doses of sociologico-literary theorising, with references to some odd new subjects, such as ecocriticism. I thought ecology was a science, and hardly likely to be most approachable (as Malamud suggests) by way of poetry.

Perhaps I should not decry what I do not understand. But certainly Margodt, especially after Malamud, is refreshingly clear and comprehensible, as well as fair and balanced, and aware of what zoos can be at their best. His book cover signals as much with its picture of gorillas in a splendid enclosure at Apenheul Primate Park in the Netherlands. And because of this, Margodt's criticisms carry almost infinitely more weight than do Malamud's. Margodt, a philosophy graduate, works with the Jane Goodall Institute.

Even where Margodt's information is familiar, he is good at asking straightforward but penetrating questions which may well stimulate new thinking where we thought we were clear on the issues. Margodt looks at the principles of good zoo-keeping in general, and also at well selected examples of particular animals which pose problems, such as bears, dolphins and gorillas. He has a firm grasp on such unfortunate realities as the poor survival rates of captive dolphins, and, having made many personal observations of certain zoos, good and bad, is well aware of how so-called surplus animals may find their way from admirable institutions to poor ones. (He is very strongly against any use by zoos of dealers.) Yet he is ready to praise struggling zoos and their staff for doing what they can in difficult circumstances to improve the quality of care of individual animals. Many of the institutions he discusses are named, so that he is in no way providing us with a merely theoretical discussion. (It's a great pity Margodt's book has no

index. Malamud's is excellent in this regard.)

Where Margodt accepts the conservational responsibilities of zoos (though he convincingly puts doubts in our minds as to whether these must always take precedence over respect for individual animals' own rights and welfare), Malamud regards zoos as wholly useless conservationally as in every other way. (I should add that he at least gives a reference to an alternative view, my own.) To me it's the risks we face of losing orangutans, and even gorillas and chimpanzees, bonobos particularly, in the wild which spells out most starkly the conservational duty of zoos. I am enormously impressed by the light the various great apes' very different social behaviour is already shedding on our own nature and origins. The stupidity of letting any of them become extinct seems to me too appalling to contemplate. Margodt appreciates this and indeed raises important conservational questions, such as why we are not already taking steps to maintain an ex situ population of mountain gorillas as a precaution (their numbers being already below the danger line for expected survival in the wild).

But Malamud's complete failure to appreciate the practicalities of the situation makes me impatient of his intellectual gyrations. Time is too short. If there's a chance of zoos being able to assist in saving orangs or gorillas, they must be supported, not dismissed out of hand by those, like Malamud, whose expertise lies elsewhere.



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